





BELDEN

SENDING ALL THE RIGHT SIGNALS

Signal Transmission Products and Systems

# EMEA Master Catalog

**COPPER CABLE & CONNECTIVITY**

**FIBER OPTIC CABLE & CONNECTIVITY**

**CABLE MANAGEMENT SOLUTIONS**

**WIRELESS SOLUTIONS**

**POWER OVER ETHERNET PRODUCTS**



BELDEN
SENDING ALL THE RIGHT SIGNALS



Belden is an innovative company, leading where others follow. Many new products are unique and have been singled out for recognition in the trade press and by customers. Here are a few examples which are simply typical of Belden:

### Transforming Composite Cable Installation…

## Banana Peel®

This new idea is an installer's dream. Banana Peel® is very easy to install. It is a fully integrated version of the composite cable construction where the various cables are fixed to a centre spline for easy pulling rather than being bundled together.

A revolutionary step is the elimination of an outer jacket. This means labour saving because individual cables are instantly identifiable and ready for termination.

Simply, Belden.

# The Future is Changing and Belden is Changing the Future



### Big Performance From a Small Cable…

## Digitruck™

This is a revolutionary and award-winning cable. It is a miniature coaxial, weighing about 60% less than a standard Mini RG 59/U coax; that means it requires 40% less space. With superior return loss characteristics, it is designed specifically for analog, SDI, HD video and AES/EBU digital audio transmission in broadcast production trucks where space and weight are critical.

Simply, Belden.

### Problem Solving with Enhanced Ability…

## IBDN System 10GX

This flagship system is revolutionary in Belden's family of structured cabling systems. The fully integrated 10 Gigabit solution is designed around a series of dynamic enabling technologies. These overcome problems which other manufacturers cannot solve – namely, the ability to reduce significantly alien crosstalk and the ability to control key electrical characteristics during high frequency operation.

Simply, Belden.

BELDEN
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## BELDEN…Sending All the Right Signals Around Europe, Middle East and Africa

We focus on being the brand that is trusted…the brand that can be depended upon to give the right signals… the brand that provides the most cost effective solutions.

Belden customers enjoy working with Belden. Repeatedly, they tell us that Belden is the brand they can trust and rely on for dependable signal transmission. This is because the Belden brand has become synonymous with high quality, high performance and reliability. All that means peace of mind, all the time and in any market – broadcast, commercial networking, security, industrial, residential and many other applications.

We have earned our worldwide reputation as an expert solution provider. You are our number one priority. We care for you and we make it our job to supply you with high performance, quality products and innovative solutions on which you can rely.

Belden offers the very widest range of signal transmission products. We provide all the data and backup support necessary to help you to make the right decision to meet your requirements and to solve your problems.

The company is continually growing, evolving and developing. That means ongoing research and development to bring to market the very best in signal transmission technology – copper, optical fiber, wireless and so on. Consequently, the product range has expanded to include complete system solutions including, for example: connectivity equipment, enclosures, cable raceways and racks.



## The Future is Changing and Belden is Changing the Future

### Your Starting Point

This EMEA Master Catalog is your single source solution – the easy to read and comprehensive reference to thousands of cabling and signal transmission products and related products.

The Catalog is designed to be the essential tool which will provide the answer and solve the problem – whatever the application and wherever you are in Europe, the Middle East, Africa or elsewhere.

In addition, all the information in these pages, together with easy-to-access tools and helpful advice, can be found on www.belden-emea.com

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## How to Use the Belden Master Catalog

**If You're Not Sure of What You Need...**

### Select by Cable Type or Application

Use the section index below or look at the more detailed Table of Contents pages found at the beginning of each section to find your cable type or application.

### Select by Keyword

Reference the Table of Contents section on the following pages for an alphabetical listing of product keywords.

### Consult the Cable Finder Guide

If you know the gage size, shielding type, and/or number of conductors needed for your application, you can locate a part number and corresponding catalog page number for all matching multi-conductor and paired cable products in the Cable Finder Guide (section 2).

**If You Know the Belden Part Number...**

### Consult the Index in the Back of the Catalog

In the Part Number Index (section 24), you'll find a numerical listing of Belden part numbers. This comprehensive index lists every product featured in the Belden Master Catalog.

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Please refer to "Terms of Use of Master Catalog" on page 23.22.

### Visit our Website

Our website is a valuable online resource for Belden wire and cable products, services, support, solutions, and purchasing information. Point your browser to www.belden-emea.com to find out more.

### Contact One of Our Sales Representatives for Assistance

Call +31-77-3878-555 or email us at venlo.salesinfo@belden.com.

### To Place an Order

For many of the products in the catalog, you will find everything you need in this catalog to place an order. Should you need assistance, please contact your Belden sales representative. A complete list of all of our sales offices can be found on the back cover of this catalog or at www.belden-emea.com.

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BELDEN
SENDING ALL THE RIGHT SIGNALS



# 2 Cable Finder Guide

The Belden Cable Finder Guide is a tool for the user of the Belden Master Catalog. It is designed to give quick access and page reference to current Belden product offerings by AWG size, shielding type and number of conductors. Use the Cable Finder to locate where the specific cable you seek is detailed in the body of the catalog.

The cross reference lists shows equivalent nominal values. Actual cross sections may vary. The AWG values are approximate, if the cables are made to European standards ($mm^2$) and vice versa. In critical applications, where the current reaches upper limits, the deviating operation conditions for installation and laying according to standards are to be taken into consideration.

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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **28 AWG** 0.07 mm² **0.40** | | | **0.30** | | | | | | | | | | | | | | | |
| **4** | none | 19x40 | | | | | | | 1804A | 19.10 | | | | | | | | |
| | 2 | 7x36 | | x | | | | | | | | | 8132 | 5.14 | | | | |
| | 2 | 7x36 | | x | | | | | | | | | 9804 | 5.13 | | | | |
| **6** | 3 | 7x36 | | x | | | | | | | | | 8133 | 5.14 | | | | |
| | 3 | 7x36 | | x | | | | | | | | | 9805 | 5.13 | | | | |
| **8** | 4 | 7x36 | | x | | | | | | | | | 8134 | 5.14 | | | | |
| | 4 | 7x36 | | x | | | | | | | | | 9806 | 5.13 | | | | |
| **10** | 5 | 7x36 | | x | | | | | | | | | 8135 | 5.14 | | | | |
| | 5 | 7x36 | | x | | | | | | | | | 9807 | 5.13 | | | | |
| **14** | 7 | 7x36 | | x | | | | | | | | | 9808 | 5.13 | | | | |
| **16** | 8 | 7x36 | | x | | | | | | | | | 8138 | 5.14 | | | | |
| **18** | 9 | 7x36 | | x | | | | | | | | | 9809 | 5.13 | | | | |
| **24** | 12 | 7x36 | | x | | | | | | | | | 9812 | 5.13 | | | | |
| **25** | 12+1/C | 7x36 | | x | | | | | | | | | 8142 | 5.14 | | | | |
| **26** | 13 | 7x36 | | x | | | | | | | | | 9813 | 5.13 | | | | |
| **36** | 18 | 7x36 | | x | | | | | | | | | 8148 | 5.14 | | | | |
| | 18 | 7x36 | | x | | | | | | | | | 9819 | 5.13 | | | | |
| **50** | 25 | 7x36 | | x | | | | | | | | | 8155 | 5.14 | | | | |
| | 25 | 7x36 | | x | | | | | | | | | 9825 | 5.13 | | | | |
| **62** | 31 | 7x36 | | x | | | | | | | | | 9814 | 5.13 | | | | |
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| **2** | 1 | 7x34 | | x | | | | | | | 9180 | 19.16 | | | | | | |
| | 1 | 7x0.16 | | | | | | | | | | | | | | | BE46273* | 19.18 |
| | 1 | 7x0.16 | | | | | | | | | | | | | | | BE46202* | 19.18 |
| | 1 | 18x0.1 | | x | | | | | | | | | | | | | BE46959* | 19.17 |
| | none | 19x0.107 | | | | | | | HMC0016 | 4.16 | | | | | | | | |
| | none | 19x0.107 | | | | | | | HMC0331 | 4.30 | | | | | | | | |
| | 1 | 18x0.1 | | x | | | | | | | | | | | | | YE00193* | 19.17 |
| **3** | none | 19x0.107 | | | | | | | HMC0017 | 4.16 | | | | | | | | |
| | none | 19x0.107 | | | | | | | HMC0332 | 4.30 | | | | | | | | |
| **4** | none | 30x40 | | x | | | | | 1172A | 19.10 | | | | | | | | |
| | 2 | 7x34 | | | | | | | | | | | | | 1215A* | 15.72 | | |
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| | 2 | 7x34 | | x | | | | | | | | | | | 7891A* | 19.17 | | |
| | 2 | 7x0.16 | | | | | | | | | | | | | | | BE46203* | 19.18 |
| | 2 | 18x0.1 | | x | | | | | | | | | | | | | BE46923* | 19.17 |
| | none | 19x0.107 | | | | | | | HMC0018 | 4.16 | | | | | | | | |
| | none | 19x0.107 | | | | | | | HMC0333 | 4.30 | | | | | | | | |
| **5** | none | 19x0.107 | | | | | | | HMC0019 | 4.16 | | | | | | | | |
| | none | 19x0.107 | | | | | | | HMC0334 | 4.30 | | | | | | | | |
| **6** | none | 19x0.107 | | | | | | | HMC0020 | 4.16 | | | | | | | | |
| | none | 19x0.107 | | | | | | | HMC0335 | 4.30 | | | | | | | | |
| **7** | none | 19x0.107 | | | | | | | HMC0021 | 4.16 | | | | | | | | |
| | none | 19x0.107 | | | | | | | HMC0336 | 4.30 | | | | | | | | |
| **8** | 4 | 7x34 | | x | | | | | | | 1868E | 15.66 | | | | | | |
| | 4 | 7x34 | | x | | | | | | | 1868ENH | 15.66 | | | | | | |
| | 4 | 19x38 | | x | | | | | | | | | | | | | 7885A | 19.12 |
| | 4 | 7x34 | | x | | | | | | | | | | | 7890A* | 19.17 | | |
| | 4 | 7x0.16 | | | | | | | | | | | | | | | BE46204* | 19.18 |
| | 4 | 18x0.1 | | | | | | | | | | | | | | | BE46312* | 19.12 |
| | 4 | 18x0.1 | | x | | | | | | | | | | | | | BE46925* | 19.17 |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid.
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **26 AWG** 0.14 mm² **0.50** | | | **0.40** *(continued)* | | | | | | | | | | | | | | | |
| **16** | 8 | 7x34 | | x | | | | | | | | | | | 7880A* | 19.17 | | |
| | 8 | 19x38 | | x | | | | | | | | | | | | | 7886A | 19.12 |
| | 8 | 7x0.16 | | | | | | | | | | | | | | | BE46266* | 19.18 |
| | 8 | 18x0.1 | | | | | | | | | | | | | | | BE46313* | 19.12 |
| | 8 | 18x0.1 | | x | | | | | | | | | | | | | BE46935* | 19.17 |
| **20** | 10 | 7x0.16 | | | | | | | | | | | | | | | BE46208* | 19.18 |
| | 10 | 18x0.1 | | x | | | | | | | | | | | | | BE46936* | 19.17 |
| **24** | 12 | 19x38 | | x | | | | | | | | | | | | | 7887A | 19.12 |
| | 12 | 7x34 | | x | | | | | | | | | | | 7892A* | 19.17 | | |
| | 12 | 7x0.16 | | | | | | | | | | | | | | | BE46205* | 19.18 |
| | 12 | 18x0.1 | | | | | | | | | | | | | | | BE46315* | 19.12 |
| | 12 | 18x0.1 | | x | | | | | | | | | | | | | BE46937* | 19.17 |
| **32** | 16 | 19x38 | | x | | | | | | | | | | | | | 7888A | 19.12 |
| | 16 | 7x34 | | x | | | | | | | | | | | 7893A* | 19.17 | | |
| | 16 | 7x0.16 | | | | | | | | | | | | | | | BE46207* | 19.18 |
| | 16 | 18x0.1 | | | | | | | | | | | | | | | BE46305* | 19.12 |
| | 16 | 18x0.1 | | x | | | | | | | | | | | | | BE46938* | 19.17 |
| **48** | 24 | 19x38 | | x | | | | | | | | | | | | | 7889A | 19.12 |
| | 24 | 18x0.1 | | | | | | | | | | | | | | | BE46306* | 19.12 |
| **80** | 40 | 18x0.1 | | | | | | | | | | | | | | | BE46948* | 19.12 |
| **25 AWG** 0.16 mm² **0.50** | | | **0.45** | | | | | | | | | | | | | | | |
| **1** | none | 7x33 | | | | | | | 8410 | 19.21 | | | | | | | | |
| **24 AWG** 0.22 mm² **0.60** | | | **0.50** | | | | | | | | | | | | | | | |
| **1** | none | 8x0.193 | | | | | | | HMC0486 | 4.37 | | | | | | | | |
| **2** | 1 | 7x32 | | x | | | | | | | 1508A | 19.14 | | | | | | |
| | 1 | 7x32 | | x | | | | | | | 1508ENH | 19.14 | | | | | | |
| | 1 | 7x32 | | x | | | | | | | 1800B | 19.16 | | | | | | |
| | 1 | 41x40 | | x | | | | | 1800F | 19.16 | | | | | | | | |
| | 1 | 7x32 | | x | | | | | | | 1883A | 19.11 | | | | | | |
| | 1 | 41x40 | | x | | | | | | | | | 7200A | 18.37 | | | | |
| | 1 | 41x40 | | x | | | | | | | | | 7205A | 18.37 | | | | |
| | 1 | 41x40 | | x | | | | | | | | | 7206A | 18.37 | | | | |
| | none | 105x44 | | | | | 9397 | 19.9 | | | | | | | | | | |
| | 1 | 19x36 | | x | | | | | | | 9452 | 19.11 | | | | | | |
| | 1 | 7x32 | | x | | | | | | | 9501 | 5.7 | | | | | | |
| | 1 | 7x32 | | x | | | | | | | | | 9841 | 18.32 | | | | |
| | 1 | 7x32 | | x | | | | | | | | | 9841LS | 18.32 | | | | |
| | 1 | 7x32 | | x | | | | | | | | | 9841NH | 18.32 | | | | |
| | none | 32x0.1 | | | | | BE46349 | 19.9 | | | | | | | | | | |
| | 1 | 7x32 | | x | | | | | | | 82641 | 5.8 | | | | | | |
| | none | 19x0.127 | | | | | | | HMC0022 | 4.16 | | | | | | | | |
| | none | 19x0.127 | | | | | | | HMC0337 | 4.30 | | | | | | | | |
| | none | 7x0.20 | | | | | | | HMC0355 | 4.31 | | | | | | | | |
| | none | 7x0.20 | | | | | | | HMC0379 | 4.32 | | | | | | | | |
| | none | 8x0.193 | | | | | | | HMC0487 | 4.37 | | | | | | | | |
| **3** | none | 105x44 | | | | | 9398 | 19.9 | | | | | | | | | | |
| | none | 7x32 | | x | | | | | | | 9533 | 4.6 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9608 | 4.9 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9925 | 4.11 | | | | |
| | none | 7x32 | | | | | | | | | | | 83503 | 4.12 | | | | |
| | none | 19x0.127 | | | | | | | HMC0023 | 4.16 | | | | | | | | |
| | none | 19x0.127 | | | | | | | HMC0338 | 4.30 | | | | | | | | |
| | none | 7x0.20 | | | | | | | HMC0356 | 4.31 | | | | | | | | |
| | none | 7x0.20 | | | | | | | HMC0380 | 4.32 | | | | | | | | |
| | none | 8x0.193 | | | | | | | HMC0488 | 4.37 | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid.
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| **24 AWG** 0.22 mm² **0.60** | | | **0.50** *(continued)* | | | | | | | | | | | | | | | |
| **4** | none | 41x40 | | | | | | | 1192A | 19.10 | | | | | | | | |
| | 2 | | solid | | 1227A1 | 15.58 | | | | | | | | | | | | |
| | 2 | | solid | | 1243A2 | 15.58 | | | | | | | | | | | | |
| | 2 | 7x32 | | x | | | | | | | 1419A | 5.9 | | | | | | |
| | 2 | 7x32 | | x | | | | | | | | | | | 1509C* | 19.14 | | |
| | 2 | 7x32 | | x | | | | | | | | | | | 1509ENH* | 19.14 | | |
| | 2 | 7x32 | | x | | | | | | | | | | | 1802B | 19.16 | | |
| | 2 | 41x40 | | x | | | | | | | | | | | | | 1902A | 19.13 |
| | 2 | 41x40 | | x | | | | | | | | | 7201A | 18.37 | | | | |
| | 2 | | solid | x | | | | | | | 7933A | 18.8 | | | | | | |
| | 2 | 7x32 | | x | | | | | | | | | 8102 | 5.17 | | | | |
| | 2 | 7x32 | | x | | | | | | | | | | | 8162* | 5.25 | | |
| | 2 | 7x32 | | | | | | | | | | | 8332 | 5.15 | | | | |
| | 2 | 7x32 | | x | | | | | | | 9502† | 5.7 | | | | | | |
| | none | 7x32 | | x | | | | | | | 9534 | 4.6 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9609 | 4.9 | | | | |
| | 2 | 7x32 | | x | | | | | | | | | | | 9729 | 5.20<br>18.33 | | |
| | 2 | 7x32 | | x | | | | | | | | | | | 9729LS** | 18.33 | | |
| | 2 | 7x32 | | x | | | | | | | | | | | 9729NH | 18.33 | | |
| | 2 | 7x32 | | x | | | | | | | | | 9829 | 5.16 | | | | |
| | 2 | 7x32 | | x | | | | | | | | | 9842 | 18.32 | | | | |
| | 2 | 7x32 | | x | | | | | | | | | 9842LS** | 18.32 | | | | |
| | 2 | 7x32 | | x | | | | | | | | | 9842NH | 18.32 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9927 | 4.11 | | | | |
| | 2 | 7x32 | | x | | | | | | | 82502 | 5.8 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 83504 | 4.12 | | | | |
| | none | 19x0.127 | | | | | | | HMC0024 | 4.16 | | | | | | | | |
| | none | 19x0.127 | | | | | | | HMC0339 | 4.30 | | | | | | | | |
| | none | 7x0.20 | | | | | | | HMC0357 | 4.31 | | | | | | | | |
| | none | 7x0.20 | | | | | | | HMC0381 | 4.32 | | | | | | | | |
| | none | 8x0.193 | | | | | | | HMC0489 | 4.37 | | | | | | | | |
| | 2 | 8x0.193 | | | | | | | HMC0630 | 5.26 | | | | | | | | |
| **5** | none | 7x32 | | x | | | | | | | 9535 | 4.6 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9610 | 4.9 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9929 | 4.11 | | | | |
| | none | 19x0.127 | | | | | | | HMC0025 | 4.16 | | | | | | | | |
| | none | 19x0.127 | | | | | | | HMC0340 | 4.30 | | | | | | | | |
| | none | 8x0.193 | | | | | | | HMC0490 | 4.37 | | | | | | | | |
| **6** | 3 | 7x32 | | x | | | | | | | 1420A | 5.9 | | | | | | |
| | 3 | 7x32 | | | | | | | | | | | 3120A | 18.27 | | | | |
| | 3 | 41x40 | | x | | | | | | | | | 7202A | 18.37 | | | | |
| | 3 | 7x32 | | x | | | | | | | | | 8103 | 5.17 | | | | |
| | 3 | 7x32 | | x | | | | | | | | | | | 8163* | 5.25 | | |
| | 3 | 7x32 | | | | | | | | | | | 8333 | 5.15 | | | | |
| | 3 | 7x32 | | x | | | | | | | 9503 | 5.7 | | | | | | |
| | none | 7x32 | | x | | | | | | | 9536 | 4.6 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9611 | 4.9 | | | | |
| | 3 | 7x32 | | x | | | | | | | 9680 | 5.9 | | | | | | |
| | 3 | 7x32 | | x | | | | | | | | | | | 9730 | 5.20 | | |
| | 3 | 7x32 | | x | | | | | | | | | 9830 | 5.16 | | | | |
| | 3 | 7x32 | | x | | | | | | | | | 9843 | 18.32 | | | | |
| | 3 | 7x32 | | x | | | | | | | | | 9843NH | 18.32 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9931 | 4.11 | | | | |
| | 3 | 7x32 | | x | | | | | | | 82503 | 5.8 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 83506 | 4.12 | | | | |
| | none | 19x0.127 | | | | | | | HMC0026 | 4.16 | | | | | | | | |
| | none | 19x0.127 | | | | | | | HMC0341 | 4.30 | | | | | | | | |
| | none | 8x0.193 | | | | | | | HMC0491 | 4.37 | | | | | | | | |
| | 3 | 8x0.193 | | | | | | | HMC0631 | 5.26 | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid. • ** Armored • # Measures without a decimal point are in AWG sizes.
† Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration certification. Request quotations of RG/U cables not listed.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| **24 AWG** 0.22 mm² **0.60** | | | **0.50** *(continued)* | | | | | | | | | | | | | | | |
| **7** | none | 7x32 | | x | | | | | | | 9537 | 4.6 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9612 | 4.9 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9932 | 4.11 | | | | |
| | none | 19x0.127 | | | | | | | HMC0027 | 4.16 | | | | | | | | |
| | none | 19x0.127 | | | | | | | HMC0342 | 4.30 | | | | | | | | |
| | none | 8x0.193 | | | | | | | HMC0492 | 4.37 | | | | | | | | |
| **8** | 4 | | solid | | 1229A1 | 15.58 | | | | | | | | | | | | |
| | 4 | | solid | | 1245A2 | 15.58 | | | | | | | | | | | | |
| | 4 | | solid | x | | | | | | | 1300SB | 7.5 | | | | | | |
| | 4 | 7x32 | | | 1304A | 19.22 | | | | | | | | | | | | |
| | 4 | 7x32 | | | 1305A | 19.22 | | | | | | | | | | | | |
| | 4 | 7x32 | | x | | | | | | | 1421A | 5.9 | | | | | | |
| | 4 | 7x32 | | x | | | | | | | | | | | 1510C* | 19.14 | | |
| | 4 | | solid | | 1583A | 15.52 | | | | | | | | | | | | |
| | 4 | | solid | | 1583E | 15.52 | | | | | | | | | | | | |
| | 4 | | solid | | 1583ENH | 15.52 | | | | | | | | | | | | |
| | 4 | | solid | | 1585A | 15.53 | | | | | | | | | | | | |
| | 4 | 7x32 | | | 1592A | 15.65 | | | | | | | | | | | | |
| | 4 | | solid | | 1594A | 15.52 | | | | | | | | | | | | |
| | 4 | | solid | x | | | | | | | 1633E | 15.62 | | | | | | |
| | 4 | | solid | x | | | | | | | 1633ENH | 15.62 | | | | | | |
| | 4 | | solid | x | | | | | | | | | 1633ES | 15.63 | | | | |
| | 4 | | solid | x | | | | | | | | | 1633ENS | 15.63 | | | | |
| | 4 | | solid | | 1700A | 15.49 | | | | | | | | | | | | |
| | 4 | | solid | | 1700E | 15.49 | | | | | | | | | | | | |
| | 4 | | solid | | 1700ENH | 15.49 | | | | | | | | | | | | |
| | 4 | 7x32 | | | 1752A | 15.65 | | | | | | | | | | | | |
| | 4 | 7x32 | | x | | | | | | | | | | | 1803F* | 19.18 | | |
| | 4 | 7x32 | | | 1875GB | 15.64 | | | | | | | | | | | | |
| | 4 | 41x40 | | x | | | | | | | | | | | | | 1904A | 19.13 |
| | 4 | 41x40 | | x | | | | | | | | | 7203A | 18.37 | | | | |
| | 4 | | solid | | 7883A | 15.64 | | | | | | | | | | | | |
| | 4 | | solid | | 7918A | 18.8 | | | | | | | | | | | | |
| | 4 | | solid | x | | | | | | | 7919A | 18.8 | | | | | | |
| | 4 | | solid | x | | | | | | | | | 7921A | 18.7 | | | | |
| | 4 | | solid | | 7923A | 18.9 | | | | | | | | | | | | |
| | 4 | 7x32 | | | 7924A | 18.10 | | | | | | | | | | | | |
| | 4 | | solid | | 7928A | 18.8 | | | | | | | | | | | | |
| | 4 | | solid | x | | | | | | | 7929A | 18.7 | | | | | | |
| | 4 | | solid | | 7987R | 21.9 | | | | | | | | | | | | |
| | 4 | | solid | | 7988P | 15.68 | | | | | | | | | | | | |
| | 4 | | solid | | 7988R | 15.68<br>21.9 | | | | | | | | | | | | |
| | 4 | | solid | | 7997A | 15.52 | | | | | | | | | | | | |
| | 4 | 7x32 | | x | | | | | | | | | 8104 | 5.17 | | | | |
| | 4 | 7x32 | | x | | | | | | | | | | | 8164* | 5.25 | | |
| | 4 | 7x32 | | | | | | | | | | | 8334 | 5.15 | | | | |
| | 4 | 7x32 | | x | | | | | | | 9504 | 5.7 | | | | | | |
| | none | 7x32 | | x | | | | | | | 9538 | 4.6 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9613 | 4.9 | | | | |
| | 4 | 7x32 | | x | | | | | | | 9681 | 5.9 | | | | | | |
| | 4 | 7x32 | | x | | | | | | | | | | | 9728 | 5.20 | | |
| | 4 | 7x32 | | x | | | | | | | | | 9831 | 5.16 | | | | |
| | 4 | 7x32 | | x | | | | | | | | | 9844 | 18.32 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9933 | 4.11 | | | | |
| | 4 | | solid | | 11700A | 18.9 | | | | | | | | | | | | |
| | 4 | 7x32 | | x | | | | | | | 82504 | 5.8 | | | | | | |
| | 4 | | solid | | 121700A** | 18.9 | | | | | | | | | | | | |
| | 4 | | solid | | 24566315 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24566345 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24566915 | 15.47 | | | | | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid. • ** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **24 AWG** 0.22 mm² **0.60** | | | **0.50** *(continued)* | | | | | | | | | | | | | | | |
| **8** | 4 | | solid | | 24566945 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24567315 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24567345 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24567915 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24567945 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24568005 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24568015 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24568315 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24568331 | 15.47 | | | | | | | | | | | | |
| | 4 | | solid | | 24570157 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24570161 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24570166 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24570452 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24570460 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24570800 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24570808 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24570810 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24570812 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24598301 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | 24598331 | 15.50 | | | | | | | | | | | | |
| | 4 | | solid | | BEB1212 | 18.7 | | | | | | | | | | | | |
| | 4 | | solid | x | | | | | | | | | BEB3212 | 18.7 | | | | |
| | none | 8x0.193 | | | | | | | HMC0493 | 4.37 | | | | | | | | |
| | 4 | 8x0.193 | | | | | | | HMC0632 | 5.26 | | | | | | | | |
| **9** | none | 7x32 | | x | | | | | | | 9539 | 4.6 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9614 | 4.9 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9934 | 4.11 | | | | |
| **10** | 5 | 7x32 | | x | | | | | | | 1422A | 5.9 | | | | | | |
| | 5 | 7x32 | | x | | | | | | | | | 8105 | 5.17 | | | | |
| | 5 | 7x32 | | x | | | | | | | | | | | 8165* | 5.25 | | |
| | 5 | 7x32 | | | | | | | | | | | 8335 | 5.15 | | | | |
| | 5 | 7x32 | | x | | | | | | | 9505 | 5.7 | | | | | | |
| | none | 7x32 | | x | | | | | | | 9540 | 4.6 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9615 | 4.9 | | | | |
| | 5 | 7x32 | | x | | | | | | | | | 9832 | 5.16 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9935 | 4.11 | | | | |
| | 5 | 7x32 | | x | | | | | | | 82505 | 5.8 | | | | | | |
| | 5 | 8x0.193 | | | | | | | HMC0633 | 5.26 | | | | | | | | |
| **12** | 6 | 7x32 | | x | | | | | | | 1423A | 5.9 | | | | | | |
| | 6 | 7x32 | | x | | | | | | | | | | | 1511C* | 19.14 | | |
| | 6 | 41x40 | | x | | | | | | | | | | | | | 1906A | 19.13 |
| | 6 | 7x32 | | x | | | | | | | | | 8106 | 5.17 | | | | |
| | 6 | 7x32 | | x | | | | | | | | | | | 8166* | 5.25 | | |
| | 6 | 7x32 | | | | | | | | | | | 8336 | 5.15 | | | | |
| | 6 | 7x32 | | x | | | | | | | 9506 | 5.7 | | | | | | |
| | 6 | 7x32 | | x | | | | | | | 9682 | 5.9 | | | | | | |
| | 6 | 7x32 | | x | | | | | | | | | | | 9731 | 5.20 | | |
| | 6 | 7x32 | | x | | | | | | | 82506 | 5.8 | | | | | | |
| | 6 | 8x0.193 | | | | | | | HMC0634 | 5.26 | | | | | | | | |
| **14** | 7 | 7x32 | | x | | | | | | | | | 8107 | 5.17 | | | | |
| | 7 | 7x32 | | x | | | | | | | | | | | 8167* | 5.25 | | |
| | 7 | 7x32 | | | | | | | | | | | 8337 | 5.15 | | | | |
| | 7 | 7x32 | | x | | | | | | | 9507 | 5.7 | | | | | | |
| **15** | none | 7x32 | | x | | | | | | | 9541 | 4.7 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9616 | 4.9 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9936 | 4.11 | | | | |
| **16** | 8 | 7x32 | | x | | | | | | | | | | | 1512C* | 19.14 | | |
| | 8 | 7x32 | | x | | | | | | | | | | | 1512ENH* | 19.14 | | |
| | 8 | | solid | | 1667E | 15.53 | | | | | | | | | | | | |
| | 8 | 8x0.193 | | | | | | | HMC0635 | 5.26 | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid.
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| **24 AWG** 0.22 mm² **0.60** | | | **0.50** *(continued)* | | | | | | | | | | | | | | | |
| **16** | 8 | | solid | | 1667ENH | 15.53 | | | | | | | | | | | | |
| | 8 | | solid | x | | | | | | | 1668E | 15.62 | | | | | | |
| | 8 | | solid | x | | | | | | | 1668ENH | 15.62 | | | | | | |
| | 8 | | solid | x | | | | | | | | | 1668ES | 15.63<br>21.6 | | | | |
| | 8 | | solid | x | | | | | | | | | 1668ENS | 15.63 | | | | |
| | 8 | 7x32 | | x | | | | | | | | | | | 1805F* | 19.18 | | |
| | 8 | 7x32 | | x | | | | | | | | | | | | | 1908A | 19.13 |
| | 8 | 7x32 | | x | | | | | | | | | 8108 | 5.17 | | | | |
| | 8 | 7x32 | | x | | | | | | | | | | | 8168* | 5.25 | | |
| | 8 | 7x32 | | x | | | | | | | 9508 | 5.7 | | | | | | |
| **18** | 9 | 7x32 | | x | | | | | | | 9509 | 5.7 | | | | | | |
| | 9 | 7x32 | | x | | | | | | | 9683 | 5.9 | | | | | | |
| | 9 | 7x32 | | x | | | | | | | | | | | 9732 | 5.20 | | |
| | 9 | 7x32 | | x | | | | | | | 82509 | 5.8 | | | | | | |
| **20** | 10 | 7x32 | | x | | | | | | | | | 8110 | 5.17 | | | | |
| | 10 | 7x32 | | x | | | | | | | | | | | 8170* | 5.25 | | |
| | 10 | 7x32 | | | | | | | | | | | 8340 | 5.15 | | | | |
| | 10 | 7x32 | | x | | | | | | | 9510 | 5.7 | | | | | | |
| | none | 7x32 | | x | | | | | | | 9542 | 4.7 | | | | | | |
| | 10 | 8x0.193 | | | | | | | HMC0636 | 5.26 | | | | | | | | |
| **22** | 11 | 7x32 | | x | | | | | | | | | | | 9733 | 5.20 | | |
| **24** | 12 | 7x32 | | x | | | | | | | | | | | 1513C* | 19.14 | | |
| | 12 | 7x32 | | x | | | | | | | | | | | 1806F* | 19.18 | | |
| | 12 | 41x40 | | x | | | | | | | | | | | | | 1912A | 19.13 |
| | 12 | 7x32 | | x | | | | | | | | | | | 9734 | 5.20 | | |
| | 12 | 8x0.193 | | | | | | | HMC0637 | 5.26 | | | | | | | | |
| **25** | 12+1/C | 7x32 | | x | | | | | | | 1424A | 5.9 | | | | | | |
| | 12+1/C | 7x32 | | x | | | | | | | | | 8112 | 5.17 | | | | |
| | 12+1/C | 7x32 | | | | | | | | | | | 8342 | 5.15 | | | | |
| | none | 7x32 | | x | | | | | | | 9543 | 4.7 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9617 | 4.9 | | | | |
| | 12+1/C | 7x32 | | x | | | | | | | 9684 | 5.9 | | | | | | |
| | none | 7x32 | | x | | | | | | | | | 9937 | 4.11 | | | | |
| **30** | 15 | 7x32 | | x | | | | | | | 1425A | 5.9 | | | | | | |
| | 15 | 7x32 | | x | | | | | | | | | 8115 | 5.17 | | | | |
| | 15 | 7x32 | | x | | | | | | | | | | | 8175* | 5.25 | | |
| | 15 | 7x32 | | | | | | | | | | | 8345 | 5.15 | | | | |
| | 15 | 7x32 | | x | | | | | | | 9515 | 5.7 | | | | | | |
| | none | 7x32 | | x | | | | | | | 9544 | 4.7 | | | | | | |
| | 15 | 7x32 | | x | | | | | | | | | | | 9735 | 5.20 | | |
| **32** | 16 | 7x32 | | x | | | | | | | | | | | 1514C* | 19.14 | | |
| | 16 | 7x32 | | x | | | | | | | | | | | 1850F* | 19.18 | | |
| | 16 | 41x40 | | x | | | | | | | | | | | | | 1916A | 19.13 |
| **34** | 17 | 7x32 | | x | | | | | | | | | | | 9736 | 5.20 | | |
| **36** | 18 | 7x32 | | x | | | | | | | | | 8118 | 5.17 | | | | |
| | 18 | 7x32 | | x | | | | | | | | | | | 8178* | 5.25 | | |
| | 18 | 7x32 | | | | | | | | | | | 8348 | 5.15 | | | | |
| **37** | none | 7x32 | | | | | | | | | | | 9618 | 4.9 | | | | |
| | none | 7x32 | | x | | | | | | | | | 9938 | 4.11 | | | | |
| **38** | 19 | 7x32 | | x | | | | | | | 9519 | 5.7 | | | | | | |
| | 19 | 7x32 | | x | | | | | | | | | | | 9737 | 5.20 | | |
| **40** | 20 | 7x32 | | x | | | | | | | | | | | 1515C* | 19.14 | | |
| | none | 7x32 | | x | | | | | | | 9545 | 4.7 | | | | | | |
| **48** | 24 | 7x32 | | x | | | | | | | | | | | 1516C* | 19.14 | | |
| | 24 | 7x32 | | x | | | | | | | | | | | 1852F* | 19.18 | | |
| | 24 | | solid | | 1700S6 | 15.55<br>21.5 | | | | | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid.
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| **24 AWG** 0.22 mm² **0.60** | | | **0.50** *(continued)* | | | | | | | | | | | | | | | |
| **48** | 24 | | solid | | 1701S6 | 15.55 | | | | | | | | | | | | |
| | 24 | 41x40 | | x | | | | | | | | | | | | | 1924A | 19.13 |
| **50** | 25 | | solid | | 1232A1 | 15.58 | | | | | | | | | | | | |
| | 25 | | solid | | 1864A | 15.57 | | | | | | | | | | | | |
| | 25 | | solid | | 1871A | 15.57 | | | | | | | | | | | | |
| | 25 | 7x32 | | x | | | | | | | | | 8125 | 5.17 | | | | |
| | 25 | 7x32 | | x | | | | | | | | | | | 8185* | 5.25 | | |
| | 25 | 7x32 | | | | | | | | | | | 8355 | 5.15 | | | | |
| | 25 | 7x32 | | x | | | | | | | 9525 | 5.8 | | | | | | |
| | none | 7x32 | | x | | | | | | | 9546 | 4.7 | | | | | | |
| | none | 7x32 | | | | | | | | | | | 9619 | 4.9 | | | | |
| | 25 | | solid | | 24576125 | 15.54 | | | | | | | | | | | | |
| | 25 | | solid | | 24577125 | 15.54 | | | | | | | | | | | | |
| | 25 | | solid | | 25500027 | 15.56 | | | | | | | | | | | | |
| | 25 | | solid | | 25500028 | 15.56 | | | | | | | | | | | | |
| | 25 | | solid | | NN00097 | 15.59 | | | | | | | | | | | | |
| **52** | 26 | 7x32 | | x | | | | | | | | | | | 1517C* | 19.14 | | |
| **54** | 27 | 7x32 | | x | | | | | | | | | | | 9738 | 5.20 | | |
| **64** | 32 | 7x32 | | x | | | | | | | | | | | 1518C* | 19.14 | | |
| | 32 | 7x32 | | x | | | | | | | | | | | 1854F* | 19.18 | | |
| | 32 | 41x40 | | x | | | | | | | | | | | | | 1932A | 19.13 |
| **100** | 50 | 7x32 | | x | | | | | | | 9550 | 5.8 | | | | | | |
| | 50 | | solid | | NN00099 | 15.59 | | | | | | | | | | | | |
| **104** | 52 | 7x32 | | x | | | | | | | | | | | 1519C* | 19.14 | | |
| **200** | 100 | | solid | x | NN00101 | 15.59 | | | | | | | | | | | | |
| **23 AWG** 0.26 mm² **0.65** | | | **0.57** | | | | | | | | | | | | | | | |
| **8** | 4 | | solid | | 1872A | 15.48 | | | | | | | | | | | | |
| | 4 | | solid | | 1874A | 15.48 | | | | | | | | | | | | |
| | 4 | | solid | | | | | | | | | | | | 1885ENH* | 15.60 | | |
| | 4 | | solid | | 7812E | 15.46 | | | | | | | | | | | | |
| | 4 | | solid | | 7812ENH | 15.46 | | | | | | | | | | | | |
| | 4 | | solid | | 7851A | 15.44 | | | | | | | | | | | | |
| | 4 | | solid | | 7851NH | 15.44 | | | | | | | | | | | | |
| | 4 | | solid | | 7852A | 15.44 | | | | | | | | | | | | |
| | 4 | | solid | x | | | | | | | 7860ENH | 15.61 | | | | | | |
| | 4 | | solid | x | | | | | | | | | 7860ENS | 15.61 | | | | |
| | 4 | | solid | | 7927A | 18.11 | | | | | | | | | | | | |
| | 4 | | solid | | 7931A | 18.10 | | | | | | | | | | | | |
| | 4 | | solid | | 7965E | 15.51 | | | | | | | | | | | | |
| | 4 | | solid | | 7965ENH | 15.51 | | | | | | | | | | | | |
| | 4 | | solid | | 7989P | 15.67 | | | | | | | | | | | | |
| | 4 | | solid | | 7989R | 15.67<br>21.9 | | | | | | | | | | | | |
| | 4 | | solid | | 11872A | 18.11 | | | | | | | | | | | | |
| | 4 | | solid | | 121872A** | 18.11 | | | | | | | | | | | | |
| | 4 | | solid | | 24586385 | 15.45 | | | | | | | | | | | | |
| | 4 | | solid | | 24586985 | 15.45 | | | | | | | | | | | | |
| | 4 | | solid | | 24587385 | 15.45 | | | | | | | | | | | | |
| | 4 | | solid | | 24587985 | 15.45 | | | | | | | | | | | | |
| | 4 | | solid | | 24588085 | 15.45 | | | | | | | | | | | | |
| **16** | 8 | | solid | | | | | | | | | | | | 1887ENH* | 15.60 | | |
| **22 AWG** 0.34 mm² **0.80** | | | **0.64** | | | | | | | | | | | | | | | |
| **1** | none | 11x0.193 | | | | | | | HMC0494 | 4.37 | | | | | | | | |
| **2** | 1 | 7x30 | | x | | | | | | | | | 1696A | 19.16 | | | | |
| | 1 | 7x30 | | x | | | | | | | 3077ELS** | 18.20 | | | | | | |
| | 1 | 7x30 | | x | | | | | | | 3077ENH | 18.20 | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid. • ** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| **22 AWG** 0.34 mm² **0.80** | | | **0.64** *(continued)* | | | | | | | | | | | | | | | |
| **2** | 1 | 7x30 | | x | | | | | | | 3077F | 18.20 | | | | | | |
| | 1 | 7x30 | | x | | | | | | | 3078F | 18.21 | | | | | | |
| | 1 | | solid | | | | | | | | | | 3079A | 18.21 | | | | |
| | 1 | | solid | | | | | | | | | | 3079ALS** | 18.21 | | | | |
| | 1 | | solid | | | | | | | | | | 3079ANH | 18.21 | | | | |
| | 1 | 7x30 | | | | | | | | | | | 3079E | 18.21 | | | | |
| | 1 | 7x30 | | x | | | | | | | | | 3105A | 18.28 | | | | |
| | 1 | | solid | | 7701NH | 18.30<br>21.7 | | | | | | | | | | | | |
| | 1 | | solid | x | | | | | | | 7703NH | 18.30 | | | | | | |
| | none | 7x30 | | | 8442 | 4.4 | | | | | | | | | | | | |
| | 1 | 7x30 | | x | | | | | | | 8451 | 19.11 | | | | | | |
| | 1 | | solid | x | | | | | | | 8761 | 5.10 | | | | | | |
| | 1 | 19x34 | | x | | | | | | | 9182 | 18.16 | | | | | | |
| | 1 | 19x34 | | x | | | | | | | 9182NH | 18.16 | | | | | | |
| | 1 | 7x30 | | x | | | | | | | 9451 | 19.11 | | | | | | |
| | 1 | 7x30 | | x | | | | | | | 9451SB | 7.3 | | | | | | |
| | none | 7x30 | | | | | | | | | | | 83552 | 4.12 | | | | |
| | 1 | 19x34 | | x | | | | | | | 89182 | 18.16 | | | | | | |
| | none | 19x0.160 | | | | | | | HMC0028 | 4.16 | | | | | | | | |
| | none | 19x0.160 | | | | | | | HMC0343 | 4.30 | | | | | | | | |
| | none | 7x0.25 | | | | | | | HMC0358 | 4.31 | | | | | | | | |
| | none | 7x0.25 | | | | | | | HMC0382 | 4.32 | | | | | | | | |
| | none | 11x01.93 | | | | | | | | | | | HMC0444 | 4.35 | | | | |
| | none | 11x01.93 | | | | | | | HMC0495 | 4.37 | | | | | | | | |
| **3** | 1+1/C | 7x30 | | x | | | | | | | | | 3106A | 18.28 | | | | |
| | none | 7x30 | | | 8443 | 4.4 | | | | | | | | | | | | |
| | none | 7x30 | | | | | | | | | | | 9939 | 4.10 | | | | |
| | none | 7x30 | | | | | | | | | | | 83553 | 4.12 | | | | |
| | none | 19x0.160 | | | | | | | HMC0029 | 4.16 | | | | | | | | |
| | none | 19x0.160 | | | | | | | HMC0344 | 4.30 | | | | | | | | |
| | none | 7x0.25 | | | | | | | HMC0359 | 4.31 | | | | | | | | |
| | none | 7x0.25 | | | | | | | HMC0383 | 4.32 | | | | | | | | |
| | none | 11x01.93 | | | | | | | | | | | HMC0445 | 4.35 | | | | |
| | none | 11x01.93 | | | | | | | HMC0496 | 4.37 | | | | | | | | |
| **4** | 2 | 19x34 | | x | | | | | | | | | | | 1504A | 21.10 | | |
| | 2 | | solid | | | | | | | | | | | | 1634A* | 15.71 | | |
| | 2 | 7x30 | | x | | | | | | | | | | | 1814R* | 19.15 | | |
| | 2 | 7x30 | | x | | | | | | | | | 3107A | 18.28 | | | | |
| | 2 | | solid | | 7702NH | 18.30 | | | | | | | | | | | | |
| | 2 | | solid | x | | | | | | | 7704NH | 18.30 | | | | | | |
| | 2 | 7x30 | | | | | | | | | | | 8302 | 5.18 | | | | |
| | none | 7x30 | | | 8444 | 4.4 | | | | | | | | | | | | |
| | 2 | 7x30 | | x | | | | | | | | | | | 8723 | 5.22<br>18.34 | | |
| | 2 | 7x30 | | x | | | | | | | | | | | 8723LS** | 18.34 | | |
| | 2 | 7x30 | | x | | | | | | | | | | | 8723NH | 18.34 | | |
| | 2 | 7x30 | | x | | | | | | | | | | | 8723SB | 7.3 | | |
| | 2 | 7x30 | | x | | | | | | | | | | | 8728 | 19.11 | | |
| | none | 7x30 | | | | | | | | | | | 9940 | 4.10 | | | | |
| | 2 | | solid | | | | | | | | | | | | 9688* | 15.71 | | |
| | none | 7x30 | | | | | | | | | | | 83554 | 4.12 | | | | |
| | 2 | 7x30 | | x | | | | | | | | | | | 88723 | 18.34 | | |
| | 2 | 7x0.25 | | x | | | | | BE43906 | 19.21 | | | | | | | | |
| | none | 19x0.160 | | | | | | | HMC0030 | 4.16 | | | | | | | | |
| | none | 19x0.160 | | | | | | | HMC0345 | 4.30 | | | | | | | | |
| | none | 7x0.25 | | | | | | | HMC0360 | 4.31 | | | | | | | | |
| | none | 7x0.25 | | | | | | | HMC0384 | 4.32 | | | | | | | | |
| | none | 11x0.193 | | | | | | | | | | | HMC0446 | 4.35 | | | | |
| | none | 11x01.93 | | | | | | | HMC0497 | 4.37 | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid. • ** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| **22 AWG** 0.34 mm² **0.80** | | | **0.64** *(continued)* | | | | | | | | | | | | | | | |
| **5** | none | 7x30 | | | 8445 | 4.4 | | | | | | | | | | | | |
| | none | 7x30 | | | | | | | | | | | 9941 | 4.10 | | | | |
| | none | 19x0.160 | | | | | | | HMC0031 | 4.16 | | | | | | | | |
| | none | 19x0.160 | | | | | | | HMC0346 | 4.30 | | | | | | | | |
| | none | 11x01.93 | | | | | | | | | | | HMC0447 | 4.35 | | | | |
| | none | 11x01.93 | | | | | | | HMC0498 | 4.37 | | | | | | | | |
| **6** | 3 | 7x30 | | x | | | | | | | | | 3108A | 18.28 | | | | |
| | 3 | 7x30 | | | | | | | | | | | 8303 | 5.18 | | | | |
| | 3 | 7x30 | | x | | | | | | | | | | | 8777 | 5.22<br>18.33 | | |
| | 3 | 7x30 | | x | | | | | | | | | | | 8777LS** | 18.34 | | |
| | 3 | 7x30 | | x | | | | | | | | | | | 8777NH | 18.33 | | |
| | 3 | 7x30 | | x | | | | | | | | | | | 8777SB | 7.3 | | |
| | none | 7x30 | | | | | | | | | | | 9942 | 4.10 | | | | |
| | 3 | 7x30 | | x | | | | | | | | | | | 82777 | 5.22 | | |
| | none | 7x30 | | | | | | | | | | | 83556 | 4.12 | | | | |
| | none | 19x0.160 | | | | | | | HMC0032 | 4.16 | | | | | | | | |
| | none | 19x0.160 | | | | | | | HMC0347 | 4.30 | | | | | | | | |
| | none | 11x01.93 | | | | | | | | | | | HMC0448 | 4.35 | | | | |
| | none | 11x01.93 | | | | | | | HMC0499 | 4.37 | | | | | | | | |
| **7** | none | 7x30 | | | 9430 | 4.4 | | | | | | | | | | | | |
| | none | 7x30 | | | | | | | | | | | 9943 | 4.10 | | | | |
| | none | 19x0.160 | | | | | | | HMC0033 | 4.16 | | | | | | | | |
| | none | 19x0.160 | | | | | | | HMC0348 | 4.30 | | | | | | | | |
| | none | 11x01.93 | | | | | | | | | | | HMC0449 | 4.35 | | | | |
| | none | 11x01.93 | | | | | | | HMC0500 | 4.37 | | | | | | | | |
| **8** | 4 | 7x30 | | x | | | | | | | | | | | 1815R* | 19.15 | | |
| | 4 | 7x30 | | x | | | | | | | | | 3109A | 18.28 | | | | |
| | 4 | | solid | | 7922A | 18.10 | | | | | | | | | | | | |
| | 4 | 7x30 | | | | | | | | | | | 8304 | 5.18 | | | | |
| | none | 7x30 | | | 9421 | 4.4 | | | | | | | | | | | | |
| | none | 7x30 | | | | | | | | | | | 9944 | 4.10 | | | | |
| | none | 11x01.93 | | | | | | | HMC0501 | 4.37 | | | | | | | | |
| **9** | none | 7x30 | | | 9423 | 4.4 | | | | | | | | | | | | |
| | none | 7x30 | | | | | | | | | | | 9945 | 4.10 | | | | |
| | none | 7x30 | | | | | | | | | | | 83559 | 4.12 | | | | |
| **10** | 5 | 7x30 | | | | | | | | | | | 8305 | 5.18 | | | | |
| | none | 7x30 | | | 8456 | 4.4 | | | | | | | | | | | | |
| | none | 7x30 | | | | | | | | | | | 9946 | 4.10 | | | | |
| **12** | 6 | 7x30 | | x | | | | | | | | | | | 1816R* | 19.15 | | |
| | 6 | 7x30 | | | | | | | | | | | 8306 | 5.18 | | | | |
| | 6 | 7x30 | | x | | | | | | | | | | | 8778 | 5.22 | | |
| | none | 7x30 | | | | | | | | | | | 83562 | 4.12 | | | | |
| **14** | 7 | 7x30 | | | | | | | | | | | 8307 | 5.18 | | | | |
| **15** | none | 7x30 | | | | | | | | | | | 9947 | 4.10 | | | | |
| **16** | 8 | 7x30 | | x | | | | | | | | | | | 1817R* | 19.15 | | |
| | 8 | 7x30 | | | | | | | | | | | 8308 | 5.18 | | | | |
| **18** | 9 | 7x30 | | x | | | | | | | | | | | 8774 | 5.22 | | |
| **19** | none | 7x30 | | | | | | | | | | | 83569 | 4.12 | | | | |
| **20** | 10 | 7x30 | | | | | | | | | | | 8310 | 5.18 | | | | |
| **24** | 12 | 7x30 | | x | | | | | | | | | | | 1818R* | 19.15 | | |
| **25** | 12+1/C | 7x30 | | x | | | | | | | | | 8312 | 5.18 | | | | |
| | none | 7x30 | | | | | | | | | | | 9948 | 4.10 | | | | |
| **30** | 15 | 7x30 | | x | | | | | | | | | 8315 | 5.18 | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid. • ** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| **22 AWG** 0.34 mm² **0.80** | | | **0.64** *(continued)* | | | | | | | | | | | | | | | |
| **32** | 16 | 7x30 | | x | | | | | | | | | | | 1819R* | 19.15 | | |
| **36** | 18 | 7x30 | | | | | | | | | | | 8318 | 5.18 | | | | |
| **37** | none | 7x30 | | | | | | | | | | | 9949 | 4.10 | | | | |
| **40** | 20 | 7x30 | | x | | | | | | | | | | | 1820R* | 19.15 | | |
| **48** | 24 | 7x30 | | x | | | | | | | | | | | 1821R* | 19.15 | | |
| **50** | 25 | 7x30 | | | | | | | | | | | 8325 | 5.18 | | | | |
| | none | 7x30 | | | | | | | | | | | 9950 | 4.10 | | | | |
| **52** | 26 | 7x30 | | x | | | | | | | | | | | 1822R* | 19.15 | | |
| **64** | 32 | 7x30 | | x | | | | | | | | | | | 1823R* | 19.15 | | |
| **20 AWG** 0.50 mm² **0.90** | | | **0.81** | | | | | | | | | | | | | | | |
| **1** | none | 16x0.193 | | | | | | | HMC0502 | 4.37 | | | | | | | | |
| **2** | 1 | 7x28 | | | 8205 | 5.4 | | | | | | | | | | | | |
| | none | 26x34 | | | | | | | 8412 | 19.9 | | | | | | | | |
| | 1 | 7x28 | | x | | | | | | | 8762 | 5.10 | | | | | | |
| | 1 | 7x28 | | x | | | | | | | 9154 | 5.10 | | | | | | |
| | 1 | 7x28 | | | | | | | | | | | 9207 | 18.15 | | | | |
| | 1 | 7x28 | | | | | | | | | | | 9207NH | 18.15 | | | | |
| | 1 | 7x28 | | x | | | | | | | | | 9463 | 18.13 | | | | |
| | 1 | 7x28 | | x | | | | | | | | | 9463DB | 18.13 | | | | |
| | 1 | 42x36 | | | | | | | | | | | 9463F | 18.13 | | | | |
| | 1 | 7x28 | | x | | | | | | | | | 9463LS** | 18.13 | | | | |
| | 1 | 7x28 | | x | | | | | | | | | 9463NH | 18.13 | | | | |
| | 1 | 7x28 | | x | | | | | | | 9464 | 5.10 | | | | | | |
| | 1 | 7x28 | | x | | | | | | | | | 89463 | 18.14 | | | | |
| | 1 | 7x28 | | x | | | | | | | | | 129463** | 18.14 | | | | |
| | 1 | 7x28 | | x | | | | | | | | | 139463** | 18.14 | | | | |
| | 1 | 7x28 | | x | | | | | | | | | 189463** | 18.14 | | | | |
| | none | 19x0.203 | | | | | | | HMC0034 | 4.16 | | | | | | | | |
| | none | 19x0.203 | | | | | | | HMC0349 | 4.30 | | | | | | | | |
| | none | 16x0.20 | | | | | | | HMC0361 | 4.31 | | | | | | | | |
| | none | 16x0.20 | | | | | | | HMC0385 | 4.32 | | | | | | | | |
| | none | 16x0.193 | | | | | | | | | | | HMC0451 | 4.35 | | | | |
| | none | 16x0.193 | | | | | | | HMC0503 | 4.37 | | | | | | | | |
| **3** | none | 7x28 | | x | | | | | | | 8772 | 4.8 | | | | | | |
| | none | 19x0.203 | | | | | | | HMC0035 | 4.16 | | | | | | | | |
| | none | 19x0.203 | | | | | | | HMC0350 | 4.30 | | | | | | | | |
| | none | 7x28 | | x | | | | | | | | | 1348A | 18.29 | | | | |
| | none | 16x0.20 | | | | | | | HMC0362 | 4.31 | | | | | | | | |
| | none | 16x0.20 | | | | | | | HMC0386 | 4.32 | | | | | | | | |
| | none | 16x0.193 | | | | | | | | | | | HMC0452 | 4.35 | | | | |
| | none | 16x0.193 | | | | | | | HMC0504 | 4.37 | | | | | | | | |
| **4** | none | 26x34 | | | | | | | 8424 | 19.10 | | | | | | | | |
| | 2 | 7x28 | | x | | | | | | | | | | | 9402 | 5.23 | | |
| | none | 19x0.203 | | | | | | | HMC0036 | 4.16 | | | | | | | | |
| | none | 19x0.203 | | | | | | | HMC0351 | 4.30 | | | | | | | | |
| | none | 16x0.20 | | | | | | | HMC0363 | 4.31 | | | | | | | | |
| | none | 16x0.20 | | | | | | | HMC0387 | 4.32 | | | | | | | | |
| | none | 16x0.193 | | | | | | | | | | | HMC0453 | 4.35 | | | | |
| | none | 16x0.193 | | | | | | | HMC0505 | 4.37 | | | | | | | | |
| | 2 | | solid | x | | | | | | | YE00820 | 21.8 | | | | | | |
| | 2 | | solid | x | | | | | | | YE00906 | 21.8 | | | | | | |
| | 2 | 16x0.193 | | | | | | | HMC0638 | 5.26 | | | | | | | | |
| **5** | none | 19x0.203 | | | | | | | HMC0037 | 4.16 | | | | | | | | |
| | none | 19x0.203 | | | | | | | HMC0352 | 4.30 | | | | | | | | |
| | none | 16x0.193 | | | | | | | | | | | HMC0454 | 4.35 | | | | |
| | none | 16x0.193 | | | | | | | HMC0506 | 4.37 | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid. • ** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **20 AWG** 0.50 mm² **0.90** | | | **0.81** *(continued)* | | | | | | | | | | | | | | | |
| **6** | 3 | 7x28 | | | 9750 | 5.4 | | | | | | | | | | | | |
| | 3 | 7x28 | | x | | | | | | | | | | | 9873 | 5.23 | | |
| | none | 19x0.203 | | | | | | | HMC0038 | 4.16 | | | | | | | | |
| | none | 19x0.203 | | | | | | | HMC0353 | 4.30 | | | | | | | | |
| | none | 16x0.193 | | | | | | | | | | | HMC0455 | 4.35 | | | | |
| | none | 16x0.193 | | | | | | | HMC0507 | 4.37 | | | | | | | | |
| | 3 | 16x0.193 | | | | | | | HMC0639 | 5.26 | | | | | | | | |
| **7** | none | 19x0.203 | | | | | | | HMC0039 | 4.16 | | | | | | | | |
| | none | 19x0.203 | | | | | | | HMC0354 | 4.30 | | | | | | | | |
| | none | 16x0.193 | | | | | | | | | | | HMC0456 | 4.35 | | | | |
| | none | 16x0.193 | | | | | | | HMC0508 | 4.37 | | | | | | | | |
| **8** | 4 | 7x28 | | x | | | | | | | | | | | 9901* | 15.70 | | |
| | 4 | 7x28 | | x | | | | | | | | | | | 89901* | 15.70 | | |
| | none | 16x0.193 | | | | | | | | | | | HMC0457 | 4.35 | | | | |
| | none | 16x0.193 | | | | | | | HMC0509 | 4.37 | | | | | | | | |
| **10** | none | 16x0.193 | | | | | | | | | | | HMC0458 | 4.35 | | | | |
| | none | 16x0.193 | | | | | | | HMC0510 | 4.37 | | | | | | | | |
| **12** | 6 | 7x28 | | | 9751 | 5.4 | | | | | | | | | | | | |
| | 6 | 7x28 | | x | | | | | | | | | | | 9874 | 5.23 | | |
| | none | 16x0.193 | | | | | | | | | | | HMC0459 | 4.35 | | | | |
| **18** | 9 | 7x28 | | | 9752 | 5.4 | | | | | | | | | | | | |
| | 9 | 7x28 | | x | | | | | | | | | | | 9875 | 5.23 | | |
| **30** | 15 | 7x28 | | | 9755 | 5.4 | | | | | | | | | | | | |
| **18 AWG** 0.75 mm² **1.20** | | | **1.02** | | | | | | | | | | | | | | | |
| **2** | 1 | 7x26 | | x | | | | | | | 3076ELS** | 18.20 | | | | | | |
| | 1 | 7x26 | | x | | | | | | | 3076ENH | 18.20 | | | | | | |
| | 1 | 7x26 | | x | | | | | | | 3076F | 18.20 | | | | | | |
| | 1 | 7x26 | | x | | | | | | | | | 3072F | 18.17 | | | | |
| | 1 | 7x26 | | x | | | | | | | | | 3073F | 18.17 | | | | |
| | 1 | 7x26 | | x | | | | | | | | | 3074F | 18.17 | | | | |
| | 1 | 7x26 | | | 8461 | 5.4 | | | | | | | | | | | | |
| | 1 | 16x30 | | x | | | | | | | 8760 | 18.35 | | | | | | |
| | 1 | 16x30 | | x | | | | | | | 8760LS** | 18.35 | | | | | | |
| | 1 | 16x30 | | x | | | | | | | 8760NH | 18.35 | | | | | | |
| | none | | solid | | 9571 | 4.13 | | | | | | | | | | | | |
| | none | | solid | x | | | | | | | 9574 | 4.13 | | | | | | |
| | 1 | 16x30 | | | 9740 | 5.4 | | | | | | | | | | | | |
| | 1 | 19x30 | | | 82740 | 5.5 | | | | | | | | | | | | |
| | 1 | 19x30 | | x | | | | | | | 82760 | 5.10 | | | | | | |
| | none | 24x0.20 | | | HMC0001 | 4.15 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0040 | 4.17 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0100 | 4.20 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | | | HMC0120 | 4.21 | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0190 | 4.24 | | | | | | | | |
| | none | 24x0.20 | | | HMC0215 | 4.25 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0263 | 4.27 | | | | | | | | |
| | none | 24x0.20 | | | HMC0311 | 4.29 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0364 | 4.31 | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0388 | 4.32 | | | | | | | | |
| | none | 22x0.193 | | | | | | | | | | | HMC0461 | 4.35 | | | | |
| | none | 22x0.193 | | | | | | | HMC0511 | 4.37 | | | | | | | | |
| | none | 24x0.20 | | | SHO0001** | 7.8 | | | | | | | | | | | | |
| | none | 24x0.20 | | | SHO0028** | 7.9 | | | | | | | | | | | | |
| | 1 | 7x0.36 | | | | | | | SHO0055 | 7.10 | | | | | | | | |
| | none | 7x0.36 | | | | | | | SHO0088 | 7.13 | | | | | | | | |
| **3** | none | 16x30 | | x | | | | | | | 8770 | 4.8 | | | | | | |
| | none | 24x0.20 | | | HMC0002 | 4.15 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0041 | 4.17 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0101 | 4.20 | | | | | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid. • ** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **18 AWG** 0.75 mm² **1.20** | | | **1.02** *(continued)* | | | | | | | | | | | | | | | |
| **3** | none | 16x30 | | x | | | | | | | 8770 | 4.8 | | | | | | |
| | none | 24x0.20 | | | HMC0002 | 4.15 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0041 | 4.17 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0101 | 4.20 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | | | HMC0121 | 4.21 | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0191 | 4.24 | | | | | | | | |
| | none | 24x0.20 | | | HMC0216 | 4.25 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0264 | 4.27 | | | | | | | | |
| | none | 24x0.20 | | | HMC0312 | 4.29 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0365 | 4.31 | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0389 | 4.32 | | | | | | | | |
| | none | 22x0.193 | | | | | | | | | | | HMC0462 | 4.35 | | | | |
| | none | 22x0.193 | | | | | | | HMC0512 | 4.37 | | | | | | | | |
| | none | 24x0.20 | | | SHO0002** | 7.8 | | | | | | | | | | | | |
| | none | 24x0.20 | | | SHO0029** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.36 | | | | | | | SHO0089 | 7.13 | | | | | | | | |
| **4** | 2 | 16x30 | | | 9156 | 5.4 | | | | | | | | | | | | |
| | none | 19x30 | | x | | | | | | | 9418 | 4.8 | | | | | | |
| | none | | solid | x | | | | | | | 9578 | 4.13 | | | | | | |
| | none | 19x30 | | | 82489 | 4.4 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0003 | 4.15 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0042 | 4.17 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0102 | 4.20 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | | | HMC0122 | 4.21 | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0192 | 4.24 | | | | | | | | |
| | none | 24x0.20 | | | HMC0217 | 4.25 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0265 | 4.27 | | | | | | | | |
| | none | 24x0.20 | | | HMC0313 | 4.29 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0366 | 4.31 | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0390 | 4.32 | | | | | | | | |
| | none | 22x0.193 | | | | | | | | | | | HMC0463 | 4.35 | | | | |
| | none | 22x0.193 | | | | | | | HMC0513 | 4.37 | | | | | | | | |
| | 2 | 7x0.36 | | | | | | | SHO0056 | 7.10 | | | | | | | | |
| **5** | none | 24x0.20 | | | HMC0004 | 4.15 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0043 | 4.17 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0103 | 4.20 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | | | HMC0123 | 4.21 | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0193 | 4.24 | | | | | | | | |
| | none | 24x0.20 | | | HMC0218 | 4.25 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0266 | 4.27 | | | | | | | | |
| | none | 24x0.20 | | | HMC0314 | 4.29 | | | | | | | | | | | | |
| | none | 22x0.193 | | | | | | | | | | | HMC0464 | 4.35 | | | | |
| | none | 24x0.20 | | | SHO0003** | 7.8 | | | | | | | | | | | | |
| | none | 24x0.20 | | | SHO0030** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.36 | | | | | | | SHO0090 | 7.13 | | | | | | | | |
| **6** | 3 | 16x30 | | | 8690 | 5.5 | | | | | | | | | | | | |
| | 3 | 19x30 | | x | | | | | | | | | | | 9773 | 5.23 | | |
| | none | 24x0.20 | | | HMC0056 | 4.18 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | | | HMC0124 | 4.21 | | | | | | |
| | none | 24x0.20 | | | HMC0219 | 4.25 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0267 | 4.27 | | | | | | | | |
| | none | 22x0.193 | | | | | | | | | | | HMC0465 | 4.35 | | | | |
| | 3 | 22x0.193 | | | | | | | HMC0640 | 5.26 | | | | | | | | |
| **7** | 3 | 24x0.20 | | | HMC0005 | 4.15 | | | | | | | | | | | | |
| | 3 | 24x0.20 | | | HMC0057 | 4.18 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | | | HMC0125 | 4.21 | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0194 | 4.24 | | | | | | | | |
| | none | 24x0.20 | | | HMC0220 | 4.25 | | | | | | | | | | | | |
| | none | 24x0.20 | | | | | | | HMC0268 | 4.27 | | | | | | | | |
| | none | 24x0.20 | | | HMC0315 | 4.29 | | | | | | | | | | | | |

** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **18 AWG** 0.75 mm² **1.20** | | | **1.02** *(continued)* | | | | | | | | | | | | | | | |
| **7** | none | 22x0.193 | | | | | | | | | | | HMC0466 | 4.35 | | | | |
| | none | 7x0.36 | | | | | | | SH00091 | 7.13 | | | | | | | | |
| **8** | 4 | 16x30 | | | 9157 | 5.5 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0058 | 4.18 | | | | | | | | | | | | |
| | none | 22x0.193 | | | | | | | | | | | HMC0467 | 4.35 | | | | |
| | 4 | 7x0.36 | | | | | | | SH00057 | 7.10 | | | | | | | | |
| **10** | 5 | 16x30 | | | 9159 | 5.5 | | | | | | | | | | | | |
| | none | 24x0.20 | | | HMC0059 | 4.18 | | | | | | | | | | | | |
| | none | 22x0.193 | | | | | | | | | | | HMC0468 | 4.35 | | | | |
| | none | 7x0.36 | | | | | | | SH00092 | 7.13 | | | | | | | | |
| **12** | 6 | 19x30 | | x | | | | | | | | | | | 9774 | 5.23 | | |
| | none | 24x0.20 | | | HMC0060 | 4.18 | | | | | | | | | | | | |
| | none | 22x0.193 | | | | | | | | | | | HMC0469 | 4.35 | | | | |
| | none | 7x0.36 | | | | | | | SH00093 | 7.13 | | | | | | | | |
| **14** | none | 24x0.20 | | | HMC0061 | 4.18 | | | | | | | | | | | | |
| | 7 | 7x0.36 | | | | | | | SH00058 | 7.10 | | | | | | | | |
| | none | 7x0.36 | | | | | | | SH00094 | 7.13 | | | | | | | | |
| **16** | none | 24x0.20 | | | HMC0062 | 4.18 | | | | | | | | | | | | |
| | none | 7x0.36 | | | | | | | SH00095 | 7.13 | | | | | | | | |
| **18** | 9 | 19x30 | | x | | | | | | | | | | | 9775 | 5.23 | | |
| | none | 24x0.20 | | | HMC0063 | 4.18 | | | | | | | | | | | | |
| **19** | none | 7x0.36 | | | | | | | SH00096 | 7.13 | | | | | | | | |
| **20** | none | 24x0.20 | | | HMC0064 | 4.18 | | | | | | | | | | | | |
| | 10 | 7x0.36 | | | | | | | SH00059 | 7.10 | | | | | | | | |
| **24** | none | 24x0.20 | | | HMC0065 | 4.18 | | | | | | | | | | | | |
| | none | 7x0.36 | | | | | | | SH00097 | 7.13 | | | | | | | | |
| **25** | none | 24x0.20 | | | HMC0066 | 4.18 | | | | | | | | | | | | |
| **28** | 14 | 7x0.36 | | | | | | | SH00060 | 7.10 | | | | | | | | |
| **38** | 19 | 7x0.36 | | | | | | | SH00061 | 7.10 | | | | | | | | |
| **48** | 24 | 7x0.36 | | | | | | | SH00062 | 7.10 | | | | | | | | |
| **17 AWG** 1.00 mm² **1.40** | | | **1.15** | | | | | | | | | | | | | | | |
| **2** | none | 32x0.20 | | | HMC0006 | 4.15 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0044 | 4.17 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0104 | 4.20 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | | | HMC0126 | 4.21 | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0195 | 4.24 | | | | | | | | |
| | none | 32x0.20 | | | HMC0221 | 4.25 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0269 | 4.27 | | | | | | | | |
| | none | 32x0.20 | | | HMC0316 | 4.29 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0367 | 4.31 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0391 | 4.32 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0403 | 4.33 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0423 | 4.34 | | | | | | | | |
| | none | 20x0.243 | | | | | | | | | | | HMC0471 | 4.35 | | | | |
| | none | 20x0.243 | | | | | | | HMC0514 | 4.37 | | | | | | | | |
| | none | 20x0.243 | | | HMC0524 | 4.38 | | | | | | | | | | | | |
| | none | 32x0.20 | | | SH00004** | 7.8 | | | | | | | | | | | | |
| | none | 32x0.20 | | | SH00031** | 7.9 | | | | | | | | | | | | |
| **3** | none | 32x0.20 | | | HMC0007 | 4.15 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0045 | 4.17 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0105 | 4.20 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | | | HMC0127 | 4.21 | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0196 | 4.24 | | | | | | | | |
| | none | 32x0.20 | | | HMC0222 | 4.25 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0270 | 4.27 | | | | | | | | |

** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **17 AWG** 1.00 mm² **1.40** | | | **1.15** *(continued)* | | | | | | | | | | | | | | | |
| **3** | none | 32x0.20 | | | HMC0317 | 4.29 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0368 | 4.31 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0392 | 4.32 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0404 | 4.33 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0424 | 4.34 | | | | | | | | |
| | none | 20x0.243 | | | | | | | | | | | HMC0472 | 4.35 | | | | |
| | none | 20x0.243 | | | | | | | HMC0515 | 4.37 | | | | | | | | |
| | none | 20x0.243 | | | HMC0525 | 4.38 | | | | | | | | | | | | |
| | none | 32x0.20 | | | SHO0005** | 7.8 | | | | | | | | | | | | |
| | none | 32x0.20 | | | SHO0032** | 7.9 | | | | | | | | | | | | |
| **4** | none | 32x0.20 | | | HMC0008 | 4.15 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0046 | 4.17 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0106 | 4.20 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | | | HMC0128 | 4.21 | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0197 | 4.24 | | | | | | | | |
| | none | 32x0.20 | | | HMC0223 | 4.25 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0271 | 4.27 | | | | | | | | |
| | none | 32x0.20 | | | HMC0318 | 4.29 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0369 | 4.31 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0393 | 4.32 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0405 | 4.33 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0425 | 4.34 | | | | | | | | |
| | none | 20x0.243 | | | | | | | | | | | HMC0473 | 4.35 | | | | |
| | none | 20x0.243 | | | | | | | HMC0516 | 4.37 | | | | | | | | |
| | none | 20x0.243 | | | HMC0526 | 4.38 | | | | | | | | | | | | |
| | none | 32x0.20 | | | SHO0006** | 7.8 | | | | | | | | | | | | |
| | none | 32x0.20 | | | SHO0033** | 7.9 | | | | | | | | | | | | |
| **5** | none | 32x0.20 | | | HMC0009 | 4.15 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0047 | 4.17 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0107 | 4.20 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | | | HMC0129 | 4.21 | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0198 | 4.24 | | | | | | | | |
| | none | 32x0.20 | | | HMC0224 | 4.25 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0272 | 4.27 | | | | | | | | |
| | none | 32x0.20 | | | HMC0319 | 4.29 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0406 | 4.33 | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0426 | 4.34 | | | | | | | | |
| | none | 20x0.243 | | | | | | | | | | | HMC0474 | 4.35 | | | | |
| | none | 20x0.243 | | | | | | | HMC0517 | 4.37 | | | | | | | | |
| **6** | none | 32x0.20 | | | HMC0067 | 4.18 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | | | HMC0130 | 4.21 | | | | | | |
| | none | 32x0.20 | | | HMC0225 | 4.25 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0273 | 4.27 | | | | | | | | |
| | none | 20x0.243 | | | | | | | | | | | HMC0475 | 4.35 | | | | |
| **7** | none | 32x0.20 | | | HMC0010 | 4.15 | | | | | | | | | | | | |
| | none | 32x0.20 | | | HMC0068 | 4.18 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | | | HMC0131 | 4.21 | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0199 | 4.24 | | | | | | | | |
| | none | 32x0.20 | | | HMC0226 | 4.25 | | | | | | | | | | | | |
| | none | 32x0.20 | | | | | | | HMC0274 | 4.27 | | | | | | | | |
| | none | 32x0.20 | | | HMC0320 | 4.29 | | | | | | | | | | | | |
| | none | 20x0.243 | | | | | | | | | | | HMC0476 | 4.35 | | | | |
| **8** | none | 32x0.20 | | | HMC0069 | 4.18 | | | | | | | | | | | | |
| | none | 20x0.243 | | | | | | | | | | | HMC0477 | 4.35 | | | | |
| **10** | none | 32x0.20 | | | HMC0070 | 4.18 | | | | | | | | | | | | |
| **12** | none | 32x0.20 | | | HMC0071 | 4.18 | | | | | | | | | | | | |
| **14** | none | 32x0.20 | | | HMC0072 | 4.18 | | | | | | | | | | | | |
| **16** | none | 32x0.20 | | | HMC0073 | 4.18 | | | | | | | | | | | | |

** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **17 AWG** 1.00 mm² **1.40** | | | **1.15** *(continued)* | | | | | | | | | | | | | | | |
| **18** | none | 32x0.20 | | | HMC0074 | 4.18 | | | | | | | | | | | | |
| **20** | none | 32x0.20 | | | HMC0075 | 4.18 | | | | | | | | | | | | |
| **24** | none | 32x0.20 | | | HMC0076 | 4.18 | | | | | | | | | | | | |
| **25** | none | 32x0.20 | | | HMC0077 | 4.18 | | | | | | | | | | | | |
| **16 AWG** 1.50 mm² **1.50** | | | **1.30** | | | | | | | | | | | | | | | |
| **2** | none | 65x34 | | | 1307A | 21.10 | | | | | | | | | | | | |
| | none | 84x0.15 | | | 3999E | 18.28 | | | | | | | | | | | | |
| | 1 | 19x29 | | | 8471 | 5.5<br>18.30<br>21.8 | | | | | | | | | | | | |
| | 1 | 19x29 | | | 8471LS** | 18.31 | | | | | | | | | | | | |
| | 1 | 19x29 | | | 8471NH | 18.31 | | | | | | | | | | | | |
| | none | 19x29 | | | 8677 | 4.5 | | | | | | | | | | | | |
| | 1 | 19x29 | | x | | | | | | | 8719 | 5.11<br>18.31 | | | | | | |
| | none | | solid | | 9572 | 4.13 | | | | | | | | | | | | |
| | none | | solid | x | | | | | | | 9575 | 4.13 | | | | | | |
| | none | 26x30 | | | 9716 | 21.10 | | | | | | | | | | | | |
| | 1 | | solid | | | | | | | | | | 9860 | 18.15 | | | | |
| | 1 | | solid | | | | | | | | | | 9860LS** | 18.15 | | | | |
| | 1 | | solid | | | | | | | | | | 9860NH | 18.15 | | | | |
| | 1 | 19x29 | | | 85102 | 18.31 | | | | | | | | | | | | |
| | none | 25x0.23 | | | BE46382 | 19.19 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0011 | 4.15 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0048 | 4.17 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0108 | 4.20 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0132 | 4.21 | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0200 | 4.24 | | | | | | | | |
| | none | 30x0.25 | | | HMC0227 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0275 | 4.27 | | | | | | | | |
| | none | 30x0.25 | | | HMC0321 | 4.29 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0370 | 4.31 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0394 | 4.32 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0407 | 4.33 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0427 | 4.34 | | | | | | | | |
| | none | 28x0.245 | | | | | | | | | | | HMC0479 | 4.36 | | | | |
| | none | 28x0.245 | | | | | | | HMC0518 | 4.38 | | | | | | | | |
| | none | 28x0.245 | | | HMC0527 | 4.38 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0007** | 7.8 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0034** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.52 | | | SHO0063 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0098 | 7.12 | | | | | | | | |
| **3** | none | 30x0.25 | | | HMC0012 | 4.15 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0049 | 4.17 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0109 | 4.20 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0133 | 4.21 | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0201 | 4.24 | | | | | | | | |
| | none | 30x0.25 | | | HMC0228 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0276 | 4.27 | | | | | | | | |
| | none | 30x0.25 | | | HMC0322 | 4.29 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0371 | 4.31 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0395 | 4.32 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0408 | 4.33 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0428 | 4.34 | | | | | | | | |
| | none | 28x0.245 | | | | | | | | | | | HMC0480 | 4.36 | | | | |
| | none | 28x0.245 | | | | | | | HMC0519 | 4.38 | | | | | | | | |
| | none | 28x0.245 | | | HMC0528 | 4.38 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0008** | 7.8 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0035** | 7.9 | | | | | | | | | | | | |

** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **16 AWG** 1.50 mm² **1.50** | | | **1.30** *(continued)* | | | | | | | | | | | | | | | |
| **3** | none | 7x0.52 | | | SHO0064 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0099 | 7.12 | | | | | | | | |
| **4** | none | 65x34 | | | 1308A | 21.10 | | | | | | | | | | | | |
| | none | | solid | x | | | | | | | 9579 | 4.13 | | | | | | |
| | none | 30x0.25 | | | HMC0013 | 4.15 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0050 | 4.17 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0110 | 4.20 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0134 | 4.21 | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0202 | 4.24 | | | | | | | | |
| | none | 30x0.25 | | | HMC0229 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0277 | 4.27 | | | | | | | | |
| | none | 32x0.25 | | | HMC0323 | 4.29 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0372 | 4.31 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0396 | 4.32 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0409 | 4.33 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0429 | 4.34 | | | | | | | | |
| | none | 28x0.245 | | | | | | | | | | | HMC0481 | 4.36 | | | | |
| | none | 28x0.245 | | | | | | | HMC0520 | 4.38 | | | | | | | | |
| | none | 28x0.245 | | | HMC0529 | 4.38 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0009** | 7.8 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0036** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.52 | | | SHO0065 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0100 | 7.12 | | | | | | | | |
| **5** | none | 30x0.25 | | | HMC0014 | 4.15 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0051 | 4.17 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0111 | 4.20 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0135 | 4.21 | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0203 | 4.24 | | | | | | | | |
| | none | 30x0.25 | | | HMC0230 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0278 | 4.27 | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0410 | 4.33 | | | | | | | | |
| | none | 32x0.25 | | | HMC0324 | 4.29 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0430 | 4.34 | | | | | | | | |
| | none | 28x0.245 | | | | | | | | | | | HMC0482 | 4.36 | | | | |
| | none | 28x0.245 | | | | | | | HMC0521 | 4.38 | | | | | | | | |
| | none | 30x0.25 | | | SHO0010** | 7.8 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0037** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.52 | | | SHO0066 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0101 | 7.12 | | | | | | | | |
| **6** | none | 30x0.25 | | | HMC0078 | 4.18 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0136 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0231 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0279 | 4.27 | | | | | | | | |
| | none | 28x0.245 | | | | | | | | | | | HMC0483 | 4.36 | | | | |
| **7** | none | 30x0.25 | | | HMC0015 | 4.15 | | | | | | | | | | | | |
| | none | 30x0.25 | | | HMC0079 | 4.18 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0137 | 4.21 | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0204 | 4.24 | | | | | | | | |
| | none | 30x0.25 | | | HMC0232 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0280 | 4.27 | | | | | | | | |
| | none | 32x0.25 | | | HMC0325 | 4.29 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0011** | 7.8 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0038** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.52 | | | SHO0067 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0102 | 7.12 | | | | | | | | |
| **8** | none | 30x0.25 | | | HMC0080 | 4.18 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0138 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0233 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0281 | 4.27 | | | | | | | | |

** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **16 AWG** 1.50 mm² **1.50** | | | **1.30** *(continued)* | | | | | | | | | | | | | | | |
| **10** | none | 30x0.25 | | | HMC0081 | 4.18 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0139 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0234 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0282 | 4.27 | | | | | | | | |
| | none | 7x0.52 | | | SHO0068 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0103 | 7.12 | | | | | | | | |
| **12** | none | 30x0.25 | | | HMC0082 | 4.18 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0140 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0235 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0283 | 4.27 | | | | | | | | |
| | none | 30x0.25 | | | SHO0012** | 7.8 | | | | | | | | | | | | |
| | none | 30x0.25 | | | SHO0039** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0104 | 7.12 | | | | | | | | |
| **14** | none | 30x0.25 | | | HMC0083 | 4.18 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0141 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0236 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0284 | 4.27 | | | | | | | | |
| | none | 7x0.52 | | | SHO0069 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0105 | 7.12 | | | | | | | | |
| **16** | none | 30x0.25 | | | HMC0084 | 4.18 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0142 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0237 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0285 | 4.27 | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0106 | 7.12 | | | | | | | | |
| **18** | none | 30x0.25 | | | HMC0085 | 4.18 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0143 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0238 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0286 | 4.27 | | | | | | | | |
| **19** | none | 7x0.52 | | | SHO0070 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0107 | 7.12 | | | | | | | | |
| **20** | none | 30x0.25 | | | HMC0086 | 4.19 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0144 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0239 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0287 | 4.27 | | | | | | | | |
| **24** | none | 30x0.25 | | | HMC0087 | 4.19 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | | | HMC0145 | 4.21 | | | | | | |
| | none | 30x0.25 | | | HMC0240 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0288 | 4.27 | | | | | | | | |
| | none | 7x0.52 | | | SHO0071 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.52 | | | | | | | SHO0108 | 7.12 | | | | | | | | |
| **30** | none | 30x0.25 | | | HMC0241 | 4.25 | | | | | | | | | | | | |
| | none | 30x0.25 | | | | | | | HMC0289 | 4.27 | | | | | | | | |
| **14 AWG** 2.50 mm² **1.85** | | | **1.63** | | | | | | | | | | | | | | | |
| **2** | none | 105x34 | | | 1309A | 21.11 | | | | | | | | | | | | |
| | 1 | 41x30 | | | 8473 | 5.5 | | | | | | | | | | | | |
| | none | 19x27 | | | 8675 | 4.5 | | | | | | | | | | | | |
| | 1 | 19x27 | | x | | | | | | | 8720 | 5.11 | | | | | | |
| | none | | solid | | 9580 | 4.14 | | | | | | | | | | | | |
| | none | | solid | x | | | | | | | 9581 | 4.14 | | | | | | |
| | none | 50x0.25 | | | HMC0052 | 4.17 | | | | | | | | | | | | |
| | none | 50x0.25 | | | HMC0112 | 4.20 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | | | HMC0146 | 4.21 | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0205 | 4.24 | | | | | | | | |
| | none | 50x0.25 | | | HMC0242 | 4.25 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0290 | 4.27 | | | | | | | | |
| | none | 50x0.25 | | | HMC0326 | 4.29 | | | | | | | | | | | | |

* Individually shielded pairs or triads, plus overall foil, overall braid or overall foil and braid. • ** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **14 AWG** 2.50 mm² **1.85** | | | **1.63** *(continued)* | | | | | | | | | | | | | | | |
| **2** | none | 50x0.25 | | | | | | | HMC0373 | 4.31 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0397 | 4.32 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0411 | 4.33 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0431 | 4.34 | | | | | | | | |
| | none | 48x0.243 | | | | | | | HMC0522 | 4.38 | | | | | | | | |
| | none | 50x0.25 | | | SHO0013** | 7.8 | | | | | | | | | | | | |
| | none | 50x0.25 | | | SHO0040** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.68 | | | SHO0072 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.68 | | | | | | | SHO0109 | 7.12 | | | | | | | | |
| **3** | none | 50x0.25 | | | HMC0053 | 4.17 | | | | | | | | | | | | |
| | none | 50x0.25 | | | HMC0113 | 4.20 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | | | HMC0147 | 4.21 | | | | | | |
| | none | 50x0.25 | | | | | | | HHMC0206 | 4.24 | | | | | | | | |
| | none | 50x0.25 | | | HMC0243 | 4.25 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0291 | 4.27 | | | | | | | | |
| | none | 50x0.25 | | | HMC0327 | 4.29 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0374 | 4.31 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0398 | 4.32 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0412 | 4.33 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0432 | 4.34 | | | | | | | | |
| | none | 48x0.243 | | | | | | | | | | | HMC0484 | 4.36 | | | | |
| | none | 48x0.243 | | | | | | | HMC0523 | 4.38 | | | | | | | | |
| | none | 48x0.243 | | | HMC0530 | 4.38 | | | | | | | | | | | | |
| | none | 50x0.25 | | | SHO0014** | 7.8 | | | | | | | | | | | | |
| | none | 50x0.25 | | | SHO0041** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.68 | | | SHO0073 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.68 | | | | | | | SHO0110 | 7.12 | | | | | | | | |
| **4** | none | 105x34 | | | 1310A | 21.11 | | | | | | | | | | | | |
| | none | 104x34 | | | 1810A | 19.19 | | | | | | | | | | | | |
| | none | 50x0.25 | | | HMC0054 | 4.17 | | | | | | | | | | | | |
| | none | 50x0.25 | | | HMC0114 | 4.20 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | | | HMC0148 | 4.21 | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0207 | 4.24 | | | | | | | | |
| | none | 50x0.25 | | | HMC0244 | 4.26 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0292 | 4.27 | | | | | | | | |
| | none | 50x0.25 | | | HMC0328 | 4.29 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0375 | 4.31 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0399 | 4.32 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0413 | 4.33 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0433 | 4.34 | | | | | | | | |
| | none | 48x0.243 | | | | | | | | | | | HMC0485 | 4.36 | | | | |
| | none | 50x0.25 | | | SHO0015** | 7.8 | | | | | | | | | | | | |
| | none | 50x0.25 | | | SHO0042** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.68 | | | SHO0074 | 7.11 | | | | | | | | | | | | |
| | none | 7x0.68 | | | | | | | SHO0111 | 7.12 | | | | | | | | |
| **5** | none | 50x0.25 | | | HMC0055 | 4.17 | | | | | | | | | | | | |
| | none | 50x0.25 | | | HMC0115 | 4.20 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | | | HMC0149 | 4.22 | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0208 | 4.24 | | | | | | | | |
| | none | 50x0.25 | | | HMC0245 | 4.26 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0293 | 4.27 | | | | | | | | |
| | none | 50x0.25 | | | HMC0329 | 4.29 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0414 | 4.33 | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0434 | 4.34 | | | | | | | | |
| | none | 50x0.25 | | | SHO0016** | 7.8 | | | | | | | | | | | | |
| | none | 50x0.25 | | | SHO0043** | 7.9 | | | | | | | | | | | | |
| | none | 7x0.68 | | | SHO0075 | 7.11 | | | | | | | | | | | | |
| **6** | none | 50x0.25 | | | HMC0089 | 4.19 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | | | HMC0150 | 4.22 | | | | | | |
| | none | 50x0.25 | | | HMC0246 | 4.26 | | | | | | | | | | | | |
| | none | 50x0.25 | | | | | | | HMC0294 | 4.28 | | | | | | | | |

** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **12 AWG** 4.00 mm² **2.40** | | | **2.05** | | | | | | | | | | | | | | | |
| **2** | none | 165x34 | | | 1311A | 21.11 | | | | | | | | | | | | |
| | 1 | 65x30 | | | 8477 | 5.5 | | | | | | | | | | | | |
| | none | 19x25 | | | 8673 | 5.4 | | | | | | | | | | | | |
| | 1 | 19x25 | | x | | | | | | | 8718 | 5.11 | | | | | | |
| | none | | solid | | 9582 | 4.14 | | | | | | | | | | | | |
| | none | | solid | x | | | | | | | 9583 | 4.14 | | | | | | |
| | none | 56x0.30 | | | | | | | | | HMC0153 | 4.22 | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0210 | 4.24 | | | | | | | | |
| | none | 56x0.30 | | | HMC0251 | 4.26 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0299 | 4.28 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0376 | 4.31 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0400 | 4.32 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0415 | 4.33 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0435 | 4.34 | | | | | | | | |
| | none | 56x0.30 | | | SHO0018* | 7.8 | | | | | | | | | | | | |
| | none | 56x0.30 | | | SHO0045* | 7.9 | | | | | | | | | | | | |
| | none | 56x0.30 | | | SHO0076 | 7.11 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | SHO0112 | 7.12 | | | | | | | | |
| **3** | none | 56x0.30 | | | HMC0116 | 4.20 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | | | HMC0154 | 4.22 | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0211 | 4.24 | | | | | | | | |
| | none | 56x0.30 | | | HMC0252 | 4.26 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0300 | 4.28 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0377 | 4.31 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0401 | 4.32 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0416 | 4.33 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0436 | 4.34 | | | | | | | | |
| | none | 56x0.30 | | | SHO0019** | 7.8 | | | | | | | | | | | | |
| | none | 56x0.30 | | | SHO0046** | 7.9 | | | | | | | | | | | | |
| | none | 56x0.30 | | | SHO0077 | 7.11 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | SHO0113 | 7.12 | | | | | | | | |
| **4** | none | 165x34 | | | 1312A | 21.11 | | | | | | | | | | | | |
| | none | 56x0.30 | | | HMC0117 | 4.20 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | | | HMC0155 | 4.22 | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0212 | 4.24 | | | | | | | | |
| | none | 56x0.30 | | | HMC0253 | 4.26 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0301 | 4.28 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0378 | 4.31 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0402 | 4.32 | | | | | | | | |
| | none | 56x0.30 | | | SHO0020** | 7.8 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0417 | 4.33 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0437 | 4.34 | | | | | | | | |
| | none | 56x0.30 | | | SHO0047** | 7.9 | | | | | | | | | | | | |
| | none | 56x0.30 | | | SHO0078 | 7.11 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | SHO0114 | 7.12 | | | | | | | | |
| **5** | none | 56x0.30 | | | | | | | | | HMC0156 | 4.22 | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0213 | 4.24 | | | | | | | | |
| | none | 56x0.30 | | | HMC0254 | 4.26 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0302 | 4.28 | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0418 | 4.33 | | | | | | | | |
| | none | 56x0.30 | | | SHO0021** | 7.8 | | | | | | | | | | | | |
| | none | 56x0.30 | | | SHO0048** | 7.9 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0438 | 4.34 | | | | | | | | |
| **6** | none | 56x0.30 | | | | | | | | | HMC0157 | 4.22 | | | | | | |
| | none | 56x0.30 | | | HMC0255 | 4.26 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0303 | 4.28 | | | | | | | | |
| **7** | none | 56x0.30 | | | | | | | | | HMC0158 | 4.22 | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0214 | 4.24 | | | | | | | | |
| | none | 56x0.30 | | | HMC0256 | 4.26 | | | | | | | | | | | | |
| | none | 56x0.30 | | | | | | | HMC0304 | 4.28 | | | | | | | | |

** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **11 AWG** 4.20 mm² **2.60** | | | **2.30** | | | | | | | | | | | | | | | |
| **3** | none | 56x0.30 | | | BE46380 | 19.20 | | | | | | | | | | | | |
| **10 AWG** 6.00 mm² **2.95** | | | **2.60** | | | | | | | | | | | | | | | |
| **2** | none | 259x34 | | | 1313A | 21.11 | | | | | | | | | | | | |
| | none | 19x23 | | | 8678 | 4.5 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | | | HMC0159 | 4.22 | | | | | | |
| | none | 84x0.30 | | | HMC0257 | 4.26 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0305 | 4.28 | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0419 | 4.33 | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0439 | 4.34 | | | | | | | | |
| | none | 84x0.30 | | | SHO0022** | 7.8 | | | | | | | | | | | | |
| | none | 84x0.30 | | | SHO0049** | 7.9 | | | | | | | | | | | | |
| | none | 84x0.30 | | | SHO0079 | 7.11 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | SHO0115 | 7.12 | | | | | | | | |
| **3** | none | 84x0.30 | | | HMC0118 | 4.20 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | | | HMC0160 | 4.22 | | | | | | |
| | none | 84x0.30 | | | HMC0258 | 4.26 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0306 | 4.28 | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0420 | 4.33 | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0440 | 4.34 | | | | | | | | |
| | none | 84x0.30 | | | SHO0023** | 7.8 | | | | | | | | | | | | |
| | none | 84x0.30 | | | SHO0050** | 7.9 | | | | | | | | | | | | |
| | none | 84x0.30 | | | SHO0080 | 7.11 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | SHO0116 | 7.12 | | | | | | | | |
| **4** | none | 84x0.30 | | | HMC0119 | 4.20 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | | | HMC0161 | 4.22 | | | | | | |
| | none | 84x0.30 | | | HMC0259 | 4.26 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0307 | 4.28 | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0421 | 4.33 | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0441 | 4.34 | | | | | | | | |
| | none | 84x0.30 | | | SHO0024** | 7.8 | | | | | | | | | | | | |
| | none | 84x0.30 | | | SHO0051** | 7.9 | | | | | | | | | | | | |
| | none | 84x0.30 | | | SHO0081 | 7.11 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | SHO0117 | 7.12 | | | | | | | | |
| **5** | none | 84x0.30 | | | | | | | | | HMC0162 | 4.22 | | | | | | |
| | none | 84x0.30 | | | HMC0260 | 4.26 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0308 | 4.28 | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0422 | 4.33 | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0442 | 4.34 | | | | | | | | |
| **6** | none | 84x0.30 | | | | | | | | | HMC0163 | 4.22 | | | | | | |
| | none | 84x0.30 | | | HMC0261 | 4.26 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0309 | 4.28 | | | | | | | | |
| **7** | none | 84x0.30 | | | | | | | | | HMC0164 | 4.22 | | | | | | |
| | none | 84x0.30 | | | HMC0262 | 4.26 | | | | | | | | | | | | |
| | none | 84x0.30 | | | | | | | HMC0310 | 4.28 | | | | | | | | |
| **8 AWG** 10.00 mm² **3.26** | | | | | | | | | | | | | | | | | | |
| **2** | none | 80x0.40 | | | | | | | | | HMC0165 | 4.22 | | | | | | |
| | none | 80x0.40 | | | SHO0025** | 7.8 | | | | | | | | | | | | |
| | none | 80x0.40 | | | SHO0052** | 7.9 | | | | | | | | | | | | |
| | none | 80x0.40 | | | SHO0082 | 7.11 | | | | | | | | | | | | |
| | none | 80x0.40 | | | | | | | SHO0145 | 7.12 | | | | | | | | |
| **3** | none | 80x0.40 | | | | | | | | | HMC0166 | 4.22 | | | | | | |
| | none | 80x0.40 | | | SHO0026** | 7.8 | | | | | | | | | | | | |
| | none | 80x0.40 | | | SHO0053** | 7.9 | | | | | | | | | | | | |
| | none | 80x0.40 | | | SHO0083 | 7.11 | | | | | | | | | | | | |
| **4** | none | 80x0.40 | | | | | | | | | HMC0167 | 4.22 | | | | | | |
| | none | 80x0.40 | | | SHO0027** | 7.8 | | | | | | | | | | | | |
| | none | 80x0.40 | | | SHO0054** | 7.9 | | | | | | | | | | | | |
| | none | 80x0.40 | | | SHO0084 | 7.11 | | | | | | | | | | | | |
| | none | 80x0.40 | | | | | | | SHO0146 | 7.12 | | | | | | | | |

** Armored
# Measures without a decimal point are in AWG sizes.

# Multi-Conductor and Paired Cables

| No. of Cond. | No. of Pairs | Stranded (mm/ AWG#) | Solid (mm) | Drain Wire | Unshielded | | Overall Spiral | | Overall Braid | | Overall Foil | | Overall Foil/Braid | | Individual Foil | | Individual Braid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page | Part No. | Page |
| **8 AWG** 10.00 mm² **3.26** *(continued)* | | | | | | | | | | | | | | | | | | |
| **5** | none | 80x0.40 | | | | | | | | | HMC0168 | 4.22 | | | | | | |
| **6 AWG** 16.00 mm² **4.12** | | | | | | | | | | | | | | | | | | |
| **2** | none | 128x0.40 | | | | | | | | | HMC0169 | 4.22 | | | | | | |
| **3** | none | 128x0.40 | | | | | | | | | HMC0170 | 4.22 | | | | | | |
| | none | 126x0.40 | | | SHO0085 | 7.11 | | | | | | | | | | | | |
| **4** | none | 128x0.40 | | | | | | | | | HMC0171 | 4.22 | | | | | | |
| **5** | none | 128x0.40 | | | | | | | | | HMC0172 | 4.22 | | | | | | |
| **4 AWG** 25.00 mm² **5.19** | | | | | | | | | | | | | | | | | | |
| **2** | none | 200x0.40 | | | | | | | | | HMC0173 | 4.22 | | | | | | |
| **3** | none | 200x0.40 | | | | | | | | | HMC0174 | 4.22 | | | | | | |
| | none | 196x0.40 | | | SHO0086 | 7.11 | | | | | | | | | | | | |
| **4** | none | 200x0.40 | | | | | | | | | HMC0175 | 4.22 | | | | | | |
| **2 AWG** 35.00 mm² **6.54** | | | | | | | | | | | | | | | | | | |
| **2** | none | 280x0.40 | | | | | | | | | HMC0176 | 4.22 | | | | | | |
| **3** | none | 280x0.40 | | | | | | | | | HMC0177 | 4.22 | | | | | | |
| | none | 276x0.40 | | | SHO0087 | 7.11 | | | | | | | | | | | | |
| **4** | none | 280x0.40 | | | | | | | | | HMC0178 | 4.23 | | | | | | |
| **1 AWG** 50 mm² **7.35** | | | | | | | | | | | | | | | | | | |
| **2** | none | 400x0.40 | | | | | | | | | HMC0179 | 4.23 | | | | | | |
| **3** | none | 400x0.40 | | | | | | | | | HMC0180 | 4.23 | | | | | | |
| **4** | none | 400x0.40 | | | | | | | | | HMC0181 | 4.23 | | | | | | |
| **2/0 AWG** 70 mm² **9.26** | | | | | | | | | | | | | | | | | | |
| **2** | none | 356x0.50 | | | | | | | | | HMC0182 | 4.23 | | | | | | |
| **3** | none | 356x0.50 | | | | | | | | | HMC0183 | 4.23 | | | | | | |
| **4** | none | 356x0.50 | | | | | | | | | HMC0184 | 4.23 | | | | | | |
| **3/0 AWG** 95 mm² **10.4** | | | | | | | | | | | | | | | | | | |
| **2** | none | 485x0.50 | | | | | | | | | HMC0185 | 4.23 | | | | | | |
| **3** | none | 485x0.50 | | | | | | | | | HMC0186 | 4.23 | | | | | | |
| **4** | none | 485x0.50 | | | | | | | | | HMC0187 | 4.23 | | | | | | |
| **4/0 AWG** 120 mm² **11.7** | | | | | | | | | | | | | | | | | | |
| **2** | none | 614x0.50 | | | | | | | | | HMC0188 | 4.23 | | | | | | |
| **3** | none | 614x0.50 | | | | | | | | | HMC0189 | 4.23 | | | | | | |

# Measures without a decimal point are in AWG sizes.

# Combination Cables

## Unshielded, Shielded and Partially Shielded

| No. of Cond. | Part No. | Description | | Shielding | Compo-nent | Page |
|---|---|---|---|---|---|---|
| | | Conductor / Gage | mm | | | |
| **Combination Gages** | | | | | | |
| **3** | 1306SB | 1 co - 18 AWG<br>1 pr - 18 AWG | 1.00<br>1.20 | 95% BC Braid<br>Unshielded | CCTV<br>Audio | 7.5 |
| **4** | 1502R | 1 pr - 22 AWG<br>2 cdr - 18 AWG | 0.80<br>1.20 | Beldfoil®<br>Unshielded | Data<br>Power | 21.7 |
| | 3082A | 2 cdr - 15 AWG<br>2 cdr - 18 AWG | 1.70<br>1.24 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.22 |
| | 3082F | 2 cdr - 15 AWG<br>2 cdr - 18 AWG | 1.70<br>1.20 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.23 |
| | 3082K | 2 cdr - 16 AWG<br>2 cdr - 16 AWG | 1.47<br>1.47 | Unshielded | Power<br>Data | 18.24 |
| | 3082KP | 2 cdr - 16 AWG<br>2 cdr - 16 AWG | 1.47<br>1.47 | Unshielded | Power<br>Data | 18.24 |
| | 3083A | 2 cdr - 15 AWG<br>2 cdr - 18 AWG | 1.70<br>1.24 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.23 |
| | 3084A | 2 cdr - 22 AWG<br>2 cdr - 24 AWG | 0.78<br>0.61 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.23 |
| | 3084F | 2 cdr - 22 AWG<br>2 cdr - 24 AWG | 0.76<br>0.58 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.23 |
| | 3085A | 2 cdr - 22 AWG<br>2 cdr - 24 AWG | 0.78<br>0.61 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.24 |
| | 3086A | 2 cdr - 16 AWG<br>2 cdr - 20 AWG | 1.47<br>0.94 | Beldfoil® each pair | Power<br>Data | 18.25 |
| | 3087A | 2 cdr - 22 AWG<br>2 cdr - 22 AWG | 0.78<br>0.78 | Beldfoil® each pair | Power<br>Data | 18.25 |
| | 3124A | 2 cdr - 18 AWG<br>2 cdr - 22 AWG | 1.20<br>0.76 | Overall Beldfoil® | Power<br>Data | 18.26 |
| | 3125A | 2 cdr - 16 AWG<br>2 cdr - 22 AWG | 1.50<br>0.76 | Overall Beldfoil® | Power<br>Data | 18.26 |
| | 7895A | 2 cdr - 20 AWG<br>2 cdr - 18 AWG | 0.94<br>1.24 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.24 |
| | 7896A | 2 cdr - 16 AWG<br>2 cdr - 18 AWG | 1.47<br>1.24 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.22 |
| | 7897A | 2 cdr - 15 AWG<br>2 cdr - 18 AWG | 1.70<br>1.24 | Beldfoil® each pair<br>plus overall braid | Power<br>Data | 18.22 |
| | 7900A | 2 cdr- 16 AWG<br>2 cdr - 18 AWG | 1.47<br>1.24 | Unshielded | Power<br>Data | 18.22 |

| No. of Cond. | Part No. | Description | | Shielding | Compo-nent | Page |
|---|---|---|---|---|---|---|
| | | Conductor / Gage | mm | | | |
| **Combination Gages** | | | | | | |
| **5** | 1349A | 2 cdr - 18 AWG<br>3 cdr - 20 AWG | 1.22<br>0.96 | Overall Beldfoil® | Power<br>Data | 18.29 |
| | BE43908 | 1 pr - 26 AWG<br>3 cdr - 18 AWG | 0.48<br>1.15 | 90% BC Braid<br>Unshielded | Audio<br>Power | 19.19 |
| **6** | 3126A | 2 cdr - 16 AWG<br>2 cdr - 22 AWG<br>2 cdr - 12 AWG | 1.50<br>0.76<br>2.41 | Overall Beldfoil® | Control<br>Data<br>Power | 18.26 |
| **8** | 9891 | 3 pr - 22 AWG<br>1 pr - 20 AWG | 0.76<br>0.96 | Beldfoil® each pair<br>plus foil/braid overall | –<br>– | 15.70 |
| | 9903 | 3 pr - 28 AWG<br>1 pr - 24 AWG | 0.38<br>0.61 | Beldfoil® each pair<br>plus foil/braid overall | –<br>– | 15.70 |
| **9** | 3119A | 3 cdr - 18 AWG<br>3 pr - 24 AWG | 1.22<br>0.61 | Overall Beldfoil®<br>plus overall braid | Control<br>Power | 18.27 |
| | 7911A | 4 pr - 24 AWG<br>1 co - 18 AWG | 0.50<br>1.00 | Unshielded<br>Duobond+/Braid | Data<br>Coax | 21.6 |
| **10** | 1347A | 2 co - 20 AWG<br>4 pr - 22 AWG | 0.80<br>0.80 | Duofoil®/Braid<br>Beldfoil® | 2xVideo<br>4xAudio | 19.21 |
| **12** | 7952A | 4 pr - 24 AWG<br>4 cdr - 14 AWG | 0.50<br>1.85 | Unshielded | Data<br>4xCDR | 21.6 |
| | 9689 | 2 pr - 22 AWG<br><br>4 pr - 22 AWG | 0.64<br><br>0.64 | Beldfoil® each pair<br>+ Braid<br>Unshielded | –<br><br>– | 15.72 |
| **13** | YR48902 | 4 pr - 24 AWG<br>1 co - 20 AWG<br>1pr/2cdr - 1502R | 0.50<br>0.80<br>– | Unshielded<br>Duofoil®/Braid<br>Unshielded | Data<br>Coax<br>Control | 21.5 |
| **18** | 7876S | 8 pr - 24 AWG<br>2 co - 18 AWG | 0.50<br>1.00 | Unshielded<br>Duobond+/Braid | 2xData<br>2xCoax | 21.4 |
| **20** | 7878S | 8 pr - 24 AWG<br>2 co - 18 AWG<br>2 fi - 62.5/<br>125/900 | 0.50<br>1.00<br>– | Unshielded<br>Duobond+/Braid | 2xData<br>2xCoax<br>2xFiber | 21.4 |

co = Coax • cdr = Conductor(s) • pr = Pair • fi = Fiber

# Coaxial Cables

| No. of Cond. | Material | Stranded (mm) | Solid (mm) | Nom. Imp. Ohm | CDR Diameter (mm) | Braid | | | Double Braid | | | Cu-foil / Braid | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Part No. | | Page | Part No. | | Page | Part No. | | Page | |
| **30 AWG** | | **0.30** | **0.25** | | | | | | | | | | | | |
| 1 | TCB | 7x38 | | 75 | 0.31 | 7500A | 95% TC | 18.38 | | | | | | | |
| | SPCSW | 7x0.10 | | 50 | 0.30 | MRG178 | 96% SPC | 6.3 | | | | | | | |
| | SPCSW | 7x0.10 | | 75 | 0.30 | MRG179 | 95% SPC | 6.5 | | | | | | | |
| | SPCSW | 7x0.10 | | 95 | 0.30 | MRG180 | 91% SPC | 6.6 | | | | | | | |
| | SPCSW | 7x0.10 | | 75 | 0.30 | MRG187 | 95% SPC | 6.5 | | | | | | | |
| | SPCSW | 7x0.10 | | 95 | 0.30 | MRG195 | 91% SPC | 6.6 | | | | | | | |
| | SPCSW | 7x0.10 | | 50 | 0.30 | MRG196 | 96% SPC | 6.3 | | | | | | | |
| 2 | TC | 7x38 | | 75 | 0.31 | 1808A | 90% TC | 21.12 | | | | | | | |
| 3 | TC | 7x38 | | 75 | 0.30 | | | | | | | | | | |
| 4 | TC | 7x38 | | 75 | 0.30 | | | | | | | | | | |
| 5 | TC | 7x38 | | 75 | 0.30 | | | | | | | | | | |
| **29 AWG** | | | **0.28** | | | | | | | | | | | | |
| 1 | SPCCS | | solid | 50 | 0.28 | 1674A• | 100% CT | 9.32 | | | | | | | |
| **28.5 AWG** | | | **0.30** | | | | | | | | | | | | |
| 1 | BC | | solid | 75 | 0.31 | | | | | | | | | | |
| **26 AWG** | | **0.50** | **0.40** | | | | | | | | | | | | |
| 1 | CCS | | solid | 75 | 0.40 | | | | | | | | | | |
| | SPCSW | 7x0.17 | | 50 | 0.51 | MRG188 | 96% SPC | 6.3 | | | | | | | |
| | SPCSW | 7x0.17 | | 50 | 0.51 | MRG316 | 95% SPC | 6.3 | | | | | | | |
| 3 | BC | 7x34 | | 75 | 0.48 | | | | | | | | | | |
| 4 | BC | 7x34 | | 75 | 0.48 | | | | | | | | | | |
| 5 | BC | 7x34 | | 75 | 0.48 | | | | | | | | | | |
| **25 AWG** | | **0.55** | **0.45** | | | | | | | | | | | | |
| 1 | BC | 19x37 | | 75 | 0.53 | | | | | | | | | | |
| | BC | 19x38 | | 75 | 0.48 | 7501A | 95% TC | 18.38 | | | | | | | |
| | BC | | solid | 50 | 0.46 | | | | | | | | | | |
| 3 | TC | | solid | 75 | 0.46 | | | | | | | | | | |
| | TC | | solid | 75 | 0.46 | | | | | | | | | | |
| 4 | TC | | solid | 75 | 0.46 | | | | | | | | | | |
| | TC | | solid | 75 | 0.46 | | | | | | | | | | |
| 5 | TC | | solid | 75 | 0.46 | | | | | | | | | | |
| | TC | | solid | 75 | 0.46 | | | | | | | | | | |
| 6 | TC | | solid | 75 | 0.46 | | | | | | | | | | |
| | TC | | solid | 75 | 0.46 | | | | | | | | | | |
| **24 AWG** | | | **0.50** | | | | | | | | | | | | |
| 1 | BC | | solid | 50 | 0.50 | | | | | | | | | | |
| | SPCCS | | solid | 50 | 0.50 | 1671A• | 100% CT | 9.32 | | | | | | | |
| **23 AWG** | | | **0.58** | | | | | | | | | | | | |
| 1 | BC | | solid | 75 | 0.58 | | | | | | | | | | |
| | CCS | | solid | 75 | 0.58 | 8241 | 95% BC | 19.25 | | | | | | | |
| | BC | | solid | 75 | 0.58 | | | | BE43187 | 90% TC + 85% TC | 19.28 | | | | |
| | BC | | solid | 75 | 0.58 | | | | H106T00 | 92% TC | 9.26 | | | | |
| | BC | | solid | 75 | 0.58 | | | | H106T01 | 92% TC | 9.26 | | | | |
| | CCS | | solid | 75 | 0.58 | MRG5900 | 95% BC | 9.26 | | | | | | | |

• Composite Braid

# Coaxial Cables

| | Duobond®/Braid | | | Duobond® II/Braid | | | Duobond® IV | | | Duobond Plus®/Braid | | | Duofoil®/Braid | | | Beldfoil®/Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page |
| **30 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 1520A | 90% TC | 19.26 | | | |
| | | | | | | | | | | | | | 1521A | 90% TC | 19.26 | | | |
| | | | | | | | | | | | | | 1522A | 90% TC | 19.26 | | | |
| **29 AWG** | | | | | | | | | | | | | | | | | | |
| **28.5 AWG** | | | | | | | | | | | | | | | | | | |
| | 179DT | 95% TC | 19.27<br>21.12 | | | | | | | | | | | | | | | |
| **26 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | H122A00 | 60% TC | 9.25 | | | |
| | | | | | | | | | | | | | 1406B | 93% TC | 19.26 | | | |
| | | | | | | | | | | | | | 1407B | 93% TC | 19.26 | | | |
| | | | | | | | | | | | | | 1417B | 93% TC | 19.26 | | | |
| **25 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 1865A | 95% TC | 19.27 | | | |
| | | | | | | | | | | | | | | | | 7805 | 90% TC | 9.27 |
| | 1277R | 95% TC | 19.31<br>21.13 | | | | | | | | | | | | | | | |
| | 1281S3 | 95% TC | 19.33<br>21.13 | | | | | | | | | | | | | | | |
| | 1278R | 95% TC | 19.31<br>21.13 | | | | | | | | | | | | | | | |
| | 1281S4 | 95% TC | 19.33<br>21.13 | | | | | | | | | | | | | | | |
| | 1279R | 95% TC | 19.31<br>21.13 | | | | | | | | | | | | | | | |
| | 1281S5 | 95% TC | 19.33<br>21.13 | | | | | | | | | | | | | | | |
| | 1280R | 95% TC | 19.31<br>21.13 | | | | | | | | | | | | | | | |
| | 1281S6 | 95% TC | 19.33<br>21.13 | | | | | | | | | | | | | | | |
| **24 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 7805R | 93% TC | 9.27 |
| **23 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 1855A | 95% TC | 19.27 | | | |

See page 2.33 for key to abbreviations used in this table.

# Coaxial Cables

| No. of Cond. | Material | Stranded (mm) | Solid (mm) | Nom. Imp. Ohm | CDR Diameter (mm) | Braid | | | Double Braid | | | Cu-foil / Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Part No. | | Page | Part No. | | Page | Part No. | | Page |
| **23 AWG** | | | **0.58** *(continued)* | | | | | | | | | | | |
| **3** | BC | | solid | 75 | 0.58 | | | | | | | | | |
| | TC | | solid | 75 | 0.58 | | | | | | | | | |
| **4** | TC | | solid | 75 | 0.58 | | | | | | | | | |
| **5** | BC | | solid | 75 | 0.58 | | | | | | | | | |
| | TC | | solid | 75 | 0.58 | | | | | | | | | |
| **6** | BC | | solid | 75 | 0.58 | | | | | | | | | |
| | TC | | solid | 75 | 0.58 | | | | | | | | | |
| **10** | TC | | solid | 75 | 0.58 | | | | | | | | | |
| **12** | TC | | solid | 75 | 0.58 | | | | | | | | | |
| **22 AWG** | | **0.80** | **0.60** | | | | | | | | | | | |
| **1** | BCC | 7x29 | | 75 | 0.76 | | | | 1505F | 98% TC | 19.28<br>21.12 | | | |
| | TC | | solid | 75 | 0.64 | | | | | | | | | |
| | BC | 19x34 | | 75 | 0.79 | 7502A | 95% TC | 18.38 | | | | | | |
| | BC | 7x30 | | 75 | 0.76 | 9259 | 95% BC | 19.25 | | | | | | |
| | BC | | solid | 75 | 0.65 | | | | | | | | | |
| | BC | | solid | 75 | 0.65 | | | | | | | | | |
| | BC | | solid | 75 | 0.65 | | | | | | | | | |
| | SPCSW | | solid | 75 | 0.64 | MRG140 | 95% SPC | 6.5 | | | | | | |
| | SPCSW | | solid | 75 | 0.64 | MRG302 | 95% SPC | 6.5 | | | | | | |
| **20 AWG** | | **0.90** | **0.80** | | | | | | | | | | | |
| **1** | BC | | solid | 75 | 0.81 | | | | | | | | | |
| | BC | | solid | 75 | 0.81 | | | | | | | | | |
| | SPC | 19x0.36 | | 75 | 0.99 | | | | 7783AF* | 90% SPC + 80% BC | 19.23 | | | |
| | BC | | solid | 75 | 0.81 | | | | 8281 | 98% TC | 19.25 | | | |
| | SPCCS | | solid | 75 | 0.81 | | | | | | | | | |
| | TC | 19x32 | | 50 | 0.94 | | | | | | | | | |
| | TC | 19x32 | | 50 | 0.94 | | | | | | | | | |
| | TC | 19x32 | | 50 | 0.94 | | | | | | | | | |
| | BC | | solid | 75 | 0.80 | | | | | | | | | |
| | BC | | solid | 75 | 0.80 | | | | | | | | | |
| | BC | | solid | 75 | 0.80 | | | | | | | | | |
| | BC | | solid | 75 | 0.80 | | | | | | | | | |
| | BC | | solid | 75 | 0.80 | | | | | | | H121C00 | 45% BC | 9.24 |
| **2** | BC | | solid | 75 | 0.80 | | | | | | | | | |
| **3** | BC | | solid | 75 | 0.81 | | | | | | | | | |
| | BC | | solid | 75 | 0.81 | | | | | | | | | |
| **4** | BC | | solid | 75 | 0.81 | | | | | | | | | |
| **5** | BC | | solid | 75 | 0.81 | | | | | | | | | |
| | BC | | solid | 75 | 0.81 | | | | | | | | | |
| **6** | BC | | solid | 75 | 0.81 | | | | | | | | | |
| **10** | BC | | solid | 75 | 0.81 | | | | | | | | | |
| **19 AWG** | | **1.00** | **0.90** | | | | | | | | | | | |
| **1** | SPCCS | | solid | 50 | 0.90 | 1673A• | 100% CT | 9.32 | | | | | | |
| | BC | 7x27 | | 75 | 1.00 | | | | 1694F | 99% TC | 19.29 | | | |
| | BC | | solid | 50 | 0.90 | | | | | | | | | |
| | SPCSW | | solid | 50 | 0.94 | MRG303 | 95% SPC | 6.3 | | | | | | |
| | SPCSW | | solid | 50 | 0.94 | | | | MRG142 | 96% SPC | 6.3 | | | |
| | TC | 19x0.18 | | 50 | 0.91 | MRG5800 | 93% TC | 9.31 | | | | | | |

• Composite Braid
* Triax

# Coaxial Cables

| Duobond®/Braid | | | Duobond® II/Braid | | | Duobond® IV | | | Duobond Plus®/Braid | | | Duofoil®/Braid | | | Beldfoil®/Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page |
| **23 AWG** | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 1855S3 | 95% TC | 19.33 | | | |
| | | | | | | | | | | | | 7787A | 95% TC | 19.31 | | | |
| | | | | | | | | | | | | 7788A | 95% TC | 19.31 | | | |
| | | | | | | | | | | | | 1855S5 | 95% TC | 19.33 | | | |
| | | | | | | | | | | | | 7789A | 95% TC | 19.31 | | | |
| | | | | | | | | | | | | 1855S6 | 95% TC | 19.33 | | | |
| | | | | | | | | | | | | 7790A | 95% TC | 19.31 | | | |
| | | | | | | | | | | | | 7791A | 95% TC | 19.31 | | | |
| | | | | | | | | | | | | 7792A | 95% TC | 19.31 | | | |
| **22 AWG** | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 1855ENH | 90% TC | 19.27 | | | |
| | | | | | | | | | | | | H123A00 | 44% TC | 9.25 | | | |
| | | | | | | | | | | | | H123A01 | 88% TC | 9.25 | | | |
| | | | | | | | | | | | | H123A02 | 88% TC | 9.25 | | | |
| **20 AWG** | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 1505A | 95% TC | 19.28 | | | |
| | | | | | | | | | | | | 1505ANH | 95% TC | 19.28 | | | |
| | | | | | | | | | 9167 | 95% AL | 9.26 | | | | | | |
| | | | 9907 | 93% TC | 15.69<br>18.12 | | | | | | | | | | | | |
| | | | 82907 | 93% TC | 15.69 | | | | | | | | | | | | |
| | | | 89907 | 93% TC | 18.12<br>15.69 | | | | | | | | | | | | |
| | | | | | | | | | | | | H121A00 | 40% TC | 9.24 | | | |
| | | | | | | | | | | | | H121A01 | 40% TC | 9.24 | | | |
| | | | | | | | | | | | | H121A03 | 75% TC | 9.24 | | | |
| | | | | | | | | | | | | H121A04 | 75% TC | 9.24 | | | |
| | | | | | | | | | | | | H121A02 | 40% TC | 9.25 | | | |
| | | | | | | | | | | | | 1505S3 | 95% TC | 19.34 | | | |
| | | | | | | | | | | | | 7794A | 95% TC | 19.32 | | | |
| | | | | | | | | | | | | 7795A | 95% TC | 19.32 | | | |
| | | | | | | | | | | | | 1505S5 | 95% TC | 19.34 | | | |
| | | | | | | | | | | | | 7796A | 95% TC | 19.32 | | | |
| | | | | | | | | | | | | 1505S6 | 95% TC | 19.34 | | | |
| | | | | | | | | | | | | 7798A | 95% TC | 19.32 | | | |
| **19 AWG** | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 7806A | 90% TC | 9.27 | | | |

See page 2.33 for key to abbreviations used in this table.

# Coaxial Cables

| No. of Cond. | Material | Stranded (mm) | Solid (mm) | Nom. Imp. Ohm | CDR Diameter (mm) | Braid | | | Double Braid | | | Cu-foil / Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Part No. | | Page | Part No. | | Page | Part No. | | Page |
| **18 AWG** | | | **1.00** | | | | | | | | | | | |
| **1** | BC | | solid | 75 | 1.02 | | | | | | | | | |
| | BC | | solid | 75 | 1.02 | | | | | | | | | |
| | BC | | solid | 75 | 1.02 | | | | | | | | | |
| | BC | 7x15x40 | | 75 | 1.02 | 7503A | 95% TC | 18.38 | | | | | | |
| | CCS | | solid | 75 | 1.02 | | | | | | | | | |
| | BC | 105x40 | | 75 | 1.02 | | | | | | | | | |
| | CCS | | solid | 75 | 1.02 | | | | | | | | | |
| | CCS | | solid | 75 | 1.02 | | | | | | | | | |
| | CCS | | solid | 75 | 1.02 | | | | | | | | | |
| | CCS | | solid | 75 | 1.02 | | | | | | | | | |
| | CCS | | solid | 75 | 1.02 | | | | | | | | | |
| | CCS | | solid | 75 | 1.02 | | | | | | | | | |
| | BC | | solid | 75 | 1.02 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | CT100C0 | 53% BC | 9.23 |
| | BC | | solid | 75 | 1.00 | | | | | | | CT100C1 | 53% BC | 9.23 |
| | BC | | solid | 75 | 1.00 | | | | | | | CT100C3 | 53% BC | 9.23 |
| | BC | | solid | 75 | 1.00 | | | | | | | H109C00 | 55% BC | 9.20 |
| | BC | | solid | 75 | 1.00 | | | | | | | H109C02 | 55% BC | 9.20 |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | H125C00 | 40% BC | 9.21 |
| | BC | | solid | 75 | 1.00 | | | | | | | H125C01 | 40% BC | 9.20 |
| | BC | | solid | 75 | 1.00 | | | | | | | H125C04 | 40% BC | 9.21 |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | CCS | | solid | 75 | 1.00 | | | | | | | | | |
| | CCS | | solid | 75 | 1.00 | | | | | | | | | |
| | CCS | | solid | 75 | 1.00 | | | | | | | | | |
| **2** | BC | | solid | 75 | 1.00 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | H125C03 | 40% BC | 9.21 |
| **3** | BC | | solid | 75 | 1.02 | | | | | | | | | |
| **4** | BC | | solid | 75 | 1.02 | | | | | | | | | |
| **5** | BC | | solid | 75 | 1.02 | | | | | | | | | |
| **10** | BC | | solid | 75 | 1.02 | | | | | | | | | |
| **17 AWG** | | **1.40** | **1.15** | | | | | | | | | | | |
| **1** | BC | | solid | 50 | 1.15 | | | | | | | | | |
| | TC | 19x0.28 | | 50 | 1.41 | | | | | | | | | |
| | TC | 19x0.28 | | 50 | 1.41 | | | | | | | | | |
| | SPC | 19x0.28 | | 75 | 1.40 | | | | 7784AF* | 90% SPC + 85% BC | 19.23 | | | |
| **16 AWG** | | **1.50** | **1.20** | | | | | | | | | | | |
| **1** | BC | 7x37x40 | | 75 | 1.65 | 7504A | 95% TC | 18.38 | | | | | | |
| | SPC | | solid | 75 | 1.40 | | | | 7784ANH* | 90% SPC + 85% BC | 19.23 | | | |
| | SPC | | solid | 75 | 1.40 | | | | 7784AS* | 90% SPC + 85% BC | 19.23 | | | |

* Triax

# Coaxial Cables

| | Duobond®/Braid | | | Duobond® II/Braid | | | Duobond® IV | | | Duobond Plus®/Braid | | | Duofoil®/Braid | | | Beldfoil®/Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page |
| **18 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 1694A | 95% TC | 19.29 | | | |
| | | | | | | | | | | | | | 1694ANH | 95% TC | 19.29 | | | |
| | | | | | | | | | | | | | 1694SB | 95% TC | 7.4 | | | |
| | | | | | | | 3092A | | 18.18 | | | | | | | | | |
| | | | | | | | 3092F | | 18.18 | | | | | | | | | |
| | | | | | | | 3093A | | 18.18 | | | | | | | | | |
| | | | | | | | 3131A | | 18.19 | | | | | | | | | |
| | | | | | | | 3132A | | 18.19 | | | | | | | | | |
| | | | | 9116 | 60% AL | 9.18 | | | | | | | | | | | | |
| | | | | 9116SB | 60% AL | 7.4 | | | | | | | | | | | | |
| | | | | 9118 | 60% AL | 9.18 | | | | | | | | | | | | |
| | | | | | | | | | | | | | 9248 | 60% TC | 19.25 | | | |
| | | | | | | | | | | | | | H124A00 | 31% TC | 9.23 | | | |
| | | | | | | | | | | | | | H125A00 | 40% TC | 9.22 | | | |
| | | | | | | | | | | | | | H125A01 | 40% TC | 9.22 | | | |
| | | | | | | | | | | | | | H125A02# | 70% TC | 9.22 | | | |
| | | | | | | | | | | | | | H125A03 | 40% TC | 9.22 | | | |
| | | | | | | | | | | | | | H125A06 | 70% TC | 9.22 | | | |
| | | | | | | | | | | | | | H125A07 | 70% TC | 9.21 | | | |
| | | | | | | | | | | | | | H125A08 | 70% TC | 9.21 | | | |
| | | | | | | | | | | H125D00 | 50% TC | 9.23 | | | | | | |
| | | | | | | | | | | | | | H126A00 | 35% TC | 9.19 | | | |
| | | | | H126A02 | 50% TC | 9.20 | | | | | | | | | | | | |
| | | | | H126A03 | 70% TC | 9.20 | | | | | | | | | | | | |
| | | | | | | | | | | H126D00 | 40% TC | 9.19 | | | | | | |
| | | | | | | | | | | H126D02 | 50% TC | 9.19 | | | | | | |
| | | | | | | | | | | H126D03 | 50% TC | 9.19 | | | | | | |
| | | | | | | | | | | H126D04 | 50% TC | 9.19 | | | | | | |
| | | | | | | | | | | | | | RG6A00 | 40% TC | 9.18 | | | |
| | | | | | | | | | | RG6D00 | 40% TC | 9.18 | | | | | | |
| | | | | | | | | | | RG6D01 | 50% TC | 9.18 | | | | | | |
| | | | | | | | | | | | | | H125A04 | 40% TC | 9.22 | | | |
| | | | | | | | | | | | | | 7710A | 95% TC | 19.32 | | | |
| | | | | | | | | | | | | | 7711A | 95% TC | 19.32 | | | |
| | | | | | | | | | | | | | 7712A | 95% TC | 19.32 | | | |
| | | | | | | | | | | | | | 7713A | 95% TC | 19.32 | | | |
| **17 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 7807A | 95% TC | 9.27 | | | |
| | | | | | | | | | | | | | H155A00 | 80% TC | 9.31 | | | |
| | | | | | | | | | | | | | H155A01 | 80% TC | 9.31 | | | |
| **16 AWG** | | | | | | | | | | | | | | | | | | |

# Messenger

See page 2.33 for key to abbreviations used in this table.

# Coaxial Cables

| No. of Cond. | Material | Stranded (mm) | Solid (mm) | Nom. Imp. Ohm | CDR Diameter (mm) | Braid | | | Double Braid | | | Cu-foil / Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Part No. | | Page | Part No. | | Page | Part No. | | Page |
| **16 AWG** | | **1.50** | **1.20** *(continued)* | | | | | | | | | | | |
| 1 | BC | | solid | 75 | 1.40 | | | | 7784E* | 85% BC + 80% BC | 19.23 | | | |
| | TC | | solid | 75 | 1.20 | | | | | | | | | |
| | BC | | solid | 75 | 1.20 | | | | | | | | | |
| | BC | | solid | 75 | 1.20 | | | | | | | PRG7C00 | 40% BC | 9.17 |
| | BC | | solid | 75 | 1.20 | | | | | | | PRG7C01 | 40% BC | 9.17 |
| | BC | | solid | 75 | 1.25 | | | | | | | CT125C0 | 51% BC | 9.16 |
| | BC | | solid | 75 | 1.25 | | | | | | | CT125C1 | 51% BC | 9.16 |
| | BC | | solid | 75 | 1.25 | | | | | | | CT125C3 | 51% BC | 9.16 |
| | BC | | solid | 75 | 1.25 | | | | | | | RG7C00 | 50% BC | 9.17 |
| | BC | | solid | 75 | 1.25 | | | | | | | RG7C01 | 50% BC | 9.16 |
| | BC | | solid | 75 | 1.25 | | | | | | | RG7C02 | 50% BC | 9.16 |
| **15 AWG** | | | **1.45** | | | | | | | | | | | |
| 1 | BC | | solid | 50 | 1.45 | | | | | | | | | |
| | SPCSW | | solid | 50 | 1.50 | MRG304 | 95% SPC | 6.4 | | | | | | |
| **14.5 AWG** | | | **1.55** | | | | | | | | | | | |
| 1 | BC | | solid | 75 | 1.55 | | | | | | | | | |
| | BC | | solid | 75 | 1.55 | | | | | | | | | |
| | BC | | solid | 75 | 1.55 | | | | | | | PRG11C0 | 50% BC | 9.13 |
| | BC | | solid | 75 | 1.55 | | | | | | | PRG11C2 | 50% BC | 9.14 |
| | BC | | solid | 75 | 1.55 | | | | | | | PRG11C4 | 50% BC | 9.14 |
| | BC | | solid | 75 | 1.55 | | | | | | | PRG11C6# | 50% BC | 9.13 |
| | BC | | solid | 75 | 1.55 | | | | | | | | | |
| | BC | | solid | 75 | 1.55 | | | | | | | | | |
| | BC | | solid | 75 | 1.55 | | | | | | | | | |
| **14 AWG** | | | **1.60** | | | | | | | | | | | |
| 1 | CCS | | solid | 75 | 1.63 | | | | | | | | | |
| | CCS | | solid | 75 | 1.63 | | | | | | | | | |
| | BC | | solid | 75 | 1.63 | | | | | | | | | |
| | BC | | solid | 75 | 1.63 | | | | | | | | | |
| | BC | | solid | 75 | 1.63 | | | | | | | | | |
| | CCS | | solid | 75 | 1.63 | | | | | | | | | |
| | CCS | | solid | 75 | 1.63 | | | | | | | | | |
| | CCS | | solid | 75 | 1.63 | | | | | | | | | |
| | SPC | | solid | 50 | 1.65 | 1675A• | 100% CT | 9.32 | | | | | | |
| | BC | | solid | 75 | 1.67 | | | | | | | CT167C0 | 55% BC | 9.12 |
| | BC | | solid | 75 | 1.67 | | | | | | | CT167C1 | 55% BC | 9.12 |
| | BC | | solid | 75 | 1.67 | | | | | | | CT167C2 | 55% BC | 9.12 |
| | BC | | solid | 75 | 1.67 | | | | | | | CT167C3 | 55% BC | 9.12 |
| **13 AWG** | | | **1.83** | | | | | | | | | | | |
| 1 | BC | | solid | 50 | 1.83 | | | | | | | | | |
| **12 AWG** | | **2.40** | **2.05** | | | | | | | | | | | |
| 1 | SPC | 7x0.75 | | 75 | 2.21 | | | | 7785A* | 80% SPC + 80% BC | 19.24 | | | |
| | SPC | 7x0.75 | | 75 | 2.21 | | | | 7785ANH* | 80% SPC + 80% BC | 19.24 | | | |
| | BC | | solid | 50 | 2.05 | | | | | | | | | |
| | BC | | solid | 50 | 2.05 | | | | | | | | | |
| | BC | | solid | 75 | 2.23 | | | | | | | CX4C0 | 60% BC | 9.11 |
| | BC | | solid | 75 | 2.23 | | | | | | | CX4C1*** | | 9.11 |
| | BC | | solid | 75 | 2.23 | | | | | | | CX4C2 | 60% BC | 9.11 |
| | BC | | solid | 75 | 2.23 | | | | | | | CX4C3# | 60% BC | 9.11 |
| | SPC | 7x0.80 | | 50 | 2.40 | MRG165 | 96% SPC | 6.4 | | | | | | |
| | SPC | 7x0.79 | | 50 | 2.30 | | | | MRG225 | 95% SPC | 6.4 | | | |
| | BC | 7x0.75 | | 50 | 2.25 | MRG2130 | 92% BC | 9.31 | | | | | | |

• Composite Braid
* Triax, *** without Braid
# Messenger

# Coaxial Cables

| | Duobond®/Braid | | | Duobond® II/Braid | | | Duobond® IV | | | Duobond Plus®/Braid | | | Duofoil®/Braid | | | Beldfoil®/Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page |
| **16 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | PRG7A00 | 40% TC | 9.17 | | | |
| | | | | | | | | | | | | | PRG7A01# | 40% TC | 9.17 | | | |
| **15 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | 7808A | 95% TC | 9.28 | | | | | | | | | | | | |
| **14.5 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | PRG11A2 | 50% TC | 9.14 | | | |
| | | | | | | | | | | | | | PRG11A3 | 50% TC | 9.14 | | | |
| | | | | | | | | | | PRG11D0 | 50% TC | 9.15 | | | | | | |
| | | | | | | | | | | PRG11D1 | 70% TC | 9.15 | | | | | | |
| | | | | | | | | | | PRG11D3 | 50% TC | 9.15 | | | | | | |
| **14 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | 3094A | | 15.71<br>18.19 | | | | | | | | | |
| | | | | | | | 3095A | | 18.19 | | | | | | | | | |
| | | | | | | | | | | | | | 7731A | 95% TC | 19.30 | | | |
| | | | | | | | | | | | | | 7731ANH | 95% TC | 19.30 | | | |
| | | | | | | | | | | | | | 9292 | 60% TC | 19.25 | | | |
| | | | | 1523A | 60% AL | 9.13 | | | | | | | | | | | | |
| | | | | 1524AM# | 60% AL | 9.13 | | | | | | | | | | | | |
| | | | | 1525A** | 60% AL | 9.13 | | | | | | | | | | | | |
| **13 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | 7809A | 95% TC | 9.28 | | | | | | | | | | | | |
| **12 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | 9880 | | 15.69<br>18.12 | | | | | | | | | |
| | | | | | | | 89880 | | 15.69<br>18.12 | | | | | | | | | |

# Messenger
** CoreGuard®
See page 2.33 for key to abbreviations used in this table.

# Coaxial Cables

| No. of Cond. | Material | Stranded (mm) | Solid (mm) | Nom. Imp. Ohm | CDR Diameter (mm) | Braid | | | Double Braid | | | Cu-foil / Braid | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Part No. | | Page | Part No. | | Page | Part No. | | Page | |
| **11 AWG** | | | **2.50** | | | | | | | | | | | | |
| 1 | BC | | solid | 50 | 2.50 | | | | | | | H500C00 | 50% BC | 9.30 | |
| **10 AWG** | | **2.70** | **2.60** | | | | | | | | | | | | |
| 1 | BCCA | | solid | 50 | 2.60 | | | | | | | | | | |
| | BC | | solid | 50 | 2.62 | | | | | | | H1000C0 | 50% BC | 9.30 | |
| | BC | | solid | 50 | 2.62 | | | | | | | H1000C1 | 50% BC | 9.30 | |
| | BC | | solid | 50 | 2.62 | | | | | | | H1000C3 | 85% BC | 9.30 | |
| | BC | 19x0.54 | | 50 | 2.70 | | | | | | | H1001C1 | 50% BC | 9.30 | |
| **9 AWG** | | | **3.15** | | | | | | | | | | | | |
| 1 | CCA | | solid | 75 | 3.15 | | | | | | | | | | |
| | CCA | | solid | 75 | 3.15 | | | | | | | | | | |
| **8 AWG** | | | **3.38** | | | | | | | | | | | | |
| 1 | BC | | solid | 75 | 3.38 | | | | | | | CX3C0 | 60% BC | 9.9 | |
| | BC | | solid | 75 | 3.38 | | | | | | | CX3C1*** | | 9.9 | |
| | BC | | solid | 75 | 3.38 | | | | | | | CX3C2 | 60% BC | 9.9 | |
| | BC | | solid | 75 | 3.38 | | | | | | | CX3C3# | 60% BC | 9.9 | |
| **7 AWG** | | | **3.60** | | | | | | | | | | | | |
| 1 | BCCA | | solid | 50 | 3.60 | | | | | | | | | | |
| **5.5 AWG** | | | **4.47** | | | | | | | | | | | | |
| 1 | BCCA | | solid | 50 | 4.47 | | | | | | | | | | |

*** without Braid
# Messenger

# Coaxial Cables

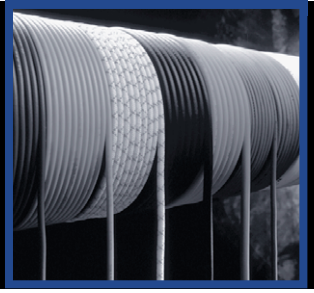
| | Duobond®/Braid | | | Duobond® II/Braid | | | Duobond® IV | | | Duobond Plus®/Braid | | | Duofoil®/Braid | | | Beldfoil®/Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page | Part No. | | Page |
| **11 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **10 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | 7810A | 95% TC | 9.28 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **9 AWG** | | | | | | | | | | | | | | | | | | |
| | YE00131◆ | | 9.10 | | | | | | | | | | | | | | | |
| | YE00132#◆ | | 9.10 | | | | | | | | | | | | | | | |
| **8 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **7 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | 7976A | 90% TC | 9.29 | | | | | | | | | | | | |
| **5.5 AWG** | | | | | | | | | | | | | | | | | | |
| | | | | 7977A | 85% TC | 9.29 | | | | | | | | | | | | |

# Messenger
◆ Welded Aluminum Tube

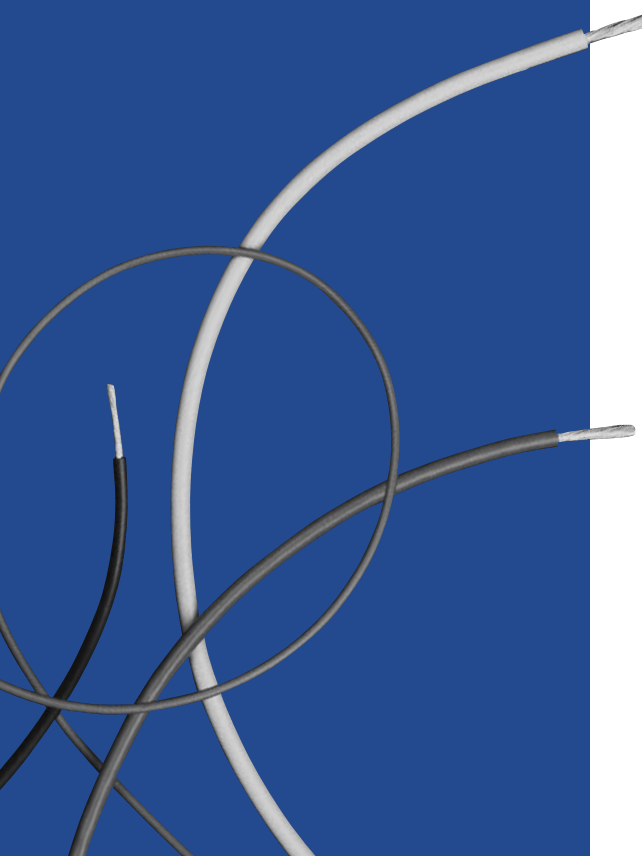
**Conductor abbreviations:**
BC = Bare Copper
BCC = Bare Compacted Copper
BCCA = Bare Copper-Covered Aluminum
CCA = Copper-Cladded Aluminum
CCS = Copper-Covered Steel
SPC = Silver-Plated Copper
SPCCS = Silver-Plated Copper-Covered Steel
SPCSW = Silver-Plated Copperweld-Steel-Wire
TC = Tinned Copper
TCB = Tinned Cadmium Bronze

## Notes

BELDEN
SENDING ALL THE RIGHT SIGNALS



# 3 Hook-Up and Lead Wire



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Kapton® is a DuPont trademark.



Please refer to "Terms of Use of Master Catalog" on page 23.22.

# Introduction

### Hook-Up With Belden and Lead The Way

Consistency is vital wherever cables are used. From data processing to lighting, from services to HVAC – cable quality delivers a performance that makes life easier, more efficient and problem free.

Off-the-shelf or tailor-made, Belden hook-up and lead wire products are manufactured in a variety of materials, sizes and designs to meet rigid industry specifications. By manufacturing in-house, Belden has full control from start to finish – from the initial copper rod through rubber formulation and plastic mixing to the finished product. The way Belden manufactures cables is the guarantee of durable quality, perfect performance and top specifications which will meet or exceed industry standards.

### Key Applications

- Inter-connection circuits
- Wiring of computers
- Wiring of data processing equipment
- Appliances
- Lighting
- Motor leads
- Heating and cooling equipment
- Harness fabrication
- Automotive
- Aerospace/defense
- Nuclear environment/radiation resistance

### Special Features

- Extended temperature and chemical resistant cables: these cables are suitable for applications in the temperature range from -190°C up to +1250°C.

### Availability

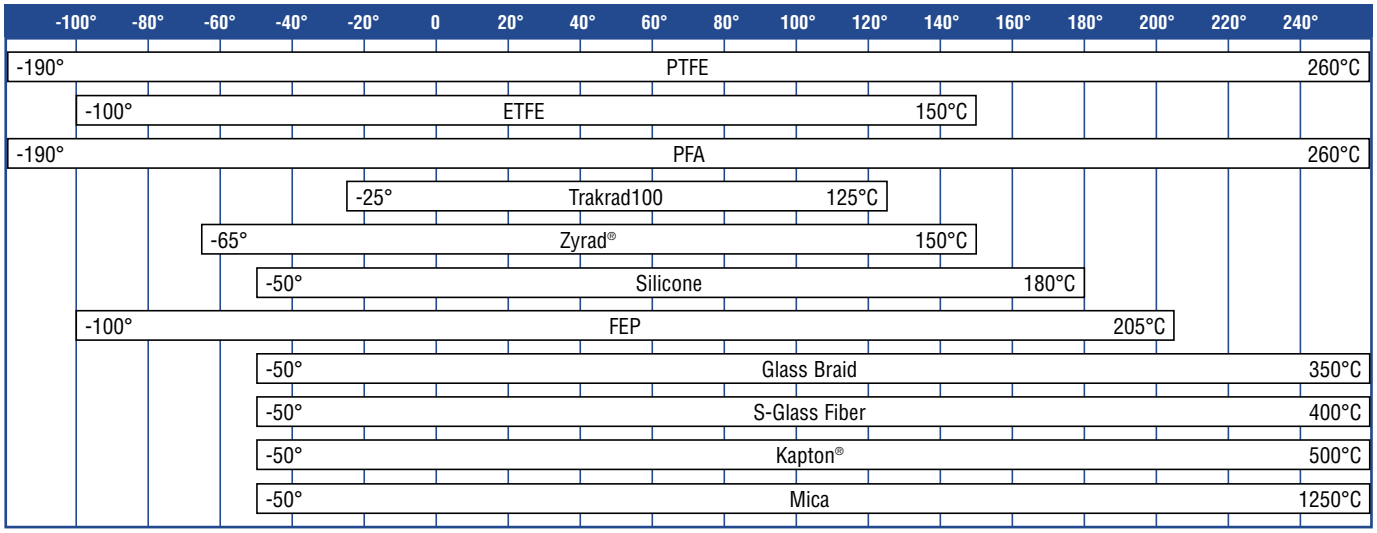
Most of our hook-up and lead wire constructions are available from stock in a wide variety of colors and packages. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a hook up wire cable in this catalog section that meets your technical requirements, see our U.S. Master Catalog or contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

### Index by Voltage and Temperature Rating


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*peak voltage

### Nominal Temperature Operating Ranges (°C)




Kapton® is a DuPont trademark.

# Technical Information
## Conductor and Insulation Materials

### Conductors

**Uni-Strand®**
Uni-Strand tinned copper conductor. In this type of construction, the bare copper wires are stranded and then tinned to coat the strands and also fill the interstices between the strands. This allows for easier wire stripping with no re-twisting operation.

**Plated Copper Conductor**
There are a number of plating materials used to enhance the characteristics of the copper conductor. Tin plating is mainly used to improve the soldering characteristics of the conductor. Silver is used to increase the temperature and conductivity of the conductor as well as its soldering characteristics. Nickel-plating increases the temperature rating of the conductor even higher as well as offering excellent anti-oxidation characteristics.

### Insulation Materials

**Silicone Rubber**
Braidless silicone lead wire features easy and clean stripping without the problems associated with glass braid lead wire. It has excellent physical and mechanical strength properties.

Recommended for high temperature applications in motors, lighting fixtures, clothes dryers, stoves, therapeutic and electronic devices. It is recommended that varnish compatibility be checked before production. Some rigid varnishes may cause cracking when the wire is severely bent.

**Silicone Rubber – Glass Braid**
The silicone insulation strips clean and easy. The glass braid provides additional abrasion resistance and is treated to prevent fraying. Recommended for high-temperature applications in motors, lighting fixtures, clothes dryers, stoves, therapeutic and electronic devices.

**FEP Teflon®**
Teflon® is a fluorinated thermoplastic with outstanding thermal, physical, and electrical properties. Teflon® is generally restricted to applications requiring its special characteristics because its basic resin and processing costs are relatively high.

Belden Teflon® wire products are highly recommended for miniature cable applications because of their superior thermal and electrical properties. Teflon® is especially suitable for internal wiring soldering applications where insulation melt back is a specific problem.

Belden wiring products insulated with Teflon® are outstanding in their resistance to oil, oxidation, heat, sunlight and flame; and also in their ability to remain flexible at low temperatures. They have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic hydrocarbons and solvents.

**PTFE**
Best chemical resistance and very good electrical and mechanical properties are characteristic for this material. Belden processes PTFE in the form of wrapped tapes and extrusion.

**PFA**
Same material properties as PTFE. Applied by extrusion.

**ETFE**
Chemical and mechanical properties comparable to PTFE. Applied by extrusion.

**Trakrad 100**
Trakrad is a cross-linked polyolefin insulated cable designed for traction and rolling stock, and is suitable for fixed installations within vehicles and between motor and underframe. These cables are also designed for use in connections to coil windings, wiring of motor vehicles, control panels and switchgear. They are designed to provide enhanced oil resistance to meet British Rail spec. TDE 76/P/16.

**Zyrad®**
Zyrad® 500 and 555 are a modified cross-linked polyolefin having a 600V 155°C rating for commercial applications, in particular class F motor lead wires.

Zyrad® 500 is approved to UL3289 and CSA CL 1503. Both Zyrad® 500 and Zyrad® 555 have excellent abrasion resistance, coupled with good flexibility, and will withstand varnish bake temperatures of 190°C and short term exposure at 250°C.

**EFGLAS**
EFGLAS cable range is designed to meet the specification BSG222, a specification for aircraft wiring cables at high (+260°C) and low (-70°C) temperature. These cables are popular though throughout many industries and applications because of their temperature rating and improved abrasion resistance.

**Ceramic Material Insulated Cables**
Belden offers special insulation and sheath materials based on ceramic and mica. These material allow service at a constant ambient temperature of +800°C and peak temperatures up to +1550°C even under extreme conditions, e.g. application in glass, iron- and steel fabrication.

In order to extend the fields of application, glass fiber materials can be combined with other high performance materials e.g. PTFE, FEP, Kapton®, silicone or mica. These combinations ensure application in humid areas at an excellent dielectric strength.

**Kapton®**
Kapton® film is a compact, lightweight mechanically tough cable insulation system offering both space and weight saving characteristics. Kapton® equipment wires have excellent electrical properties as well as generating low smoke and being classed as low toxic.



Kapton® and Teflon® are DuPont trademarks.

# PTFE / Kapton® / PTFE

600V, 260°C

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **260°C • 20 - 4/0 AWG** • Stranded Nickel-Plated Copper Wire | | | | | | | | | | | | | |
| **PTFE/Kapton®/White PTFE Insulation • according to VG 95218 part 20 B** | | | | | | | | | | | | | |
| | | ASTM-D 4895 | | | | | | | | Unshielded | | | For wiring at high ambient temperatures and increased mechanical stress e.g.<br>- Aerospace<br>- Lead wires for engines and gearboxes |
| | **HMC4000** | 1000 | 305 | 6.7 | 3.0 | 37 wires NPC | | 20 | 0.50 | | 0.083 | 2.10 | |
| | **HMC4001** | 1000 | 305 | 8.7 | 4.0 | 37 wires NPC | | 18 | 0.75 | | 0.091 | 2.30 | |
| | **HMC4002** | 1000 | 305 | 10.8 | 4.9 | 37 wires NPC | | 17 | 1.00 | | 0.098 | 2.50 | |
| | **HMC4003** | 1000 | 305 | 15.5 | 7.0 | 37 wires NPC | | 16 | 1.50 | | 0.110 | 2.80 | |
| | **HMC4004** | 1000 | 305 | 23.5 | 10.7 | 37 wires NPC | | 14 | 2.50 | | 0.138 | 3.50 | |
| | **HMC4005** | 1000 | 305 | 37.6 | 17.1 | 7 legs NPC | | 12 | 4 | | 0.173 | 4.40 | |
| | **HMC4006** | 1000 | 305 | 51.8 | 23.5 | 7 legs NPC | | 10 | 6 | | 0.209 | 5.30 | |
| | **HMC4007** | 500 | 152 | 41.3 | 18.8 | 19 legs NPC | | 8 | 10 | | 0.256 | 6.50 | |
| | **HMC4008** | 500 | 152 | 66.5 | 30.2 | 19 legs NPC | | 6 | 16 | | 0.303 | 7.70 | |
| | **HMC4009** | 500 | 152 | 100.5 | 45.6 | 37 legs NPC | | 4 | 25 | | 0.378 | 9.60 | |
| | **HMC4010** | 500 | 152 | 137.8 | 62.5 | 37 legs NPC | | 2 | 35 | | 0.429 | 10.90 | |
| | **HMC4011** | 500 | 152 | 184.8 | 83.8 | 37 legs NPC | | 1 | 50 | | 0.504 | 12.80 | |
| | **HMC4012** | 500 | 152 | 252.7 | 114.6 | 37 legs NPC | | 2/0 | 70 | | 0.587 | 14.90 | |
| | **HMC4013** | 500 | 152 | 335.1 | 152.0 | 37 legs NPC | | 3/0 | 95 | | 0.685 | 17.40 | |
| | **HMC4014** | 500 | 152 | 407.3 | 184.8 | 37 legs NPC | | 4/0 | 120 | | 0.756 | 19.20 | |

NPC = Nickel-Plated Copper • DCR = DC resistance

Kapton® is a DuPont trademark.

# PTFE

600V, 260°C, peak temp 300°C

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **260°C • 20 - 2 AWG** • Stranded Nickel-Plated Copper Wire | | | | | | | | | | | | | |
| **PTFE Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) • **According to MIL-W-16878** | | | | | | | | | | | | | |
| | | ASTM-D 4895 | | | | | | | | Unshielded | | | For internal wiring at low and high ambient temperatures and/or corrosive environments. |
| | | | | | | | | | | | | | |
| Bi-color and tri-color combinations are available on request. | | | | | | | | | | | | | |
| | **HMC4015** | | 328 | 100 | 1.6 | 0.7 | (7x0.30) NPC | 20 | 0.50 | | 0.059 | 1.51 | |
| | **HMC4016** | | 328 | 100 | 2.4 | 1.1 | (19x0.228) NPC | 18 | 0.75 | | 0.067 | 1.69 | |
| | **HMC4017** | | 328 | 100 | 2.9 | 1.3 | (29x0.203) NPC | 17 | 1.00 | | 0.074 | 1.88 | |
| | **HMC4018** | | 328 | 100 | 4.0 | 1.8 | (27x0.254) NPC | 16 | 1.50 | | 0.088 | 2.24 | |
| | **HMC4019** | | 328 | 100 | 6.6 | 3.0 | (45x0.254) NPC | 14 | 2.50 | | 0.104 | 2.65 | |
| | **HMC4020** | | 328 | 100 | 9.9 | 4.5 | (50x0.30) NPC | 12 | 4 | | 0.124 | 3.15 | |
| | **HMC4021** | | 328 | 100 | 14.6 | 6.6 | (75x0.30) NPC | 10 | 6 | | 0.152 | 3.85 | |
| | **HMC4022** | | 328 | 100 | 25.6 | 11.6 | (80x0.404) NPC | 8 | 10 | | 0.224 | 5.70 | |
| | **HMC4023** | | 328 | 100 | 38.8 | 17.6 | (126x0.404) NPC | 6 | 16 | | 0.268 | 6.80 | |
| | **HMC4024** | | 328 | 100 | 60.0 | 27.2 | (196x0.404) NPC | 4 | 25 | | 0.339 | 8.60 | |
| | **HMC4025** | | 328 | 100 | 82.7 | 37.5 | (276x0.404) NPC | 2 | 35 | | 0.390 | 9.90 | |
| **260°C • 30 - 20 AWG** • Solid Nickel-Plated Copper Wire | | | | | | | | | | | | | |
| **PTFE Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) • **According to MIL-W-16878** | | | | | | | | | | | | | |
| | | ASTM-D 4895 | | | | | | | | Unshielded | | | |
| | | | | | | | | | | | | | |
| Bi-color and tri-color combinations are available on request. | | | | | | | | | | | | | |
| | **HMC4026** | | 328 | 100 | 0.3 | 0.1 | (1x0.254) NPC | 30 | 0.051 | | 0.034 | 0.86 | |
| | **HMC4027** | | 328 | 100 | 0.4 | 0.2 | (1x0.32) NPC | 28 | 0.080 | | 0.036 | 0.92 | |
| | **HMC4028** | | 328 | 100 | 0.6 | 0.3 | (1x0.40) NPC | 26 | 0.126 | | 0.039 | 1.00 | |
| | **HMC4029** | | 328 | 100 | 0.8 | 0.4 | (1x0.50) NPC | 24 | 0.197 | | 0.043 | 1.10 | |
| | **HMC4030** | | 328 | 100 | 1.1 | 0.5 | (1x0.64) NPC | 22 | 0.32 | | 0.049 | 1.24 | |
| | **HMC4031** | | 328 | 100 | 1.5 | 0.7 | (1x0.80) NPC | 20 | 0.50 | | 0.055 | 1.40 | |

NPC = Nickel-Plated Copper • DCR = DC resistance

Also available on request:
- BS3G 210 Type A (300V)
- BS3G 210 Type B (600V)
- BS3G 210 Type C (1000V)

# FEP (VDE approved)

300/500V, 180°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **180°C • 20 - 14 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) • **VDE reg. no. 6574 5519** | | | | | | | | | | | | | |
| | | VDE 0207 Part 6 | | | | | | | | Unshielded | | | For wiring in electrical appliances and lighting up to a maximum operating temperature of 180°C. |
| | **HMC4032** | | 328 | 100 | 1.0 | 0.5 | (16x0.20) TPC | 20 | 0.50 | | 0.059 | 1.50 | |
| | **HMC4033** | | 328 | 100 | 1.6 | 0.7 | (24x0.20) TPC | 18 | 0.75 | | 0.067 | 1.70 | |
| | **HMC4034** | | 328 | 100 | 2.2 | 1.0 | (32x0.20) TPC | 17 | 1.00 | | 0.075 | 1.90 | |
| | **HMC4035** | | 328 | 100 | 2.9 | 1.3 | (30x0.25) TPC | 16 | 1.50 | | 0.083 | 2.10 | |
| | **HMC4036** | | 328 | 100 | 4.2 | 1.9 | (50x0.25) TPC | 14 | 2.50 | | 0.106 | 2.70 | |
| **180°C • 20 - 14 AWG** • Solid Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) • **VDE reg. no. 6574 5519** | | | | | | | | | | | | | |
| | | VDE 0207 Part 6 | | | | | | | | Unshielded | | | |
| | **HMC4037** | | 328 | 100 | 1.5 | 0.7 | (1x0.80) TPC | 20 | 0.50 | | 0.055 | 1.40 | |
| | **HMC4038** | | 328 | 100 | 2.1 | 1.0 | (1x0.98) TPC | 18 | 0.75 | | 0.063 | 1.60 | |
| | **HMC4039** | | 328 | 100 | 2.6 | 1.2 | (1x1.13) TPC | 17 | 1.00 | | 0.065 | 1.65 | |
| | **HMC4040** | | 328 | 100 | 3.7 | 1.7 | (1x1.38) TPC | 16 | 1.50 | | 0.079 | 2.00 | |
| | **HMC4041** | | 328 | 100 | 6.2 | 2.8 | (1x1.78) TPC | 14 | 2.50 | | 0.098 | 2.50 | |

TPC = Tin-Plated Copper • DCR = DC resistance

# FEP (VDE approved) double insulated

300/500V, 180°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **180°C • 20 - 14 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Double Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) • **VDE reg. no. 6574 9410** | | | | | | | | | | | | | |
| | | VDE 0207 Part 6 | | | | | | | | Unshielded | | | For wiring in electrical appliances and lighting appropriate for protection class II up to an operating temperature of 180°C. |
| | **HMC4042** | | 328 | 100 | 2.6 | 1.2 | (16x0.20) TPC | 20 | 0.50 | | 0.083 | 2.10 | |
| | **HMC4043** | | 328 | 100 | 3.3 | 1.5 | (24x0.20) TPC | 18 | 0.75 | | 0.091 | 2.30 | |
| | **HMC4044** | | 328 | 100 | 4.0 | 1.8 | (32x0.20) TPC | 17 | 1.00 | | 0.098 | 2.50 | |
| | **HMC4045** | | 328 | 100 | 5.3 | 2.4 | (30x0.25) TPC | 16 | 1.50 | | 0.106 | 2.70 | |
| | **HMC4046** | | 328 | 100 | 8.2 | 3.7 | (50x0.25) TPC | 14 | 2.50 | | 0.134 | 3.40 | |
| **180°C • 20 - 14 AWG** • Solid Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Double Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) • **VDE reg. no. 6574 9410** | | | | | | | | | | | | | |
| | | VDE 0207 Part 6 | | | | | | | | Unshielded | | | |
| | **HMC4047** | | 328 | 100 | 2.4 | 1.1 | (1x0.80) TPC | 20 | 0.50 | | 0.079 | 2.00 | |
| | **HMC4048** | | 328 | 100 | 3.1 | 1.4 | (1x0.98) TPC | 18 | 0.75 | | 0.087 | 2.20 | |
| | **HMC4049** | | 328 | 100 | 3.7 | 1.7 | (1x1.13) TPC | 17 | 1.00 | | 0.091 | 2.30 | |
| | **HMC4050** | | 328 | 100 | 5.1 | 2.3 | (1x1.38) TPC | 16 | 1.50 | | 0.102 | 2.60 | |
| | **HMC4051** | | 328 | 100 | 7.9 | 3.6 | (1x1.78) TPC | 14 | 2.50 | | 0.126 | 3.20 | |

TPC = Tin-Plated Copper • DCR = DC resistance

# FEP

600V, 200°C, peak temp 230°C

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **200°C • 20 - 2 AWG** • Stranded Silver-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | VDE 0207<br>Part 6<br>ASTM-D 2116 | | | | | | | | Unshielded | | | For wiring at low and high ambient temperatures and/or corrosive environments. |
| | **HMC4052** | | 1000 | 305 | 5.0 | 2.3 | (7x0.30) SPC | 20 | 0.50 | | 0.059 | 1.51 | |
| | **HMC4053** | | 1000 | 305 | 7.4 | 3.4 | (19x0.228) SPC | 18 | 0.75 | | 0.067 | 1.69 | |
| | **HMC4054** | | 1000 | 305 | 8.7 | 4.0 | (29x0.203) SPC | 17 | 1.00 | | 0.074 | 1.88 | |
| | **HMC4055** | | 1000 | 305 | 12.1 | 5.5 | (27x0.254) SPC | 16 | 1.50 | | 0.088 | 2.24 | |
| | **HMC4056** | | 1000 | 305 | 20.2 | 9.1 | (45x0.254) SPC | 14 | 2.50 | | 0.104 | 2.65 | |
| | **HMC4057** | | 1000 | 305 | 30.2 | 13.7 | (50x0.30) SPC | 12 | 4 | | 0.124 | 3.15 | |
| | **HMC4058** | | 500 | 152 | 22.2 | 10.1 | (75x0.30) SPC | 10 | 6 | | 0.152 | 3.85 | |
| | **HMC4059** | | 500 | 152 | 39.0 | 17.7 | (80x0.404) SPC | 8 | 10 | | 0.224 | 5.70 | |
| | **HMC4060** | | 500 | 152 | 59.1 | 26.8 | (126x0.404) SPC | 6 | 16 | | 0.268 | 6.80 | |
| | **HMC4061** | | 500 | 152 | 91.4 | 41.5 | (196x0.404) SPC | 4 | 25 | | 0.339 | 8.60 | |
| | **HMC4062** | | 500 | 152 | 126.0 | 57.2 | (276x0.404) SPC | 2 | 35 | | 0.390 | 9.90 | |
| **200°C • 30 - 22 AWG** • Solid Silver-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | VDE 0207<br>Part 6<br>ASTM-D 2116 | | | | | | | | Unshielded | | | |
| | **HMC4063** | | 1000 | 305 | 0.9 | 0.4 | (1x0.254) SPC | 30 | 0.051 | | 0.034 | 0.86 | |
| | **HMC4064** | | 1000 | 305 | 1.3 | 0.6 | (1x0.32) SPC | 28 | 0.080 | | 0.036 | 0.92 | |
| | **HMC4065** | | 1000 | 305 | 1.8 | 0.8 | (1x0.40) SPC | 26 | 0.126 | | 0.039 | 1.00 | |
| | **HMC4066** | | 1000 | 305 | 2.5 | 1.1 | (1x0.50) SPC | 24 | 0.197 | | 0.043 | 1.10 | |
| | **HMC4067** | | 1000 | 305 | 3.2 | 1.5 | (1x0.64) SPC | 22 | 0.32 | | 0.049 | 1.24 | |

SPC = Silver-Plated Copper • DCR = DC resistance

# FEP (VDE 0881)

900V*, 180°C, peak temp 200°C

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 31 - 12 AWG** • Stranded Silver-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | VDE 0207 Part 6 | | | | | | | | Unshielded | | | For internal wiring of telecommunication devices, electronic modules in appliances and for wiring of telecommunication and data processing systems. |
| | **HMC4068** | 1640 | 500 | 1.3 | 0.6 | (7x0.08) SPC | | 31 | 0.035 | | 0.034 | 0.87 | |
| | **HMC4069** | 1640 | 500 | 1.7 | 0.8 | (7x0.10) SPC | | 30 | 0.055 | | 0.037 | 0.93 | |
| | **HMC4070** | 1640 | 500 | 2.0 | 0.9 | (7x0.12) SPC | | 28 | 0.079 | | 0.039 | 0.99 | |
| | **HMC4071** | 1640 | 500 | 2.6 | 1.2 | (7x0.15) SPC | | 26 | 0.12 | | 0.043 | 1.08 | |
| | **HMC4072** | 1640 | 500 | 3.9 | 1.8 | (7x0.20) SPC | | 24 | 0.22 | | 0.048 | 1.23 | |
| | **HMC4073** | 1640 | 500 | 5.4 | 2.5 | (7x0.25) SPC | | 22 | 0.34 | | 0.054 | 1.38 | |
| | **HMC4074** | 1640 | 500 | 8.0 | 3.7 | (7x0.32) SPC | | 20 | 0.56 | | 0.063 | 1.59 | |
| | **HMC4075** | 1640 | 500 | 12.1 | 5.5 | (19x0.25) SPC | | 18 | 0.93 | | 0.075 | 1.90 | |
| | **HMC4076** | 1640 | 500 | 16.5 | 7.5 | (19x0.29) SPC | | 16 | 1.30 | | 0.083 | 2.10 | |
| | **HMC4077** | 1640 | 500 | 23.1 | 10.5 | (19x0.36) SPC | | 14 | 1.90 | | 0.096 | 2.45 | |
| | **HMC4078** | 1640 | 500 | 37.5 | 17.0 | (19x0.46) SPC | | 12 | 3.20 | | 0.116 | 2.95 | |
| **180°C • 31 - 12 AWG** • Solid Silver-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | VDE 0207 Part 6 | | | | | | | | Unshielded | | | |
| | **HMC4079** | 1640 | 500 | 1.4 | 0.7 | (7x0.08) SPC | | 31 | 0.25 | | 0.033 | 0.85 | |
| | **HMC4080** | 1640 | 500 | 1.9 | 0.9 | (7x0.10) SPC | | 30 | 0.32 | | 0.036 | 0.92 | |
| | **HMC4081** | 1640 | 500 | 2.4 | 1.1 | (7x0.12) SPC | | 28 | 0.40 | | 0.039 | 1.00 | |
| | **HMC4082** | 1640 | 500 | 3.3 | 1.5 | (7x0.15) SPC | | 26 | 0.50 | | 0.043 | 1.10 | |
| | **HMC4083** | 1640 | 500 | 4.7 | 2.2 | (7x0.20) SPC | | 24 | 0.63 | | 0.048 | 1.23 | |
| | **HMC4084** | 1640 | 500 | 6.9 | 3.2 | (7x0.25) SPC | | 22 | 0.80 | | 0.055 | 1.40 | |
| | **HMC4085** | 1640 | 500 | 10.0 | 4.6 | (7x0.32) SPC | | 20 | 1.00 | | 0.063 | 1.60 | |
| | **HMC4086** | 1640 | 500 | 16.5 | 7.5 | (19x0.25) SPC | | 18 | 1.30 | | 0.075 | 1.90 | |
| | **HMC4087** | 1640 | 500 | 23.1 | 10.5 | (19x0.29) SPC | | 16 | 1.60 | | 0.088 | 2.23 | |
| | **HMC4088** | 1640 | 500 | 38.6 | 17.5 | (19x0.36) SPC | | 14 | 2.10 | | 0.106 | 2.70 | |

* = peak voltage
SPC = Silver-Plated Copper • DCR = DC resistance

# ETFE
450/750V, 135°C

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **135°C • 24 - 10 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **ETFE Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | VDE 0250 Part 106 | | | | | | | | Unshielded | | | For internal wiring of power electronics, heating appliances and lighting at an ambient temperature exceeding 55°C. |
| | **HMC4089** | 1640 | 500 | 5.0 | 2.3 | (14x0.15) TPC | | 24 | 0.25 | | 0.061 | 1.55 | |
| | **HMC4090** | 1640 | 500 | 8.0 | 3.7 | (16x0.20) TPC | | 20 | 0.50 | | 0.073 | 1.85 | |
| | **HMC4091** | 1640 | 500 | 11.0 | 5.0 | (24x0.20) TPC | | 18 | 0.75 | | 0.079 | 2.00 | |
| | **HMC4092** | 1640 | 500 | 14.3 | 6.5 | (32x0.20) TPC | | 17 | 1.00 | | 0.087 | 2.20 | |
| | **HMC4093** | 1640 | 500 | 20.9 | 9.5 | (30x0.25) TPC | | 16 | 1.50 | | 0.104 | 2.65 | |
| | **HMC4094** | 1640 | 500 | 34.2 | 15.5 | (50x0.25) TPC | | 14 | 2.50 | | 0.132 | 3.35 | |
| | **HMC4095** | 1640 | 500 | 50.7 | 23.0 | (56x0.30) TPC | | 12 | 4 | | 0.150 | 3.80 | |
| | **HMC4096** | 1640 | 500 | 70.5 | 32.0 | (84x0.30) TPC | | 10 | 6 | | 0.173 | 4.40 | |
| **135°C • 24 - 10 AWG** • Solid Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **ETFE Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | VDE 0250 Part 106 | | | | | | | | Unshielded | | | |
| | **HMC4097** | 1640 | 500 | 4.9 | 2.2 | (1x0.56) TPC | | 24 | 0.25 | | 0.057 | 1.45 | |
| | **HMC4098** | 1640 | 500 | 7.9 | 3.6 | (1x0.80) TPC | | 20 | 0.50 | | 0.067 | 1.70 | |
| | **HMC4099** | 1640 | 500 | 10.8 | 4.9 | (1x0.98) TPC | | 18 | 0.75 | | 0.075 | 1.90 | |
| | **HMC4100** | 1640 | 500 | 13.2 | 6.0 | (1x1.13) TPC | | 17 | 1.00 | | 0.081 | 2.05 | |
| | **HMC4101** | 1640 | 500 | 19.8 | 9.0 | (1x1.38) TPC | | 16 | 1.50 | | 0.098 | 2.50 | |
| | **HMC4102** | 1640 | 500 | 33.1 | 15.0 | (1x1.78) TPC | | 14 | 2.50 | | 0.122 | 3.10 | |
| | **HMC4103** | 1640 | 500 | 48.5 | 22.0 | (1x2.26) TPC | | 12 | 4 | | 0.142 | 3.60 | |
| | **HMC4104** | 1640 | 500 | 70.5 | 32.0 | (1x2.76) TPC | | 10 | 6 | | 0.161 | 4.10 | |

TPC = Tin-Plated Copper • DCR = DC resistance

# ETFE
600V, 135°C

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **135°C • 20 - 2 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **ETFE Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | VDE 0207<br>Part 6<br>ASTM-D 3159 | | | | | | | | Unshielded | | | For wiring at low and high ambient temperatures and/or corrosive environments. |
| | | Bi color combinations are available on request. | | | | | | | | | | | |
| | **HMC4105** | | 1640 | 500 | 7.5 | 3.4 | (7x0.30) TPC | 20 | 0.50 | | 0.059 | 1.51 | |
| | **HMC4106** | | 1640 | 500 | 7.6 | 3.5 | (15x0.203) TPC | 20 | 0.50 | | 0.060 | 1.52 | |
| | **HMC4107** | | 1640 | 500 | 11.0 | 5.0 | (19x0.228) TPC | 18 | 0.75 | | 0.067 | 1.69 | |
| | **HMC4108** | | 1640 | 500 | 10.4 | 4.7 | (22x0.203) TPC | 18 | 0.75 | | 0.067 | 1.70 | |
| | **HMC4109** | | 1640 | 500 | 13.2 | 6.0 | (29x0.203) TPC | 17 | 1.00 | | 0.074 | 1.88 | |
| | **HMC4110** | | 1640 | 500 | 18.7 | 8.5 | (27x0.254) TPC | 16 | 1.50 | | 0.088 | 2.24 | |
| | **HMC4111** | | 1640 | 500 | 30.9 | 14.0 | (45x0.254) TPC | 14 | 2.50 | | 0.104 | 2.65 | |
| | **HMC4112** | | 1640 | 500 | 47.4 | 21.5 | (50x0.30) TPC | 12 | 4 | | 0.124 | 3.15 | |
| | **HMC4113** | | 328 | 100 | 13.9 | 6.3 | (75x0.30) TPC | 10 | 6 | | 0.152 | 3.85 | |
| | **HMC4114** | | 328 | 100 | 24.3 | 11.0 | (80x0.404) TPC | 8 | 10 | | 0.224 | 5.70 | |
| | **HMC4115** | | 328 | 100 | 37.0 | 16.8 | (126x0.404) TPC | 6 | 16 | | 0.268 | 6.80 | |
| | **HMC4116** | | 328 | 100 | 56.4 | 25.6 | (196x0.404) TPC | 4 | 25 | | 0.339 | 8.60 | |
| | **HMC4117** | | 328 | 100 | 79.1 | 35.9 | (276x0.404) TPC | 2 | 35 | | 0.390 | 9.90 | |
| **135°C • 30 - 20 AWG** • Solid Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **ETFE Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | VDE 0207<br>Part 6<br>ASTM-D 3159 | | | | | | | | Unshielded | | | |
| | | Bi color combinations are available on request. | | | | | | | | | | | |
| | **HMC4118** | | 1640 | 500 | 1.3 | 0.6 | (1x0.254) TPC | 30 | 0.051 | | 0.034 | 0.86 | |
| | **HMC4119** | | 1640 | 500 | 1.8 | 0.8 | (1x0.32) TPC | 28 | 0.080 | | 0.036 | 0.92 | |
| | **HMC4120** | | 1640 | 500 | 2.3 | 1.1 | (1x0.40) TPC | 26 | 0.126 | | 0.039 | 1.00 | |
| | **HMC4121** | | 1640 | 500 | 3.3 | 1.5 | (1x0.50) TPC | 24 | 0.197 | | 0.043 | 1.10 | |
| | **HMC4122** | | 1640 | 500 | 4.6 | 2.1 | (1x0.64) TPC | 22 | 0.32 | | 0.049 | 1.24 | |
| | **HMC4123** | | 1640 | 500 | 7.1 | 3.2 | (1x0.80) TPC | 20 | 0.50 | | 0.055 | 1.40 | |

TPC = Tin-Plated Copper • DCR = DC resistance

Also available on request:
DEF STAN 61-12 Part 29 ETFE wires Type 1 to Type 6.

# PFA

600V, 260°C, peak temp 280°C

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **260°C • 20 - 2 AWG** • Stranded Nickel-Plated Copper Wire | | | | | | | | | | | | | |
| **PFA Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | ASTM-D 3307 | | | | | | | | Unshielded | | | For internal wiring at low and high ambient temperatures and/or corrosive environments. |
| | **HMC4124** | 1640 | 500 | 8.2 | 3.7 | (7x0.30) NPC | | 20 | 0.50 | | 0.059 | 1.51 | |
| | **HMC4125** | 1640 | 500 | 12.1 | 5.5 | (19x0.228) NPC | | 18 | 0.75 | | 0.067 | 1.69 | |
| | **HMC4126** | 1640 | 500 | 14.3 | 6.5 | (29x0.203) NPC | | 17 | 1.00 | | 0.074 | 1.88 | |
| | **HMC4127** | 1640 | 500 | 19.8 | 9.0 | (27x0.254) NPC | | 16 | 1.50 | | 0.088 | 2.24 | |
| | **HMC4128** | 1640 | 500 | 33.1 | 15.0 | (45x0.254) NPC | | 14 | 2.50 | | 0.104 | 2.65 | |
| | **HMC4129** | 1640 | 500 | 49.6 | 22.5 | (50x0.30) NPC | | 12 | 4 | | 0.124 | 3.15 | |
| | **HMC4130** | 328 | 100 | 14.6 | 6.6 | (75x0.30) NPC | | 10 | 6 | | 0.152 | 3.85 | |
| | **HMC4131** | 328 | 100 | 25.6 | 11.6 | (80x0.404) NPC | | 8 | 10 | | 0.224 | 5.70 | |
| | **HMC4132** | 328 | 100 | 38.8 | 17.6 | (126x0.404) NPC | | 6 | 16 | | 0.268 | 6.80 | |
| | **HMC4133** | 328 | 100 | 60.0 | 27.2 | (196x0.404) NPC | | 4 | 25 | | 0.339 | 8.60 | |
| | **HMC4134** | 328 | 100 | 82.7 | 37.5 | (276x0.404) NPC | | 2 | 35 | | 0.390 | 9.90 | |
| **260°C • 30 - 20 AWG** • Solid Nickel-Plated Copper Wire | | | | | | | | | | | | | |
| **PFA Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | ASTM-D 3307 | | | | | | | | Unshielded | | | |
| | **HMC4135** | 1640 | 500 | 1.5 | 0.7 | (1x0.254) NPC | | 30 | 0.051 | | 0.034 | 0.86 | |
| | **HMC4136** | 1640 | 500 | 2.2 | 1.0 | (1x0.32) NPC | | 28 | 0.080 | | 0.036 | 0.92 | |
| | **HMC4137** | 1640 | 500 | 3.0 | 1.4 | (1x0.40) NPC | | 26 | 0.126 | | 0.039 | 1.00 | |
| | **HMC4138** | 1640 | 500 | 4.1 | 1.9 | (1x0.50) NPC | | 24 | 0.197 | | 0.043 | 1.10 | |
| | **HMC4139** | 1640 | 500 | 5.3 | 2.4 | (1x0.64) NPC | | 22 | 0.32 | | 0.049 | 1.24 | |
| | **HMC4140** | 1640 | 500 | 7.7 | 3.5 | (1x0.80) NPC | | 20 | 0.50 | | 0.055 | 1.40 | |

NPC = Nickel-Plated Copper • DCR = DC resistance

# Trakrad 100

1900/3300V, 125°C

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **125°C • 20 AWG - 750 MCM** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **Trakrad 100 Grey Insulation • Oil-Resistance • Flame-Retardant** | | | | | | | | | | | | | |
| | | BS 4066-1<br>IEC 60332-3(A) | | | | | | | | Unshielded | | | Suitable for fixed installations within trains and between motor and underframe e.g.<br>- Connections to coil windings<br>- Wiring of motor trains<br>- Control panels and switchgear<br><br>Designed to provide enhanced oil resistance to meet British Rail spec. TDE 76/P/16. |
| **HMC4141** | | | 1640 | 500 | 13.3 | 6.0 | (16x0.20) TPC | 20 | 0.50 | | 0.102 | 2.59 | |
| **HMC4142** | | | 1640 | 500 | 16.9 | 7.7 | (24x0.20) TPC | 18 | 0.75 | | 0.111 | 2.82 | |
| **HMC4143** | | | 1640 | 500 | 19.8 | 9.0 | (32x0.20) TPC | 17 | 1.00 | | 0.115 | 2.92 | |
| **HMC4144** | | | 1640 | 500 | 21.4 | 9.7 | (37x0.20) TPC | 16.5 | 1.16 | | 0.118 | 3.00 | |
| **HMC4145** | | | 1640 | 500 | 26.9 | 12.2 | (30x0.25) TPC | 16 | 1.50 | | 0.131 | 3.32 | |
| **HMC4146** | | | 1640 | 500 | 30.9 | 14.0 | (37x0.25) TPC | 15 | 1.80 | | 0.138 | 3.50 | |
| **HMC4147** | | | 1640 | 500 | 38.9 | 17.7 | (50x0.25) TPC | 14 | 2.50 | | 0.148 | 3.76 | |
| **HMC4148** | | | 1640 | 500 | 41.1 | 18.6 | (37x0.30) TPC | 13 | 2.60 | | 0.154 | 3.90 | |
| **HMC4149** | | | 1640 | 500 | 56.6 | 25.7 | (56x0.30) TPC | 12 | 4 | | 0.169 | 4.29 | |
| **HMC4150** | | | 328 | 100 | 13.5 | 6.1 | (37x0.40) TPC | 11 | 4.70 | | 0.189 | 4.80 | |
| **HMC4151** | | | 328 | 100 | 18.4 | 8.3 | (84x0.30) TPC | 10 | 6 | | 0.223 | 5.67 | |
| **HMC4152** | | | 328 | 100 | 21.7 | 9.8 | (61x0.40) TPC | 9 | 7.70 | | 0.236 | 6.00 | |
| **HMC4153** | | | 328 | 100 | 28.2 | 12.8 | (80x0.40) TPC | 8 | 10 | | 0.276 | 7.00 | |
| **HMC4154** | | | 328 | 100 | 41.4 | 18.8 | (126x0.40) TPC | 6 | 16 | | 0.319 | 8.10 | |
| **HMC4155** | | | 328 | 100 | 65.6 | 29.8 | (196x0.40) TPC | 4 | 25 | | 0.406 | 10.30 | |
| **HMC4156** | | | on request | | 891.1 | 404.2 | (276x0.40) TPC | 2 | 35 | | 0.461 | 11.70 | |
| **HMC4157** | | | on request | | 1240.3 | 562.6 | (396x0.40) TPC | 1 | 50 | | 0.539 | 13.70 | |
| **HMC4158** | | | on request | | 1728.0 | 783.8 | (360x0.50) TPC | 2/0 | 70 | | 0.630 | 16.00 | |
| **HMC4159** | | | on request | | 2266.3 | 1028.0 | (475x0.50) TPC | 3/0 | 95 | | 0.728 | 18.50 | |
| **HMC4160** | | | on request | | 2877.0 | 1305.0 | (608x0.50) TPC | 4/0 | 120 | | 0.803 | 20.40 | |
| **HMC4161** | | | on request | | 3542.8 | 1607.0 | (756x0.50) TPC | 300 MCM | 150 | | 0.890 | 22.60 | |
| **HMC4162** | | | on request | | 4296.8 | 1949.0 | (925x0.50) TPC | 350 MCM | 185 | | 0.976 | 24.80 | |
| **HMC4163** | | | on request | | 5562.2 | 2523.0 | (1221x0.50) TPC | 500 MCM | 240 | | 1.094 | 27.80 | |
| **HMC4164** | | | on request | | 7067.9 | 3206.0 | (1525x0.50) TPC | 600 MCM | 300 | | 1.260 | 32.00 | |
| **HMC4165** | | | on request | | 9153.5 | 4152.0 | (2013x0.50) TPC | 750 MCM | 400 | | 1.417 | 36.00 | |
| Weights for "on request" are for 1 km | | | | | | | | | | | | | |

TPC = Tin-Plated Copper • DCR = DC resistance

# Zyrad® 500 UL/CSA

600V, 150°C

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **150°C • 24 - 4/0 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **Zyrad® 500 Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black, Blue, Pink and Green/Yellow) | | | | | | | | | | | | | |
| | | UL3289<br>CSA CL 1503 | | | | | | | | Unshielded | | | For wiring at high ambient temperatures, e.g.<br>- Class F electric motors<br>- Transformers<br>- Domestic appliances<br>- Inductive loop<br>- Lighting<br>- General hostile environments |
| | **HMC4166** | 3280 | 1000 | 7.8 | 3.5 | (19x0.13) TPC | 24 | 0.25 | | 0.089 | 2.25 | |
| | **HMC4167** | 3280 | 1000 | 11.3 | 5.1 | (16x0.20) TPC | 22 | 0.50 | | 0.100 | 2.53 | |
| | **HMC4168** | 3280 | 1000 | 14.6 | 6.6 | (24x0.20) TPC | 20 | 0.75 | | 0.108 | 2.74 | |
| | **HMC4169** | 3280 | 1000 | 17.7 | 8.1 | (32x0.20) TPC | 18 | 1.00 | | 0.115 | 2.92 | |
| | **HMC4170** | 3280 | 1000 | 23.3 | 10.6 | (30x0.25) TPC | 16 | 1.50 | | 0.126 | 3.20 | |
| | **HMC4171** | 1640 | 500 | 34.7 | 15.8 | (50x0.25) TPC | 14 | 2.50 | | 0.144 | 3.67 | |
| | **HMC4172** | 1640 | 500 | 51.9 | 23.5 | (56x0.30) TPC | 12 | 4 | | 0.165 | 4.20 | |
| | **HMC4173** | 328 | 100 | 14.6 | 6.6 | (84x0.30) TPC | 10 | 6 | | 0.189 | 4.79 | |
| | **HMC4174** | 328 | 100 | 26.6 | 12.1 | (80x0.40) TPC | 8 | 10 | | 0.260 | 6.60 | |
| | **HMC4175** | 328 | 100 | 42.3 | 19.2 | (126x0.40) TPC | 6 | 16 | | 0.350 | 8.90 | |
| | **HMC4176** | 328 | 100 | 62.0 | 28.1 | (196x0.40) TPC | 4 | 25 | | 0.406 | 10.30 | |
| | **HMC4177** | 164 | 50 | 42.3 | 19.2 | (278x0.40) TPC | 2 | 35 | | 0.461 | 11.70 | |
| | **HMC4178** | 164 | 50 | 61.6 | 27.9 | (399x0.40) TPC | 1 | 50 | | 0.563 | 14.30 | |
| | **HMC4179** | 164 | 50 | 84.7 | 38.4 | (361x0.50) TPC | 0 | 70 | | 0.646 | 16.40 | |
| | **HMC4180** | 164 | 50 | 110.6 | 50.2 | (475x0.50) TPC | 3/0 | 95 | | 0.728 | 18.50 | |
| | **HMC4181** | 164 | 50 | 141.1 | 64.0 | (608x0.50) TPC | 4/0 | 120 | | 0.787 | 20.00 | |

TPC = Tin-Plated Copper • DCR = DC resistance

# Zyrad® 555
600V, 155°C

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **155°C • 24 - 4/0 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **Zyrad® 555 Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black, Blue, Pink and Green/Yellow) | | | | | | | | | | | | | |
| | | | | | | | | | | Unshielded | | | For wiring at high ambient temperatures, e.g.<br>- Class F electric motors<br>- Transformers<br>- Domestic appliances<br>- Inductive loop<br>- Lighting<br>- General hostile environments |
| | **HMC4182** | | 3280 | 1000 | 4.4 | 2.0 | (19x0.13) TPC | 24 | 0.25 | | 0.057 | 1.45 | |
| | **HMC4183** | | 3280 | 1000 | 7.4 | 3.4 | (19x0.18) TPC | 20 | 0.50 | | 0.069 | 1.75 | |
| | **HMC4184** | | 3280 | 1000 | 11.8 | 5.3 | (24x0.20) TPC | 18 | 0.75 | | 0.088 | 2.24 | |
| | **HMC4185** | | 3280 | 1000 | 15.4 | 7.0 | (32x0.20) TPC | 17 | 1.00 | | 0.099 | 2.52 | |
| | **HMC4186** | | 3280 | 1000 | 20.7 | 9.4 | (30x0.25) TPC | 16 | 1.50 | | 0.110 | 2.80 | |
| | **HMC4187** | | 1640 | 500 | 31.6 | 14.3 | (50x0.25) TPC | 14 | 2.50 | | 0.126 | 3.20 | |
| | **HMC4188** | | 1640 | 500 | 49.2 | 22.3 | (56x0.30) TPC | 12 | 4 | | 0.154 | 3.90 | |
| | **HMC4189** | | 328 | 100 | 14.2 | 6.5 | (84x0.30) TPC | 10 | 6 | | 0.181 | 4.59 | |
| | **HMC4190** | | 328 | 100 | 24.8 | 11.3 | (80x0.40) TPC | 8 | 10 | | 0.244 | 6.20 | |
| | **HMC4191** | | 328 | 100 | 38.4 | 17.4 | (126x0.40) TPC | 6 | 16 | | 0.311 | 7.90 | |
| | **HMC4192** | | 328 | 100 | 58.3 | 26.4 | (196x0.40) TPC | 4 | 25 | | 0.374 | 9.50 | |
| | **HMC4193** | | 164 | 50 | 40.7 | 18.5 | (278x0.40) TPC | 2 | 35 | | 0.437 | 11.10 | |
| | **HMC4194** | | 164 | 50 | 58.1 | 26.4 | (399x0.40) TPC | 1 | 50 | | 0.524 | 13.30 | |
| | **HMC4195** | | 164 | 50 | 81.0 | 36.7 | (361x0.50) TPC | 2/0 | 70 | | 0.614 | 15.60 | |
| | **HMC4196** | | 164 | 50 | 108.1 | 49.1 | (475x0.50) TPC | 3/0 | 95 | | 0.713 | 18.10 | |
| | **HMC4197** | | 164 | 50 | 136.4 | 61.9 | (608x0.50) TPC | 4/0 | 120 | | 0.772 | 19.60 | |

TPC = Tin-Plated Copper • DCR = DC resistance

# Silicone Rubber

Braidless

300/500V, 180°C, peak temp 250°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**180°C • 24 AWG - 500 MCM** • Stranded Tin-Plated Copper Wire

**Silicone Halogen-Free Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue)

IEC 60754-1
VDE 0282
Part 1



Unshielded

For wiring at high ambient temperatures, e.g.
- Lighting
- Domestic appliances
- Instrumentation engineering
- Mechanical engineering

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **HMC4198** | 328 | 100 | 1.3 | 0.6 | (14x0.15) TPC | 24 | 0.25 | | 0.071 | 1.80 | |
| **HMC4199** | 328 | 100 | 2.0 | 0.9 | (16x0.20) TPC | 20 | 0.50 | | 0.083 | 2.10 | |
| **HMC4200** | 328 | 100 | 2.4 | 1.1 | (24x0.20) TPC | 18 | 0.75 | | 0.091 | 2.30 | |
| **HMC4201** | 328 | 100 | 3.1 | 1.4 | (32x0.20) TPC | 17 | 1.00 | | 0.094 | 2.40 | |
| **HMC4202** | 328 | 100 | 4.2 | 1.9 | (30x0.25) TPC | 16 | 1.50 | | 0.106 | 2.70 | |
| **HMC4203** | 328 | 100 | 6.4 | 2.9 | (50x0.30) TPC | 14 | 2.50 | | 0.126 | 3.20 | |
| **HMC4204** | 328 | 100 | 9.7 | 4.4 | (56x0.30) TPC | 12 | 4 | | 0.157 | 4.00 | |
| **HMC4205** | 328 | 100 | 13.7 | 6.2 | (84x0.30) TPC | 10 | 6 | | 0.181 | 4.60 | |
| **HMC4206** | 328 | 100 | 27.3 | 12.4 | (80x0.40) TPC | 8 | 10 | | 0.256 | 6.50 | |
| **HMC4207** | 328 | 100 | 40.8 | 18.5 | (128x0.40) TPC | 6 | 16 | | 0.303 | 7.70 | |
| **HMC4208** | 328 | 100 | 61.9 | 28.1 | (200x0.40) TPC | 4 | 25 | | 0.374 | 9.50 | |
| **HMC4209** | on request | | 840.0 | 381.0 | (280x0.40) TPC | 2 | 35 | | 0.429 | 10.90 | |
| **HMC4210** | on request | | 1181.7 | 536.0 | (400x0.40) TPC | 1 | 50 | | 0.500 | 12.70 | |
| **HMC4211** | on request | | 1640.2 | 744.0 | (356x0.50) TPC | 2/0 | 70 | | 0.575 | 14.60 | |
| **HMC4212** | on request | | 2180.3 | 989.0 | (485x0.50) TPC | 3/0 | 95 | | 0.685 | 17.40 | |
| **HMC4213** | on request | | 2691.8 | 1221.0 | (614x0.50) TPC | 4/0 | 120 | | 0.744 | 18.90 | |
| **HMC4214** | on request | | 3353.2 | 1521.0 | (765x0.50) TPC | 300 MCM | 150 | | 0.815 | 20.70 | |
| **HMC4215** | on request | | 4186.5 | 1899.0 | (944x0.50) TPC | 350 MCM | 185 | | 0.925 | 23.50 | |
| **HMC4216** | on request | | 5732.0 | 2600.0 | (1225x0.50) TPC | 500 MCM | 240 | | 1.047 | 26.60 | |

Weights for "on request" are for 1 km

**180°C • 20 - 12 AWG** • Solid Tin-Plated Copper Wire

**Silicone Halogen-Free Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue)

IEC 60754-1
VDE 0282
Part 1



Unshielded

For wiring at high ambient temperatures, e.g.
- Lighting
- Domestic appliances
- Instrumentation engineering
- Mechanical engineering

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **HMC4217** | 328 | 100 | 1.8 | 0.8 | (1x0.80) TPC | 20 | 0.50 | | 0.079 | 2.00 | |
| **HMC4218** | 328 | 100 | 2.4 | 1.1 | (1x0.98) TPC | 18 | 0.75 | | 0.083 | 2.10 | |
| **HMC4219** | 328 | 100 | 2.9 | 1.3 | (1x1.13) TPC | 17 | 1.00 | | 0.091 | 2.30 | |
| **HMC4220** | 328 | 100 | 4.0 | 1.8 | (1x1.38) TPC | 16 | 1.50 | | 0.098 | 2.50 | |
| **HMC4221** | 328 | 100 | 6.4 | 2.9 | (1x1.78) TPC | 14 | 2.50 | | 0.122 | 3.10 | |
| **HMC4222** | 328 | 100 | 9.9 | 4.5 | (1x2.26) TPC | 12 | 4 | | 0.150 | 3.80 | |

Weights for "on request" are for 1 km

TPC = Tin-Plated Copper • DCR = DC resistance

# Silicone Rubber (H05S)

Braidless

300/500V, 180°C, peak temp 250°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **180°C • 20 - 14 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | IEC 60754-1 VDE 0282 Part 3 | | | | | | | | Unshielded | | | For wiring in electrical appliances and lighting up to a maximum operating temperature of 180°C. |
| | | | | | | | | | | | | | |
| H05S-K | | | | | | | | | | | | | |
| | **HMC4223** | | 328 | 100 | 2.6 | 1.2 | (16x0.20) TPC | 20 | 0.50 | | 0.098 | 2.50 | |
| | **HMC4224** | | 328 | 100 | 3.3 | 1.5 | (24x0.20) TPC | 18 | 0.75 | | 0.106 | 2.70 | |
| | **HMC4225** | | 328 | 100 | 3.7 | 1.7 | (32x0.20) TPC | 17 | 1.00 | | 0.110 | 2.80 | |
| | **HMC4226** | | 328 | 100 | 5.5 | 2.5 | (30x0.25) TPC | 16 | 1.50 | | 0.130 | 3.30 | |
| | **HMC4227** | | 328 | 100 | 8.2 | 3.7 | (50x0.25) TPC | 14 | 2.50 | | 0.154 | 3.90 | |
| **180°C • 20 - 14 AWG** • Solid Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | IEC 60754-1 VDE 0282 Part 3 | | | | | | | | Unshielded | | | |
| | | | | | | | | | | | | | |
| H05S-U | | | | | | | | | | | | | |
| | **HMC4228** | | 328 | 100 | 2.4 | 1.1 | (1x0.80) TPC | 20 | 0.50 | | 0.094 | 2.40 | |
| | **HMC4229** | | 328 | 100 | 3.1 | 1.4 | (1x0.98) TPC | 18 | 0.75 | | 0.098 | 2.50 | |
| | **HMC4230** | | 328 | 100 | 3.7 | 1.7 | (1x1.13) TPC | 17 | 1.00 | | 0.106 | 2.70 | |
| | **HMC4231** | | 328 | 100 | 5.3 | 2.4 | (1x1.38) TPC | 16 | 1.50 | | 0.122 | 3.10 | |
| | **HMC4232** | | 328 | 100 | 7.9 | 3.6 | (1x1.78) TPC | 14 | 2.50 | | 0.146 | 3.70 | |

TPC = Tin-Plated Copper • DCR = DC resistance

# Silicone Rubber (VDE approved)

Braidless

300/300V, 180°C, peak temp 250°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **180°C • 20 - 14 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) • **VDE reg. no. N2GFA resp. (N)2GFA** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Unshielded | | | For wiring in electrical appliances and lighting up to a maximum operating temperature of 180°C. |
| | **HMC4233** | 1000 | 305 | 6.0 | 2.7 | (16x0.20) TPC | | 20 | 0.50 | | 0.083 | 2.10 | |
| | **HMC4234** | 1000 | 305 | 7.4 | 3.4 | (24x0.20) TPC | | 18 | 0.75 | | 0.091 | 2.30 | |
| | **HMC4235** | 1000 | 305 | 9.4 | 4.3 | (32x0.20) TPC | | 17 | 1.00 | | 0.094 | 2.40 | |
| | **HMC4236** | 1000 | 305 | 13.4 | 6.1 | (30x0.25) TPC | | 16 | 1.50 | | 0.114 | 2.90 | |
| | **HMC4237** | 1000 | 305 | 21.5 | 9.8 | (50x0.25) TPC | | 14 | 2.50 | | 0.138 | 3.50 | |
| **180°C • 20 - 14 AWG** • Solid Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) • **VDE reg. no. N2GFA resp. (N)2GFA** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Unshielded | | | |
| N2GFA | | | | | | | | | | | | | |
| | **HMC4238** | 1000 | 305 | 5.4 | 2.4 | (1x0.80) TPC | | 20 | 0.50 | | 0.079 | 2.00 | |
| | **HMC4239** | 1000 | 305 | 7.4 | 3.4 | (1x0.98) TPC | | 18 | 0.75 | | 0.083 | 2.10 | |
| | **HMC4240** | 1000 | 305 | 8.7 | 4.0 | (1x1.13) TPC | | 17 | 1.00 | | 0.091 | 2.30 | |
| | **HMC4241** | 1000 | 305 | 12.1 | 5.5 | (1x1.38) TPC | | 16 | 1.50 | | 0.106 | 2.70 | |
| | **HMC4242** | 1000 | 305 | 19.5 | 8.8 | (1x1.78) TPC | | 14 | 2.50 | | 0.130 | 3.30 | |

TPC = Tin-Plated Copper • DCR = DC resistance

# Silicone Rubber (Superflex)

Braidless

300/500V, 180°C, peak temp 250°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **180°C • 24 - 2 AWG** • Stranded Tin-Plated Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Brown, Red, Orange, Yellow, Green, Violet, Grey, White, Black and Blue) | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Unshielded | | | For wiring at high ambient temperatures, e.g.<br>- Lighting<br>- Domestic appliances<br>- Instrumentation engineering<br>- Mechanical engineering |
| | **HMC4243** | 1640 | 500 | 6.6 | 3.0 | (128x0.05) TPC | 24 | 0.25 | | 0.071 | 1.80 | |
| | **HMC4244** | 1640 | 500 | 11.0 | 5.0 | (256x0.05) TPC | 20 | 0.50 | | 0.087 | 2.20 | |
| | **HMC4245** | 1640 | 500 | 13.2 | 6.0 | (384x0.05) TPC | 18 | 0.75 | | 0.094 | 2.40 | |
| | **HMC4246** | 1640 | 500 | 17.6 | 8.0 | (512x0.05) TPC | 17 | 1.00 | | 0.106 | 2.70 | |
| | **HMC4247** | 1640 | 500 | 24.3 | 11.0 | (392x0.07) TPC | 16 | 1.50 | | 0.122 | 3.10 | |
| | **HMC4248** | 1640 | 500 | 38.6 | 17.5 | (651x0.07) TPC | 14 | 2.50 | | 0.150 | 3.80 | |
| | **HMC4249** | 1640 | 500 | 58.4 | 26.5 | (1040x0.07) TPC | 12 | 4 | | 0.185 | 4.70 | |
| | **HMC4250** | 1640 | 500 | 83.8 | 38.0 | (1560x0.07) TPC | 10 | 6 | | 0.205 | 5.20 | |
| | **HMC4251** | 1640 | 500 | 135.6 | 61.5 | (2600x0.07) TPC | 8 | 10 | | 0.276 | 7.00 | |
| | **HMC4252** | 1640 | 500 | 208.3 | 94.5 | (2048x0.10) TPC | 6 | 16 | | 0.335 | 8.50 | |
| | **HMC4253** | 1640 | 500 | 320.8 | 145.5 | (3200x0.10) TPC | 4 | 25 | | 0.402 | 10.20 | |
| | **HMC4254** | 1640 | 500 | 445.3 | 202.0 | (1120x0.20) TPC | 2 | 35 | | 0.465 | 11.80 | |

TPC = Tin-Plated Copper • DCR = DC resistance

# Silicone Rubber (H05SJ-K)

Glass Braid
300/500V, 180°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**180°C • 20 AWG - 350 MCM** • Stranded Tin-Plated Copper Wire

**White Halogen-Free Silicone Insulation • Silicone-Impregnated Glass-Fiber Braid**

IEC 60754-1
VDE 0282
Part 1

Overall
Glass-Fiber Braid

For internal wiring at high ambient temperatures, e.g.
- Lighting
- Domestic appliances
- Mechanical engineering



Identification tracer

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **HMC4255** | 328 | 100 | 2.6 | 1.2 | (16x0.20) TPC | 20 | 0.50 | | 0.106 | 2.70 | |
| **HMC4256** | 328 | 100 | 3.3 | 1.5 | (24x0.20) TPC | 18 | 0.75 | | 0.114 | 2.90 | |
| **HMC4257** | 328 | 100 | 4.0 | 1.8 | (32x0.20) TPC | 17 | 1.00 | | 0.118 | 3.00 | |
| **HMC4258** | 328 | 100 | 4.9 | 2.2 | (30x0.25) TPC | 16 | 1.50 | | 0.138 | 3.50 | |
| **HMC4259** | 328 | 100 | 7.7 | 3.5 | (50x0.25) TPC | 14 | 2.50 | | 0.161 | 4.10 | |
| **HMC4260** | 328 | 100 | 10.8 | 4.9 | (56x0.30) TPC | 12 | 4 | | 0.181 | 4.60 | |
| **HMC4261** | 328 | 100 | 15.0 | 6.8 | (84x0.30) TPC | 10 | 6 | | 0.205 | 5.20 | |
| **HMC4262** | 328 | 100 | 28.9 | 13.1 | (80x0.40) TPC | 8 | 10 | | 0.283 | 7.20 | |
| **HMC4263** | 328 | 100 | 43.4 | 19.7 | (128x0.40) TPC | 6 | 16 | | 0.331 | 8.40 | |
| **HMC4264** | 164 | 50 | 32.5 | 14.8 | (200x0.40) TPC | 4 | 25 | | 0.402 | 10.20 | |
| **HMC4265** | 164 | 50 | 43.4 | 19.7 | (280x0.40) TPC | 2 | 35 | | 0.457 | 11.60 | |
| **HMC4266** | 164 | 50 | 60.6 | 27.5 | (400x0.40) TPC | 1 | 50 | | 0.528 | 13.40 | |
| **HMC4267** | 164 | 50 | 83.9 | 38.1 | (356x0.50) TPC | 2/0 | 70 | | 0.602 | 15.30 | |
| **HMC4268** | on request | | 2211.2 | 1003.0 | (485x0.50) TPC | 3/0 | 95 | | 0.713 | 18.10 | |
| **HMC4269** | on request | | 2731.5 | 1239.0 | (614x0.50) TPC | 4/0 | 120 | | 0.772 | 19.60 | |
| **HMC4270** | on request | | 3386.3 | 1536.0 | (765x0.50) TPC | 300 MCM | 150 | | 0.843 | 21.40 | |
| **HMC4271** | on request | | 4241.7 | 1924.0 | (944x0.50) TPC | 350 MCM | 185 | | 0.953 | 24.20 | |

Weights for "on request" are for 1 km

**180°C • 20 - 8 AWG** • Solid Tin-Plated Copper Wire

**White Halogen-Free Silicone Insulation • Silicone-impregnated Glass-Fiber Braid**

IEC 60754-1
VDE 0282
Part 1

Overall
Glass-Fiber Braid



Identification tracer

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **HMC4272** | 328 | 100 | 2.4 | 1.1 | (1x0.80) TPC | 20 | 0.50* | | 0.102 | 2.60 | |
| **HMC4273** | 328 | 100 | 3.1 | 1.4 | (1x0.98) TPC | 18 | 0.75* | | 0.106 | 2.70 | |
| **HMC4274** | 328 | 100 | 4.0 | 1.8 | (1x1.13) TPC | 17 | 1.00 | | 0.114 | 2.90 | |
| **HMC4275** | 328 | 100 | 5.3 | 2.4 | (1x1.38) TPC | 16 | 1.50 | | 0.150 | 3.80 | |
| **HMC4276** | 328 | 100 | 7.7 | 3.5 | (1x1.78) TPC | 14 | 2.50 | | 0.154 | 3.90 | |
| **HMC4277** | 328 | 100 | 11.5 | 5.2 | (1x2.26) TPC | 12 | 4 | | 0.173 | 4.40 | |
| **HMC4278** | 328 | 100 | 16.3 | 7.4 | (1x2.78) TPC | 10 | 6 | | 0.193 | 4.90 | |
| **HMC4279** | 328 | 100 | 26.7 | 12.1 | (1x3.60) TPC | 8 | 10 | | 0.248 | 6.30 | |

* = according to VDE 0282 part 3

TPC = Tin-Plated Copper • DCR = DC resistance

# Glass Braid

250V, 350°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **350°C • 24 - 10 AWG** • Stranded Nickel-Plated Copper Wire | | | | | | | | | | | | | |
| **Glass Braid Insulation • Impregnated Glass-Fiber Braid** | | | | | | | | | | | | | |
| | | | | | | | | | | Overall Glass-Fiber Braid | | | For wiring at high ambient temperatures and increased mechanical stress e.g.<br>- Domestic appliances (stoves, heating plates, ovens)<br>- Extrusion and drying installations<br>- Electric heating systems<br>- Steel and iron fabrication<br>- Glass and ceramic fabrication |
|  Separator foil | | | | | | | | | | | | | |
| | **HMC4280** | | 328 | 100 | 0.8 | 0.4 | (7x0.20) NPC | 24 | 0.22 | | 0.043 | 1.10 | |
| | **HMC4281** | | 328 | 100 | 1.2 | 0.6 | (14x0.15) NPC | 23 | 0.25 | | 0.075 | 1.90 | |
| | **HMC4282** | | 328 | 100 | 2.4 | 1.1 | (7x0.254) NPC | 22 | 0.34 | | 0.075 | 1.90 | |
| | **HMC4283** | | 328 | 100 | 2.9 | 1.3 | (16x0.203) NPC | 20 | 0.50 | | 0.083 | 2.10 | |
| | **HMC4284** | | 328 | 100 | 3.7 | 1.7 | (24x0.203) NPC | 18 | 0.75 | | 0.091 | 2.30 | |
| | **HMC4285** | | 328 | 100 | 4.9 | 2.2 | (32x0.203) NPC | 17 | 1.00 | | 0.098 | 2.50 | |
| | **HMC4286** | | 328 | 100 | 6.0 | 2.7 | (30x0.254) NPC | 16 | 1.50 | | 0.110 | 2.80 | |
| | **HMC4287** | | 328 | 100 | 11.0 | 5.0 | (50x0.254) NPC | 14 | 2.50 | | 0.169 | 4.30 | |
| | **HMC4288** | | 328 | 100 | 14.6 | 6.6 | (56x0.30) NPC | 12 | 4 | | 0.197 | 5.00 | |
| | **HMC4289** | | 328 | 100 | 17.9 | 8.1 | (84x0.30) NPC | 10 | 6 | | 0.224 | 5.70 | |

# Kapton®

## Glass Braid

300/300V, 220°C, Month 300°C, Peak Temp 500°C

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **350°C • 24 - 10 AWG** • Stranded Nickel-Plated Copper Wire | | | | | | | | | | | | | |
| **Kapton® Insulation • Impregnated Glass-Fiber Braid** | | | | | | | | | | | | | |
| | | | | | | | | | | Overall Glass-Fiber Braid | | | For wiring at high ambient temperatures and increased mechanical stress e.g.<br>- Domestic appliances (stoves, heating plates, ovens)<br>- Extrusion and drying installations<br>- Traffic technology |
|  | | | | | | | | | | | | | |
| | **HMC4290** | | 328 | 100 | 1.5 | 0.7 | (7x0.20) NPC | 24 | 0.22 | | 0.047 | 1.20 | |
| | **HMC4291** | | 328 | 100 | 1.0 | 0.5 | (14x0.15) NPC | 23 | 0.25 | | 0.051 | 1.30 | |
| | **HMC4292** | | 328 | 100 | 1.7 | 0.8 | (7x0.254) NPC | 22 | 0.34 | | 0.055 | 1.40 | |
| | **HMC4293** | | 328 | 100 | 1.8 | 0.8 | (16x0.203) NPC | 20 | 0.50 | | 0.067 | 1.70 | |
| | **HMC4294** | | 328 | 100 | 2.4 | 1.1 | (24x0.203) NPC | 18 | 0.75 | | 0.075 | 1.90 | |
| | **HMC4295** | | 328 | 100 | 2.9 | 1.3 | (32x0.203) NPC | 17 | 1.00 | | 0.079 | 2.00 | |
| | **HMC4296** | | 328 | 100 | 4.0 | 1.8 | (30x0.254) NPC | 16 | 1.50 | | 0.098 | 2.50 | |
| | **HMC4297** | | 328 | 100 | 6.6 | 3.0 | (50x0.254) NPC | 14 | 2.50 | | 0.110 | 2.80 | |
| | **HMC4298** | | 328 | 100 | 11.0 | 5.0 | (56x0.30) NPC | 12 | 4 | | 0.138 | 3.50 | |
| | **HMC4299** | | 328 | 100 | 14.3 | 6.5 | (84x0.30) NPC | 10 | 6 | | 0.161 | 4.10 | |

NPC = Nickel-Plated Copper • DCR = DC resistance • Kapton® is a DuPont trademark.

# Mica

## Glass and Ceramic Braid
## 300/500V

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**350°C (peak temp 500°C) • 20 - 10 AWG** • Stranded Nickel-Plated Copper Wire

**Mica Insulation • Impregnated Glass-Fiber Braid**



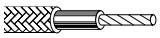
Overall Glass-Fiber Braid

For wiring at high ambient temperatures and increased operating voltage e.g.
- Industrial furnaces
- Extrusion and drying installations
- Electric heating systems

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **HMC4300** | 328 | 100 | 2.9 | 1.3 | (16x0.203) NPC | 20 | 0.50 | 0.094 | 2.40 | |
| **HMC4301** | 328 | 100 | 4.0 | 1.8 | (24x0.203) NPC | 18 | 0.75 | 0.102 | 2.60 | |
| **HMC4302** | 328 | 100 | 4.9 | 2.2 | (32x0.203) NPC | 17 | 1.00 | 0.122 | 3.10 | |
| **HMC4303** | 328 | 100 | 6.6 | 3.0 | (30x0.254) NPC | 16 | 1.50 | 0.134 | 3.40 | |
| **HMC4304** | 328 | 100 | 8.6 | 3.9 | (50x0.254) NPC | 14 | 2.50 | 0.154 | 3.90 | |
| **HMC4305** | 328 | 100 | 13.0 | 5.9 | (56x0.30) NPC | 12 | 4 | 0.185 | 4.70 | |
| **HMC4306** | 328 | 100 | 17.9 | 8.1 | (84x0.30) NPC | 10 | 6 | 0.213 | 5.40 | |

**1550°C (short term) • 20 - 8 AWG** • Stranded Nickel-Plated Copper Wire

**Mica Insulation • Impregnated Ceramic Braid**



Overall Ceramic Braid

For wiring at high ambient temperatures and increased mechanical stess e.g.
- Glass, steel and iron fabrication
- Industrial furnaces
- Electric heating systems

UL approval and other conductor materials (e.g. special alloys) available on request.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **HMC4307** | 328 | 100 | 2.4 | 1.1 | (16x0.203) NPC | 20 | 0.50 | 0.094 | 2.40 | |
| **HMC4308** | 328 | 100 | 4.0 | 1.8 | (24x0.203) NPC | 18 | 0.75 | 0.098 | 2.50 | |
| **HMC4309** | 328 | 100 | 5.1 | 2.3 | (32x0.203) NPC | 17 | 1.00 | 0.126 | 3.20 | |
| **HMC4310** | 328 | 100 | 6.2 | 2.8 | (30x0.254) NPC | 16 | 1.50 | 0.142 | 3.60 | |
| **HMC4311** | 328 | 100 | 10.1 | 4.6 | (50x0.254) NPC | 14 | 2.50 | 0.154 | 3.90 | |
| **HMC4312** | 328 | 100 | 15.4 | 7.0 | (56x0.30) NPC | 12 | 4 | 0.205 | 5.20 | |
| **HMC4313** | 328 | 100 | 22.9 | 10.4 | (84x0.30) NPC | 10 | 6 | 0.236 | 6.00 | |
| **HMC4314** | 328 | 100 | 32.4 | 14.7 | (80x0.40) NPC | 8 | 10 | 0.291 | 7.40 | |

NPC = Nickel-Plated Copper • DCR = DC resistance

# EFGLAS

Glass Braid/PTFE
600V, 260°C

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **260°C • 22 - 0000 AWG** • Stranded Nickel-Plated Copper Wire | | | | | | | | | | | | | |
| **EFGLAS Insulation • PTFE-Impregnated Glass Yarn Braid** | | | | | | | | | | | | | |
| | | BSG 222 : 1976<br>acc. MIL-W-22759/3 | | | | | | | | Unshielded | | | For wiring at high ambient temperatures and improved abrasion resistance e.g.<br>- Aircraft wiring |
| | **HMC4315** | | 1000 | 305 | 5.8 | 2.6 | (19x0.15) NPC | 22 | 0.336 | | 0.081 | 2.05 | |
| | **HMC4316** | | 1000 | 305 | 8.2 | 3.7 | (19x0.20) NPC | 20 | 0.597 | | 0.091 | 2.30 | |
| | **HMC4317** | | 1000 | 305 | 10.8 | 4.9 | (19x0.25) NPC | 18 | 0.933 | | 0.100 | 2.55 | |
| | **HMC4318** | | 1000 | 305 | 13.8 | 6.3 | (19x0.30) NPC | 16 | 1.340 | | 0.110 | 2.80 | |
| | **HMC4319** | | 1000 | 305 | 18.1 | 8.2 | (37x0.25) NPC | 14 | 1.820 | | 0.122 | 3.10 | |
| | **HMC4320** | | 1000 | 305 | 26.2 | 11.9 | (37x0.32) NPC | 12 | 2.890 | | 0.148 | 3.75 | |
| | **HMC4321** | | 1000 | 305 | 44.4 | 20.1 | (37x0.40) NPC | 10 | 4.650 | | 0.187 | 4.75 | |
| | **HMC4322** | | 1000 | 305 | 71.2 | 32.3 | (17/7x0.30) NPC | 8 | 8.410 | | 0.246 | 6.25 | |
| | **HMC4323** | | 500 | 152 | 58.5 | 26.5 | (26/7x0.30) NPC | 6 | 12.85 | | 0.287 | 7.30 | |
| | **HMC4324** | | 500 | 152 | 93.4 | 42.4 | (42/7x0.30) NPC | 4 | 20.75 | | 0.360 | 9.15 | |
| | **HMC4325** | | 500 | 152 | 142.5 | 64.6 | (703x0.25) NPC | 2 | 34.49 | | 0.427 | 10.85 | |
| | **HMC4326** | | 500 | 152 | 168.0 | 76.2 | (851x0.25) NPC | 1 | 41.75 | | 0.469 | 11.90 | |
| | **HMC4327** | | 500 | 152 | 212.4 | 96.3 | (1073x0.25) NPC | 0 | 52.64 | | 0.518 | 13.15 | |
| | **HMC4328** | | 500 | 152 | 270.5 | 122.7 | (1369x0.25) NPC | 2/0 | 67.16 | | 0.569 | 14.45 | |
| | **HMC4329** | | 500 | 152 | 339.4 | 154.0 | (1728x0.25) NPC | 3/0 | 84.78 | | 0.632 | 16.05 | |
| | **HMC4330** | | 500 | 152 | 426.8 | 193.6 | (2196x0.25) NPC | 4/0 | 107.74 | | 0.691 | 17.55 | |

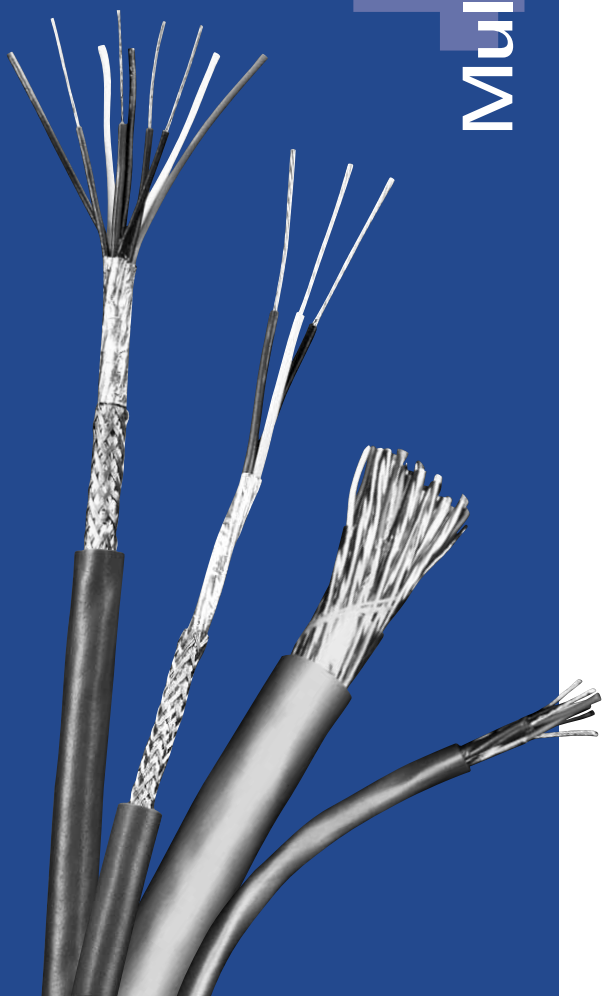
NPC = Nickel-Plated Copper • DCR = DC resistance

## Notes

BELDEN
SENDING ALL THE RIGHT SIGNALS



# 4 Multi-Conductor Cables



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Please refer to "Terms of Use of Master Catalog" on page 23.22.

# Introduction

### Multi Applications Demand Multiple Choice

When the applications are many and the systems different, cable flexibility is vital. Choice means the ability to meet every requirement and every contingency, because every system has different requirements.

Belden's multi-conductor cables meet the technical requirements of many different types of systems. In fact, Belden offers one of the broadest lines of UL-Listed, NEC and CEC multi-conductor cables available from any single source.

### Key Applications

- Computers
- Communications
- Instrumentation
- Sound
- Control
- Audio
- Data transmission

### Special Features

- Belden multi-conductor cables are offered in many variations including plenum and high-temperature versions. Variations include:
  - Gage sizes
  - Dimensions
  - Insulation materials
  - Shielding configurations
  - Jacketing materials
- Each cable is designed to protect signal integrity under critical conditions by reducing hum, noise, and crosstalk.
- Belden's unique UnReel® cable dispenser is available for many of the multi-conductor products listed in this section. The letter "U" before the specified put-up length denotes UnReel® packaging.
- Extended temperature and chemical resistant cable range: a broad range of cables suitable for application in the temperature range from -100°C up to +1550°C.

### Availability

Most of our multi-conductor cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a multi-conductor cable in this catalog section that meets your technical requirements, see our U.S. Master Catalog or contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

### Selection Guide: Shielded Multi-Conductor Computer Cables for RS-232 Applications

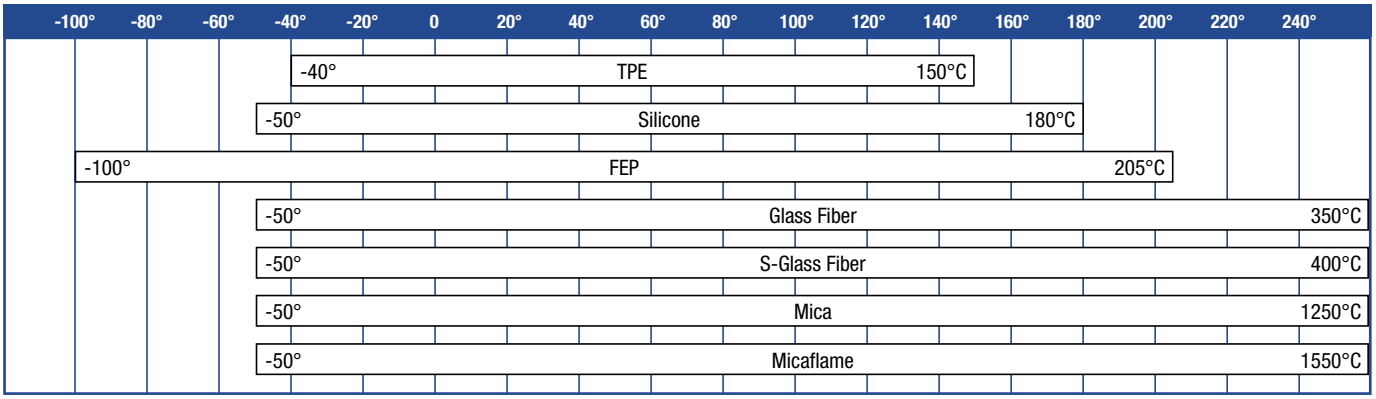
| Specifications | | | Cable Series* 9925 | 9608 | 9533 | 9939 |
|---|---|---|---|---|---|---|
| Conductor Size: (AWG) | | 28 | | | | |
| | | 24 | ✓ | ✓ | ✓ | |
| | | 22 | | | | ✓ |
| | | 20 | | | | |
| | | 18 | | | | |
| | | Page No. | 4.11 | 4.9 | 4.6 | 4.10 |
| Insulation: | S-R PVC | | | ✓ | ✓ | ✓ |
| | Polyethylene | | | | | |
| | Polypropylene | | | | | |
| | Datalene®† | | ✓ | | | |
| Shield: | Overall Foil | | | | ✓ | |
| | Drain Wire | | ✓ | | ✓ | |
| | Overall Foil/Braid | | ✓ | ✓ | | ✓ |
| | Braid Coverage | | 65% | 65% | | 65% |
| Drain Wire Overall: | | | Yes | No | Yes | No |
| No. of Cond. Available: | | 1 | | | | |
| | | 2 | | | | |
| | | 3 | ✓ | ✓ | ✓ | ✓ |
| | | 4 | ✓ | ✓ | ✓ | ✓ |
| | | 5 | ✓ | ✓ | ✓ | ✓ |
| | | 6 | ✓ | ✓ | ✓ | ✓ |
| | | 7 | ✓ | ✓ | ✓ | ✓ |
| | | 8 | ✓ | ✓ | ✓ | ✓ |
| | | 9 | ✓ | ✓ | ✓ | ✓ |
| | | 10 | ✓ | ✓ | ✓ | ✓ |
| | | 11 | | | | |
| | | 12 | | | | |
| | | 13 | | | | |
| | | 15 | ✓ | ✓ | ✓ | ✓ |
| | | 17 | | | | |
| | | 18 | | | | |
| | | 19 | | | | |
| | | 20 | | | ✓ | |
| | | 25 | ✓ | ✓ | ✓ | ✓ |
| | | 27 | | | | |
| | | 30 | | | ✓ | |
| | | 31 | | | | |
| | | 37 | ✓ | ✓ | | ✓ |
| | | 40 | | | ✓ | |
| | | 50 | | ✓ | ✓ | ✓ |
| Capacitance** (pF/m) | | | 39.4 | 98.4 | 98.4 | 114.8 |

* All cables are UL-Listed.
** Capacitance may vary on some cables.
† Foam high density polyethylene.

# Introduction

To assist you in selecting the proper cable for your application, both the suggested working voltages and the maximum temperature ratings are indicated for each applicable product in this section.

### Extended Temperature and Chemical Resistant Cable Range
### Nominal Temperature Operating Ranges (°C)




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| | Silicone Rubber FRNC 2-30 Conductors Heavy Duty | 4.25 – 4.26 |
| | Silicone Rubber FRNC 2-30 Conductors Heavy Duty Overall Braid | 4.27 – 4.28 |
| **300V, 205°C** | FEP 2-7 Conductors | 4.29 |
| **300V, 350°C** | Glass Fiber Serving 2-4 Conductors Glass Braid | 4.31 |
| | Glass Fiber Serving 2-4 Conductors Glass Braid Steel Wire Braid (SWB) | 4.32 |
| **300V, 1150°C** | Micaflame® 2-5 Conductors Glass Braid | 4.34 |
| **380V, 1250°C** | Mica 2-5 Conductors Ceramic Braid Steel Wire Braid (SWB) | 4.33 |
| **450V, 75°C** | PVC 07BQ-F 2-4 Conductors | 4.38 |
| **500V, 80°C** | PVC LiY(St)CY 2-12 Conductors | 4.35 – 4.36 |
| **600V, 205°C** | FEP 2-7 Conductors Overall Braid | 4.30 |
| **750V, 80°C** | PVC LiY CY 1-10 Conductors | 4.37 – 4.38 |

# Unshielded

## Audio, Control and Instrumentation Cables
## Plenum-Rated and Non-Plenum

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Conductors Cabled | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 150V 80°C<br>UL AWM Style 2576 | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.060 | 1.52 | Unshielded | | | |
| | **8442** | 2 CDR* | 100<br>U-500<br>500<br>U-1000<br>1000<br>† 10000 | 31<br>U-152<br>152<br>U-305<br>305<br>3048 | 2.4<br>8.2<br>7.5<br>15.0<br>15.0<br>150.4 | 1.1<br>3.7<br>3.4<br>6.8<br>6.8<br>68.2 | | | | | 0.170 | 4.32 | Black, Red |
| | For Plenum version of 8442, see 88442 or 82442. | | | | | | | | | | | | |
| | **8443** | 3 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 2.6<br>9.5<br>9.5<br>18.1<br>18.1 | 1.2<br>4.3<br>4.3<br>8.2<br>8.2 | | | | | 0.172 | 4.37 | Black, Red, Green |
| | **8444** | 4 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.1<br>11.5<br>11.5<br>22.0<br>23.1 | 1.4<br>5.2<br>5.2<br>10.0<br>10.5 | | | | | 0.185 | 4.70 | see chart 1<br>(Tech Info Section) |
| | For Plenum version of 8444, see 88444 or 82444. | | | | | | | | | | | | |
| | **8445** | 5 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.5<br>13.4<br>13.4<br>25.1<br>26.0 | 1.6<br>6.1<br>6.1<br>11.4<br>11.8 | | | | | 0.194 | 4.93 | see chart 1<br>(Tech Info Section) |
| | **9430** | 7 CDR | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 17.0<br>17.0<br>32.0<br>35.1 | 7.7<br>7.7<br>14.5<br>15.9 | | | | | 0.214 | 5.44 | see chart 1<br>(Tech Info Section) |
| | **9421** | 8 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 4.2<br>19.2<br>18.5<br>35.9<br>37.9 | 1.9<br>8.7<br>8.4<br>16.3<br>17.2 | | | | | 0.229 | 5.82 | see chart 1<br>(Tech Info Section) |
| | **9423** | 9 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 4.6<br>21.2<br>21.6<br>41.0<br>43.0 | 2.1<br>9.6<br>9.8<br>18.6<br>19.5 | | | | | 0.244 | 6.20 | see chart 1<br>(Tech Info Section) |
| | **8456** | 10 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 5.1<br>22.5<br>23.1<br>44.1<br>46.1 | 2.3<br>10.2<br>10.5<br>20.0<br>20.9 | | | | | 0.264 | 6.71 | see chart 1<br>(Tech Info Section) |
| **18 AWG** • Stranded (19x30) 1.2 mm Tinned Copper • Conductors Cabled | | | | | | | | | | | | | |
| **Plenum • FEP Insulation • Natural Flamarrest® Jacket** | | | | | | | | | | | | | |
| Non-conduit | **82489** | NEC:<br>CMP<br>CEC:<br>CMP FT6 | † U-1000<br>† 1000 | U-305<br>305 | 31.1<br>29.1 | 14.1<br>13.2 | 1.24 mm<br>18 AWG<br>(19x30) TC | 0.063 | 1.60 | Unshielded | 0.170 | 4.32 | Black, White, Red, Green |

4-Conductor

TC = Tinned Copper • DCR = DC resistance
† Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel® from length shown.
* Twisted Pair

# Unshielded
## Duplex Primary Wire

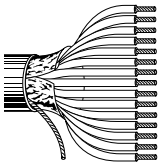
| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | |
| **Duplex Primary Wire** Stranded Bare Copper • Conductors Parallel | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 300V RMS 75°C VW-1 | | | | | | | | | | Unshielded | | | Brown, Red |
|  | | | | | | | | | | | | | |
| | **8677** | 2 CDR | 500 | 152 | 18.5 | 8.4 | 1.47 mm 16 AWG (19x29) BC | 0.106 | 2.69 | | 0.149 x 0.254 | 3.78 x 6.45 | |
| | **8675** | 2 CDR | 500 | 152 | 23.6 | 10.7 | 1.85 mm 14 AWG (19x27) BC | 0.119 | 3.01 | | 0.168 x 0.290 | 4.27 x 7.37 | |
| | **8673** | 2 CDR | 500 | 152 | 32.6 | 14.8 | 2.36 mm 12 AWG (19x25) BC | 0.145 | 3.68 | | 0.186 x 0.328 | 4.72 x 8.33 | |
| | **8678** | 2 CDR | 500 | 152 | 50.9 | 23.1 | 2.9 mm 10 AWG (19x23) BC | 0.176 | 4.48 | | 0.225 x 0.400 | 5.72 x 10.16 | |

BC = Bare Copper • DCR = DC resistance

# Overall Beldfoil® Shield

## Computer Cables for EIA RS-232 Applications

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Conductors Cabled • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | |
| **Semi-Rigid PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464 | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.044 | 1.11 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | | | – | | | | see chart 1<br>(Tech Info Section) |
| | **9533** | 3 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 2.6<br>9.5<br>9.0<br>18.1<br>18.1 | 1.2<br>4.3<br>4.1<br>8.2<br>8.2 | | | | | 0.162 | 4.11 | | CDR/CDR<br>CDR/SCR | 33<br>65 | 108<br>213 | |
| | **9534** | 4 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.1<br>11.0<br>11.5<br>20.9<br>22.0 | 1.4<br>5.0<br>5.2<br>9.5<br>10.0 | | | | | 0.184 | 4.67 | | CDR/CDR<br>CDR/SCR | 33<br>65 | 108<br>213 | |
| | **9535** | 5 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.3<br>11.9<br>11.0<br>22.9<br>22.0 | 1.5<br>5.4<br>5.0<br>10.4<br>10.0 | | | | | 0.189 | 4.80 | | CDR/CDR<br>CDR/SCR | 33<br>65 | 108<br>213 | |
| | **9536** | 6 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.5<br>14.6<br>12.6<br>27.1<br>29.1 | 1.6<br>6.6<br>5.7<br>12.3<br>13.2 | | | | | 0.209 | 5.31 | | CDR/CDR<br>CDR/SCR | 33<br>65 | 108<br>213 | |
| | **9537** | 7 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.7<br>15.0<br>13.7<br>29.1<br>30.2 | 1.7<br>6.8<br>6.2<br>13.2<br>13.7 | | | | | 0.209 | 5.31 | | CDR/CDR<br>CDR/SCR | 33<br>65 | 108<br>213 | |
| | **9538** | 8 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.7<br>17.0<br>15.0<br>32.2<br>34.0 | 1.7<br>7.7<br>6.8<br>14.6<br>15.4 | | | | | 0.224 | 5.69 | | CDR/CDR<br>CDR/SCR | 33<br>65 | 108<br>213 | |
| | **9539** | 9 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 4.2<br>20.1<br>17.2<br>37.3<br>38.1 | 1.9<br>9.1<br>7.8<br>16.9<br>17.3 | | | | | 0.244 | 6.20 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9540** | 10 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 4.4<br>19.6<br>18.1<br>37.9<br>36.2 | 2.0<br>8.9<br>8.2<br>17.2<br>16.4 | | | | | 0.244 | 6.20 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |



TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Beldfoil® Shield

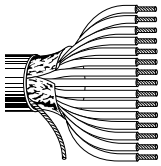
## Computer Cables for EIA RS-232 Applications

**24 AWG** • Stranded (7x32) 0.6 mm TC • Conductors Cabled • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire *(continued)*

**Semi-Rigid PVC Insulation • Chrome PVC Jacket**

300V 80°C
UL AWM Style 2464

NEC:
CMG
CEC:
CMG FT4



0.61 mm
24 AWG
(7x32) TC

0.044 1.11

Overall
Beldfoil®
+ Drain Wire
(24 AWG TC)

–

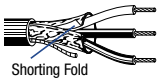
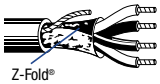
see chart 2R
(Tech Info Section)

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **9541** | 15 CDR | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 6.0<br>27.6<br>28.0<br>54.0<br>56.0 | 2.7<br>12.5<br>12.7<br>24.5<br>25.4 | | | | | 0.284 | 7.21 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9542** | 20 CDR | 100<br>U-500<br>500<br>1000 | 31<br>U-152<br>152<br>305 | 7.3<br>34.0<br>35.5<br>69.0 | 3.3<br>15.4<br>16.1<br>31.3 | | | | | 0.314 | 7.98 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9543** | 25 CDR | 100<br>500<br>1000 | 31<br>152<br>305 | 8.8<br>44.1<br>86.0 | 4.0<br>20.0<br>39.0 | | | | | 0.339 | 8.61 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9544** | 30 CDR | 100<br>500<br>1000 | 31<br>152<br>305 | 10.4<br>51.6<br>102.1 | 4.7<br>23.4<br>46.3 | | | | | 0.380 | 9.65 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9545** | 40 CDR | 100<br>500<br>1000 | 31<br>152<br>305 | 13.4<br>65.0<br>130.1 | 6.1<br>29.5<br>59.0 | | | | | 0.430 | 10.92 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9546** | 50 CDR | 100<br>500<br>1000 | 31<br>152<br>305 | 16.3<br>81.6<br>168.2 | 7.4<br>37.0<br>76.3 | | | | | 0.490 | 12.45 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Beldfoil® Shield

## Audio, Control and Instrumentation Cables

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • Conductors Cabled • Overall **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2093 | **8772** | NEC:<br>CM<br>CEC:<br>CM | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 16.1<br>16.1<br>31.1<br>32.0 | 7.3<br>7.3<br>14.1<br>14.5 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.070 | 1.78 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | 0.218 | 5.54 | – | CDR/CDR<br>CDR/SCR | 27<br>51 | 89<br>167 | Black, Red, Clear |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | |
| 3 CDR | | | | | | | | | | | | | | | | | |
| **18 AWG** • Stranded (16x30) 1.2 mm Tinned Copper • Conductors Cabled • Overall **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2093 | **8770** | NEC:<br>CM<br>CEC:<br>CM<br>†† 10000 | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305<br>3048 | 20.1<br>20.5<br>37.9<br>40.1<br>431.0 | 9.1<br>9.3<br>17.2<br>18.2<br>195.5 | 1.20 mm<br>18 AWG<br>(16x30) TC | 0.083 | 2.12 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | 0.246 | 6.25 | – | CDR/CDR<br>CDR/SCR | 24<br>48 | 79<br>157 | Black, Red, Clear |
|  <br>Shorting Fold | | | | | | | | | | | | | | | | | |
| For Plenum version of 8770, see 88770. | | | | | | | | | | | | | | | | | |
| 3 CDR | | | | | | | | | | | | | | | | | |
| **18 AWG** • Stranded (19x30) 1.2 mm Tinned Copper • Conductors Cabled • Overall **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | |
| **Semi-Rigid PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464 | **9418** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | 100<br>U-500<br>500<br>U-1000<br>1000<br>†† 10000 | 31<br>U-152<br>152<br>U-305<br>305<br>3048 | 5.7<br>18.1<br>24.5<br>35.3<br>52.2<br>509.9 | 2.6<br>8.2<br>11.1<br>16.0<br>23.7<br>231.3 | 1.24 mm<br>18 AWG<br>(19x30) TC | 0.069 | 1.74 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | 0.245 | 6.22 | – | CDR/CDR<br>CDR/SCR | 70<br>120 | 230<br>394 | Red, Green, Black, White |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | |
| For Plenum versions of 9418, see 89418 or 82418. | | | | | | | | | | | | | | | | | |
| 4 CDR | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
†† Final put-up may vary -10% to +20%. May contain 2 pieces. Min. length 460 m.

# Overall Foil / Braid Shield

## Computer Cables for EIA RS-232 Applications

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded Conductors (7x32) 0.6 mm Tinned Copper • Overall **Beldfoil®** Shield + 65 % Tinned Copper Braid | | | | | | | | | | | | | | | | | |
| **Semi-Rigid PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464 | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.044 | 1.12 | Overall<br>Beldfoil®<br>+ Overall<br>65 % TC Braid | | | – | | | | |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | |
| **9608** | 3 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 3.1<br>11.9<br>22.9 | 1.4<br>5.4<br>10.4 | | | | | 0.190 | 4.83 | | CDR/CDR<br>CDR/SCR | 35<br>65 | 115<br>213 | see chart 1<br>(Tech Info Section) |
| **9609** | 4 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 3.5<br>13.4<br>26.0 | 1.6<br>6.1<br>11.8 | | | | | 0.200 | 5.08 | | CDR/CDR<br>CDR/SCR | 35<br>65 | 115<br>213 | see chart 1<br>(Tech Info Section) |
| **9610** | 5 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 4.0<br>16.1<br>32.0 | 1.8<br>7.3<br>14.5 | | | | | 0.215 | 5.46 | | CDR/CDR<br>CDR/SCR | 35<br>65 | 115<br>213 | see chart 1<br>(Tech Info Section) |
| **9611** | 6 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 4.2<br>17.0<br>34.0 | 1.9<br>7.7<br>15.4 | | | | | 0.225 | 5.72 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | see chart 1<br>(Tech Info Section) |
| **9612** | 7 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 4.2<br>18.5<br>38.1 | 1.9<br>8.4<br>17.3 | | | | | 0.225 | 5.72 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | see chart 1<br>(Tech Info Section) |
| **9613** | 8 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 4.4<br>20.9<br>41.0 | 2.0<br>9.5<br>18.6 | | | | | 0.240 | 6.10 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 88<br>180 | see chart 1<br>(Tech Info Section) |
| **9614** | 9 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 4.9<br>22.0<br>44.1 | 2.2<br>10.0<br>20.0 | | | | | 0.253 | 6.43 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | see chart 1<br>(Tech Info Section) |
| **9615** | 10 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 5.5<br>25.1<br>50.0 | 2.5<br>11.4<br>22.7 | | | | | 0.270 | 6.86 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | see chart 1<br>(Tech Info Section) |
| **9616** | 15 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 6.6<br>31.5<br>63.1 | 3.0<br>14.3<br>28.6 | | | | | 0.300 | 7.62 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | see chart 2R<br>(Tech Info Section) |
| **9617** | 25 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 10.1<br>49.6<br>100.1 | 4.6<br>22.5<br>45.4 | | | | | 0.370 | 9.40 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | see chart 2R<br>(Tech Info Section) |
| **9618** | 37 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 13.2<br>66.6<br>135.1 | 6.0<br>30.2<br>61.3 | | | | | 0.411 | 10.43 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | see chart 2R<br>(Tech Info Section) |
| **9619** | 50 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 17.2<br>93.0<br>182.1 | 7.8<br>42.2<br>82.6 | | | | | 0.485 | 12.32 | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | see chart 2R<br>(Tech Info Section) |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Foil / Braid Shield

## Computer Cables for EIA RS-232 Applications

**22 AWG** • Stranded Conductors (7x30) 0.8 mm Tinned Copper • Overall **Beldfoil®** Shield + 65 % Tinned Copper Braid

**Semi-Rigid PVC Insulation • Chrome PVC Jacket**

300V 80°C
UL AWM Style 2464

NEC:
CMG
CEC:
CMG FT4



Z-Fold®

0.76 mm
22 AWG
(7x30) TC

0.051 1.30

Overall
Beldfoil®
+ Overall
65 % TC Braid

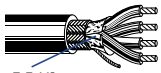
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| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **9939** | 3 CDR | 100 | 31 | 3.5 | 1.6 | | | | | 0.202 | 5.13 | | CDR/CDR | 37 | 121 | see chart 1 |
| | | | 500 | 152 | 12.1 | 5.5 | | | | | | | | CDR/SCR | 67 | 220 | (Tech Info Section) |
| | | | 1000 | 305 | 24.0 | 10.9 | | | | | | | | | | | |
| | **9940** | 4 CDR | 100 | 31 | 4.0 | 1.8 | | | | | 0.215 | 5.46 | | CDR/CDR | 37 | 121 | see chart 1 |
| | | | 500 | 152 | 14.6 | 6.6 | | | | | | | | CDR/SCR | 67 | 220 | (Tech Info Section) |
| | | | 1000 | 305 | 32.0 | 14.5 | | | | | | | | | | | |
| | **9941** | 5 CDR | 100 | 31 | 4.0 | 1.8 | | | | | 0.230 | 5.84 | | CDR/CDR | 37 | 121 | see chart 1 |
| | | | 500 | 152 | 16.1 | 7.3 | | | | | | | | CDR/SCR | 67 | 220 | (Tech Info Section) |
| | | | 1000 | 305 | 38.1 | 17.3 | | | | | | | | | | | |
| | **9942** | 6 CDR | 100 | 31 | 4.6 | 2.1 | | | | | 0.245 | 6.22 | | CDR/CDR | 35 | 115 | see chart 1 |
| | | | 500 | 152 | 22.0 | 10.0 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 43.0 | 19.5 | | | | | | | | | | | |
| | **9943** | 7 CDR | 100 | 31 | 5.1 | 2.3 | | | | | 0.245 | 6.22 | | CDR/CDR | 35 | 115 | see chart 1 |
| | | | 500 | 152 | 23.8 | 10.8 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 46.1 | 20.9 | | | | | | | | | | | |
| | **9944** | 8 CDR | 100 | 31 | 5.5 | 2.5 | | | | | 0.260 | 6.60 | | CDR/CDR | 35 | 115 | see chart 1 |
| | | | 500 | 152 | 26.0 | 11.8 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 52.0 | 23.6 | | | | | | | | | | | |
| | **9945** | 9 CDR | 100 | 31 | 6.2 | 2.8 | | | | | 0.280 | 7.11 | | CDR/CDR | 35 | 115 | see chart 1 |
| | | | 500 | 152 | 28.4 | 12.9 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 57.1 | 25.9 | | | | | | | | | | | |
| | **9946** | 10 CDR | 100 | 31 | 6.6 | 3.0 | | | | | 0.300 | 7.62 | | CDR/CDR | 35 | 115 | see chart 1 |
| | | | 500 | 152 | 31.5 | 14.3 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 61.9 | 28.1 | | | | | | | | | | | |
| | **9947** | 15 CDR | 100 | 31 | 8.8 | 4.0 | | | | | 0.340 | 8.64 | | CDR/CDR | 35 | 115 | see chart 2R |
| | | | 500 | 152 | 42.5 | 19.3 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 83.1 | 37.7 | | | | | | | | | | | |
| | **9948** | 25 CDR | 100 | 31 | 13.3 | 6.0 | | | | | 0.410 | 10.41 | | CDR/CDR | 35 | 115 | see chart 2R |
| | | | 500 | 152 | 66.6 | 30.2 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 132.1 | 59.9 | | | | | | | | | | | |
| | **9949** | 37 CDR | 100 | 31 | 16.1 | 7.3 | | | | | 0.460 | 11.68 | | CDR/CDR | 35 | 115 | see chart 2R |
| | | | 500 | 152 | 87.5 | 39.7 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 180.1 | 81.7 | | | | | | | | | | | |
| | **9950** | 50 CDR | 100 | 31 | 25.1 | 11.4 | | | | | 0.555 | 14.10 | | CDR/CDR | 35 | 115 | see chart 2R |
| | | | 500 | 152 | 118.2 | 53.6 | | | | | | | | CDR/SCR | 63 | 207 | (Tech Info Section) |
| | | | 1000 | 305 | 238.3 | 108.1 | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Foil/Braid Shield

## Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-423 Applications

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded Conductors (7x32) 0.6 mm Tinned Copper • Overall **Beldfoil®** Shield + 65% Tinned Copper Braid • 24 AWG TC Drain Wire | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.053 | 1.35 | Overall<br>Beldfoil®<br>+ Overall<br>65% TC Braid<br>+ Drain Wire<br>(24 AWG TC) | | | 78% | | | | |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | |
| **9925** | 3 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 3.5<br>12.1<br>24.0 | 1.6<br>5.5<br>10.9 | | | | | 0.215 | 5.46 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 1<br>(Tech Info Section) |
| **9927** | 4 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 3.5<br>14.6<br>32.0 | 1.6<br>6.6<br>14.5 | | | | | 0.230 | 5.84 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 1<br>(Tech Info Section) |
| **9929** | 5 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 4.0<br>16.1<br>35.9 | 1.8<br>7.3<br>16.3 | | | | | 0.246 | 6.25 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 1<br>(Tech Info Section) |
| **9931** | 6 CDR | | 100<br>500<br>1000<br>10000 | 31<br>152<br>305<br>3048 | 4.2<br>17.6<br>39.0<br>410.3 | 1.9<br>8.0<br>17.7<br>186.1 | | | | | 0.265 | 6.73 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 1<br>(Tech Info Section) |
| **9932** | 7 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 4.4<br>18.5<br>41.0 | 2.0<br>8.4<br>18.6 | | | | | 0.265 | 6.73 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 1<br>(Tech Info Section) |
| **9633** | 8 CDR | | 100<br>500<br>1000<br>10000 | 31<br>152<br>305<br>3048 | 4.9<br>21.2<br>46.1<br>480.4 | 2.2<br>9.6<br>20.9<br>217.9 | | | | | 0.280 | 7.11 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 1<br>(Tech Info Section) |
| **9934** | 9 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 5.3<br>22.0<br>48.1 | 2.4<br>10.0<br>21.8 | | | | | 0.300 | 7.62 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 1<br>(Tech Info Section) |
| **9935** | 10 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 5.7<br>28.0<br>53.1 | 2.6<br>12.7<br>24.1 | | | | | 0.306 | 7.77 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 1<br>(Tech Info Section) |
| **9636** | 15 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 7.3<br>35.1<br>68.1 | 3.3<br>15.9<br>30.9 | | | | | 0.350 | 8.89 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 2R<br>(Tech Info Section) |
| **9937** | 25 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 9.9<br>54.7<br>108.0 | 4.5<br>24.8<br>49.0 | | | | | 0.445 | 11.30 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 2R<br>(Tech Info Section) |
| **9938** | 37 CDR | | 100<br>500<br>1000 | 31<br>152<br>305 | 13.0<br>71.6<br>139.1 | 5.9<br>32.5<br>63.1 | | | | | 0.500 | 12.70 | | CDR/CDR<br>CDR/SCR | 12<br>22 | 39<br>72 | see chart 2R<br>(Tech Info Section) |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Foil / Braid Shield

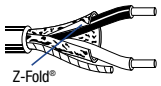
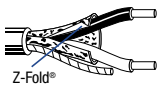
## Audio, Control and Instrumentation Cables

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded Conductors (7x32) 0.6 mm Tinned Copper • Conductors Cabled • Overall **Beldfoil®** Shield + 85 % Tinned Copper Braid | | | | | | | | | | | | | | | | | |
| **Plenum • FEP Insulation • Red FEP Jacket** | | | | | | | | | | | | | | | | | |
| 300V RMS Non-conduit | | NEC: CMP CEC: CMP FT6 | | | | | 0.61 mm 24 AWG (7x32) TC | 0.036 | 0.91 | Overall Beldfoil® + Overall 85 % TC Braid | | | – | | | | see chart 2 (Tech Info Section) |
|  | | | | | | | | | | | | | | | | | |
| **83503** | 3 CDR | † 500<br>† 1000 | 152<br>305 | 9.5<br>16.1 | 4.3<br>7.3 | | | | | | 0.135 | 3.43 | | CDR/CDR<br>CDR/SCR | 20<br>36 | 66<br>118 | |
| **83504** | 4 CDR | 100<br>† 500<br>† 1000 | 31<br>152<br>305 | 3.5<br>10.1<br>20.1 | 1.6<br>4.6<br>9.1 | | | | | | 0.144 | 3.66 | | CDR/CDR<br>CDR/SCR | 20<br>36 | 66<br>118 | |
| **83506** | 6 CDR | † 500<br>† 1000 | 152<br>305 | 13.2<br>26.2 | 6.0<br>11.9 | | | | | | 0.165 | 4.19 | | CDR/CDR<br>CDR/SCR | 20<br>36 | 66<br>118 | |
| **22 AWG** • Stranded Conductors (7x30) 0.8 mm Tinned Copper • Conductors Cabled • Overall **Beldfoil®** Shield + 85 % Tinned Copper Braid | | | | | | | | | | | | | | | | | |
| **Plenum • FEP Insulation • Red FEP Jacket** | | | | | | | | | | | | | | | | | |
| 300V RMS Non-conduit | | NEC: CMP CEC: CMP FT6 | | | | | 0.76 mm 22 AWG (7x30) TC | 0.042 | 1.06 | Overall Beldfoil® + Overall 85 % TC Braid | | | – | | | | see chart 2 (Tech Info Section) |
|  | | | | | | | | | | | | | | | | | |
| **83552** | 2 CDR | † 500<br>† 1000 | 152<br>305 | 8.2<br>16.1 | 3.7<br>7.3 | | | | | | 0.141 | 3.58 | | CDR/CDR<br>CDR/SCR | 23<br>40 | 75<br>131 | |
| **83553** | 3 CDR | 100<br>† 500<br>† 1000 | 31<br>152<br>305 | 3.5<br>11.5<br>20.1 | 1.6<br>5.2<br>9.1 | | | | | | 0.148 | 3.76 | | CDR/CDR<br>CDR/SCR | 23<br>40 | 75<br>131 | |
| **83554** | 4 CDR | 100<br>† 500<br>† 1000 | 31<br>152<br>305 | 4.0<br>12.6<br>25.1 | 1.8<br>5.7<br>11.4 | | | | | | 0.159 | 4.04 | | CDR/CDR<br>CDR/SCR | 23<br>40 | 75<br>131 | |
| **83556** | 6 CDR | 100<br>† 500<br>† 1000 | 31<br>152<br>305 | 5.3<br>16.5<br>35.9 | 2.4<br>7.5<br>16.3 | | | | | | 0.183 | 4.65 | | CDR/CDR<br>CDR/SCR | 23<br>40 | 75<br>131 | |
| **83559** | 9 CDR | 100<br>† 500<br>† 1000 | 31<br>152<br>305 | 6.8<br>23.1<br>50.0 | 3.1<br>10.5<br>22.7 | | | | | | 0.209 | 5.31 | | CDR/CDR<br>CDR/SCR | 23<br>40 | 75<br>131 | |
| **83562** | 12 CDR | † 500<br>† 1000 | 152<br>305 | 28.7<br>60.0 | 13.0<br>27.2 | | | | | | 0.234 | 5.94 | | CDR/CDR<br>CDR/SCR | 23<br>40 | 75<br>131 | |
| **83569** | 19 CDR | 100<br>† 500<br>† 1000 | 31<br>152<br>305 | 9.7<br>44.1<br>85.1 | 4.4<br>20.0<br>38.6 | | | | | | 0.269 | 6.83 | | CDR/CDR<br>CDR/SCR | 23<br>40 | 75<br>131 | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Spools are one piece, but length may vary ± 10% from length shown.

# Fire Alarm

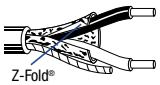
## Power-Limited Fire Protective Signaling Circuit Cables
## Subject 1424 (NEC Article 760, Type FPLR)

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Solid 1.0 mm Bare Copper • Conductors Cabled | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C UL AWM Style 2464 & 1424 | **9571** | NEC: MPR, FPLR CEC: FAS 105 FT4 | U-500 U-1000 | U-152 U-305 | 14.6 28.0 | 6.6 12.7 | 1.02 mm 18 AWG Solid BC | 0.074 | 1.88 | Unshielded | 0.228 | 5.79 | Black, Red |
|  2 CDR | | | | | | | | | | | | | |
| **18 AWG** • Solid 1.0 mm Bare Copper • Conductors Cabled • Overall **Beldfoil®** Shield • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C UL AWM Style 2464 & 1424 | | NEC: MPR, FPLR CEC: FAS 105 FT4 | | | | | 1.02 mm 18 AWG Solid BC | 0.074 | 1.88 | Overall Beldfoil® + Drain Wire (22 AWG TC) | | | |
|  Z-Fold® | | | | | | | | | | | | | |
| | **9574** | 2 CDR | U-500 U-1000 | U-152 U-305 | 16.1 31.1 | 7.3 14.1 | | | | | 0.231 | 5.87 | Black, Red |
| | **9578** | 4 CDR | U-500 1000 | U-152 305 | 25.6 51.1 | 11.6 23.2 | | | | | 0.263 | 6.68 | Black, Red, Yellow, Light Blue |
| **16 AWG** • Solid 1.3 mm Bare Copper • Conductors Cabled | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C UL AWM Style 2464 & 1424 | **9572** | NEC: MPR, FPLR CEC: FAS 105 FT4 | U-500 U-1000 | U-152 U-305 | 18.1 35.1 | 8.2 15.9 | 1.29 mm 16 AWG Solid BC | 0.087 | 2.21 | Unshielded | 0.250 | 6.35 | Black, Red |
|  2 CDR | | | | | | | | | | | | | |
| **16 AWG** • Solid 1.3 mm Bare Copper • Conductors Cabled • Overall **Beldfoil®** Shield • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C UL AWM Style 2464 & 1424 | | NEC: MPR, FPLR CEC: FAS 105 FT4 | | | | | 1.29 mm 16 AWG Solid BC | 0.087 | 2.21 | Overall Beldfoil® + Drain Wire (22 AWG TC) | | | |
|  Z-Fold® | | | | | | | | | | | | | |
| | **9575** | 2 CDR | U-500 U-1000 | U-152 U-305 | 20.1 39.0 | 9.1 17.7 | | | | | 0.253 | 6.43 | Black, Red |
| | **9579** | 4 CDR | U-500 1000 | U-152 305 | 35.5 72.1 | 16.1 32.7 | | | | | 0.301 | 7.65 | Black, Red, Yellow, Light Blue |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Fire Alarm

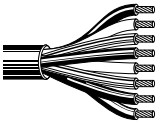
## Power-Limited Fire Protective Signaling Circuit Cables
## Subject 1424 (NEC Article 760, Type FPLR)

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | |
| **14 AWG** • Solid 1.6 mm Bare Copper • Conductors Cabled | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C UL Style 1424 | **9580** | NEC: FPLR CEC: FAS 105 FT4 | U-500 1000 | U-152 305 | 27.1 54.0 | 12.3 24.5 | 1.63 mm 14 AWG Solid BC | 0.108 | 2.75 | Unshielded | 0.306 | 7.77 | Black, Red |
|  2 CDR | | | | | | | | | | | | | |
| **14 AWG** • Solid 1.6 mm Bare Copper • Conductors Cabled • Overall **Beldfoil®** Shield • 16 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C UL Style 1424 | **9581** | NEC: FPLR CEC: FAS 105 FT4 | U-500 1000 | U-152 305 | 32.4 65.0 | 14.7 29.5 | 1.63 mm 14 AWG Solid BC | 0.108 | 2.75 | Overall Beldfoil® + Drain Wire (16 AWG TC) | 0.306 | 7.77 | Black, Red |
|  2 CDR | | | | | | | | | | | | | |
| **12 AWG** • Solid 2.1 mm Bare Copper • Conductors Cabled | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C UL Style 1424 | **9582** | NEC: FPLR CEC: FAS 105 FT4 | 1000 | 305 | 75.2 | 34.1 | 2.05 mm 12 AWG Solid BC | 0.125 | 3.17 | Unshielded | 0.340 | 8.64 | Black, Red |
|  2 CDR | | | | | | | | | | | | | |
| **12 AWG** • Solid 2.1 mm Bare Copper • Conductors Cabled • Overall **Beldfoil®** Shield • 16 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C UL Style 1424 | **9583** | NEC: FPLR CEC: FAS 105 FT4 | 1000 | 305 | 85.1 | 38.6 | 2.05 mm 12 AWG Solid BC | 0.125 | 3.17 | Overall Beldfoil® + Drain Wire (16 AWG TC) | 0.343 | 8.71 | Black, Red |
|  Z-Fold® 2 CDR | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# TPE
## Multicore Cables
## 300V, 150°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **150°C • 18 - 16 AWG** • Stranded Tinned Copper | | | | | | | | | | | | | |
| **TPE Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Black TPE Jacket** | | | | | | | | | | | | | |
| | | | | | | | | | | Unshielded | | | - Traffic and automotive<br>- Installations in buildings<br>- Instrumentation engineering<br>- Robotics<br>- Tool and mechanical engineering |



Also available on request with Bare Copper conductor for 135°C.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HMC0001** | 2 | 1640 | 500 | 32.0 | 14.5 | (24x0.20) TC | 18 | 0.75 | | 0.165 | 4.20 | |
| **HMC0002** | 3 | 1640 | 500 | 39.7 | 18.0 | (24x0.20) TC | 18 | 0.75 | | 0.177 | 4.50 | |
| **HMC0003** | 4 | 1640 | 500 | 51.8 | 23.5 | (24x0.20) TC | 18 | 0.75 | | 0.201 | 5.10 | |
| **HMC0004** | 5 | 1640 | 500 | 65.0 | 29.5 | (24x0.20) TC | 18 | 0.75 | | 0.220 | 5.60 | |
| **HMC0005** | 7 | 1640 | 500 | 82.7 | 37.5 | (24x0.20) TC | 18 | 0.75 | | 0.240 | 6.10 | |
| **HMC0006** | 2 | 1640 | 500 | 40.8 | 18.5 | (32x0.20) TC | 17 | 1.00 | | 0.189 | 4.80 | |
| **HMC0007** | 3 | 1640 | 500 | 51.8 | 23.5 | (32x0.20) TC | 17 | 1.00 | | 0.201 | 5.10 | |
| **HMC0008** | 4 | 1640 | 500 | 63.9 | 29.0 | (32x0.20) TC | 17 | 1.00 | | 0.217 | 5.50 | |
| **HMC0009** | 5 | 1640 | 500 | 77.2 | 35.0 | (32x0.20) TC | 17 | 1.00 | | 0.240 | 6.10 | |
| **HMC0010** | 7 | 1640 | 500 | 105.8 | 48.0 | (32x0.20) TC | 17 | 1.00 | | 0.268 | 6.80 | |
| **HMC0011** | 2 | 1640 | 500 | 52.9 | 24.0 | (30x0.25) TC | 16 | 1.50 | | 0.209 | 5.30 | |
| **HMC0012** | 3 | 1640 | 500 | 68.3 | 31.0 | (30x0.25) TC | 16 | 1.50 | | 0.220 | 5.60 | |
| **HMC0013** | 4 | 1640 | 500 | 86.0 | 39.0 | (30x0.25) TC | 16 | 1.50 | | 0.244 | 6.20 | |
| **HMC0014** | 5 | 1640 | 500 | 110.2 | 50.0 | (30x0.25) TC | 16 | 1.50 | | 0.276 | 7.00 | |
| **HMC0015** | 7 | 1640 | 500 | 142.2 | 64.5 | (30x0.25) TC | 16 | 1.50 | | 0.299 | 7.60 | |

TC = Tinned Copper • DCR = DC resistance

# TPE
## Multicore Cables
## 300V, 150°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **150°C • 26 - 20 AWG** • Stranded Tinned Copper • Separator Foil • Overall Tinned Copper Braid | | | | | | | | | | | | | |
| **TPE Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Black TPE Jacket** | | | | | | | | | | | | | |
| | | | | | | | | | | Overall TC Braid | | | - Traffic and automotive<br>- Installations in buildings<br>- Instrumentation engineering<br>- Robotics<br>- Tool and mechanical engineering |
|  | | | | | | | | | | | | | |
| Also available on request with Bare Copper conductor for 135°C. | | | | | | | | | | | | | |
| | **HMC0016** | 2 | 1640 | 500 | 19.3 | 8.8 | (19x0.107) TC | 26 | 0.14 | | 0.138 | 3.50 | |
| | **HMC0017** | 3 | 1640 | 500 | 23.5 | 10.7 | (19x0.107) TC | 26 | 0.14 | | 0.146 | 3.70 | |
| | **HMC0018** | 4 | 1640 | 500 | 27.0 | 12.3 | (19x0.107) TC | 26 | 0.14 | | 0.157 | 4.00 | |
| | **HMC0019** | 5 | 1640 | 500 | 36.6 | 16.6 | (19x0.107) TC | 26 | 0.14 | | 0.169 | 4.30 | |
| | **HMC0020** | 6 | 1640 | 500 | 40.8 | 18.5 | (19x0.107) TC | 26 | 0.14 | | 0.189 | 4.80 | |
| | **HMC0021** | 7 | 1640 | 500 | 50.7 | 23.0 | (19x0.107) TC | 26 | 0.14 | | 0.189 | 4.80 | |
| | **HMC0022** | 2 | 1640 | 500 | 23.1 | 10.5 | (19x0.127) TC | 24 | 0.25 | | 0.150 | 3.80 | |
| | **HMC0023** | 3 | 1640 | 500 | 27.6 | 12.5 | (19x0.127) TC | 24 | 0.25 | | 0.157 | 4.00 | |
| | **HMC0024** | 4 | 1640 | 500 | 33.1 | 15.0 | (19x0.127) TC | 24 | 0.25 | | 0.169 | 4.30 | |
| | **HMC0025** | 5 | 1640 | 500 | 45.2 | 20.5 | (19x0.127) TC | 24 | 0.25 | | 0.193 | 4.90 | |
| | **HMC0026** | 6 | 1640 | 500 | 48.5 | 22.0 | (19x0.127) TC | 24 | 0.25 | | 0.205 | 5.20 | |
| | **HMC0027** | 7 | 1640 | 500 | 51.8 | 23.5 | (19x0.127) TC | 24 | 0.25 | | 0.205 | 5.20 | |
| | **HMC0028** | 2 | 1640 | 500 | 28.7 | 13.0 | (19x0.160) TC | 22 | 0.34 | | 0.161 | 4.10 | |
| | **HMC0029** | 3 | 1640 | 500 | 34.2 | 15.5 | (19x0.160) TC | 22 | 0.34 | | 0.169 | 4.30 | |
| | **HMC0030** | 4 | 1640 | 500 | 41.9 | 19.0 | (19x0.160) TC | 22 | 0.34 | | 0.189 | 4.80 | |
| | **HMC0031** | 5 | 1640 | 500 | 56.2 | 25.5 | (19x0.160) TC | 22 | 0.34 | | 0.209 | 5.30 | |
| | **HMC0032** | 6 | 1640 | 500 | 63.9 | 29.0 | (19x0.160) TC | 22 | 0.34 | | 0.220 | 5.60 | |
| | **HMC0033** | 7 | 1640 | 500 | 66.1 | 30.0 | (19x0.160) TC | 22 | 0.34 | | 0.220 | 5.60 | |
| | **HMC0034** | 2 | 1640 | 500 | 37.5 | 17.0 | (19x0.203) TC | 20 | 0.50 | | 0.177 | 4.50 | |
| | **HMC0035** | 3 | 1640 | 500 | 48.5 | 22.0 | (19x0.203) TC | 20 | 0.50 | | 0.193 | 4.90 | |
| | **HMC0036** | 4 | 1640 | 500 | 59.5 | 27.0 | (19x0.203) TC | 20 | 0.50 | | 0.209 | 5.30 | |
| | **HMC0037** | 5 | 1640 | 500 | 73.9 | 33.5 | (19x0.203) TC | 20 | 0.50 | | 0.228 | 5.80 | |
| | **HMC0038** | 6 | 1640 | 500 | 88.2 | 40.0 | (19x0.203) TC | 20 | 0.50 | | 0.248 | 6.30 | |
| | **HMC0039** | 7 | 1640 | 500 | 93.7 | 42.5 | (19x0.203) TC | 20 | 0.50 | | 0.248 | 6.30 | |

TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber

## Multicore Cables

## 300/500V, 180°C, peak temp 250°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 14 AWG** • Stranded Tinned Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Red-Brown FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Unshielded | | | Industrial areas with increased temperature requirements, e.g.<br>- Mechanical engineering<br>- Traffic technology<br>- Lighting industry<br>- Sauna and solarium<br>- Glass and ceramic fabrication<br>- Steel and iron fabrication |
| | | | | | | | | | | | | | |
| Also available on request with Bare Copper conductor for 135°C. | | | | | | | | | | | | | |
| **HMC0040** | | 2 | 1640 | 500 | 55.1 | 25.0 | (24x0.20) TC | 18 | 0.75 | | 0.240 | 6.10 | |
| **HMC0041** | | 3 | 1640 | 500 | 68.3 | 31.0 | (24x0.20) TC | 18 | 0.75 | | 0.260 | 6.60 | |
| **HMC0042** | | 4 | 1640 | 500 | 79.4 | 36.0 | (24x0.20) TC | 18 | 0.75 | | 0.283 | 7.20 | |
| **HMC0043** | | 5 | 1640 | 500 | 108.0 | 49.0 | (24x0.20) TC | 18 | 0.75 | | 0.319 | 8.10 | |
| **HMC0044** | | 2 | 1640 | 500 | 70.5 | 32.0 | (32x0.20) TC | 17 | 1.00 | | 0.260 | 6.60 | |
| **HMC0045** | | 3 | 1640 | 500 | 80.5 | 36.5 | (32x0.20) TC | 17 | 1.00 | | 0.276 | 7.00 | |
| **HMC0046** | | 4 | 1640 | 500 | 97.0 | 44.0 | (32x0.20) TC | 17 | 1.00 | | 0.299 | 7.60 | |
| **HMC0047** | | 5 | 1640 | 500 | 115.7 | 52.5 | (32x0.20) TC | 17 | 1.00 | | 0.335 | 8.50 | |
| **HMC0048** | | 2 | 1640 | 500 | 92.6 | 42.0 | (30x0.25) TC | 16 | 1.50 | | 0.307 | 7.80 | |
| **HMC0049** | | 3 | 1640 | 500 | 111.3 | 50.5 | (30x0.25) TC | 16 | 1.50 | | 0.323 | 8.20 | |
| **HMC0050** | | 4 | 1640 | 500 | 138.9 | 63.0 | (30x0.25) TC | 16 | 1.50 | | 0.358 | 9.10 | |
| **HMC0051** | | 5 | 1640 | 500 | 173.1 | 78.5 | (30x0.25) TC | 16 | 1.50 | | 0.394 | 10.00 | |
| **HMC0052** | | 2 | 1640 | 500 | 136.7 | 62.0 | (50x0.25) TC | 14 | 2.50 | | 0.362 | 9.20 | |
| **HMC0053** | | 3 | 1640 | 500 | 173.1 | 78.5 | (50x0.25) TC | 14 | 2.50 | | 0.382 | 9.70 | |
| **HMC0054** | | 4 | 1640 | 500 | 216.1 | 98.0 | (50x0.25) TC | 14 | 2.50 | | 0.425 | 10.80 | |
| **HMC0055** | | 5 | 1640 | 500 | 262.3 | 119.0 | (50x0.25) TC | 14 | 2.50 | | 0.472 | 12.0 | |

TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber

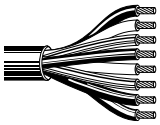
## Multicore Cables

## 300/500V, 180°C, peak temp 250°C

**180°C • 18 - 14 AWG** • Stranded Tinned Copper Wire

**Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Red-Brown FRNC/LSNH Jacket**

IEC 60754-1
VDE 0282
Part 1



Unshielded

Industrial areas with increased temperature requirements and VDE-approval, e.g.
- Mechanical engineering
- Traffic technology
- Lighting industry
- Sauna and solarium
- Glass and ceramic fabrication
- Steel and iron fabrication

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **HMC0056** | 6 | 1640 | 500 | 122.4 | 55.5 | (24x0.20) TC | 18 | 0.75 | | 0.343 | 8.70 | |
| | **HMC0057** | 7 | 1640 | 500 | 124.6 | 56.5 | (24x0.20) TC | 18 | 0.75 | | 0.343 | 8.70 | |
| | **HMC0058** | 8 | 1640 | 500 | 145.5 | 66.0 | (24x0.20) TC | 18 | 0.75 | | 0.378 | 9.60 | |
| | **HMC0059** | 10 | 1640 | 500 | 178.6 | 81.0 | (24x0.20) TC | 18 | 0.75 | | 0.429 | 10.90 | |
| | **HMC0060** | 12 | 1640 | 500 | 203.9 | 92.5 | (24x0.20) TC | 18 | 0.75 | | 0.449 | 11.40 | |
| | **HMC0061** | 14 | 1640 | 500 | 239.2 | 108.5 | (24x0.20) TC | 18 | 0.75 | | 0.492 | 12.50 | |
| | **HMC0062** | 16 | 1640 | 500 | 273.4 | 124.0 | (24x0.20) TC | 18 | 0.75 | | 0.520 | 13.20 | |
| | **HMC0063** | 18 | 1640 | 500 | 309.7 | 140.5 | (24x0.20) TC | 18 | 0.75 | | 0.555 | 14.10 | |
| | **HMC0064** | 20 | 1640 | 500 | 325.2 | 147.5 | (24x0.20) TC | 18 | 0.75 | | 0.571 | 14.50 | |
| | **HMC0065** | 24 | 1640 | 500 | 390.2 | 177.0 | (24x0.20) TC | 18 | 0.75 | | 0.634 | 16.10 | |
| | **HMC0066** | 25 | 1640 | 500 | 425.5 | 193.0 | (24x0.20) TC | 18 | 0.75 | | 0.673 | 17.10 | |
| | **HMC0067** | 6 | 1640 | 500 | 143.3 | 65.0 | (32x0.20) TC | 17 | 1.00 | | 0.374 | 9.50 | |
| | **HMC0068** | 7 | 1640 | 500 | 157.6 | 71.5 | (32x0.20) TC | 17 | 1.00 | | 0.374 | 9.50 | |
| | **HMC0069** | 8 | 1640 | 500 | 176.4 | 80.0 | (32x0.20) TC | 17 | 1.00 | | 0.402 | 10.20 | |
| | **HMC0070** | 10 | 1640 | 500 | 216.1 | 98.0 | (32x0.20) TC | 17 | 1.00 | | 0.457 | 11.60 | |
| | **HMC0071** | 12 | 1640 | 500 | 246.9 | 112.0 | (32x0.20) TC | 17 | 1.00 | | 0.484 | 12.30 | |
| | **HMC0072** | 14 | 1640 | 500 | 288.8 | 131.0 | (32x0.20) TC | 17 | 1.00 | | 0.531 | 13.50 | |
| | **HMC0073** | 16 | 1640 | 500 | 329.6 | 149.5 | (32x0.20) TC | 17 | 1.00 | | 0.559 | 14.20 | |
| | **HMC0074** | 18 | 1640 | 500 | 374.8 | 170.0 | (32x0.20) TC | 17 | 1.00 | | 0.598 | 15.20 | |
| | **HMC0075** | 20 | 1640 | 500 | 396.8 | 180.0 | (32x0.20) TC | 17 | 1.00 | | 0.614 | 15.60 | |
| | **HMC0076** | 24 | 1640 | 500 | 472.9 | 214.5 | (32x0.20) TC | 17 | 1.00 | | 0.681 | 17.30 | |
| | **HMC0077** | 25 | 1640 | 500 | 503.8 | 228.5 | (32x0.20) TC | 17 | 1.00 | | 0.724 | 18.40 | |
| | **HMC0078** | 6 | 1640 | 500 | 201.7 | 91.5 | (30x0.25) TC | 16 | 1.50 | | 0.437 | 11.10 | |
| | **HMC0079** | 7 | 1640 | 500 | 211.6 | 96.0 | (30x0.25) TC | 16 | 1.50 | | 0.437 | 11.10 | |
| | **HMC0080** | 8 | 1640 | 500 | 251.3 | 114.0 | (30x0.25) TC | 16 | 1.50 | | 0.480 | 12.20 | |
| | **HMC0081** | 10 | 1640 | 500 | 307.5 | 139.5 | (30x0.25) TC | 16 | 1.50 | | 0.543 | 13.80 | |
| | **HMC0082** | 12 | 1640 | 500 | 354.9 | 161.0 | (30x0.25) TC | 16 | 1.50 | | 0.567 | 14.40 | |
| | **HMC0083** | 14 | 1640 | 500 | 407.9 | 185.0 | (30x0.25) TC | 16 | 1.50 | | 0.618 | 15.70 | |
| | **HMC0084** | 16 | 1640 | 500 | 466.3 | 211.5 | (30x0.25) TC | 16 | 1.50 | | 0.661 | 16.80 | |
| | **HMC0085** | 18 | 1640 | 500 | 511.5 | 232.0 | (30x0.25) TC | 16 | 1.50 | | 0.697 | 17.70 | |

TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber

## Multicore Cables

## 300/500V, 180°C, peak temp 250°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 14 AWG** • Stranded Tinned Copper Wire *(continued)* | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Red-Brown FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Unshielded | | | Industrial areas with increased temperature requirements and VDE-approval, e.g.<br>- Mechanical engineering<br>- Traffic technology<br>- Lighting industry<br>- Sauna and solarium<br>- Glass and ceramic fabrication<br>- Steel and iron fabrication |
| **HMC0086** | 20 | 1640 | 500 | 565.5 | 256.5 | (30x0.25) TC | 16 | 1.50 | | 0.724 | 18.40 | |
| **HMC0087** | 24 | 1640 | 500 | 677.9 | 307.5 | (30x0.25) TC | 16 | 1.50 | | 0.803 | 20.40 | |
| **HMC0088** | 25 | 1640 | 500 | 720.9 | 327.0 | (30x0.25) TC | 16 | 1.50 | | 0.850 | 21.60 | |
| **HMC0089** | 6 | 1640 | 500 | 307.5 | 139.5 | (50x0.25) TC | 14 | 2.50 | | 0.516 | 13.10 | |
| **HMC0090** | 7 | 1640 | 500 | 319.7 | 145.0 | (50x0.25) TC | 14 | 2.50 | | 0.516 | 13.10 | |
| **HMC0091** | 8 | 1640 | 500 | 375.9 | 170.5 | (50x0.25) TC | 14 | 2.50 | | 0.567 | 14.40 | |
| **HMC0092** | 10 | 1640 | 500 | 458.6 | 208.0 | (50x0.25) TC | 14 | 2.50 | | 0.642 | 16.30 | |
| **HMC0093** | 12 | 1640 | 500 | 544.5 | 247.0 | (50x0.25) TC | 14 | 2.50 | | 0.677 | 17.20 | |
| **HMC0094** | 14 | 1640 | 500 | 621.7 | 282.0 | (50x0.25) TC | 14 | 2.50 | | 0.740 | 18.80 | |
| **HMC0095** | 16 | 1640 | 500 | 703.3 | 319.0 | (50x0.25) TC | 14 | 2.50 | | 0.791 | 20.10 | |
| **HMC0096** | 18 | 1640 | 500 | 736.3 | 334.0 | (50x0.25) TC | 14 | 2.50 | | 0.831 | 21.10 | |
| **HMC0097** | 20 | 1640 | 500 | 867.5 | 393.5 | (50x0.25) TC | 14 | 2.50 | | 0.862 | 21.90 | |
| **HMC0098** | 24 | 1640 | 500 | 1031.8 | 468.0 | (50x0.25) TC | 14 | 2.50 | | 0.957 | 24.30 | |
| **HMC0099** | 25 | 1640 | 500 | 1069.2 | 485.0 | (50x0.25) TC | 14 | 2.50 | | 1.016 | 25.80 | |

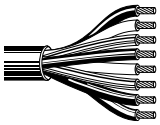
TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber (H05SS-F)

## Multicore Cables

## 300/500V, 180°C, peak temp 250°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 10 AWG** • Stranded Tinned Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Red-Brown FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 15 | | | | | | | | Unshielded | | | Industrial areas with increased temperature requirements and VDE-approval, e.g.<br>- Mechanical engineering<br>- Traffic technology<br>- Lighting industry<br>- Sauna and solarium<br>- Glass and ceramic fabrication<br>- Steel and iron fabrication |
| **HMC0100** | 2 | 1640 | 500 | 55.1 | 25.0 | (24x0.20) TC | 18 | 0.75 | | 0.240 | 6.10 | |
| **HMC0101** | 3 | 1640 | 500 | 68.3 | 31.0 | (24x0.20) TC | 18 | 0.75 | | 0.260 | 6.60 | |
| **HMC0102** | 4 | 1640 | 500 | 79.4 | 36.0 | (24x0.20) TC | 18 | 0.75 | | 0.283 | 7.20 | |
| **HMC0103** | 5 | 1640 | 500 | 108.0 | 49.0 | (24x0.20) TC | 18 | 0.75 | | 0.319 | 8.10 | |
| **HMC0104** | 2 | 1640 | 500 | 70.5 | 32.0 | (32x0.20) TC | 17 | 1.00 | | 0.260 | 6.60 | |
| **HMC0105** | 3 | 1640 | 500 | 80.5 | 36.5 | (32x0.20) TC | 17 | 1.00 | | 0.276 | 7.00 | |
| **HMC0106** | 4 | 1640 | 500 | 97.0 | 44.0 | (32x0.20) TC | 17 | 1.00 | | 0.299 | 7.60 | |
| **HMC0107** | 5 | 1640 | 500 | 115.7 | 52.5 | (32x0.20) TC | 17 | 1.00 | | 0.335 | 8.50 | |
| **HMC0108** | 2 | 1640 | 500 | 92.6 | 42.0 | (30x0.25) TC | 16 | 1.50 | | 0.323 | 8.20 | |
| **HMC0109** | 3 | 1640 | 500 | 111.3 | 50.5 | (30x0.25) TC | 16 | 1.50 | | 0.343 | 8.70 | |
| **HMC0110** | 4 | 1640 | 500 | 138.9 | 63.0 | (30x0.25) TC | 16 | 1.50 | | 0.378 | 9.60 | |
| **HMC0111** | 5 | 1640 | 500 | 173.1 | 78.5 | (30x0.25) TC | 16 | 1.50 | | 0.413 | 10.50 | |
| **HMC0112** | 2 | 1640 | 500 | 136.7 | 62.0 | (50x0.25) TC | 14 | 2.50 | | 0.378 | 9.60 | |
| **HMC0113** | 3 | 1640 | 500 | 173.1 | 78.5 | (50x0.25) TC | 14 | 2.50 | | 0.402 | 10.20 | |
| **HMC0114** | 4 | 1640 | 500 | 216.1 | 98.0 | (50x0.25) TC | 14 | 2.50 | | 0.445 | 11.30 | |
| **HMC0115** | 5 | 1640 | 500 | 262.3 | 119.0 | (50x0.25) TC | 14 | 2.50 | | 0.496 | 12.60 | |
| **HMC0116** | 3 | 1640 | 500 | 248.0 | 112.5 | (56x0.30) TC | 12 | 4 | | 0.469 | 11.90 | |
| **HMC0117** | 4 | 1640 | 500 | 319.7 | 145.0 | (56x0.30) TC | 12 | 4 | | 0.520 | 13.20 | |
| **HMC0118** | 3 | 1640 | 500 | 336.2 | 152.5 | (84x0.30) TC | 10 | 6 | | 0.535 | 13.60 | |
| **HMC0119** | 4 | 1640 | 500 | 418.9 | 190.0 | (84x0.30) TC | 10 | 6 | | 0.591 | 15.00 | |



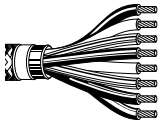
TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber – Steel Wire Braid (SWB)

Multicore Cables

300/500V, 180°C, peak temp 250°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 4/0 AWG** • Stranded Tinned Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Glass Fiber Tape** • **Overall Red-Brown FRNC/LSNH Jacket** • **SWB** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Overall<br>Glass Fiber Foil | | | Industrial areas with increased temperature and mechanical requirements, e.g.<br>- Mechanical engineering<br>- Glass and ceramic fabrication<br>- Steel and iron fabrication |
| **HMC0120** | 2 | 1640 | 500 | 97.0 | 44.0 | (24x0.20) TC | 18 | 0.75 | | 0.283 | 7.20 | |
| **HMC0121** | 3 | 1640 | 500 | 109.1 | 49.5 | (24x0.20) TC | 18 | 0.75 | | 0.299 | 7.60 | |
| **HMC0122** | 4 | 1640 | 500 | 133.4 | 60.5 | (24x0.20) TC | 18 | 0.75 | | 0.319 | 8.10 | |
| **HMC0123** | 5 | 1640 | 500 | 162.0 | 73.5 | (24x0.20) TC | 18 | 0.75 | | 0.362 | 9.20 | |
| **HMC0124** | 6 | 1640 | 500 | 186.3 | 84.5 | (24x0.20) TC | 18 | 0.75 | | 0.390 | 9.90 | |
| **HMC0125** | 7 | 1640 | 500 | 196.2 | 89.0 | (24x0.20) TC | 18 | 0.75 | | 0.390 | 9.90 | |
| **HMC0126** | 2 | 1640 | 500 | 108.0 | 49.0 | (32x0.20) TC | 17 | 1.00 | | 0.299 | 7.60 | |
| **HMC0127** | 3 | 1640 | 500 | 131.2 | 59.5 | (32x0.20) TC | 17 | 1.00 | | 0.315 | 8.00 | |
| **HMC0128** | 4 | 1640 | 500 | 153.2 | 69.5 | (32x0.20) TC | 17 | 1.00 | | 0.346 | 8.80 | |
| **HMC0129** | 5 | 1640 | 500 | 184.1 | 83.5 | (32x0.20) TC | 17 | 1.00 | | 0.382 | 9.70 | |
| **HMC0130** | 6 | 1640 | 500 | 203.9 | 92.5 | (32x0.20) TC | 17 | 1.00 | | 0.409 | 10.40 | |
| **HMC0131** | 7 | 1640 | 500 | 213.8 | 97.0 | (32x0.20) TC | 17 | 1.00 | | 0.409 | 10.40 | |
| **HMC0132** | 2 | 1640 | 500 | 138.9 | 63.0 | (30x0.25) TC | 16 | 1.50 | | 0.327 | 8.30 | |
| **HMC0133** | 3 | 1640 | 500 | 157.6 | 71.5 | (30x0.25) TC | 16 | 1.50 | | 0.343 | 8.70 | |
| **HMC0134** | 4 | 1640 | 500 | 187.4 | 85.0 | (30x0.25) TC | 16 | 1.50 | | 0.378 | 9.60 | |
| **HMC0135** | 5 | 1640 | 500 | 218.3 | 99.0 | (30x0.25) TC | 16 | 1.50 | | 0.409 | 10.40 | |
| **HMC0136** | 6 | 1640 | 500 | 270.1 | 122.5 | (30x0.25) TC | 16 | 1.50 | | 0.449 | 11.40 | |
| **HMC0137** | 7 | 1640 | 500 | 282.2 | 128.0 | (30x0.25) TC | 16 | 1.50 | | 0.449 | 11.40 | |
| **HMC0138** | 8 | 1640 | 500 | 347.2 | 157.5 | (30x0.25) TC | 16 | 1.50 | | 0.500 | 12.70 | |
| **HMC0139** | 10 | 1640 | 500 | 407.9 | 185.0 | (30x0.25) TC | 16 | 1.50 | | 0.551 | 14.00 | |
| **HMC0140** | 12 | 1640 | 500 | 449.7 | 204.0 | (30x0.25) TC | 16 | 1.50 | | 0.571 | 14.50 | |
| **HMC0141** | 14 | 1640 | 500 | 519.2 | 235.5 | (30x0.25) TC | 16 | 1.50 | | 0.614 | 15.60 | |
| **HMC0142** | 16 | 1640 | 500 | 596.3 | 270.5 | (30x0.25) TC | 16 | 1.50 | | 0.669 | 17.00 | |
| **HMC0143** | 18 | 1640 | 500 | 660.3 | 299.5 | (30x0.25) TC | 16 | 1.50 | | 0.701 | 17.80 | |
| **HMC0144** | 20 | 1640 | 500 | 694.4 | 315.0 | (30x0.25) TC | 16 | 1.50 | | 0.720 | 18.30 | |
| **HMC0145** | 24 | 1640 | 500 | 837.7 | 380.0 | (30x0.25) TC | 16 | 1.50 | | 0.803 | 20.40 | |
| **HMC0146** | 2 | 1640 | 500 | 181.9 | 82.5 | (50x0.25) TC | 14 | 2.50 | | 0.382 | 9.70 | |
| **HMC0147** | 3 | 1640 | 500 | 262.3 | 119.0 | (50x0.25) TC | 14 | 2.50 | | 0.402 | 10.20 | |
| **HMC0148** | 4 | 1640 | 500 | 295.4 | 134.0 | (50x0.25) TC | 14 | 2.50 | | 0.453 | 11.50 | |



TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber – Steel Wire Braid (SWB)

Multicore Cables

300/500V, 180°C, peak temp 250°C

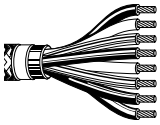
**180°C • 18 - 4/0 AWG •** Stranded Tinned Copper Wire *(continued)*

**Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) **• Glass Fiber Tape • Overall Red-Brown FRNC/LSNH Jacket • SWB**

IEC 60754-1
VDE 0282
Part 1

Overall
Glass Fiber Foil

Industrial areas with increased temperature and mechanical requirements, e.g.
- Mechanical engineering
- Glass and ceramic fabrication
- Steel and iron fabrication



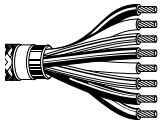
| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **HMC0149** | 5 | 1640 | 500 | 347.2 | 157.5 | (50x0.25) TC | 14 | 2.50 | | 0.500 | 12.70 | |
| | **HMC0150** | 6 | 1640 | 500 | 407.9 | 185.0 | (50x0.25) TC | 14 | 2.50 | | 0.539 | 13.70 | |
| | **HMC0151** | 7 | 1640 | 500 | 424.4 | 192.5 | (50x0.25) TC | 14 | 2.50 | | 0.539 | 13.70 | |
| | **HMC0152** | 12 | 1640 | 500 | 670.2 | 304.0 | (50x0.25) TC | 14 | 2.50 | | 0.693 | 17.60 | |
| | **HMC0153** | 2 | 1640 | 500 | 281.1 | 127.5 | (56x0.30) TC | 12 | 4 | | 0.453 | 11.50 | |
| | **HMC0154** | 3 | 1640 | 500 | 329.6 | 149.5 | (56x0.30) TC | 12 | 4 | | 0.480 | 12.20 | |
| | **HMC0155** | 4 | 1640 | 500 | 402.3 | 182.5 | (56x0.30) TC | 12 | 4 | | 0.528 | 13.40 | |
| | **HMC0156** | 5 | 1640 | 500 | 501.5 | 227.5 | (56x0.30) TC | 12 | 4 | | 0.594 | 15.10 | |
| | **HMC0157** | 6 | 1640 | 500 | 578.7 | 262.5 | (56x0.30) TC | 12 | 4 | | 0.646 | 16.40 | |
| | **HMC0158** | 7 | 1640 | 500 | 612.9 | 278.0 | (56x0.30) TC | 12 | 4 | | 0.646 | 16.40 | |
| | **HMC0159** | 2 | 1640 | 500 | 359.3 | 163.0 | (84x0.30) TC | 10 | 6 | | 0.508 | 12.90 | |
| | **HMC0160** | 3 | 1640 | 500 | 442.0 | 200.5 | (84x0.30) TC | 10 | 6 | | 0.539 | 13.70 | |
| | **HMC0161** | 4 | 1640 | 500 | 534.6 | 242.5 | (84x0.30) TC | 10 | 6 | | 0.583 | 14.80 | |
| | **HMC0162** | 5 | 1640 | 500 | 663.6 | 301.0 | (84x0.30) TC | 10 | 6 | | 0.661 | 16.80 | |
| | **HMC0163** | 6 | 1640 | 500 | 772.7 | 350.5 | (84x0.30) TC | 10 | 6 | | 0.717 | 18.20 | |
| | **HMC0164** | 7 | 1640 | 500 | 811.3 | 368.0 | (84x0.30) TC | 10 | 6 | | 0.717 | 18.20 | |
| | **HMC0165** | 2 | 1640 | 500 | 598.5 | 271.5 | (80x0.40) TC | 8 | 10 | | 0.681 | 17.30 | |
| | **HMC0166** | 3 | 1640 | 500 | 718.7 | 326.0 | (80x0.40) TC | 8 | 10 | | 0.724 | 18.40 | |
| | **HMC0167** | 4 | 1640 | 500 | 909.4 | 412.5 | (80x0.40) TC | 8 | 10 | | 0.811 | 20.60 | |
| | **HMC0168** | 5 | 1640 | 500 | 1088.0 | 493.5 | (80x0.40) TC | 8 | 10 | | 0.886 | 22.50 | |
| | **HMC0169** | 2 | 1640 | 500 | 824.5 | 374.0 | (128x0.40) TC | 6 | 16 | | 0.795 | 20.20 | |
| | **HMC0170** | 3 | 1640 | 500 | 1002.0 | 454.5 | (128x0.40) TC | 6 | 16 | | 0.846 | 21.50 | |
| | **HMC0171** | 4 | 1640 | 500 | 1304.0 | 591.5 | (128x0.40) TC | 6 | 16 | | 0.921 | 23.40 | |
| | **HMC0172** | 5 | 1640 | 500 | 1535.5 | 696.5 | (128x0.40) TC | 6 | 16 | | 1.031 | 26.20 | |
| | **HMC0173** | 2 | 1640 | 500 | 1153.0 | 523.0 | (200x0.40) TC | 4 | 25 | | 0.937 | 23.80 | |
| | **HMC0174** | 3 | 1640 | 500 | 1484.8 | 673.5 | (200x0.40) TC | 4 | 25 | | 1.024 | 26.00 | |
| | **HMC0175** | 4 | 1640 | 500 | 1849.7 | 839.0 | (200x0.40) TC | 4 | 25 | | 1.114 | 28.30 | |
| | **HMC0176** | 2 | 1640 | 500 | 1519.0 | 689.0 | (280x0.40) TC | 2 | 35 | | 1.071 | 27.20 | |
| | **HMC0177** | 3 | 1640 | 500 | 2034.8 | 923.0 | (280x0.40) TC | 2 | 35 | | 1.142 | 29.00 | |

TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber – Steel Wire Braid (SWB)

Multicore Cables

300/500V, 180°C, peak temp 250°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 4/0 AWG** • Stranded Tinned Copper Wire *(continued)* | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Glass Fiber Tape • Overall Red-Brown FRNC/LSNH Jacket • SWB** | | | | | | | | | | | | | |
| | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | | Overall<br>Glass Fiber Foil | | | Industrial areas with increased temperature and mechanical requirements, e.g.<br>- Mechanical engineering<br>- Glass and ceramic fabrication<br>- Steel and iron fabrication |
| |  | | | | | | | | | | | | |
| **HMC0178** | | 4 | 1640 | 500 | 2469.2 | 1120.0 | (280x0.40) TC | 2 | 35 | | 1.272 | 32.30 | |
| **HMC0179** | | 2 | 1640 | 500 | 2060.2 | 934.5 | (400x0.40) TC | 1 | 50 | | 1.236 | 31.40 | |
| **HMC0180** | | 3 | 1640 | 500 | 2627.9 | 1192.0 | (400x0.40) TC | 1 | 50 | | 1.319 | 33.50 | |
| **HMC0181** | | 4 | 1640 | 500 | 2978.4 | 1351.0 | (400x0.40) TC | 1 | 50 | | 1.465 | 37.20 | |
| **HMC0182** | | 2 | 1640 | 500 | 2735.9 | 1241.0 | (356x0.50) TC | 2/0 | 70 | | 1.390 | 35.30 | |
| **HMC0183** | | 3 | 1640 | 500 | 3653.0 | 1657.0 | (356x0.50) TC | 2/0 | 70 | | 1.508 | 38.30 | |
| **HMC0184** | | 4 | 1640 | 500 | 4490.8 | 2037.0 | (356x0.50) TC | 2/0 | 70 | | 1.673 | 42.50 | |
| **HMC0185** | | 2 | 1640 | 500 | 3725.8 | 1690.0 | (485x0.50) TC | 3/0 | 95 | | 1.630 | 41.40 | |
| **HMC0186** | | 3 | 1640 | 500 | 4738.8 | 2149.5 | (485x0.50) TC | 3/0 | 95 | | 1.764 | 44.80 | |
| **HMC0187** | | 4 | 1640 | 500 | 5885.2 | 2669.5 | (485x0.50) TC | 3/0 | 95 | | 1.961 | 49.80 | |
| **HMC0188** | | 3 | 1640 | 500 | 5816.8 | 2638.5 | (614x0.50) TC | 4/0 | 120 | | 1.921 | 48.80 | |
| **HMC0189** | | 4 | 1640 | 500 | 7243.2 | 3285.5 | (614x0.50) TC | 4/0 | 120 | | 2.130 | 54.10 | |

TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber – Overall Braid

## Multicore Cables

## 300/500V, 180°C, peak temp 250°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 14 AWG** • Stranded Tinned Copper Wire • Separator Foil • Overall Tinned Copper Braid | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Red-Brown FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Overall<br>> 85% TC<br>Braid | | | Industrial areas with increased temperature and mechanical requirements, e.g.<br>- Mechanical engineering<br>- Traffic technology<br>- Lighting industry<br>- Glass and ceramic fabrication<br>- Steel and iron fabrication |
| | **HMC0190** | 2 | 1640 | 500 | 100.3 | 45.5 | (24x0.20) TC | 18 | 0.75 | | 0.287 | 7.30 | |
| | **HMC0191** | 3 | 1640 | 500 | 120.2 | 54.5 | (24x0.20) TC | 18 | 0.75 | | 0.299 | 7.60 | |
| | **HMC0192** | 4 | 1640 | 500 | 141.1 | 64.0 | (24x0.20) TC | 18 | 0.75 | | 0.323 | 8.20 | |
| | **HMC0193** | 5 | 1640 | 500 | 170.9 | 77.5 | (24x0.20) TC | 18 | 0.75 | | 0.350 | 8.90 | |
| | **HMC0194** | 7 | 1640 | 500 | 209.4 | 95.0 | (24x0.20) TC | 18 | 0.75 | | 0.386 | 9.80 | |
| | **HMC0195** | 2 | 1640 | 500 | 114.6 | 52.0 | (32x0.20) TC | 17 | 1.00 | | 0.315 | 8.00 | |
| | **HMC0196** | 3 | 1640 | 500 | 136.7 | 62.0 | (32x0.20) TC | 17 | 1.00 | | 0.331 | 8.40 | |
| | **HMC0197** | 4 | 1640 | 500 | 157.6 | 71.5 | (32x0.20) TC | 17 | 1.00 | | 0.354 | 9.00 | |
| | **HMC0198** | 5 | 1640 | 500 | 201.7 | 91.5 | (32x0.20) TC | 17 | 1.00 | | 0.382 | 9.70 | |
| | **HMC0199** | 7 | 1640 | 500 | 264.6 | 120.0 | (32x0.20) TC | 17 | 1.00 | | 0.421 | 10.70 | |
| | **HMC0200** | 2 | 1640 | 500 | 132.3 | 60.0 | (30x0.25) TC | 16 | 1.50 | | 0.339 | 8.60 | |
| | **HMC0201** | 3 | 1640 | 500 | 159.8 | 72.5 | (30x0.25) TC | 16 | 1.50 | | 0.354 | 9.00 | |
| | **HMC0202** | 4 | 1640 | 500 | 210.5 | 95.5 | (30x0.25) TC | 16 | 1.50 | | 0.390 | 9.90 | |
| | **HMC0203** | 5 | 1640 | 500 | 246.9 | 112.0 | (30x0.25) TC | 16 | 1.50 | | 0.421 | 10.70 | |
| | **HMC0204** | 7 | 1640 | 500 | 297.6 | 135.0 | (30x0.25) TC | 16 | 1.50 | | 0.453 | 11.50 | |
| | **HMC0205** | 2 | 1640 | 500 | 192.9 | 87.5 | (50x0.25) TC | 14 | 2.50 | | 0.394 | 10.00 | |
| | **HMC0206** | 3 | 1640 | 500 | 233.7 | 106.0 | (50x0.25) TC | 14 | 2.50 | | 0.413 | 10.50 | |
| | **HMC0207** | 4 | 1640 | 500 | 288.8 | 131.0 | (50x0.25) TC | 14 | 2.50 | | 0.445 | 11.30 | |
| | **HMC0208** | 5 | 1640 | 500 | 337.3 | 153.0 | (50x0.25) TC | 14 | 2.50 | | 0.484 | 12.30 | |
| | **HMC0209** | 7 | 1640 | 500 | 451.9 | 205.0 | (50x0.25) TC | 14 | 2.50 | | 0.547 | 13.90 | |
| | **HMC0210** | 2 | 1640 | 500 | 251.3 | 114.0 | (56x0.30) TC | 12 | 4 | | 0.449 | 11.40 | |
| | **HMC0211** | 3 | 1640 | 500 | 318.6 | 144.5 | (56x0.30) TC | 12 | 4 | | 0.472 | 12.00 | |
| | **HMC0212** | 4 | 1640 | 500 | 414.5 | 188.0 | (56x0.30) TC | 12 | 4 | | 0.535 | 13.60 | |
| | **HMC0213** | 5 | 1640 | 500 | 482.8 | 219.0 | (56x0.30) TC | 12 | 4 | | 0.583 | 14.80 | |
| | **HMC0214** | 7 | 1640 | 500 | 612.9 | 278.0 | (56x0.30) TC | 12 | 4 | | 0.630 | 16.00 | |

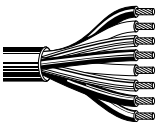


TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber – Heavy Duty

## Multicore Cables
## 300/500V, 180°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 10 AWG** • Stranded Tinned Copper Wire | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Black FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Unshielded | | | Industrial areas with increased temperature requirements, e.g.<br>- Traffic technology<br>- Power plant technology<br>- Mechanical engineering<br>- Steel and iron fabrication |
| | **HMC0215** | 2 | 1640 | 500 | 115.7 | 52.5 | (24x0.20) TC | 18 | 0.75 | | 0.374 | 9.50 | |
| | **HMC0216** | 3 | 1640 | 500 | 130.1 | 59.0 | (24x0.20) TC | 18 | 0.75 | | 0.386 | 9.80 | |
| | **HMC0217** | 4 | 1640 | 500 | 148.8 | 67.5 | (24x0.20) TC | 18 | 0.75 | | 0.409 | 10.40 | |
| | **HMC0218** | 5 | 1640 | 500 | 173.1 | 78.5 | (24x0.20) TC | 18 | 0.75 | | 0.437 | 11.10 | |
| | **HMC0219** | 6 | 1640 | 500 | 198.4 | 90.0 | (24x0.20) TC | 18 | 0.75 | | 0.461 | 11.70 | |
| | **HMC0220** | 7 | 1640 | 500 | 202.8 | 92.0 | (24x0.20) TC | 18 | 0.75 | | 0.461 | 11.70 | |
| | **HMC0221** | 2 | 1640 | 500 | 127.9 | 58.0 | (32x0.20) TC | 17 | 1.00 | | 0.386 | 9.80 | |
| | **HMC0222** | 3 | 1640 | 500 | 145.5 | 66.0 | (32x0.20) TC | 17 | 1.00 | | 0.402 | 10.20 | |
| | **HMC0223** | 4 | 1640 | 500 | 167.5 | 76.0 | (32x0.20) TC | 17 | 1.00 | | 0.425 | 10.80 | |
| | **HMC0224** | 5 | 1640 | 500 | 197.3 | 89.5 | (32x0.20) TC | 17 | 1.00 | | 0.453 | 11.50 | |
| | **HMC0225** | 6 | 1640 | 500 | 224.9 | 102.0 | (32x0.20) TC | 17 | 1.00 | | 0.484 | 12.30 | |
| | **HMC0226** | 7 | 1640 | 500 | 232.6 | 105.0 | (32x0.20) TC | 17 | 1.00 | | 0.484 | 12.30 | |
| | **HMC0227** | 2 | 1640 | 500 | 157.6 | 71.5 | (30x0.25) TC | 16 | 1.50 | | 0.425 | 10.80 | |
| | **HMC0228** | 3 | 1640 | 500 | 181.9 | 82.5 | (30x0.25) TC | 16 | 1.50 | | 0.441 | 11.20 | |
| | **HMC0229** | 4 | 1640 | 500 | 211.6 | 96.0 | (30x0.25) TC | 16 | 1.50 | | 0.469 | 11.90 | |
| | **HMC0230** | 5 | 1640 | 500 | 252.4 | 114.5 | (30x0.25) TC | 16 | 1.50 | | 0.504 | 12.80 | |
| | **HMC0231** | 6 | 1640 | 500 | 276.7 | 125.5 | (30x0.25) TC | 16 | 1.50 | | 0.539 | 13.70 | |
| | **HMC0232** | 7 | 1640 | 500 | 299.8 | 136.0 | (30x0.25) TC | 16 | 1.50 | | 0.539 | 13.70 | |
| | **HMC0233** | 8 | 1640 | 500 | 340.6 | 154.5 | (30x0.25) TC | 16 | 1.50 | | 0.575 | 14.60 | |
| | **HMC0234** | 10 | 1640 | 500 | 403.4 | 183.0 | (30x0.25) TC | 16 | 1.50 | | 0.630 | 16.00 | |
| | **HMC0235** | 12 | 1640 | 500 | 453.0 | 205.5 | (30x0.25) TC | 16 | 1.50 | | 0.654 | 16.60 | |
| | **HMC0236** | 14 | 1640 | 500 | 513.7 | 233.0 | (30x0.25) TC | 16 | 1.50 | | 0.697 | 17.70 | |
| | **HMC0237** | 16 | 1640 | 500 | 573.2 | 260.0 | (30x0.25) TC | 16 | 1.50 | | 0.732 | 18.60 | |
| | **HMC0238** | 18 | 1640 | 500 | 636.0 | 288.5 | (30x0.25) TC | 16 | 1.50 | | 0.768 | 19.50 | |
| | **HMC0239** | 20 | 1640 | 500 | 679.0 | 308.0 | (30x0.25) TC | 16 | 1.50 | | 0.787 | 20.00 | |
| | **HMC0240** | 24 | 1640 | 500 | 794.8 | 360.5 | (30x0.25) TC | 16 | 1.50 | | 0.858 | 21.80 | |
| | **HMC0241** | 30 | 1640 | 500 | 951.3 | 431.5 | (30x0.25) TC | 16 | 1.50 | | 0.925 | 23.50 | |
| | **HMC0242** | 2 | 1640 | 500 | 206.1 | 93.5 | (50x0.25) TC | 14 | 2.50 | | 0.472 | 12.00 | |
| | **HMC0243** | 3 | 1640 | 500 | 243.6 | 110.5 | (50x0.25) TC | 14 | 2.50 | | 0.492 | 12.50 | |

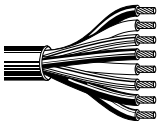


TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber – Heavy Duty

Multicore Cables
300/500V, 180°C

| De-scription | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 10 AWG** • Stranded Tinned Copper Wire *(continued)* | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Black FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Unshielded | | | Industrial areas with increased temperature requirements, e.g.<br>- Traffic technology<br>- Power plant technology<br>- Mechanical engineering<br>- Steel and iron fabrication |
| | **HMC0244** | 4 | 1640 | 500 | 287.7 | 130.5 | (50x0.25) TC | 14 | 2.50 | | 0.528 | 13.40 | |
| | **HMC0245** | 5 | 1640 | 500 | 343.9 | 156.0 | (50x0.25) TC | 14 | 2.50 | | 0.567 | 14.40 | |
| | **HMC0246** | 6 | 1640 | 500 | 401.2 | 182.0 | (50x0.25) TC | 14 | 2.50 | | 0.610 | 15.50 | |
| | **HMC0247** | 7 | 1640 | 500 | 421.1 | 191.0 | (50x0.25) TC | 14 | 2.50 | | 0.610 | 15.50 | |
| | **HMC0248** | 12 | 1640 | 500 | 658.1 | 298.5 | (50x0.25) TC | 14 | 2.50 | | 0.748 | 19.00 | |
| | **HMC0249** | 24 | 1640 | 500 | 1169.5 | 530.5 | (50x0.25) TC | 14 | 2.50 | | 0.996 | 25.30 | |
| | **HMC0250** | 30 | 1640 | 500 | 1352.5 | 613.5 | (50x0.25) TC | 14 | 2.50 | | 1.083 | 27.50 | |
| | **HMC0251** | 2 | 1640 | 500 | 263.4 | 119.5 | (56x0.30) TC | 12 | 4 | | 0.512 | 13.00 | |
| | **HMC0252** | 3 | 1640 | 500 | 317.5 | 144.0 | (56x0.30) TC | 12 | 4 | | 0.535 | 13.60 | |
| | **HMC0253** | 4 | 1640 | 500 | 381.4 | 173.0 | (56x0.30) TC | 12 | 4 | | 0.575 | 14.60 | |
| | **HMC0254** | 5 | 1640 | 500 | 465.2 | 211.0 | (56x0.30) TC | 12 | 4 | | 0.622 | 15.80 | |
| | **HMC0255** | 6 | 1640 | 500 | 539.0 | 244.5 | (56x0.30) TC | 12 | 4 | | 0.669 | 17.00 | |
| | **HMC0256** | 7 | 1640 | 500 | 571.0 | 259.0 | (56x0.30) TC | 12 | 4 | | 0.669 | 17.00 | |
| | **HMC0257** | 2 | 1640 | 500 | 334.0 | 151.5 | (84x0.30) TC | 10 | 6 | | 0.559 | 14.20 | |
| | **HMC0258** | 3 | 1640 | 500 | 409.0 | 185.5 | (84x0.30) TC | 10 | 6 | | 0.587 | 14.90 | |
| | **HMC0259** | 4 | 1640 | 500 | 494.9 | 224.5 | (84x0.30) TC | 10 | 6 | | 0.634 | 16.10 | |
| | **HMC0260** | 5 | 1640 | 500 | 610.7 | 277.0 | (84x0.30) TC | 10 | 6 | | 0.685 | 17.40 | |
| | **HMC0261** | 6 | 1640 | 500 | 713.2 | 323.5 | (84x0.30) TC | 10 | 6 | | 0.740 | 18.80 | |
| | **HMC0262** | 7 | 1640 | 500 | 751.8 | 341.0 | (84x0.30) TC | 10 | 6 | | 0.740 | 18.80 | |



TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber – Heavy Duty, Overall Braid

## Multicore Cables
## 300/500V, 180°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**180°C • 18 - 10 AWG** • Stranded Tinned Copper Wire • Glass Fiber Tape • Mica Tape • Overall Tinned Copper Braid

**Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Black FRNC/LSNH Jacket**

IEC 60754-1
VDE 0282
Part 1



Overall
> 85% TC
Braid

Industrial areas with increased temperature requirements, e.g.
- Traffic technology
- Power plant technology
- Mechanical engineering
- Steel and iron fabrication

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HMC0263** | 2 | 1640 | 500 | 148.8 | 67.5 | (24x0.20) TC | 18 | 0.75 | | 0.429 | 10.90 | |
| **HMC0264** | 3 | 1640 | 500 | 166.4 | 75.5 | (24x0.20) TC | 18 | 0.75 | | 0.445 | 11.30 | |
| **HMC0265** | 4 | 1640 | 500 | 187.4 | 85.0 | (24x0.20) TC | 18 | 0.75 | | 0.465 | 11.80 | |
| **HMC0266** | 5 | 1640 | 500 | 212.7 | 96.5 | (24x0.20) TC | 18 | 0.75 | | 0.492 | 12.50 | |
| **HMC0267** | 6 | 1640 | 500 | 261.2 | 118.5 | (24x0.20) TC | 18 | 0.75 | | 0.528 | 13.40 | |
| **HMC0268** | 7 | 1640 | 500 | 266.8 | 121.0 | (24x0.20) TC | 18 | 0.75 | | 0.528 | 13.40 | |
| **HMC0269** | 2 | 1640 | 500 | 160.9 | 73.0 | (32x0.20) TC | 17 | 1.00 | | 0.445 | 11.30 | |
| **HMC0270** | 3 | 1640 | 500 | 180.8 | 82.0 | (32x0.20) TC | 17 | 1.00 | | 0.461 | 11.70 | |
| **HMC0271** | 4 | 1640 | 500 | 206.1 | 93.5 | (32x0.20) TC | 17 | 1.00 | | 0.484 | 12.30 | |
| **HMC0272** | 5 | 1640 | 500 | 241.4 | 109.5 | (32x0.20) TC | 17 | 1.00 | | 0.520 | 13.20 | |
| **HMC0273** | 6 | 1640 | 500 | 288.8 | 131.0 | (32x0.20) TC | 17 | 1.00 | | 0.547 | 13.90 | |
| **HMC0274** | 7 | 1640 | 500 | 296.5 | 134.5 | (32x0.20) TC | 17 | 1.00 | | 0.547 | 13.90 | |
| **HMC0275** | 2 | 1640 | 500 | 203.9 | 92.5 | (30x0.25) TC | 16 | 1.50 | | 0.480 | 12.20 | |
| **HMC0276** | 3 | 1640 | 500 | 249.1 | 113.0 | (30x0.25) TC | 16 | 1.50 | | 0.508 | 12.90 | |
| **HMC0277** | 4 | 1640 | 500 | 288.8 | 131.0 | (30x0.25) TC | 16 | 1.50 | | 0.535 | 13.60 | |
| **HMC0278** | 5 | 1640 | 500 | 334.0 | 151.5 | (30x0.25) TC | 16 | 1.50 | | 0.567 | 14.40 | |
| **HMC0279** | 6 | 1640 | 500 | 380.3 | 172.5 | (30x0.25) TC | 16 | 1.50 | | 0.602 | 15.30 | |
| **HMC0280** | 7 | 1640 | 500 | 392.4 | 178.0 | (30x0.25) TC | 16 | 1.50 | | 0.602 | 15.30 | |
| **HMC0281** | 8 | 1640 | 500 | 469.6 | 213.0 | (30x0.25) TC | 16 | 1.50 | | 0.646 | 16.40 | |
| **HMC0282** | 10 | 1640 | 500 | 533.5 | 242.0 | (30x0.25) TC | 16 | 1.50 | | 0.701 | 17.80 | |
| **HMC0283** | 12 | 1640 | 500 | 607.4 | 275.5 | (30x0.25) TC | 16 | 1.50 | | 0.724 | 18.40 | |
| **HMC0284** | 14 | 1640 | 500 | 668.0 | 303.0 | (30x0.25) TC | 16 | 1.50 | | 0.772 | 19.60 | |
| **HMC0285** | 16 | 1640 | 500 | 737.4 | 334.5 | (30x0.25) TC | 16 | 1.50 | | 0.803 | 20.40 | |
| **HMC0286** | 18 | 1640 | 500 | 817.9 | 371.0 | (30x0.25) TC | 16 | 1.50 | | 0.839 | 21.30 | |
| **HMC0287** | 20 | 1640 | 500 | 864.2 | 392.0 | (30x0.25) TC | 16 | 1.50 | | 0.858 | 21.80 | |
| **HMC0288** | 24 | 1640 | 500 | 1029.5 | 467.0 | (30x0.25) TC | 16 | 1.50 | | 0.929 | 23.60 | |
| **HMC0289** | 30 | 1640 | 500 | 1209.2 | 548.5 | (30x0.25) TC | 16 | 1.50 | | 1.000 | 25.40 | |
| **HMC0290** | 2 | 1640 | 500 | 271.2 | 123.0 | (50x0.25) TC | 14 | 2.50 | | 0.535 | 13.60 | |
| **HMC0291** | 3 | 1640 | 500 | 316.4 | 143.5 | (50x0.25) TC | 14 | 2.50 | | 0.559 | 14.20 | |
| **HMC0292** | 4 | 1640 | 500 | 372.6 | 169.0 | (50x0.25) TC | 14 | 2.50 | | 0.594 | 15.10 | |
| **HMC0293** | 5 | 1640 | 500 | 466.3 | 211.5 | (50x0.25) TC | 14 | 2.50 | | 0.642 | 16.30 | |

TC = Tinned Copper • DCR = DC resistance

# Silicone Rubber – Heavy Duty, Overall Braid

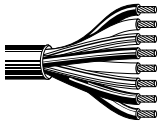
Multicore Cables
300/500V, 180°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **180°C • 18 - 10 AWG** • Stranded Tinned Copper Wire • Glass Fiber Tape • Mica Tape • Overall Tinned Copper Braid *(continued)* | | | | | | | | | | | | | |
| **Silicone Halogen-Free Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Black FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| | | IEC 60754-1<br>VDE 0282<br>Part 1 | | | | | | | | Overall<br>> 85% TC<br>Braid | | | Industrial areas with increased temperature requirements, e.g.<br>- Traffic technology<br>- Power plant technology<br>- Mechanical engineering<br>- Steel and iron fabrication |
| | **HMC0294** | 6 | 1640 | 500 | 529.1 | 240.0 | (50x0.25) TC | 14 | 2.50 | | 0.681 | 17.30 | |
| | **HMC0295** | 7 | 1640 | 500 | 548.9 | 249.0 | (50x0.25) TC | 14 | 2.50 | | 0.681 | 17.30 | |
| | **HMC0296** | 12 | 1640 | 500 | 831.1 | 377.0 | (50x0.25) TC | 14 | 2.50 | | 0.823 | 20.90 | |
| | **HMC0297** | 24 | 1640 | 500 | 1434.1 | 650.5 | (50x0.25) TC | 14 | 2.50 | | 1.071 | 27.20 | |
| | **HMC0298** | 30 | 1640 | 500 | 1733.9 | 786.5 | (50x0.25) TC | 14 | 2.50 | | 1.154 | 29.30 | |
| | **HMC0299** | 2 | 1640 | 500 | 306.4 | 139.0 | (56x0.30) TC | 12 | 4 | | 0.575 | 14.60 | |
| | **HMC0300** | 3 | 1640 | 500 | 372.6 | 169.0 | (56x0.30) TC | 12 | 4 | | 0.602 | 15.30 | |
| | **HMC0301** | 4 | 1640 | 500 | 471.8 | 214.0 | (56x0.30) TC | 12 | 4 | | 0.650 | 16.50 | |
| | **HMC0302** | 5 | 1640 | 500 | 562.2 | 255.0 | (56x0.30) TC | 12 | 4 | | 0.693 | 17.60 | |
| | **HMC0303** | 6 | 1640 | 500 | 640.4 | 290.5 | (56x0.30) TC | 12 | 4 | | 0.740 | 18.80 | |
| | **HMC0304** | 7 | 1640 | 500 | 681.2 | 309.0 | (56x0.30) TC | 12 | 4 | | 0.740 | 18.80 | |
| | **HMC0305** | 2 | 1640 | 500 | 402.3 | 182.5 | (84x0.30) TC | 10 | 6 | | 0.630 | 16.00 | |
| | **HMC0306** | 3 | 1640 | 500 | 489.4 | 222.0 | (84x0.30) TC | 10 | 6 | | 0.661 | 16.80 | |
| | **HMC0307** | 4 | 1640 | 500 | 585.3 | 265.5 | (84x0.30) TC | 10 | 6 | | 0.705 | 17.90 | |
| | **HMC0308** | 5 | 1640 | 500 | 714.3 | 324.0 | (84x0.30) TC | 10 | 6 | | 0.760 | 19.30 | |
| | **HMC0309** | 6 | 1640 | 500 | 827.8 | 375.5 | (84x0.30) TC | 10 | 6 | | 0.811 | 20.60 | |
| | **HMC0310** | 7 | 1640 | 500 | 871.9 | 395.5 | (84x0.30) TC | 10 | 6 | | 0.811 | 20.60 | |

TC = Tinned Copper • DCR = DC resistance

# FEP

## Multicore Cables
## 600V, 200°C, peak temp 230°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **205°C • 18 - 14 AWG** • Stranded Silver-Plated Copper Wire | | | | | | | | | | | | | |
| **FEP Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Grey FEP Jacket** | | | | | | | | | | | | | |
| | | | | | | | | | | Unshielded | | | Industrial areas with high temperature and increased mechanical stress, e.g.<br>- Instrumentation engineering<br>- Mechanical engineering<br>- Chemical industry<br>- Traffic and automotive<br>- Lighting industry |
|  | | | | | | | | | | | | | |
| **HMC0311** | 2 | 1640 | 500 | 34.2 | 15.5 | (24x0.20) SPC | 18 | 0.75 | | 0.177 | 4.50 | |
| **HMC0312** | 3 | 1640 | 500 | 46.3 | 21.0 | (24x0.20) SPC | 18 | 0.75 | | 0.189 | 4.80 | |
| **HMC0313** | 4 | 1640 | 500 | 63.9 | 29.0 | (24x0.20) SPC | 18 | 0.75 | | 0.201 | 5.10 | |
| **HMC0314** | 5 | 1640 | 500 | 82.7 | 37.5 | (24x0.20) SPC | 18 | 0.75 | | 0.228 | 5.80 | |
| **HMC0315** | 7 | 1640 | 500 | 101.4 | 46.0 | (24x0.20) SPC | 18 | 0.75 | | 0.240 | 6.10 | |
| **HMC0316** | 2 | 1640 | 500 | 41.9 | 19.0 | (32x0.20) SPC | 17 | 1.00 | | 0.193 | 4.90 | |
| **HMC0317** | 3 | 1640 | 500 | 59.5 | 27.0 | (32x0.20) SPC | 17 | 1.00 | | 0.205 | 5.20 | |
| **HMC0318** | 4 | 1640 | 500 | 77.2 | 35.0 | (32x0.20) SPC | 17 | 1.00 | | 0.224 | 5.70 | |
| **HMC0319** | 5 | 1640 | 500 | 97.0 | 44.0 | (32x0.20) SPC | 17 | 1.00 | | 0.240 | 6.10 | |
| **HMC0320** | 7 | 1640 | 500 | 131.2 | 59.5 | (32x0.20) SPC | 17 | 1.00 | | 0.272 | 6.90 | |
| **HMC0321** | 2 | 1640 | 500 | 58.4 | 26.5 | (30x0.25) SPC | 16 | 1.50 | | 0.213 | 5.40 | |
| **HMC0322** | 3 | 1640 | 500 | 79.4 | 36.0 | (30x0.25) SPC | 16 | 1.50 | | 0.228 | 5.80 | |
| **HMC0323** | 4 | 1640 | 500 | 100.3 | 45.5 | (30x0.25) SPC | 16 | 1.50 | | 0.248 | 6.30 | |
| **HMC0324** | 5 | 1640 | 500 | 129.0 | 58.5 | (30x0.25) SPC | 16 | 1.50 | | 0.280 | 7.10 | |
| **HMC0325** | 7 | 1640 | 500 | 169.8 | 77.0 | (30x0.25) SPC | 16 | 1.50 | | 0.307 | 7.80 | |
| **HMC0326** | 2 | 1640 | 500 | 97.0 | 44.0 | (50x0.25) SPC | 14 | 2.50 | | 0.256 | 6.50 | |
| **HMC0327** | 3 | 1640 | 500 | 125.7 | 57.0 | (50x0.25) SPC | 14 | 2.50 | | 0.283 | 7.20 | |
| **HMC0328** | 4 | 1640 | 500 | 162.0 | 73.5 | (50x0.25) SPC | 14 | 2.50 | | 0.307 | 7.80 | |
| **HMC0329** | 5 | 1640 | 500 | 198.4 | 90.0 | (50x0.25) SPC | 14 | 2.50 | | 0.339 | 8.60 | |
| **HMC0330** | 7 | 1640 | 500 | 267.9 | 121.5 | (50x0.25) SPC | 14 | 2.50 | | 0.382 | 9.70 | |

SPC = Silver-Plated Copper • DCR = DC resistance

# FEP – Overall Braid

Multicore Cables

600V, 200°C, peak temp 230°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **205°C • 26 - 20 AWG** • Stranded Silver-Plated Copper Wire • Separator Foil • Overall Tinned Copper Braid | | | | | | | | | | | | | |
| **FEP Insulation** (Color Code: see chart 11, Tech Info Section) • **Overall Grey FEP Jacket** | | | | | | | | | | | | | |
|  | | | | | | | | | | Overall > 85% TC Braid | | | Industrial areas with high temperature and increased mechanical stress, e.g.<br>- Instrumentation engineering<br>- Mechanical engineering<br>- Chemical industry<br>- Traffic and automotive<br>- Lighting industry |
| **HMC0331** | 2 | 1640 | 500 | 27.6 | 12.5 | (19x0.107) SPC | 26 | 0.14 | | 0.142 | 3.60 | |
| **HMC0332** | 3 | 1640 | 500 | 33.1 | 15.0 | (19x0.107) SPC | 26 | 0.14 | | 0.150 | 3.80 | |
| **HMC0333** | 4 | 1640 | 500 | 38.6 | 17.5 | (19x0.107) SPC | 26 | 0.14 | | 0.154 | 3.90 | |
| **HMC0334** | 5 | 1640 | 500 | 48.5 | 22.0 | (19x0.107) SPC | 26 | 0.14 | | 0.173 | 4.40 | |
| **HMC0335** | 6 | 1640 | 500 | 56.2 | 25.5 | (19x0.107) SPC | 26 | 0.14 | | 0.193 | 4.90 | |
| **HMC0336** | 7 | 1640 | 500 | 59.5 | 27.0 | (19x0.107) SPC | 26 | 0.14 | | 0.193 | 4.90 | |
| **HMC0337** | 2 | 1640 | 500 | 33.1 | 15.0 | (19x0.127) SPC | 24 | 0.25 | | 0.150 | 3.80 | |
| **HMC0338** | 3 | 1640 | 500 | 38.6 | 17.5 | (19x0.127) SPC | 24 | 0.25 | | 0.157 | 4.00 | |
| **HMC0339** | 4 | 1640 | 500 | 43.0 | 19.5 | (19x0.127) SPC | 24 | 0.25 | | 0.165 | 4.20 | |
| **HMC0340** | 5 | 1640 | 500 | 56.2 | 25.5 | (19x0.127) SPC | 24 | 0.25 | | 0.189 | 4.80 | |
| **HMC0341** | 6 | 1640 | 500 | 60.6 | 27.5 | (19x0.127) SPC | 24 | 0.25 | | 0.197 | 5.00 | |
| **HMC0342** | 7 | 1640 | 500 | 69.4 | 31.5 | (19x0.127) SPC | 24 | 0.25 | | 0.197 | 5.00 | |
| **HMC0343** | 2 | 1640 | 500 | 39.7 | 18.0 | (19x0.160) SPC | 22 | 0.34 | | 0.161 | 4.10 | |
| **HMC0344** | 3 | 1640 | 500 | 48.5 | 22.0 | (19x0.160) SPC | 22 | 0.34 | | 0.169 | 4.30 | |
| **HMC0345** | 4 | 1640 | 500 | 59.5 | 27.0 | (19x0.160) SPC | 22 | 0.34 | | 0.193 | 4.90 | |
| **HMC0346** | 5 | 1640 | 500 | 70.5 | 32.0 | (19x0.160) SPC | 22 | 0.34 | | 0.209 | 5.30 | |
| **HMC0347** | 6 | 1640 | 500 | 79.4 | 36.0 | (19x0.160) SPC | 22 | 0.34 | | 0.224 | 5.70 | |
| **HMC0348** | 7 | 1640 | 500 | 86.0 | 39.0 | (19x0.160) SPC | 22 | 0.34 | | 0.224 | 5.70 | |
| **HMC0349** | 2 | 1640 | 500 | 48.5 | 22.0 | (19x0.203) SPC | 20 | 0.50 | | 0.177 | 4.50 | |
| **HMC0350** | 3 | 1640 | 500 | 61.7 | 28.0 | (19x0.203) SPC | 20 | 0.50 | | 0.193 | 4.90 | |
| **HMC0351** | 4 | 1640 | 500 | 81.6 | 37.0 | (19x0.203) SPC | 20 | 0.50 | | 0.213 | 5.40 | |
| **HMC0352** | 5 | 1640 | 500 | 92.6 | 42.0 | (19x0.203) SPC | 20 | 0.50 | | 0.228 | 5.80 | |
| **HMC0353** | 6 | 1640 | 500 | 108.0 | 49.0 | (19x0.203) SPC | 20 | 0.50 | | 0.248 | 6.30 | |
| **HMC0354** | 7 | 1640 | 500 | 117.9 | 53.5 | (19x0.203) SPC | 20 | 0.50 | | 0.248 | 6.30 | |

TC = Tinned Copper • SPC = Silver-Plated Copper • DCR = DC resistance

# Glass Fiber – Glass Braid

Multicore Cables
300/300V, 350°C

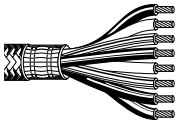
| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **350°C • 24 - 12 AWG** • Stranded Nickel-Plated Copper Wire • Separator Foil • Overall Silicone Impregnated Glass Fiber Braid | | | | | | | | | | | | | |
| **Glass Fiber Insulation** (Color Code: see chart 11, Tech Info Section) | | | | | | | | | | | | | |
| | | | | | | | | | | Overall Glass Fiber Braid | | | For wiring at high ambient temperature and increased mechanical stress, e.g.<br>- Extrusion and drying installations<br>- Electric heatings<br>- Steel and iron fabrication<br>- Glass and ceramic fabrication |
| **HMC0355** | 2 | 1640 | 500 | 14.3 | 6.5 | (7x0.20) NPC | 24 | 0.22 | | | 0.098 | 2.50 | |
| **HMC0356** | 3 | 1640 | 500 | 16.5 | 7.5 | (7x0.20) NPC | 24 | 0.22 | | | 0.106 | 2.70 | |
| **HMC0357** | 4 | 1640 | 500 | 18.7 | 8.5 | (7x0.20) NPC | 24 | 0.22 | | | 0.114 | 2.90 | |
| **HMC0358** | 2 | 1640 | 500 | 20.9 | 9.5 | (7x0.25) NPC | 22 | 0.34 | | | 0.118 | 3.00 | |
| **HMC0359** | 3 | 1640 | 500 | 16.5 | 7.5 | (7x0.25) NPC | 22 | 0.34 | | | 0.130 | 3.30 | |
| **HMC0360** | 4 | 1640 | 500 | 36.4 | 16.5 | (7x0.25) NPC | 22 | 0.34 | | | 0.138 | 3.50 | |
| **HMC0361** | 2 | 1640 | 500 | 28.7 | 13.0 | (16x0.20) NPC | 20 | 0.50 | | | 0.138 | 3.50 | |
| **HMC0362** | 3 | 1640 | 500 | 39.7 | 18.0 | (16x0.20) NPC | 20 | 0.50 | | | 0.146 | 3.70 | |
| **HMC0363** | 4 | 1640 | 500 | 49.6 | 22.5 | (16x0.20) NPC | 20 | 0.50 | | | 0.157 | 4.00 | |
| **HMC0364** | 2 | 1640 | 500 | 48.5 | 22.0 | (24x0.20) NPC | 18 | 0.75 | | | 0.201 | 5.10 | |
| **HMC0365** | 3 | 1640 | 500 | 61.7 | 28.0 | (24x0.20) NPC | 18 | 0.75 | | | 0.220 | 5.60 | |
| **HMC0366** | 4 | 1640 | 500 | 91.5 | 41.5 | (24x0.20) NPC | 18 | 0.75 | | | 0.240 | 6.10 | |
| **HMC0367** | 2 | 1640 | 500 | 69.4 | 31.5 | (32x0.20) NPC | 17 | 1.00 | | | 0.220 | 5.60 | |
| **HMC0368** | 3 | 1640 | 500 | 97.0 | 44.0 | (32x0.20) NPC | 17 | 1.00 | | | 0.236 | 6.00 | |
| **HMC0369** | 4 | 1640 | 500 | 124.6 | 56.5 | (32x0.20) NPC | 17 | 1.00 | | | 0.256 | 6.50 | |
| **HMC0370** | 2 | 1640 | 500 | 81.6 | 37.0 | (30x0.25) NPC | 16 | 1.50 | | | 0.252 | 6.40 | |
| **HMC0371** | 3 | 1640 | 500 | 113.5 | 51.5 | (30x0.25) NPC | 16 | 1.50 | | | 0.268 | 6.80 | |
| **HMC0372** | 4 | 1640 | 500 | 146.6 | 66.5 | (30x0.25) NPC | 16 | 1.50 | | | 0.291 | 7.40 | |
| **HMC0373** | 2 | 1640 | 500 | 156.5 | 71.0 | (50x0.25) NPC | 14 | 2.50* | | | 0.327 | 8.30 | |
| **HMC0374** | 3 | 1640 | 500 | 189.6 | 86.0 | (50x0.25) NPC | 14 | 2.50* | | | 0.402 | 10.20 | |
| **HMC0375** | 4 | 1640 | 500 | 248.0 | 112.5 | (50x0.25) NPC | 14 | 2.50* | | | 0.445 | 11.30 | |
| **HMC0376** | 2 | 1640 | 500 | 202.8 | 92.0 | (56x0.30) NPC | 12 | 4* | | | 0.437 | 11.10 | |
| **HMC0377** | 3 | 1640 | 500 | 248.0 | 112.5 | (56x0.30) NPC | 12 | 4* | | | 0.469 | 11.90 | |
| **HMC0378** | 4 | 1640 | 500 | 341.7 | 155.0 | (56x0.30) NPC | 12 | 4* | | | 0.520 | 13.20 | |

NPC = Nickel-Plated Copper • DCR = DC resistance
* 300/500 Volt construction

# Glass Fiber – Glass Braid, Steel Wire Braid (SWB)

Multicore Cables
300/300V, 350°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **350°C • 24 - 12 AWG** • Stranded NPC Wire • Impregnated Glass Fiber Shield • Separator Foil • Overall Silicone Impregnated Glass Fiber Braid | | | | | | | | | | | | | |
| **Glass Fiber Insulation** (Color Code: see chart 11, Tech Info Section) • **SWB** | | | | | | | | | | | | | |
| | | | | | | | | | | Overall Glass Fiber Braid | | | For wiring at high ambient temperature and increased mechanical stress, e.g.<br>- Extrusion and drying installations<br>- Electric heatings<br>- Steel and iron fabrication<br>- Glass and ceramic fabrication |
| **HMC0379** | 2 | 1640 | 500 | 27.6 | 12.5 | (7x0.20) NPC | 24 | 0.22 | | | 0.130 | 3.30 | |
| **HMC0380** | 3 | 1640 | 500 | 33.1 | 15.0 | (7x0.20) NPC | 24 | 0.22 | | | 0.138 | 3.50 | |
| **HMC0381** | 4 | 1640 | 500 | 36.4 | 16.5 | (7x0.20) NPC | 24 | 0.22 | | | 0.150 | 3.80 | |
| **HMC0382** | 2 | 1640 | 500 | 35.3 | 16.0 | (7x0.25) NPC | 22 | 0.34 | | | 0.146 | 3.70 | |
| **HMC0383** | 3 | 1640 | 500 | 41.9 | 19.0 | (7x0.25) NPC | 22 | 0.34 | | | 0.154 | 3.90 | |
| **HMC0384** | 4 | 1640 | 500 | 54.0 | 24.5 | (7x0.25) NPC | 22 | 0.34 | | | 0.165 | 4.20 | |
| **HMC0385** | 2 | 1640 | 500 | 46.3 | 21.0 | (16x0.20) NPC | 20 | 0.50 | | | 0.165 | 4.20 | |
| **HMC0386** | 3 | 1640 | 500 | 57.3 | 26.0 | (16x0.20) NPC | 20 | 0.50 | | | 0.173 | 4.40 | |
| **HMC0387** | 4 | 1640 | 500 | 68.3 | 31.0 | (16x0.20) NPC | 20 | 0.50 | | | 0.189 | 4.80 | |
| **HMC0388** | 2 | 1640 | 500 | 75.0 | 34.0 | (24x0.20) NPC | 18 | 0.75 | | | 0.228 | 5.80 | |
| **HMC0389** | 3 | 1640 | 500 | 97.0 | 44.0 | (24x0.20) NPC | 18 | 0.75 | | | 0.248 | 6.30 | |
| **HMC0390** | 4 | 1640 | 500 | 116.8 | 53.0 | (24x0.20) NPC | 18 | 0.75 | | | 0.268 | 6.80 | |
| **HMC0391** | 2 | 1640 | 500 | 94.8 | 43.0 | (32x0.20) NPC | 17 | 1.00 | | | 0.248 | 6.30 | |
| **HMC0392** | 3 | 1640 | 500 | 122.4 | 55.5 | (32x0.20) NPC | 17 | 1.00 | | | 0.264 | 6.70 | |
| **HMC0393** | 4 | 1640 | 500 | 156.5 | 71.0 | (32x0.20) NPC | 17 | 1.00 | | | 0.283 | 7.20 | |
| **HMC0394** | 2 | 1640 | 500 | 106.9 | 48.5 | (30x0.25) NPC | 16 | 1.50 | | | 0.280 | 7.10 | |
| **HMC0395** | 3 | 1640 | 500 | 146.6 | 66.5 | (30x0.25) NPC | 16 | 1.50 | | | 0.295 | 7.50 | |
| **HMC0396** | 4 | 1640 | 500 | 179.7 | 81.5 | (30x0.25) NPC | 16 | 1.50 | | | 0.319 | 8.10 | |
| **HMC0397** | 2 | 1640 | 500 | 192.9 | 87.5 | (50x0.25) NPC | 14 | 2.50* | | | 0.346 | 8.80 | |
| **HMC0398** | 3 | 1640 | 500 | 234.8 | 106.5 | (50x0.25) NPC | 14 | 2.50* | | | 0.429 | 10.90 | |
| **HMC0399** | 4 | 1640 | 500 | 327.4 | 148.5 | (50x0.25) NPC | 14 | 2.50* | | | 0.484 | 12.30 | |
| **HMC0400** | 2 | 1640 | 500 | 278.9 | 126.5 | (56x0.30) NPC | 12 | 4* | | | 0.476 | 12.10 | |
| **HMC0401** | 3 | 1640 | 500 | 325.2 | 147.5 | (56x0.30) NPC | 12 | 4* | | | 0.508 | 12.90 | |
| **HMC0402** | 4 | 1640 | 500 | 434.3 | 197.0 | (56x0.30) NPC | 12 | 4* | | | 0.559 | 14.20 | |



NPC = Nickel-Plated Copper • DCR = DC resistance
* 300/500 Volt construction

# Mica – Ceramic Braid, Steel Wire Braid (SWB)

Multicore Cables
380V, 1250°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1250°C • 17 - 10 AWG** • Stranded SA Wire • Impregnated Ceramic Fiber Shield • Mica Tape • Overall Impregnated Ceramic Fiber Braid | | | | | | | | | | | | | |
| **Mica Insulation** (Color Code: see chart 11, Tech Info Section) • **SWB** | | | | | | | | | | | | | |
| | | | | | | | | | | Overall Ceramic Fiber Braid | | | For wiring at high ambient temperature and increased mechanical stress, e.g.<br>- Glass and ceramic fabrication<br>- Industrial furnaces<br>- Electric heating systems |
| **HMC0403** | 2 | 328 | 100 | 17.0 | 7.7 | (32x0.20) SA | 17 | 1.00 | | 0.323 | 8.20 | |
| **HMC0404** | 3 | 328 | 100 | 22.0 | 10.0 | (32x0.20) SA | 17 | 1.00 | | 0.343 | 8.70 | |
| **HMC0405** | 4 | 328 | 100 | 27.6 | 12.5 | (32x0.20) SA | 17 | 1.00 | | 0.382 | 9.70 | |
| **HMC0406** | 5 | 328 | 100 | 34.6 | 15.7 | (32x0.20) SA | 17 | 1.00 | | 0.417 | 10.60 | |
| **HMC0407** | 2 | 328 | 100 | 20.3 | 9.2 | (30x0.25) SA | 16 | 1.50 | | 0.346 | 8.80 | |
| **HMC0408** | 3 | 328 | 100 | 26.5 | 12.0 | (30x0.25) SA | 16 | 1.50 | | 0.370 | 9.40 | |
| **HMC0409** | 4 | 328 | 100 | 33.3 | 15.1 | (30x0.25) SA | 16 | 1.50 | | 0.409 | 10.40 | |
| **HMC0410** | 5 | 328 | 100 | 41.9 | 19.0 | (30x0.25) SA | 16 | 1.50 | | 0.445 | 11.30 | |
| **HMC0411** | 2 | 328 | 100 | 27.3 | 12.4 | (50x0.25) SA | 14 | 2.50 | | 0.374 | 9.50 | |
| **HMC0412** | 3 | 328 | 100 | 34.8 | 15.8 | (50x0.25) SA | 14 | 2.50 | | 0.398 | 10.10 | |
| **HMC0413** | 4 | 328 | 100 | 44.1 | 20.0 | (50x0.25) SA | 14 | 2.50 | | 0.437 | 11.10 | |
| **HMC0414** | 5 | 328 | 100 | 54.0 | 24.5 | (50x0.25) SA | 14 | 2.50 | | 0.484 | 12.30 | |
| **HMC0415** | 2 | 328 | 100 | 37.9 | 17.2 | (56x0.30) SA | 12 | 4 | | 0.437 | 11.10 | |
| **HMC0416** | 3 | 328 | 100 | 52.5 | 23.8 | (56x0.30) SA | 12 | 4 | | 0.469 | 11.90 | |
| **HMC0417** | 4 | 328 | 100 | 67.5 | 30.6 | (56x0.30) SA | 12 | 4 | | 0.516 | 13.10 | |
| **HMC0418** | 5 | 328 | 100 | 89.1 | 40.4 | (56x0.30) SA | 12 | 4 | | 0.571 | 14.50 | |
| **HMC0419** | 2 | 328 | 100 | 51.6 | 23.4 | (84x0.30) SA | 10 | 6 | | 0.484 | 12.30 | |
| **HMC0420** | 3 | 328 | 100 | 71.4 | 32.4 | (84x0.30) SA | 10 | 6 | | 0.520 | 13.20 | |
| **HMC0421** | 4 | 328 | 100 | 91.9 | 41.7 | (84x0.30) SA | 10 | 6 | | 0.571 | 14.50 | |
| **HMC0422** | 5 | 328 | 100 | 116.6 | 52.9 | (84x0.30) SA | 10 | 6 | | 0.634 | 16.10 | |

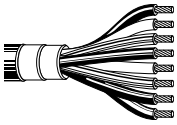
SA = Special Alloy • DCR = DC resistance

# Micaflame® – Glass Braid

## Multicore Cables

## 300/500V, 1550°C short term, 300°C permanent

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1550°C • 17 - 10 AWG** • Stranded Nickel-Plated Copper Wire • Glass Fiber Shield • Overall Impregnated Glass Fiber Braid | | | | | | | | | | | | | |
| **Micaflame® Insulation** (Color Code: see chart 11, Tech Info Section) | | | | | | | | | | | | | |
| | | | | | | | | | | Overall Glass Fiber Braid | | | For wiring at high ambient temperature and increased mechanical stress. These cables are fire resistant and offer at least 15 minutes insulation integrity in liquid steel or aluminium, e.g.<br>- Glass and ceramic fabrication<br>- Industrial furnaces<br>- Electric heating systems |
| **HMC0423** | 2 | 328 | 100 | 23.4 | 10.6 | (32x0.20) NPC | 17 | 1.00 | | 0.402 | 10.20 | |
| **HMC0424** | 3 | 328 | 100 | 31.5 | 14.3 | (32x0.20) NPC | 17 | 1.00 | | 0.433 | 11.00 | |
| **HMC0425** | 4 | 328 | 100 | 39.9 | 18.1 | (32x0.20) NPC | 17 | 1.00 | | 0.476 | 12.10 | |
| **HMC0426** | 5 | 328 | 100 | 50.7 | 23.0 | (32x0.20) NPC | 17 | 1.00 | | 0.524 | 13.30 | |
| **HMC0427** | 2 | 328 | 100 | 26.7 | 12.1 | (30x0.25) NPC | 16 | 1.50 | | 0.421 | 10.70 | |
| **HMC0428** | 3 | 328 | 100 | 36.2 | 16.4 | (30x0.25) NPC | 16 | 1.50 | | 0.453 | 11.50 | |
| **HMC0429** | 4 | 328 | 100 | 45.9 | 20.8 | (30x0.25) NPC | 16 | 1.50 | | 0.496 | 12.60 | |
| **HMC0430** | 5 | 328 | 100 | 58.6 | 26.6 | (30x0.25) NPC | 16 | 1.50 | | 0.551 | 14.00 | |
| **HMC0431** | 2 | 328 | 100 | 33.1 | 15.0 | (50x0.25) NPC | 14 | 2.50 | | 0.465 | 11.80 | |
| **HMC0432** | 3 | 328 | 100 | 45.4 | 20.6 | (50x0.25) NPC | 14 | 2.50 | | 0.492 | 12.50 | |
| **HMC0433** | 4 | 328 | 100 | 58.4 | 26.5 | (50x0.25) NPC | 14 | 2.50 | | 0.543 | 13.80 | |
| **HMC0434** | 5 | 328 | 100 | 73.2 | 33.2 | (50x0.25) NPC | 14 | 2.50 | | 0.606 | 15.40 | |
| **HMC0435** | 2 | 328 | 100 | 41.4 | 18.8 | (56x0.30) NPC | 12 | 4 | | 0.500 | 12.70 | |
| **HMC0436** | 3 | 328 | 100 | 57.8 | 26.2 | (56x0.30) NPC | 12 | 4 | | 0.535 | 13.60 | |
| **HMC0437** | 4 | 328 | 100 | 74.3 | 33.7 | (56x0.30) NPC | 12 | 4 | | 0.591 | 15.00 | |
| **HMC0438** | 5 | 328 | 100 | 91.5 | 41.5 | (56x0.30) NPC | 12 | 4 | | 0.654 | 16.60 | |
| **HMC0439** | 2 | 328 | 100 | 52.5 | 23.8 | (84x0.30) NPC | 10 | 6 | | 0.555 | 14.10 | |
| **HMC0440** | 3 | 328 | 100 | 74.1 | 33.6 | (84x0.30) NPC | 10 | 6 | | 0.594 | 15.10 | |
| **HMC0441** | 4 | 328 | 100 | 98.8 | 44.8 | (84x0.30) NPC | 10 | 6 | | 0.650 | 16.50 | |
| **HMC0442** | 5 | 328 | 100 | 124.6 | 56.5 | (84x0.30) NPC | 10 | 6 | | 0.728 | 18.50 | |



(Jacket optional)

NPC = Nickel-Plated Copper • DCR = DC resistance

# PVC LiY(St)CY

Multicore Cables

500V, 80°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **80°C • 22 - 14 AWG** • Stranded Bare Copper Wire • Overall Alufoil • >65 % Overall Bare Copper Braid | | | | | | | | | | | | | |
| **PVC Insulation** (Color Code: see chart 11, Tech Info Section) • **Grey PVC Flame Retardant Jacket** | | | | | | | | | | | | | |
| | | IEC 332 | | | | | | | | Overall Alufoil + Overall 65% BC Braid | | | - Survey and data transmission<br>- Check and drive systems<br>- Measure and monitor systems<br>- Interconnection of computer networks and outskirts interface |
| **HMC0444** | 2 | 328 | 100 | 70.5 | 32.0 | (11x0.193) BC | 22 | 0.35 | | 0.169 | 4.30 | |
| **HMC0445** | 3 | 328 | 100 | 77.2 | 35.0 | (11x0.193) BC | 22 | 0.35 | | 0.177 | 4.50 | |
| **HMC0446** | 4 | 328 | 100 | 88.2 | 40.0 | (11x0.193) BC | 22 | 0.35 | | 0.189 | 4.80 | |
| **HMC0447** | 5 | 328 | 100 | 110.2 | 50.0 | (11x0.193) BC | 22 | 0.35 | | 0.228 | 5.80 | |
| **HMC0448** | 6 | 328 | 100 | 121.3 | 55.0 | (11x0.193) BC | 22 | 0.35 | | 0.232 | 5.90 | |
| **HMC0449** | 7 | 328 | 100 | 143.3 | 65.0 | (11x0.193) BC | 22 | 0.35 | | 0.236 | 6.00 | |
| **HMC0451** | 2 | 328 | 100 | 79.4 | 36.0 | (16x0.193) BC | 20 | 0.50 | | 0.181 | 4.60 | |
| **HMC0452** | 3 | 328 | 100 | 92.6 | 42.0 | (16x0.193) BC | 20 | 0.50 | | 0.189 | 4.80 | |
| **HMC0453** | 4 | 328 | 100 | 123.5 | 56.0 | (16x0.193) BC | 20 | 0.50 | | 0.228 | 5.80 | |
| **HMC0454** | 5 | 328 | 100 | 134.5 | 61.0 | (16x0.193) BC | 20 | 0.50 | | 0.248 | 6.30 | |
| **HMC0455** | 6 | 328 | 100 | 156.5 | 71.0 | (16x0.193) BC | 20 | 0.50 | | 0.252 | 6.40 | |
| **HMC0456** | 7 | 328 | 100 | 169.8 | 77.0 | (16x0.193) BC | 20 | 0.50 | | 0.256 | 6.50 | |
| **HMC0457** | 8 | 328 | 100 | 202.8 | 92.0 | (16x0.193) BC | 20 | 0.50 | | 0.283 | 7.20 | |
| **HMC0458** | 10 | 328 | 100 | 249.1 | 113.0 | (16x0.193) BC | 20 | 0.50 | | 0.335 | 8.50 | |
| **HMC0459** | 12 | 328 | 100 | 337.3 | 153.0 | (16x0.193) BC | 20 | 0.50 | | 0.354 | 9.00 | |
| **HMC0461** | 2 | 328 | 100 | 92.6 | 42.0 | (22x0.193) BC | 18 | 0.75 | | 0.209 | 5.30 | |
| **HMC0462** | 3 | 328 | 100 | 130.1 | 59.0 | (22x0.193) BC | 18 | 0.75 | | 0.244 | 6.20 | |
| **HMC0463** | 4 | 328 | 100 | 143.3 | 65.0 | (22x0.193) BC | 18 | 0.75 | | 0.248 | 6.30 | |
| **HMC0464** | 5 | 328 | 100 | 165.3 | 75.0 | (22x0.193) BC | 18 | 0.75 | | 0.264 | 6.70 | |
| **HMC0465** | 6 | 328 | 100 | 196.2 | 89.0 | (22x0.193) BC | 18 | 0.75 | | 0.268 | 6.80 | |
| **HMC0466** | 7 | 328 | 100 | 209.4 | 95.0 | (22x0.193) BC | 18 | 0.75 | | 0.276 | 7.00 | |
| **HMC0467** | 8 | 328 | 100 | 244.7 | 111.0 | (22x0.193) BC | 18 | 0.75 | | 0.299 | 7.60 | |
| **HMC0468** | 10 | 328 | 100 | 306.4 | 139.0 | (22x0.193) BC | 18 | 0.75 | | 0.358 | 9.10 | |
| **HMC0469** | 12 | 328 | 100 | 350.5 | 159.0 | (22x0.193) BC | 18 | 0.75 | | 0.374 | 9.50 | |
| **HMC0471** | 2 | 328 | 100 | 123.5 | 56.0 | (20x0.243) BC | 17 | 1.00 | | 0.240 | 6.10 | |
| **HMC0472** | 3 | 328 | 100 | 160.9 | 73.0 | (20x0.243) BC | 17 | 1.00 | | 0.248 | 6.30 | |
| **HMC0473** | 4 | 328 | 100 | 213.8 | 97.0 | (20x0.243) BC | 17 | 1.00 | | 0.291 | 7.40 | |
| **HMC0474** | 5 | 328 | 100 | 238.1 | 108.0 | (20x0.243) BC | 17 | 1.00 | | 0.311 | 7.90 | |
| **HMC0475** | 6 | 328 | 100 | 264.6 | 120.0 | (20x0.243) BC | 17 | 1.00 | | 0.319 | 8.10 | |
| **HMC0476** | 7 | 328 | 100 | 304.2 | 138.0 | (20x0.243) BC | 17 | 1.00 | | 0.335 | 8.50 | |
| **HMC0477** | 8 | 328 | 100 | 357.1 | 162.0 | (20x0.243) BC | 17 | 1.00 | | 0.370 | 9.40 | |

BC = Bare Copper • DCR = DC resistance

# PVC LiY(St)CY

Multicore Cables
500V, 80°C

| De-scription | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **80°C • 22 - 14 AWG** • Stranded Bare Copper Wire • Overall Alufoil • >65% Overall Bare Copper Braid *(continued)* | | | | | | | | | | | | | |
| **PVC Insulation** (Color Code: see chart 11, Tech Info Section) • **Grey PVC Flame Retardant Jacket** | | | | | | | | | | | | | |
| | | IEC 332 | | | | | | | | Overall Alufoil + Overall 65% BC Braid | | | - Survey and data transmission<br>- Check and drive systems<br>- Measure and monitor systems<br>- Interconnection of computer networks and outskirts interface |
| | **HMC0479** | 2 | 328 | 100 | 213.8 | 97.0 | (28x0.245) BC | 16 | 1.50 | | 0.272 | 6.90 | |
| | **HMC0480** | 3 | 328 | 100 | 213.8 | 97.0 | (28x0.245) BC | 16 | 1.50 | | 0.280 | 7.10 | |
| | **HMC0481** | 4 | 328 | 100 | 213.8 | 97.0 | (28x0.245) BC | 16 | 1.50 | | 0.331 | 8.40 | |
| | **HMC0482** | 5 | 328 | 100 | 213.8 | 97.0 | (28x0.245) BC | 16 | 1.50 | | 0.362 | 9.20 | |
| | **HMC0483** | 6 | 328 | 100 | 213.8 | 97.0 | (28x0.245) BC | 16 | 1.50 | | 0.374 | 9.50 | |
| | **HMC0484** | 3 | 328 | 100 | 213.8 | 97.0 | (48x0.243) BC | 14 | 2.50 | | 0.319 | 8.10 | |
| | **HMC0485** | 4 | 328 | 100 | 363.8 | 165.0 | (48x0.243) BC | 14 | 2.50 | | 0.366 | 9.30 | |

BC = Bare Copper • DCR = DC resistance

# PVC LiY CY

Multicore Cables
750V, 80°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **80°C • 24 - 14 AWG** • Stranded Bare or Tinned Copper Wire • >80 % Overall Bare Copper Braid | | | | | | | | | | | | | |
| **PVC Insulation** (Color Code: see chart 11, Tech Info Section) • **Grey Oil Proof and Flame Retardant PVC Jacket** | | | | | | | | | | | | | |
| | | IEC 332 | | | | | | | | + Overall 80 % BC Braid | | | - Survey and data transmission<br>- Check and drive systems<br>- Measure and monitor systems<br>- Interconnection of computer networks and outskirts interface |
| | **HMC0486** | 1 | 328 | 100 | 33.1 | 15.0 | (8x0.193) BC | 24 | 0.25 | | 0.118 | 3.00 | |
| | **HMC0487** | 2 | 328 | 100 | 57.3 | 26.0 | (8x0.193) BC | 24 | 0.25 | | 0.161 | 4.10 | |
| | **HMC0488** | 3 | 328 | 100 | 70.5 | 32.0 | (8x0.193) BC | 24 | 0.25 | | 0.173 | 4.40 | |
| | **HMC0489** | 4 | 328 | 100 | 79.4 | 36.0 | (8x0.193) BC | 24 | 0.25 | | 0.181 | 4.60 | |
| | **HMC0490** | 5 | 328 | 100 | 103.6 | 47.0 | (8x0.193) BC | 24 | 0.25 | | 0.217 | 5.50 | |
| | **HMC0491** | 6 | 328 | 100 | 112.4 | 51.0 | (8x0.193) BC | 24 | 0.25 | | 0.220 | 5.60 | |
| | **HMC0492** | 7 | 328 | 100 | 127.9 | 58.0 | (8x0.193) BC | 24 | 0.25 | | 0.228 | 5.80 | |
| | **HMC0493** | 8 | 328 | 100 | 136.7 | 62.0 | (8x0.193) BC | 24 | 0.25 | | 0.236 | 6.00 | |
| | **HMC0494** | 1 | 328 | 100 | 37.5 | 17.0 | (11x0.193) BC | 22 | 0.35 | | 0.122 | 3.10 | |
| | **HMC0495** | 2 | 328 | 100 | 72.8 | 33.0 | (11x0.193) BC | 22 | 0.35 | | 0.173 | 4.40 | |
| | **HMC0496** | 3 | 328 | 100 | 79.4 | 36.0 | (11x0.193) BC | 22 | 0.35 | | 0.181 | 4.60 | |
| | **HMC0497** | 4 | 328 | 100 | 90.4 | 41.0 | (11x0.193) BC | 22 | 0.35 | | 0.193 | 4.90 | |
| | **HMC0498** | 5 | 328 | 100 | 114.6 | 52.0 | (11x0.193) BC | 22 | 0.35 | | 0.232 | 5.90 | |
| | **HMC0499** | 6 | 328 | 100 | 125.7 | 57.0 | (11x0.193) BC | 22 | 0.35 | | 0.236 | 6.00 | |
| | **HMC0500** | 7 | 328 | 100 | 149.9 | 68.0 | (11x0.193) BC | 22 | 0.35 | | 0.240 | 6.10 | |
| | **HMC0501** | 8 | 328 | 100 | 174.2 | 79.0 | (11x0.193) BC | 22 | 0.35 | | 0.248 | 6.30 | |
| | **HMC0502** | 1 | 328 | 100 | 39.7 | 18.0 | (16x0.193) BC | 20 | 0.50 | | 0.126 | 3.20 | |
| | **HMC0503** | 2 | 328 | 100 | 81.6 | 37.0 | (16x0.193) BC | 20 | 0.50 | | 0.185 | 4.70 | |
| | **HMC0504** | 3 | 328 | 100 | 94.8 | 43.0 | (16x0.193) BC | 20 | 0.50 | | 0.193 | 4.90 | |
| | **HMC0505** | 4 | 328 | 100 | 125.7 | 57.0 | (16x0.193) BC | 20 | 0.50 | | 0.232 | 5.90 | |
| | **HMC0506** | 5 | 328 | 100 | 136.7 | 62.0 | (16x0.193) BC | 20 | 0.50 | | 0.252 | 6.40 | |
| | **HMC0507** | 6 | 328 | 100 | 158.7 | 72.0 | (16x0.193) BC | 20 | 0.50 | | 0.256 | 6.50 | |
| | **HMC0508** | 7 | 328 | 100 | 172.0 | 78.0 | (16x0.193) BC | 20 | 0.50 | | 0.260 | 6.60 | |
| | **HMC0509** | 8 | 328 | 100 | 211.6 | 96.0 | (16x0.193) BC | 20 | 0.50 | | 0.287 | 7.30 | |
| | **HMC0510** | 10 | 328 | 100 | 251.3 | 114.0 | (16x0.193) BC | 20 | 0.50 | | 0.339 | 8.60 | |
| | **HMC0511** | 2 | 328 | 100 | 97.0 | 44.0 | (22x0.193) BC | 18 | 0.75 | | 0.213 | 5.40 | |
| | **HMC0512** | 3 | 328 | 100 | 130.1 | 59.0 | (22x0.193) BC | 18 | 0.75 | | 0.248 | 6.30 | |
| | **HMC0513** | 4 | 328 | 100 | 145.5 | 66.0 | (22x0.193) BC | 18 | 0.75 | | 0.268 | 6.80 | |
| | **HMC0514** | 2 | 328 | 100 | 125.7 | 57.0 | (20x0.243) BC | 17 | 1.00 | | 0.244 | 6.20 | |
| | **HMC0515** | 3 | 328 | 100 | 163.1 | 74.0 | (20x0.243) BC | 17 | 1.00 | | 0.252 | 6.40 | |
| | **HMC0516** | 4 | 328 | 100 | 216.1 | 98.0 | (20x0.243) BC | 17 | 1.00 | | 0.295 | 7.50 | |
| | **HMC0517** | 5 | 328 | 100 | 240.3 | 109.0 | (20x0.243) BC | 17 | 1.00 | | 0.315 | 8.00 | |

BC = Bare Copper • DCR = DC resistance

# PVC LiY CY

Multicore Cables
750V, 80°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **80°C • 24 - 14 AWG** • Stranded Bare or Tinned Copper Wire • >80% Overall Bare Copper Braid *(continued)* | | | | | | | | | | | | | |
| **PVC Insulation** (Color Code: see chart 11, Tech Info Section) • **Grey Oil Proof and Flame Retardant PVC Jacket** | | | | | | | | | | | | | |
| | | IEC 332 | | | | | | | | + Overall 80% BC Braid | | | - Survey and data transmission<br>- Check and drive systems<br>- Measure and monitor systems<br>- Interconnection of computer networks and outskirts interface |
| | **HMC0518** | 2 | 328 | 100 | 169.8 | 77.0 | (28x0.245) BC | 16 | 1.50 | | 0.276 | 7.00 | |
| | **HMC0519** | 3 | 328 | 100 | 207.2 | 94.0 | (28x0.245) BC | 16 | 1.50 | | 0.287 | 7.30 | |
| | **HMC0520** | 4 | 328 | 100 | 269.0 | 122.0 | (28x0.245) BC | 16 | 1.50 | | 0.335 | 8.50 | |
| | **HMC0521** | 5 | 328 | 100 | 363.8 | 165.0 | (28x0.245) BC | 16 | 1.50 | | 0.386 | 9.80 | |
| | **HMC0522** | 2 | 328 | 100 | 231.5 | 105.0 | (48x0.243) BC | 14 | 2.50 | | 0.327 | 8.30 | |
| | **HMC0523** | 3 | 328 | 100 | 319.7 | 145.0 | (48x0.243) BC | 14 | 2.50 | | 0.339 | 8.60 | |

# PVC 07BQ-F

Multicore Cables
450/750V, 75°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD Inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **80°C • 17 - 14 AWG • Stranded Bare Copper Wire** | | | | | | | | | | | | | |
| **PVC Insulation** (Color Code: see chart 12, Tech Info Section) • **Orange Oil Resistant PUR Jacket** | | | | | | | | | | | | | |
| | | | | | | | | | | Unshielded | | | - Small electrotools<br>- For mobile tools, not for heavy duty |
| | **HMC0524** | 2 | 328 | 100 | 134.5 | 61.0 | (20x0.243) BC | 17 | 1.00 | | 0.268 | 6.80 | |
| | **HMC0525** | 3 | 328 | 100 | 154.3 | 70.0 | (20x0.243) BC | 17 | 1.00 | | 0.272 | 6.90 | |
| | **HMC0526** | 4 | 328 | 100 | 216.1 | 98.0 | (20x0.243) BC | 17 | 1.00 | | 0.315 | 8.00 | |
| | **HMC0527** | 2 | 328 | 100 | 176.4 | 80.0 | (28x0.245) BC | 16 | 1.50 | | 0.299 | 7.60 | |
| | **HMC0528** | 3 | 328 | 100 | 216.1 | 98.0 | (28x0.245) BC | 16 | 1.50 | | 0.323 | 8.20 | |
| | **HMC0529** | 4 | 328 | 100 | 297.6 | 135.0 | (28x0.245) BC | 16 | 1.50 | | 0.366 | 9.30 | |
| | **HMC0530** | 3 | 328 | 100 | 350.5 | 159.0 | (48x0.243) BC | 14 | 2.50 | | 0.398 | 10.10 | |

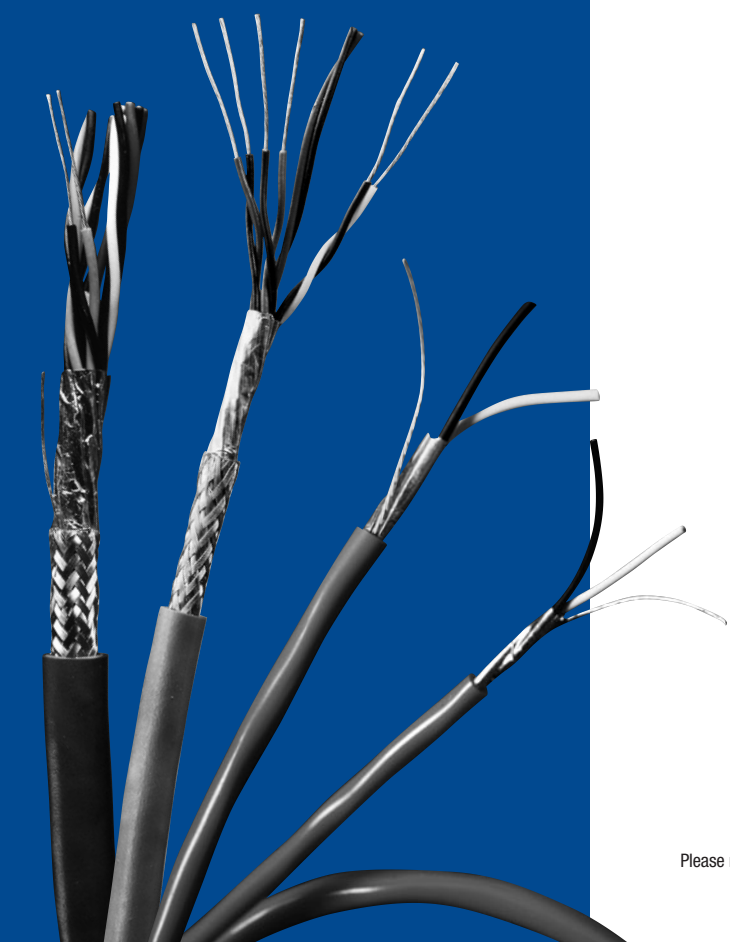
BC = Bare Copper • DCR = DC resistance

BELDEN
SENDING ALL THE RIGHT SIGNALS



# Paired Cables

5



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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### Pairing with Belden

Paired cables allow balanced signal transmission, which results in lower crosstalk through common mode rejection. Due to the improved noise immunity of twisted pairs, they generally permit higher data speeds than multi-conductor cables.

Partnership with Belden means solutions to problems with the right cables to provide the right performance for the right price.

### Key Applications

- Transmitters (single ended)
- Devices
- Multipoint networks
- High impedance drives
- Micro processor controls
- Converters
- Repeaters

### Special Features

- Belden paired cables are offered in many variations including plenum and high-temperature versions. Variations include:
  - Gage sizes
  - Dimensions
  - Insulation materials
  - Shielding configurations
  - Jacketing materials

- Paired cables packaging: Belden's unique UnReel® cable dispenser is available for many of the multi-conductor products listed in this section. The letter "U" before the specified put-up length denotes UnReel® packaging.

- Temperature versions to meet the technical requirements of many different types of systems.

### Availability

Most of our paired cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a multi-conductor cable in this catalog section that meets your technical requirements, see our U.S. Master Catalog or contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

# Introduction

## Selection Guide: Shielded Multi-Pair Computer Cables RS-232, RS-422, and RS-485 Applications*

| Specifications | | | Cable Series** 9804 | 8132 | 9829 | 8332 | 9501 | 8102 | 9729 | 8162 | 9680 | 8302 | 8777 | 9873 | 9773 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Conductor Size:** (AWG) | | **28** | ✓ | ✓ | | | | | | | | | | | |
| | | **24** | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| | | **22** | | | | | | | | | | ✓ | ✓ | | |
| | | **20** | | | | | | | | | | | | ✓ | |
| | | **18** | | | | | | | | | | | | | ✓ |
| | | Page No. | 5.13 | 5.14 | 5.16 | 5.15 | 5.7 | 5.17 | 5.20 | 5.25 | 5.9 | 5.18 | 5.22 | 5.23 | 5.23 |
| **Insulation:** | **S-R PVC** | | | | | ✓ | ✓ | | | | | ✓ | | | |
| | **Polyethylene** | | | | ✓ | | | | | | ✓ | | | ✓ | ✓ |
| | **Polypropylene** | | ✓ | | | | | | | | | | ✓ | | |
| | **Datalene®†** | | | ✓ | | | | ✓ | ✓ | ✓ | | | | | |
| **Shield:** | **Overall Foil** | | | | | | ✓ | | | | ✓ | | | | |
| | **Individual Foil** | | | | | | | | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| | **Overall Foil/Braid** | | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | | |
| | **Braid Coverage** | | 90% | 65% | 65% | 65% | | 65% | | 65% | | 65% | | | |
| **Drain Wire:** | (see key below) | | ● | ● | ● | × | ● | ● | ▲ | ▲ | ● | × | ▲ | ▲ | ▲ |
| **No. of Pairs** | **Available:** | **1** | | | | | ✓ | | | | | | | | |
| | | **2** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | |
| | | **3** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | **4** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| | | **5** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | | |
| | | **6** | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | **7** | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | | |
| | | **8** | | ✓ | | | ✓ | ✓ | | ✓ | | ✓ | | | |
| | | **9** | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ |
| | | **10** | | | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | | |
| | | **11** | | | | | | | ✓ | | | | ✓ | ✓ | |
| | | **12** | ✓ | | ✓ | | | | ✓ | | | | ✓ | ✓ | ✓ |
| | | **12.5** | | ✓ | | ✓ | | ✓ | | | ✓ | ✓ | | | |
| | | **13** | ✓ | | | | | | | | | | | | |
| | | **15** | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | | **17** | | | | | | | ✓ | | | | ✓ | | |
| | | **18** | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | | |
| | | **19** | | | | | ✓ | | ✓ | | | | ✓ | | |
| | | **25** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | | |
| | | **27** | | | | | | | ✓ | | | | ✓ | | |
| | | **31** | ✓ | | | | | | | | | | | | |
| | | **37** | | | | | | | | | | | ✓ | | |
| | | **50** | | | | | ✓ | | | | | | | | |
| **Capacitance††** (pF/m) | | | 50.8 | 36.1 | 50.8 | 98.4 | 98.4 | 41.0 | 41.0 | 41.0 | 50.8 | 114.8 | 98.4 | 98.4 | 98.4 |

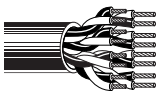
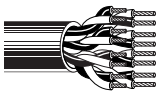
S-R = Semi-Rigid

* Refer to specifications for recommendations.
** All cables are UL-listed.
† Foam high density polyethylene.
†† Capacitance may vary on some cables.

Drain Wire Key:
● = Drain wire overall.
▲ = Drain wire each pair.
× = No drain wire.

# Unshielded

## Audio, Control and Instrumentation Cables

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 300V RMS | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.064 | 1.62 | Unshielded | | | see chart 3<br>(Tech Info Section) |
|  | **8205** | 1-Pair | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 2.6<br>9.0<br>9.0<br>18.1<br>18.1 | 1.2<br>4.1<br>4.1<br>8.2<br>8.2 | | | | | 0.180 | 4.57 | |
| 300V 80°C<br>UL AWM Style 2464 | **9750** | 3-Pair | 500<br>1000 | 152<br>305 | 26.5<br>50.0 | 12.0<br>22.7 | | | | | 0.299 | 7.59 | |
|  | **9751** | 6-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 9.0<br>45.2<br>89.3 | 4.1<br>20.5<br>40.5 | | | | | 0.366 | 9.30 | |
| | **9752** | 9-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 13.0<br>65.7<br>125.2 | 5.9<br>29.8<br>56.8 | | | | | 0.429 | 10.90 | |
| | **9755** | 15-Pair | 100<br>1000 | 31<br>305 | 17.9<br>194.4 | 8.1<br>88.2 | | | | | 0.545 | 13.84 | |
| **18 AWG** • Stranded (7x26) 1.2 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 300V RMS | **8461** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.1<br>14.1<br>13.4<br>26.0<br>26.9 | 1.4<br>6.4<br>6.1<br>11.8<br>12.2 | 1.22 mm<br>18 AWG<br>(7x26) TC | 0.092 | 2.34 | Unshielded | 0.234 | 5.94 | Black, White |
|  <br>1-Pair | | | | | | | | | | | | | |
| **18 AWG** • Stranded (16x30) 1.2 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464 | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 1.20 mm<br>18 AWG<br>(16x30) TC | 0.076 | 1.92 | Unshielded | | | see chart 3<br>(Tech Info Section) |
|  | **9740** | 1-Pair | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 12.6<br>12.6<br>24.0<br>24.0 | 5.7<br>5.7<br>10.9<br>10.9 | | | | | 0.210 | 5.33 | |
| | For Plenum version of 9740, see 89740, 87740 or 82740. | | | | | | | | | | | | |
| | **9156** | 2-Pair | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 24.9<br>26.9<br>48.9<br>51.1 | 11.3<br>12.2<br>22.2<br>23.2 | | | | | 0.333 | 8.46 | |

TC = Tinned Copper • DCR = DC resistance

# Unshielded

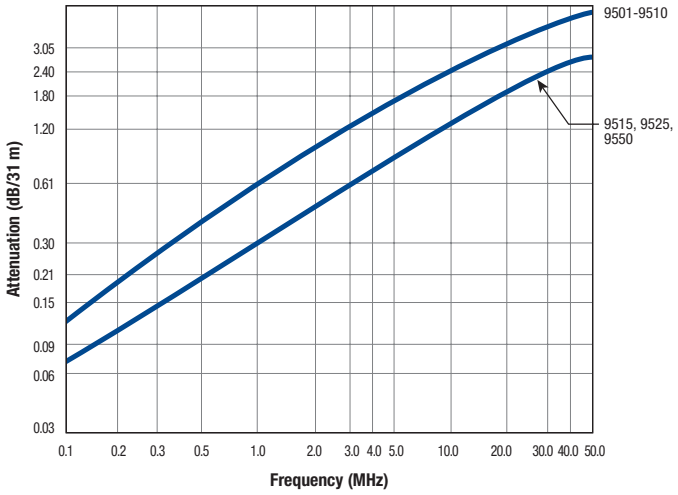
## Audio, Control and Instrumentation Cables

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Stranded (16x30) 1.2 mm Tinned Copper • Twisted Pair *(continued)* | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464 | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 1.20 mm<br>18 AWG<br>(16x30) TC | 0.076 | 1.92 | Unshielded | | | see chart 3<br>(Tech Info Section) |
|  | | | | | | | | | | | | | |
| | **8690** | 3-Pair | 100<br>U-500<br>500<br>1000 | 31<br>U-152<br>152<br>305 | 7.1<br>32.6<br>34.0<br>65.0 | 3.2<br>14.8<br>15.4<br>29.5 | | | | | 0.347 | 8.81 | |
| | **9157** | 4-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 8.4<br>41.0<br>83.1 | 3.8<br>18.6<br>37.7 | | | | | 0.381 | 9.68 | |
| | **9159** | 5-Pair | 500<br>1000 | 152<br>305 | 50.0<br>99.2 | 22.7<br>45.0 | | | | | 0.391 | 9.93 | |
| **18 AWG** • Stranded (19x30) 1.2 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | |
| **Plenum • FEP Insulation • Natural Flamarrest® Jacket** | | | | | | | | | | | | | |
| 300V RMS<br>Non-conduit | **82740** | NEC:<br>CMP<br>CEC:<br>CMP FT6 | U-1000<br>† 1000 | U-305<br>305 | 17.0<br>16.1 | 7.7<br>7.3 | 1.24 mm<br>18 AWG<br>(19x30) TC | 0.061 | 1.54 | Unshielded | 0.147 | 3.73 | Black, Red |
|  <br>1-Pair | | | | | | | | | | | | | |
| **16 AWG** • Stranded (19x29) 1.5 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2598 | **8471** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 20.9<br>20.1<br>41.0<br>43.0 | 9.5<br>9.1<br>18.6<br>19.5 | 1.47 mm<br>16 AWG<br>(19x29) TC | 0.104 | 2.63 | Unshielded | 0.274 | 6.96 | Black, White |
|  <br>1-Pair | | | | | | | | | | | | | |
| **14 AWG** • Stranded (41x30) 1.9 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 600V 90°C<br>UL AWM Style 2587 | **8473** | NEC:<br>CL3<br>CEC:<br>FAS 90 FT4 | U-500<br>500<br>1000 | U-152<br>152<br>305 | 29.1<br>30.6<br>58.2 | 13.2<br>13.9<br>26.4 | 1.85 mm<br>14 AWG<br>(41x30) TC | 0.135 | 3.43 | Unshielded | 0.340 | 8.64 | Black, White |
|  <br>1-Pair | | | | | | | | | | | | | |
| **12 AWG** • Stranded (65x30) 2.4 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 600V 90°C<br>UL AWM Style 2587 | **8477** | NEC:<br>CL3R | U-500<br>500<br>1000 | U-152<br>152<br>305 | 41.4<br>43.4<br>85.1 | 18.8<br>19.7<br>38.6 | 2.41 mm<br>12 AWG<br>(65x30) TC | 0.159 | 4.03 | Unshielded | 0.386 | 9.80 | Black, White |
|  <br>1-Pair | | | | | | | | | | | | | |

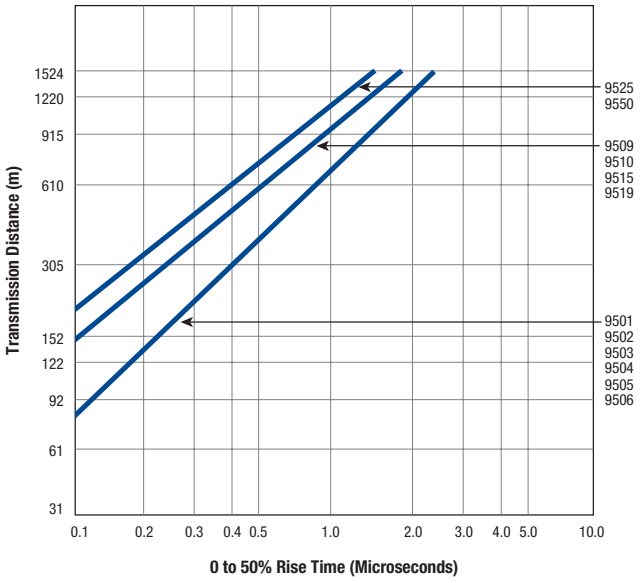
TC = Tinned Copper • DCR = DC resistance
† Spools are one piece, but length may vary ±10% from length shown.

# Overall Beldfoil® Shield
## Cable Characteristics

### Attenuation

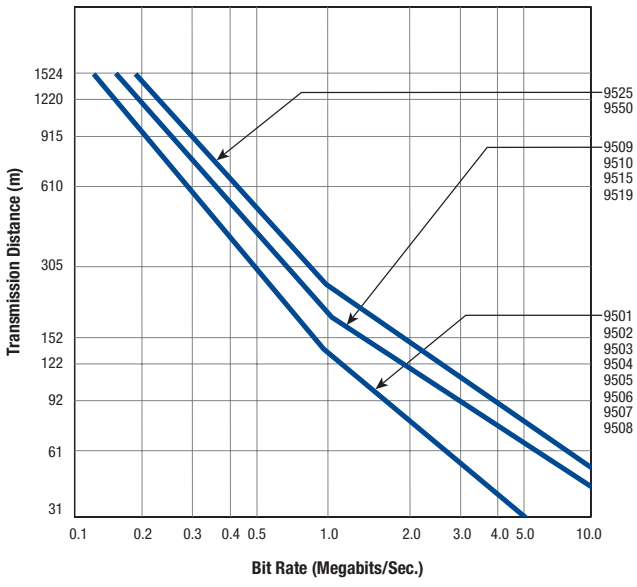



### Rise Time




Cables are terminated in their characteristic impedance. Signal source electrical characteristics: 50 Ohm and 10% to 90% rise time less than 5 nanoseconds.

### Bit Rate




Charts assume 5% peak-to-peak time jitter as determined by eye pattern measurements of pseudorandom NRZ code.

# Overall Beldfoil® Shield

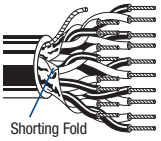
## High-Temperature Control, Instrumentation Cables and Computer Cables for EIA RS-232 Applications

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire

**Semi-Rigid PVC Insulation • Chrome PVC Jacket**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300V 80°C<br>UL AWM Style 2464<br>CSA AWM I A | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.044 | 1.12 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | | | 75 | 60% | | | | see chart 3<br>(Tech Info Section) |




| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9501** | 1-Pair | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 2.2<br>7.5<br>7.1<br>14.1<br>14.1 | 1.0<br>3.4<br>3.2<br>6.4<br>6.4 | | | | | 0.156 | 3.96 | | | CDR/CDR<br>CDR/SCR | 40<br>74 | 131<br>243 | |
| **9502†** | 2-Pair | 100<br>U-500<br>500<br>U-1000<br>1000<br>10000 | 31<br>U-152<br>152<br>U-305<br>305<br>3048 | 3.7<br>15.0<br>14.6<br>28.0<br>30.0<br>290.6 | 1.7<br>6.8<br>6.6<br>12.7<br>13.6<br>131.8 | For Plenum version of 9502, see 82502. | | | | 0.222 | 5.64 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| P-MSHA-SC-7K-182037 | | | | | | | | | | | | | | | | | |
| **9503** | 3-Pair | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 3.3<br>15.0<br>14.6<br>28.0<br>30.0 | 1.5<br>6.8<br>6.6<br>12.7<br>13.6 | For Plenum version of 9503, see 89503 or 82503. | | | | 0.232 | 5.89 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9504** | 4-Pair | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 4.0<br>18.1<br>16.5<br>35.1<br>35.9 | 1.8<br>8.2<br>7.5<br>15.9<br>16.3 | For Plenum version of 9504, see 89504 or 82504. | | | | 0.265 | 6.73 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9505** | 5-Pair | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 4.6<br>21.6<br>22.9<br>41.0<br>43.0 | 2.1<br>9.8<br>10.4<br>18.6<br>19.5 | For Plenum version of 9505, see 89505 or 82505. | | | | 0.289 | 7.34 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9506** | 6-Pair | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 5.1<br>22.9<br>24.9<br>45.0<br>47.2 | 2.3<br>10.4<br>11.3<br>20.4<br>21.4 | For Plenum version of 9506, see 82506. | | | | 0.289 | 7.34 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9507** | 7-Pair | 100<br>U-500<br>500<br>U-1000<br>1000 | 31<br>U-152<br>152<br>U-305<br>305 | 5.5<br>24.9<br>27.1<br>49.2<br>50.9 | 2.5<br>11.3<br>12.3<br>22.3<br>23.1 | | | | | 0.294 | 7.47 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9508** | 8-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 6.4<br>30.4<br>60.0 | 2.9<br>13.8<br>27.2 | | | | | 0.324 | 8.23 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9509** | 9-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 6.8<br>33.5<br>67.0 | 3.1<br>15.2<br>30.4 | For Plenum version of 9509, see 82509. | | | | 0.334 | 8.48 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9510** | 10-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 7.5<br>36.6<br>74.1 | 3.4<br>16.6<br>33.6 | | | | | 0.368 | 9.34 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9515** | 15-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 10.4<br>52.0<br>102.3 | 4.7<br>23.6<br>46.4 | | | | | 0.417 | 10.60 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| **9519** | 19-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 12.8<br>61.7<br>122.4 | 5.8<br>28.0<br>55.5 | | | | | 0.449 | 11.40 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration certification. Request quotations of RG/U cables not listed.

# Overall Beldfoil® Shield

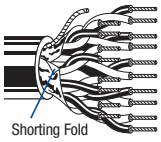
## High-Temperature Control, Instrumentation Cables and Computer Cables for EIA RS-232 Applications

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire *(continued)*

**Semi-Rigid PVC Insulation • Chrome PVC Jacket**

300V 80°C
UL AWM Style 2464
CSA AWM I A




NEC: CMG
CEC: CMG FT4

0.61 mm 24 AWG (7x32) TC | 0.044 | 1.12 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | 75 | 60% | | | | see chart 3 (Tech Info Section)

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9525** | 25-Pair | 100 | 31 | 16.1 | 7.3 | | | | | 0.504 | 12.80 | | | CDR/CDR | 30 | 98 |
| | | 500 | 152 | 79.6 | 36.1 | | | | | | | | | CDR/SCR | 50 | 164 |
| | | 1000 | 305 | 155.0 | 70.3 | | | | | | | | | | | |
| **9550** | 50-Pair | 100 | 31 | 32.0 | 14.5 | | | | | 0.709 | 18.00 | | | CDR/CDR | 30 | 98 |
| | | † 500 | 152 | 153.9 | 69.8 | | | | | | | | | CDR/SCR | 50 | 164 |
| | | † 1000 | 305 | 311.7 | 141.4 | | | | | | | | | | | |

**24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire

**Plenum • FEP Insulation • Natural Flamarrest® Jacket**

300V RMS



NEC: CMP
CEC: CMP FT6

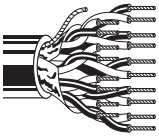
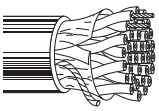
0.61 mm 24 AWG (7x32) TC | 0.036 | 0.91 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | | | | | | | see chart 3 (Tech Info Section)

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **82641** | 1-Pair | †† U-1000 | U-305 | 9.0 | 4.1 | | | | | 0.106 | 2.69 | | | CDR/CDR | 31 | 102 |
| | | †† 1000 | 305 | 7.9 | 3.6 | | | | | | | | | CDR/SCR | 59 | 194 |
| **82502** | 2-Pair | †† U-500 | U-152 | 7.9 | 3.6 | | | | | 0.162 | 4.11 | | | CDR/CDR | 25 | 82 |
| | | †† U-1000 | U-305 | 16.1 | 7.3 | | | | | | | | | CDR/SCR | 45 | 148 |
| | | †† 1000 | 305 | 14.1 | 6.4 | | | | | | | | | | | |
| **82503** | 3-Pair | †† U-1000 | U-305 | 19.0 | 8.6 | | | | | 0.169 | 4.29 | | | CDR/CDR | 25 | 82 |
| | | †† 1000 | 305 | 18.1 | 8.2 | | | | | | | | | CDR/SCR | 45 | 148 |
| **82504** | 4-Pair | †† U-1000 | U-305 | 24.0 | 10.9 | | | | | 0.193 | 4.90 | | | CDR/CDR | 25 | 82 |
| | | †† 1000 | 305 | 26.0 | 11.8 | | | | | | | | | CDR/SCR | 45 | 148 |
| **82505** | 5-Pair | †† U-1000 | U-305 | 29.1 | 13.2 | | | | | 0.196 | 4.98 | | | CDR/CDR | 25 | 82 |
| | | †† 1000 | 305 | 30.9 | 14.0 | | | | | | | | | CDR/SCR | 45 | 148 |
| **82506** | 6-Pair | †† U-500 | U-152 | 17.6 | 8.0 | | | | | 0.209 | 5.31 | | | CDR/CDR | 25 | 82 |
| | | †† U-1000 | U-305 | 34.2 | 15.5 | | | | | | | | | CDR/SCR | 45 | 148 |
| | | †† 1000 | 305 | 35.1 | 15.9 | | | | | | | | | | | |
| **82509** | 9-Pair | †† 1000 | 305 | 49.2 | 22.3 | | | | | 0.246 | 6.25 | | | CDR/CDR | 23 | 75 |
| | | | | | | | | | | | | | | CDR/SCR | 42 | 138 |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Spools are one piece, but length may vary 0% to +20% from length shown.
†† Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel® from length shown.

# Overall Beldfoil® Shield

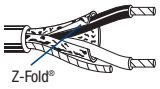
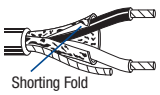
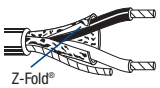
## Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-422 Applications

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.054 | 1.37 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | | | 100 | 66% | | | | see chart 5<br>(Tech Info Section) |
|  | | | | | | | | | | | | | | | | | | |
| **9680** | 3-Pair | | 500<br>1000 | 152<br>305 | 17.0<br>38.1 | 7.7<br>17.3 | | | | | 0.282 | 7.16 | | | CDR/CDR<br>CDR/SCR | 15<br>28 | 51<br>90 | |
| **9681** | 4-Pair | | 500<br>1000 | 152<br>305 | 24.0<br>45.2 | 10.9<br>20.5 | | | | | 0.307 | 7.80 | | | CDR/CDR<br>CDR/SCR | 15<br>28 | 51<br>90 | |
| **9682** | 6-Pair | | 500<br>1000 | 152<br>305 | 29.5<br>56.2 | 13.4<br>25.5 | | | | | 0.342 | 8.69 | | | CDR/CDR<br>CDR/SCR | 15<br>28 | 51<br>90 | |
| **9683** | 9-Pair | | 500<br>1000 | 152<br>305 | 37.9<br>79.1 | 17.2<br>35.9 | | | | | 0.398 | 10.10 | | | CDR/CDR<br>CDR/SCR | 15<br>28 | 51<br>90 | |
| **9684** | 12.5-Pair<br>(12 pairs<br>+ 1 single) | | 500<br>1000 | 152<br>305 | 49.8<br>97.2 | 22.6<br>44.1 | | | | | 0.445 | 11.30 | | | CDR/CDR<br>CDR/SCR | 15<br>28 | 51<br>90 | |
| **Datalene® Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.049 | 1.24 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | | | 100 | 78% | | | | see chart 5<br>(Tech Info Section) |
|  | | | | | | | | | | | | | | | | | | |
| **1419A** | 2-Pair | | 500<br>1000<br>10000 | 152<br>305<br>3048 | 13.4<br>30.0<br>310.6 | 6.1<br>13.6<br>140.9 | | | | | 0.248 | 6.30 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 43<br>72 | |
| **1420A** | 3-Pair | | 500<br>1000<br>10000 | 152<br>305<br>3048 | 15.0<br>34.2<br>340.6 | 6.8<br>15.5<br>154.5 | | | | | 0.261 | 6.63 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 43<br>72 | |
| **1421A** | 4-Pair | | 500<br>1000 | 152<br>305 | 16.5<br>37.0 | 7.5<br>16.8 | | | | | 0.280 | 7.11 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 43<br>72 | |
| **1422A** | 5-Pair | | 500<br>1000 | 152<br>305 | 23.1<br>43.0 | 10.5<br>19.5 | | | | | 0.294 | 7.47 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 43<br>72 | |
| **1423A** | 6-Pair | | 500<br>1000<br>10000 | 152<br>305<br>3048 | 25.1<br>48.1<br>501.1 | 11.4<br>21.8<br>227.3 | | | | | 0.319 | 8.10 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 43<br>72 | |
| **1424A** | 12.5-Pair<br>(12 pairs<br>+ 1 single) | | 500<br>1000 | 152<br>305 | 43.0<br>85.1 | 19.5<br>36.6 | | | | | 0.418 | 10.62 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 43<br>72 | |
| **1425A** | 15-Pair | | 500<br>1000 | 152<br>305 | 53.1<br>99.2 | 24.1<br>45.0 | | | | | 0.473 | 12.01 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 43<br>72 | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Beldfoil® Shield

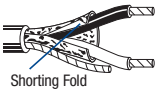
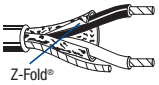
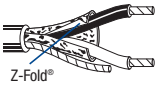
## Audio, Control and Instrumentation Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Solid 0.6 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2092 | **8761** | NEC:<br>CM<br>CEC:<br>CM | U-500<br>500<br>U-1000<br>1000<br>2000<br>5000<br>† 10000 | U-152<br>152<br>U-305<br>305<br>610<br>1524<br>3048 | 9.0<br>9.0<br>17.0<br>18.1<br>35.9<br>90.2<br>170.4 | 4.1<br>4.1<br>7.7<br>8.2<br>16.3<br>40.9<br>77.3 | 0.64 mm<br>22 AWG<br>Solid TC | 0.057 | 1.46 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.175 | 4.45 | – | – | CDR/CDR<br>CDR/SCR | 24<br>47 | 79<br>154 | Black, Clear |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 1-Pair | | For Plenum versions of 8761, see 88761, 87761 or 82761. | | | | | | | | | | | | | | | | |
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Beige PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464 | **9154** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 11.5<br>12.1<br>22.0<br>23.1 | 5.2<br>5.5<br>10.0<br>10.5 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.066 | 1.68 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.198 | 5.03 | – | – | CDR/CDR<br>CDR/SCR | 60<br>100 | 197<br>328 | Black, Red |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 1-Pair | | | | | | | | | | | | | | | | | | |
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2092 | **8762** | NEC:<br>CM<br>CEC:<br>CM | 100<br>250<br>U-500<br>500<br>U-1000<br>1000<br>2000<br>10000 | 31<br>76<br>U-152<br>152<br>U-305<br>305<br>610<br>3048 | 3.3<br>6.2<br>12.1<br>12.1<br>23.1<br>23.1<br>46.1<br>240.5 | 1.5<br>2.8<br>5.5<br>5.5<br>10.5<br>10.5<br>20.9<br>109.1 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.070 | 1.78 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | 0.204 | 5.18 | – | – | CDR/CDR<br>CDR/SCR | 27<br>49 | 89<br>161 | Black, Clear |
|  <br>Shorting Fold | | | | | | | | | | | | | | | | | | |
| 1-Pair | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2092 | **9464** | NEC:<br>CM<br>CEC:<br>CM | U-500<br>U-1000 | U-152<br>U-305 | 17.0<br>32.0 | 7.7<br>14.5 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.070 | 1.78 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | 0.214 | 5.44 | – | – | CDR/CDR<br>CDR/SCR | 27<br>49 | 89<br>161 | Black, Clear |
|  | | | | | | | | | | | | | | | | | | |
| 1-Pair | | The jacket and shield are bonded so both can be removed with automatic stripping equipment.<br>Drain wire is on the inside of foil shield. | | | | | | | | | | | | | | | | |
| **18 AWG** • Stranded (19x30) 1.2 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Plenum • FEP Insulation • Natural Flamarrest® Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS | **82760** | NEC: †† U-500<br>CMP †† U-1000<br>CEC: †† 1000<br>CMP FT6 | | U-152<br>U-305<br>305 | 11.9<br>22.0<br>20.9 | 5.4<br>10.0<br>9.5 | 1.24 mm<br>18 AWG<br>(19x30) TC | 0.063 | 1.60 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | 0.150 | 3.81 | – | – | CDR/CDR<br>CDR/SCR | 51<br>97 | 167<br>318 | Black, Red |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 1-Pair | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Length may vary -10% to +20% and may contain 2 pieces. Minimum length of any piece is 460 m (1500 ft.).
†† Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel® from length shown.

# Overall Beldfoil® Shield

## Audio, Control and Instrumentation Cables

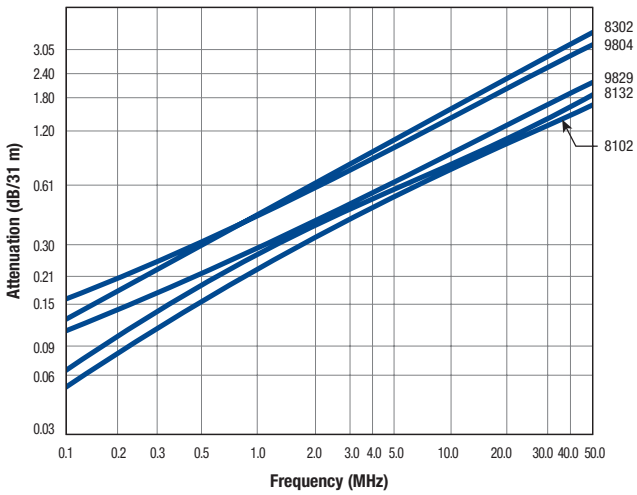
| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 AWG** • Stranded (19x29) 1.5 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 18 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 600V 80°C<br>UL AWM Style 20253 | **8719** | NEC:<br>CM CL2<br>CEC:<br>CM | U-500<br>500<br>U-1000<br>1000<br>2000<br>5000<br>10000 | U-152<br>152<br>U-305<br>305<br>610<br>1524<br>3048 | 24.5<br>25.6<br>47.0<br>50.0<br>100.3<br>245.6<br>509.9 | 11.1<br>11.6<br>21.3<br>22.7<br>45.5<br>111.4<br>231.3 | 1.47 mm<br>16 AWG<br>(19x29) TC | 0.122 | 3.09 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(18 AWG TC) | 0.313 | 7.95 | – | – | CDR/CDR<br>CDR/SCR | 23<br>44 | 75<br>144 | Black, Clear |
|  <br>Shorting Fold | | | | | | | | | | | | | | | | | | |
| 1-Pair | | | | | | | | | | | | | | | | | | |
| **14 AWG** • Stranded (19x27) 1.9 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 16 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 600V 80°C<br>UL AWM Style 20253 | **8720** | NEC:<br>CM CL2 | U-500<br>500<br>1000<br>2000 | U-152<br>152<br>305<br>610 | 34.0<br>35.1<br>71.2<br>138.2 | 15.4<br>15.9<br>32.3<br>62.7 | 1.85 mm<br>14 AWG<br>(19x27) TC | 0.137 | 3.47 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(16 AWG TC) | 0.355 | 9.02 | – | – | CDR/CDR<br>CDR/SCR | 24<br>47 | 79<br>154 | Black, Clear |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 1-Pair | | | | | | | | | | | | | | | | | | |
| **12 AWG** • Stranded (19x25) 2.4 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 14 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 600V 80°C<br>UL AWM Style 20253 | **8718** | NEC:<br>CL2 | U-500<br>500<br>1000<br>2000 | U-152<br>152<br>305<br>610 | 47.6<br>50.5<br>100.3<br>198.4 | 21.6<br>22.9<br>45.5<br>90.0 | 2.36 mm<br>12 AWG<br>(19x25) TC | 0.167 | 4.24 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(14 AWG TC) | 0.400 | 10.16 | – | – | CDR/CDR<br>CDR/SCR | 25<br>49 | 82<br>161 | Black, Clear |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 1-Pair | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

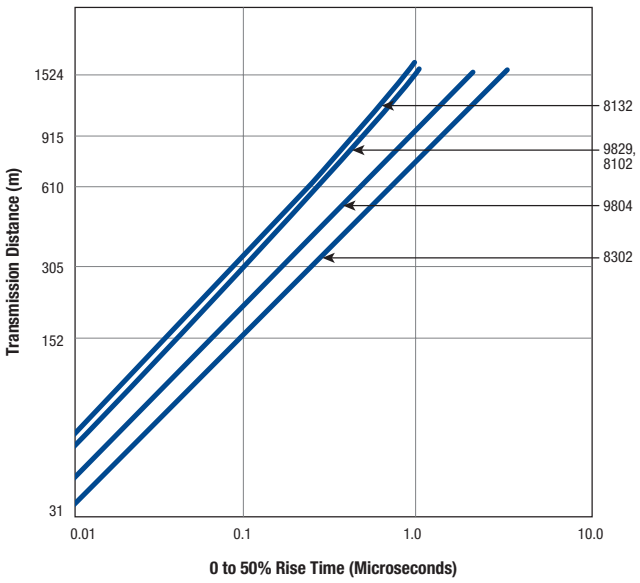
# Overall Foil / Braid Shield

## Cable Characteristics

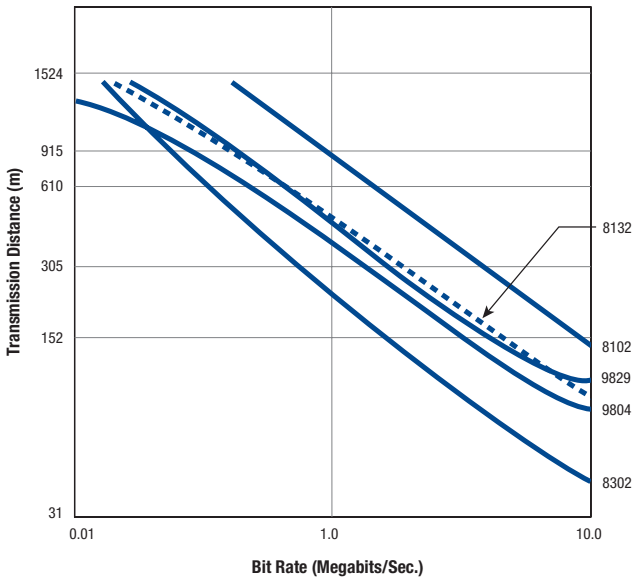
### Attenuation




### Rise Time




### Bit Rate



# Overall Foil/Braid Shield

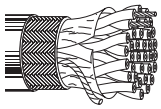
## Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-422 Applications

**28 AWG** • Stranded (7x36) 0.4 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield + 90% TC Braid • 28 AWG TC Drain Wire

**Polypropylene Insulation • Chrome PVC Jacket**

30V 60°C
UL AWM Style 2960

NEC:
CL2



0.38 mm
28 AWG
(7x36) TC

0.033 | 0.84

Overall
Beldfoil®
+ Overall
90% TC Braid
+ Drain Wire
(28 AWG TC)

100 | 66%

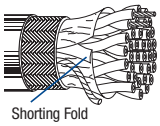
see chart 3
(Tech Info Section)

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Nominal OD inch | Nominal OD mm | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **9804** | 2-Pair | 100 | 31 | 4.0 | 1.8 | 0.214 | 5.44 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 14.6 | 6.6 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 32.0 | 14.5 | | | | | | |
| | **9805** | 3-Pair | 100 | 31 | 4.2 | 1.9 | 0.222 | 5.64 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 15.4 | 7.0 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 35.1 | 15.9 | | | | | | |
| | **9806** | 4-Pair | 100 | 31 | 4.4 | 2.0 | 0.237 | 6.02 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 17.4 | 7.9 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 39.0 | 17.7 | | | | | | |
| | **9807** | 5-Pair | 100 | 31 | 4.4 | 2.0 | 0.240 | 6.10 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 19.6 | 8.9 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 39.0 | 17.7 | | | | | | |
| | **9808** | 7-Pair | 100 | 31 | 4.9 | 2.2 | 0.256 | 6.50 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 20.5 | 9.3 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 44.1 | 20.0 | | | | | | |
| | **9809** | 9-Pair | 100 | 31 | 5.7 | 2.6 | 0.290 | 7.37 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 24.9 | 11.3 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 53.1 | 24.1 | | | | | | |
| | **9812** | 12-Pair | 100 | 31 | 6.6 | 3.0 | 0.319 | 8.10 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 31.1 | 14.1 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 62.2 | 28.2 | | | | | | |
| | **9813** | 13-Pair | 100 | 31 | 7.1 | 3.2 | 0.336 | 8.53 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 34.2 | 15.5 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 66.1 | 30.0 | | | | | | |
| | **9819** | 18-Pair | 100 | 31 | 8.4 | 3.8 | 0.365 | 9.27 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 41.0 | 18.6 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 82.2 | 37.3 | | | | | | |
| | **9825** | 25-Pair | 100 | 31 | 9.9 | 4.5 | 0.429 | 10.90 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 54.7 | 24.8 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 108.2 | 49.1 | | | | | | |
| | **9814** | 31-Pair | 100 | 31 | 11.9 | 5.4 | 0.462 | 11.73 | CDR/CDR | 16 | 51 | |
| | | | 500 | 152 | 64.2 | 29.1 | | | CDR/SCR | 28 | 90 | |
| | | | 1000 | 305 | 127.2 | 57.7 | | | | | | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Foil / Braid Shield

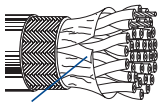
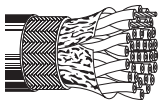
## Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-485 Applications

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **28 AWG** • Stranded (7x36) 0.4 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield + 65% TC Braid • 28 AWG TC Drain Wire | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CL2 | | | | | 0.38 mm<br>28 AWG<br>(7x36) TC | 0.044 | 1.12 | Overall<br>Beldfoil®<br>+ Overall<br>65% TC Braid<br>+ Drain Wire<br>(28 AWG TC) | | | 120 | 78% | | | | see chart 5<br>(Tech Info Section) |
|  <br>Shorting Fold | | | | | | | | | | | | | | | | | | |
| **8132** | 2-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 3.5<br>14.6<br>29.1 | 1.6<br>6.6<br>13.2 | | | | | 0.220 | 5.59 | | | CDR/CDR<br>CDR/SCR | 11<br>20 | 36<br>66 | |
| **8133** | 3-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 3.7<br>15.0<br>34.2 | 1.7<br>6.8<br>15.5 | | | | | 0.270 | 6.86 | | | CDR/CDR<br>CDR/SCR | 11<br>20 | 36<br>66 | |
| **8134** | 4-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 4.4<br>18.1<br>39.0 | 2.0<br>8.2<br>17.7 | | | | | 0.290 | 7.37 | | | CDR/CDR<br>CDR/SCR | 11<br>20 | 36<br>66 | |
| **8135** | 5-Pair | 100<br>1000 | 31<br>305 | 4.6<br>42.1 | 2.1<br>19.1 | | | | | 0.300 | 7.62 | | | CDR/CDR<br>CDR/SCR | 11<br>20 | 36<br>66 | |
| **8138** | 8-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 5.5<br>27.1<br>52.0 | 2.5<br>12.3<br>23.6 | | | | | 0.330 | 8.38 | | | CDR/CDR<br>CDR/SCR | 11<br>20 | 36<br>66 | |
| **8142** | 12.5-Pair<br>(12 pairs<br>+ 1 single) | 100<br>500<br>1000 | 31<br>152<br>305 | 6.8<br>33.1<br>65.9 | 3.1<br>15.0<br>29.9 | | | | | 0.375 | 9.53 | | | CDR/CDR<br>CDR/SCR | 11<br>20 | 36<br>66 | |
| **8148** | 18-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 8.6<br>47.6<br>92.2 | 3.9<br>21.6<br>41.8 | | | | | 0.465 | 11.81 | | | CDR/CDR<br>CDR/SCR | 11<br>20 | 36<br>66 | |
| **8155** | 25-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 11.0<br>64.2<br>121.3 | 5.0<br>29.1<br>55.0 | | | | | 0.565 | 14.35 | | | CDR/CDR<br>CDR/SCR | 11<br>20 | 36<br>66 | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Foil/Braid Shield

## Low-Capacitance Computer Cables for EIA RS-232 Applications

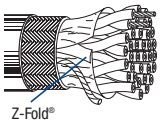
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | pF/ft. | pF/m | |
| **24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield + 65% Tinned Copper Braid | | | | | | | | | | | | | | | | | | |
| **Semi-Rigid PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464<br>CSA AWM I A | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.044 | 1.12 | Overall<br>Beldfoil®<br>+ Overall<br>65% TC Braid | | | 75 | 60% | | | | see chart 5 (Tech Info Section) |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| | **8332** | 2-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 4.2<br>16.5<br>37.0 | 1.9<br>7.5<br>16.8 | | | | | 0.250 | 6.35 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| | **8333** | 3-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 4.9<br>20.5<br>44.3 | 2.2<br>9.3<br>20.1 | | | | | 0.265 | 6.73 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| | **8334** | 4-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 5.3<br>22.5<br>49.2 | 2.4<br>10.2<br>22.3 | | | | | 0.288 | 7.32 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| | **8335** | 5-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 6.0<br>29.5<br>57.1 | 2.7<br>13.4<br>25.9 | | | | | 0.295 | 7.49 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| | **8336** | 6-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 6.6<br>31.5<br>62.2 | 3.0<br>14.3<br>28.2 | | | | | 0.310 | 7.87 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| | **8337** | 7-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 6.8<br>32.8<br>65.0 | 3.1<br>14.9<br>29.5 | | | | | 0.321 | 8.15 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| | **8340** | 10-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 9.0<br>43.4<br>90.2 | 4.1<br>19.7<br>40.9 | | | | | 0.385 | 9.78 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| | **8342** | 12.5-Pair<br>(12 pairs<br>+ 1 single) | 100<br>500<br>1000 | 31<br>152<br>305 | 11.0<br>55.1<br>109.1 | 5.0<br>25.0<br>49.5 | | | | | 0.405 | 10.29 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| | **8345** | 15-Pair | 500<br>1000 | 152<br>305 | 61.7<br>123.2 | 28.0<br>55.9 | | | | | 0.445 | 11.30 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
| 300V 80°C<br>UL AWM Style 2464 | **8348** | 18-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 14.1<br>78.9<br>152.8 | 6.4<br>35.8<br>69.3 | | | | | 0.480 | 12.19 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |
|  | **8355** | 25-Pair | 500<br>1000 | 152<br>305 | 96.8<br>195.3 | 43.9<br>88.6 | | | | | 0.550 | 13.97 | | | CDR/CDR<br>CDR/SCR | 30<br>50 | 98<br>164 | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Foil / Braid Shield

## Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-422 Applications

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | pF/ft. | pF/m | |
| **24 AWG** • Stranded (7x32) 0.6 mm TC • Twisted Pair • Overall **Beldfoil®** Shield + 65 % Tinned Copper Braid • 24 AWG TC Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.054 | 1.37 | Overall<br>Beldfoil®<br>+ Overall<br>65 % TC Braid<br>+ Drain Wire<br>(24 AWG TC) | | | 100 | 66 % | | | | see chart 5<br>(Tech Info Section) |
| **9829** | 2-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 4.6<br>22.0<br>43.0 | 2.1<br>10.0<br>19.5 | | | | | | 0.291 | 7.39 | | | CDR/CDR<br>CDR/SCR | 16<br>28 | 51<br>90 | |
| **9830** | 3-Pair | 500<br>1000 | 152<br>305 | 26.5<br>53.1 | 12.0<br>24.1 | | | | | | 0.305 | 7.74 | | | CDR/CDR<br>CDR/SCR | 16<br>28 | 51<br>90 | |
| **9831** | 4-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 6.2<br>30.0<br>58.2 | 2.8<br>13.6<br>26.4 | | | | | | 0.330 | 8.38 | | | CDR/CDR<br>CDR/SCR | 16<br>28 | 51<br>90 | |
| **9832** | 5-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 6.6<br>32.6<br>65.0 | 3.0<br>14.8<br>29.5 | | | | | | 0.338 | 8.59 | | | CDR/CDR<br>CDR/SCR | 16<br>28 | 51<br>90 | |

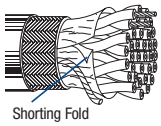


Z-Fold®

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Foil / Braid Shield

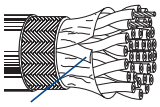
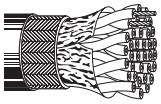
## Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-422 Applications

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | pF/ft. | pF/m | |
| **24 AWG** • Stranded (7x32) 0.6 mm TC • Twisted Pair • Overall **Beldfoil®** Shield + 65 % Tinned Copper Braid • 24 AWG TC Drain Wire | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.049 | 1.24 | Overall<br>Beldfoil®<br>+ Overall<br>65 % TC Braid<br>+ Drain Wire<br>(24 AWG TC) | | | 100 | 78 % | | | | see chart 5<br>(Tech Info Section) |
|  <br>Shorting Fold | | | | | | | | | | | | | | | | | | |
| **8102** | 2-Pair | | 100<br>500<br>1000<br>10000 | 31<br>152<br>305<br>3048 | 4.2<br>17.0<br>38.1<br>380.7 | 1.9<br>7.7<br>17.3<br>172.7 | | | | | 0.270 | 6.86 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8103** | 3-Pair | | 100<br>500<br>1000<br>10000 | 31<br>152<br>305<br>3048 | 4.6<br>19.6<br>42.1<br>431.0 | 2.1<br>8.9<br>19.1<br>195.5 | | | | | 0.283 | 7.19 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8104** | 4-Pair | | 100<br>500<br>1000<br>10000 | 31<br>152<br>305<br>3048 | 5.1<br>20.9<br>46.1<br>491.0 | 2.3<br>9.5<br>20.9<br>222.7 | | | | | 0.302 | 7.67 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8105** | 5-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 5.7<br>28.0<br>53.1 | 2.6<br>12.7<br>24.1 | | | | | 0.316 | 8.03 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8106** | 6-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 6.4<br>30.6<br>58.2 | 2.9<br>13.9<br>26.4 | | | | | 0.341 | 8.66 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8107** | 7-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 6.8<br>33.1<br>63.1 | 3.1<br>15.0<br>28.6 | | | | | 0.341 | 8.66 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8108** | 8-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 7.7<br>37.7<br>72.3 | 3.5<br>17.1<br>32.8 | | | | | 0.370 | 9.40 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8110** | 10-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 8.2<br>45.6<br>90.2 | 3.7<br>20.7<br>40.9 | | | | | 0.427 | 10.85 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8112** | 12.5-Pair<br>(12 pairs<br>+ 1 single) | | 100<br>500<br>1000 | 31<br>152<br>305 | 9.3<br>51.4<br>101.2 | 4.2<br>23.3<br>45.9 | | | | | 0.440 | 11.18 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8115** | 15-Pair | | 500<br>1000 | 152<br>305 | 63.7<br>116.2 | 28.9<br>52.7 | | | | | 0.495 | 12.57 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8118** | 18-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 13.2<br>70.5<br>144.4 | 6.0<br>32.0<br>65.5 | | | | | 0.537 | 13.64 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8125** | 25-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 20.7<br>98.1<br>191.4 | 9.4<br>44.5<br>86.8 | | | | | 0.632 | 16.05 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Foil / Braid Shield

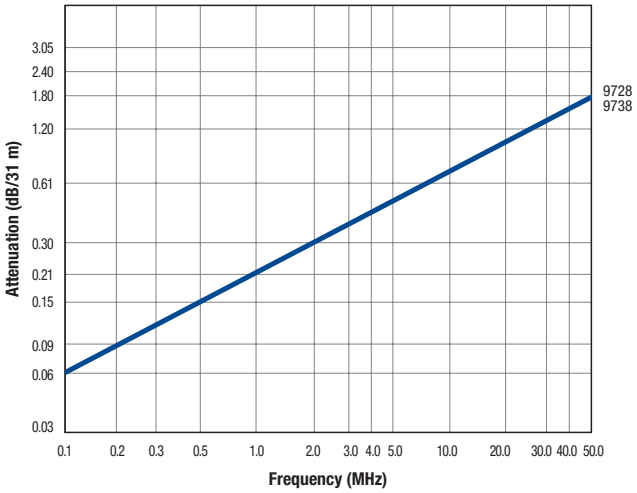
## Low-Capacitance Computer Cables for EIA RS-232 Applications

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | pF/ft. | pF/m | |
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield + 65 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | |
| **Semi-Rigid PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464 | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.051 | 1.30 | Overall<br>Beldfoil®<br>+ Overall<br>65 % TC Braid | | | 70 | 60 % | | | | see chart 3 (Tech Info Section) |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| | **8302** | 2-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 4.4<br>19.0<br>41.0 | 2.0<br>8.6<br>18.6 | | | | | 0.260 | 6.60 | | CDR/CDR<br>CDR/SCR | 40<br>72 | 131<br>236 | | |
| | **8303** | 3-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 5.3<br>25.6<br>48.1 | 2.4<br>11.6<br>21.8 | | | | | 0.270 | 6.86 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| | **8304** | 4-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 6.6<br>32.4<br>65.0 | 3.0<br>14.7<br>29.5 | | | | | 0.320 | 8.13 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| | **8305** | 5-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 7.3<br>35.1<br>67.0 | 3.3<br>15.9<br>30.4 | | | | | 0.322 | 8.18 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| | **8306** | 6-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 7.9<br>39.7<br>78.9 | 3.6<br>18.0<br>35.8 | | | | | 0.348 | 8.84 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| | **8307** | 7-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 8.6<br>41.9<br>85.1 | 3.9<br>19.0<br>38.6 | | | | | 0.348 | 8.84 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| | **8308** | 8-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 10.4<br>50.0<br>101.4 | 4.7<br>22.7<br>46.0 | | | | | 0.384 | 9.75 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| 300V 80°C<br>UL AWM Style 2464 | **8310** | 10-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 11.0<br>60.4<br>121.0 | 5.0<br>27.4<br>54.9 | | | | | 0.440 | 11.18 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
|  | **8312** | 12.5-Pair<br>(12 pairs<br>+ 1 single) | 100<br>500<br>1000 | 31<br>152<br>305 | 13.0<br>72.3<br>140.7 | 5.9<br>32.8<br>63.8 | | | | | 0.455 | 11.56 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| | **8315** | 15-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 15.7<br>86.0<br>167.8 | 7.1<br>39.0<br>76.1 | | | | | 0.502 | 12.75 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| | **8318** | 18-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 17.6<br>97.4<br>196.4 | 8.0<br>44.2<br>89.1 | | | | | 0.535 | 13.59 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |
| | **8325** | 25-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 23.1<br>126.5<br>247.1 | 10.5<br>57.4<br>112.1 | | | | | 0.620 | 15.75 | | CDR/CDR<br>CDR/SCR | 35<br>63 | 115<br>207 | | |

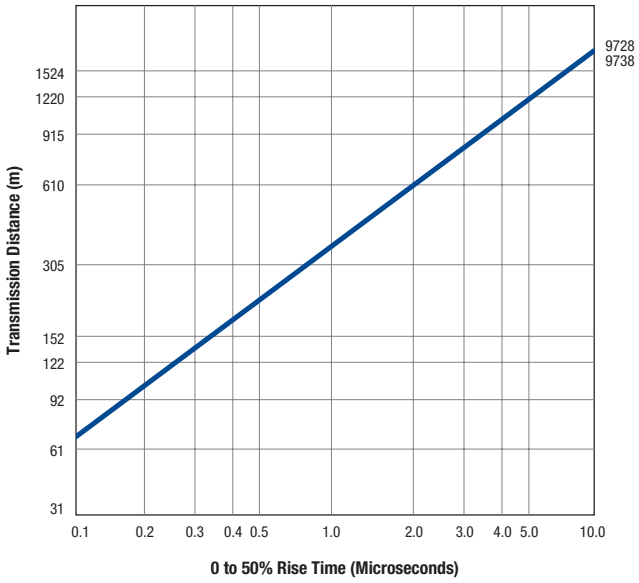
TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Individually Shielded
## Cable Characteristics

### Attenuation

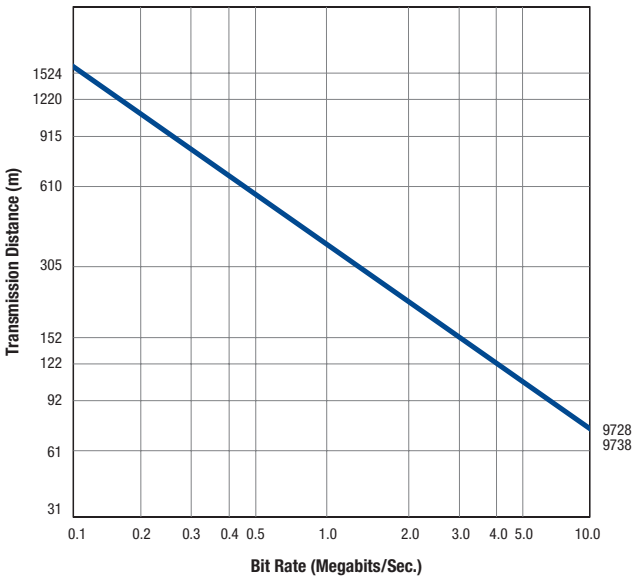



### Rise Time




Cables are terminated in their characteristic impedance. Signal source electrical characteristics: 50 Ohm and 10% to 90% rise time less than 5 nanoseconds.

### Bit Rate




Charts assume 5% peak-to-peak time jitter as determined by eye pattern measurements of pseudorandom NRZ code.

# Individually Shielded

## Low-Capacitance 100 Ohm Computer Cables for EIA RS-422 and Digital Audio Applications

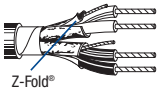
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**24 AWG** • Stranded (7x32) 0.6 mm TC • Twisted Pair • Each Pair Individually **Beldfoil®** Shielded • 24 AWG Tinned Copper Drain Wire

**Datalene® Insulation • Chrome PVC Jacket**

300V 60°C
UL AWM Style 2493

NEC:
CM
CEC:
CM




0.61 mm
24 AWG
(7x32) TC

0.061 1.55

Individual
Beldfoil®
+ Drain Wire
(24 AWG TC)

100 76%

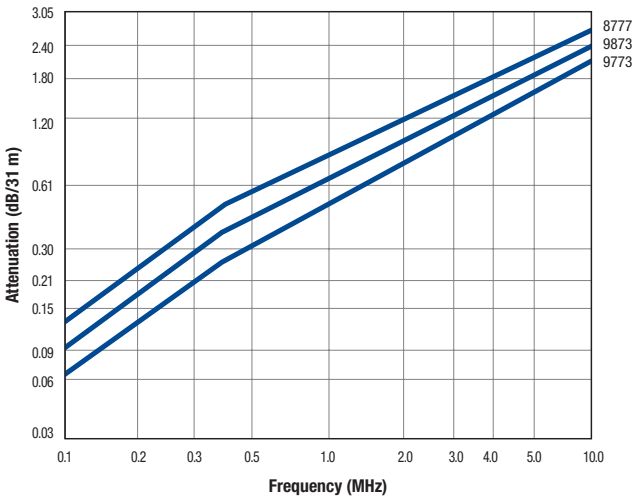
see chart 3
(Tech Info Section)

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9729** | 2-Pair | 100 | 31 | 4.4 | 2.0 | | | | | 0.266 | 6.76 | | | CDR/CDR | 13 | 41 | |
| | | 500 | 152 | 20.5 | 9.3 | | | | | | | | | CDR/SCR | 23 | 76 | |
| | | 1000 | 305 | 39.0 | 17.7 | | | | | | | | | | | | |
| | | † 10000 | 3048 | 392.0 | 177.8 | | | | | | | | | | | | |
| For Plenum version of 9729, see 89729 or 82729. | | | | | | | | | | | | | | | | | | |
| **9730** | 3-Pair | 100 | 31 | 5.1 | 2.3 | | | | | 0.334 | 8.48 | | | CDR/CDR | 13 | 41 | |
| | | 500 | 152 | 24.5 | 11.1 | | | | | | | | | CDR/SCR | 23 | 76 | |
| | | 1000 | 305 | 46.1 | 20.9 | | | | | | | | | | | | |
| | | † 10000 | 3048 | 521.2 | 236.4 | | | | | | | | | | | | |
| For Plenum version of 9730, see 89730. | | | | | | | | | | | | | | | | | | |
| **9728** | 4-Pair | 100 | 31 | 6.0 | 2.7 | | | | | 0.363 | 9.22 | | | CDR/CDR | 13 | 41 | |
| | | 500 | 152 | 29.1 | 13.2 | | | | | | | | | CDR/SCR | 23 | 76 | |
| | | 1000 | 305 | 50.9 | 23.1 | | | | | | | | | | | | |
| For Plenum version of 9728, see 89728. | | | | | | | | | | | | | | | | | | |
| **9731** | 6-Pair | 100 | 31 | 7.5 | 3.4 | | | | | 0.421 | 10.69 | | | CDR/CDR | 13 | 41 | |
| | | 500 | 152 | 42.1 | 19.1 | | | | | | | | | CDR/SCR | 23 | 76 | |
| | | 1000 | 305 | 83.1 | 37.7 | | | | | | | | | | | | |
| For Plenum version of 9731, see 89731. | | | | | | | | | | | | | | | | | | |
| **9732** | 9-Pair | 100 | 31 | 9.9 | 4.5 | | | | | 0.488 | 12.40 | | | CDR/CDR | 13 | 41 | |
| | | 500 | 152 | 57.3 | 26.0 | | | | | | | | | CDR/SCR | 23 | 76 | |
| | | 1000 | 305 | 106.0 | 48.1 | | | | | | | | | | | | |
| For Plenum version of 9732, see 89732. | | | | | | | | | | | | | | | | | | |
| **9733** | 11-Pair | 500 | 152 | 75.2 | 34.1 | | | | | 0.575 | 14.61 | | | CDR/CDR | 13 | 41 | |
| | | | | | | | | | | | | | | CDR/SCR | 23 | 76 | |
| **9734** | 12-Pair | 500 | 152 | 79.6 | 36.1 | | | | | 0.575 | 14.61 | | | CDR/CDR | 13 | 41 | |
| | | 1000 | 305 | 154.3 | 70.0 | | | | | | | | | CDR/SCR | 23 | 76 | |
| **9735** | 15-Pair | 500 | 152 | 95.2 | 43.2 | | | | | 0.639 | 16.23 | | | CDR/CDR | 13 | 41 | |
| | | 1000 | 305 | 185.4 | 84.1 | | | | | | | | | CDR/SCR | 23 | 76 | |
| **9736** | 17-Pair | 500 | 152 | 103.6 | 47.0 | | | | | 0.671 | 17.04 | | | CDR/CDR | 13 | 41 | |
| | | 1000 | 305 | 210.5 | 95.5 | | | | | | | | | CDR/SCR | 23 | 76 | |
| **9737** | 19-Pair | 1000 | 305 | 231.5 | 105.0 | | | | | 0.671 | 17.04 | | | CDR/CDR | 13 | 41 | |
| | | | | | | | | | | | | | | CDR/SCR | 23 | 76 | |
| **9738** | 27-Pair | 1000 | 305 | 334.7 | 151.8 | | | | | 0.797 | 20.24 | | | CDR/CDR | 13 | 41 | |
| | | | | | | | | | | | | | | CDR/SCR | 23 | 76 | |

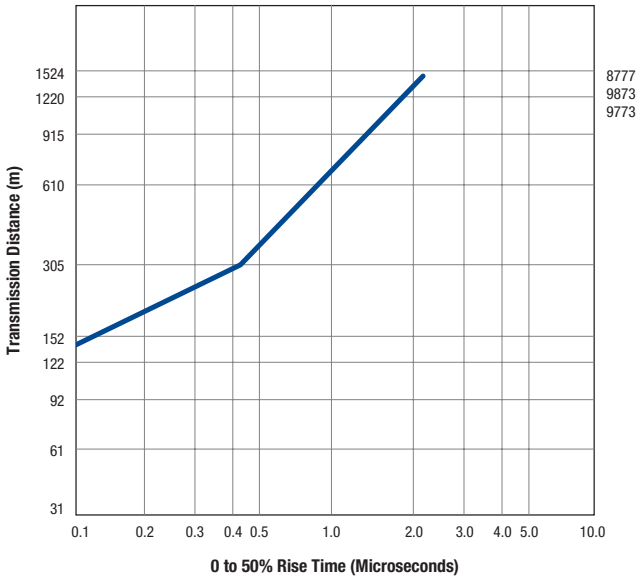
TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Spools are one piece, but length may vary ±10% from length shown.

# Individually Shielded
## Cable Characteristics

### Attenuation




### Rise Time



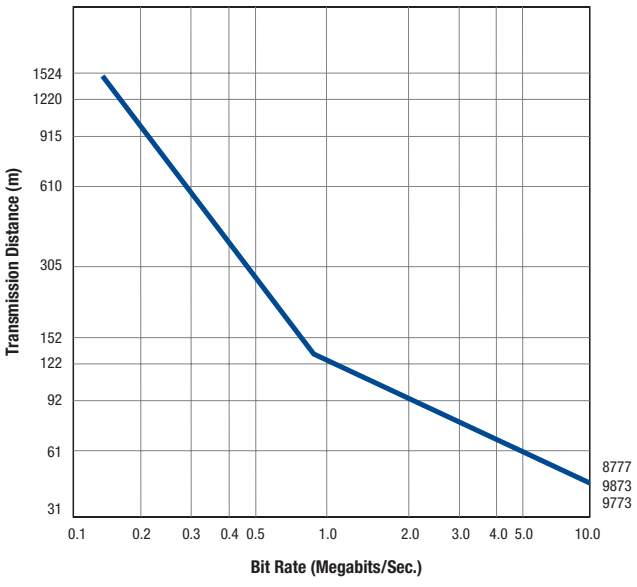

Recommended for audio, pulse, and radio frequency applications requiring superior circuit isolation.

**Insulation resistance between shields:**
100 megohms/M′ nom.

**Capacitance between adjacent shields:**
377 pf/m nom.

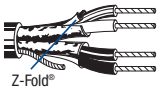
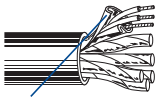
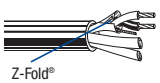
**Working voltage between adjacent shields:**
50 volt max.

### Bit Rate



# Individually Shielded

## Audio, Control and Instrumentation Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm TC • Twisted Pair • Each Pair Individually **Beldfoil®** Shielded • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **8723** | NEC:<br>CM<br>CEC:<br>CM | 100<br>500<br>U-1000<br>1.000<br>1640<br>U-2000<br>2000<br>3279<br>5000<br>10000 | 31<br>U-152<br>152<br>U-305<br>305<br>500<br>U-610<br>610<br>1000<br>1524<br>3049 | 2.2<br>10.6<br>9.9<br>19.0<br>20.1<br>32.8<br>37.9<br>40.1<br>65.7<br>95.2<br>200.4 | 1.0<br>4.8<br>4.5<br>8.6<br>9.1<br>14.9<br>17.2<br>18.2<br>29.8<br>43.2<br>90.9 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.046 | 1.17 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | 0.160 | 4.06 | 45 | 66% | CDR/CDR<br>CDR/SCR | 35<br>62 | 115<br>203 | Red & Black,<br>Green & White |
|  <br>Z-Fold® | | | For halogen-free version see 8723NH. | | | | | | | | | | | | | | | |
| 2-Pair | | | Pairs cabled on common axis to reduce diameter | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm TC • Twisted Pair • Each Pair Individually **Beldfoil®** Shielded • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.050 | 1.27 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | | | 50 | 66% | | | | see chart 3<br>(Tech Info Section) |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| | **8777** | 3-Pair | 100<br>250<br>U-500<br>500<br>U-1000<br>1000<br>1640<br>3279<br>5000<br>† 10000 | 31<br>76<br>U-152<br>152<br>U-305<br>305<br>500<br>1000<br>1524<br>3049 | 4.6<br>9.9<br>20.9<br>20.1<br>41.0<br>44.1<br>70.5<br>141.1<br>215.2<br>460.3 | 2.1<br>4.5<br>9.5<br>9.1<br>18.6<br>20.0<br>32.0<br>64.0<br>97.6<br>208.8 | | | | | 0.273 | 6.93 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | For halogen-free version see 8777NH. | | | | | | | | | | | | | | | | | |
| | **8778** | 6-Pair | 100<br>250<br>500<br>1000 | 31<br>76<br>152<br>305 | 8.4<br>19.0<br>43.0<br>83.1 | 3.8<br>8.6<br>19.5<br>37.7 | | | | | 0.362 | 9.19 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | For halogen-free version see 8778NH. | | | | | | | | | | | | | | | | | |
| | **8774** | 9-Pair | 100<br>250<br>500<br>1000 | 31<br>76<br>152<br>305 | 11.5<br>29.5<br>57.5<br>113.1 | 5.2<br>13.4<br>26.1<br>51.3 | | | | | 0.417 | 10.59 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| **22 AWG** • Stranded (7x30) 0.8 mm TC • Twisted Pair • Each Pair Individually **Beldfoil®** Shielded • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Plenum • FEP Insulation • Natural Flamarrest® Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS | **82777** | NEC:<br>CMP<br>CEC:<br>CMP FT6 | †† U-500<br>U-1000<br>†† 1000 | U-152<br>U-305<br>305 | 19.6<br>38.1<br>39.0 | 8.9<br>17.3<br>17.7 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.050 | 1.27 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.237 | 6.02 | 46 | 62% | CDR/CDR<br>CDR/SCR | 35<br>76 | 115<br>249 | see chart 3<br>(Tech Info Section) |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 3-Pair | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Final put-up length may vary -10% to +20% from length shown. May contain 2 pieces. Minimum length of any one piece is 457 m (1500 ft.).
†† Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel® from length show.

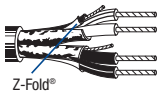
# Individually Shielded

## Audio, Control and Instrumentation Cables

**20 AWG** • Stranded (7x28) 1.0 mm TC • Twisted Pair • Each Pair Individually **Beldfoil®** Shielded • 22 AWG Tinned Copper Drain Wire

**Semi-Rigid PVC Insulation • Overall Chrome PVC Jacket**

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | pF/ft. | pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300V 80°C<br>UL AWM Style 2464 | **9402** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | U-500<br>1000 | U-152<br>305 | 26.0<br>52.2 | 11.8<br>23.7 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.057 | 1.46 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.300 | 7.62 | – | – | CDR/CDR<br>CDR/SCR | 55<br>95 | 180<br>312 | Red & Black,<br>Green & White |

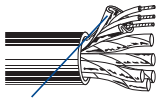



2-Pair

**20 AWG** • Stranded (7x28) 1.0 mm TC • Twisted Pair • Each Pair Individually **Beldfoil®** Shielded • 22 AWG Tinned Copper Drain Wire

**Polypropylene Insulation • Chrome PVC Jacket**

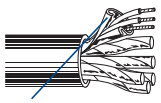
| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.066 | 1.68 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | | | 50 | 66% | | | | see chart 3<br>(Tech Info Section) |
| | **9873** | 3-Pair | 100<br>250<br>500<br>1000 | 31<br>76<br>152<br>305 | 6.6<br>14.6<br>32.6<br>58.0 | 3.0<br>6.6<br>14.8<br>26.3 | | | | | 0.341 | 8.66 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9874** | 6-Pair | 100<br>250<br>500<br>1000 | 31<br>76<br>152<br>305 | 10.4<br>29.1<br>56.7<br>113.1 | 4.7<br>13.2<br>25.7<br>51.3 | | | | | 0.445 | 11.30 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9875** | 9-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 17.9<br>97.0<br>194.9 | 8.1<br>44.0<br>88.4 | | | | | 0.555 | 14.10 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |




**18 AWG** • Stranded (19x30) 1.2 mm TC • Twisted Pair • Each Pair Individually **Beldfoil®** Shielded • 20 AWG Tinned Copper Drain Wire

**Polypropylene Insulation • Chrome PVC Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 1.24 mm<br>18 AWG<br>(19x30) TC | 0.082 | 2.08 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | | | 50 | 66% | | | | see chart 3<br>(Tech Info Section) |
| | **9773** | 3-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 10.8<br>52.5<br>107.1 | 4.9<br>23.8<br>48.6 | | | | | 0.404 | 10.26 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9774** | 6-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 16.1<br>90.2<br>178.1 | 7.3<br>40.9<br>80.8 | | | | | 0.560 | 14.22 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |
| | **9775** | 9-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 25.8<br>123.0<br>241.2 | 11.7<br>55.8<br>109.4 | | | | | 0.655 | 16.64 | | | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | |

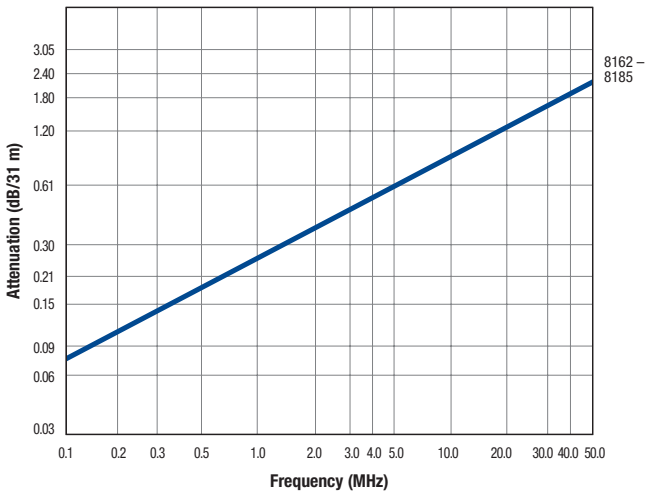



TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

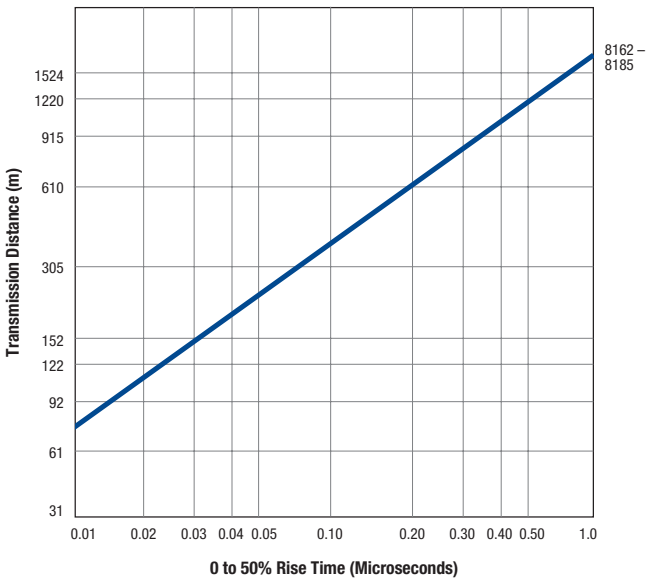
# Individually Shielded Pairs with Overall Foil/Braid Shield

Cable Characteristics

### Attenuation

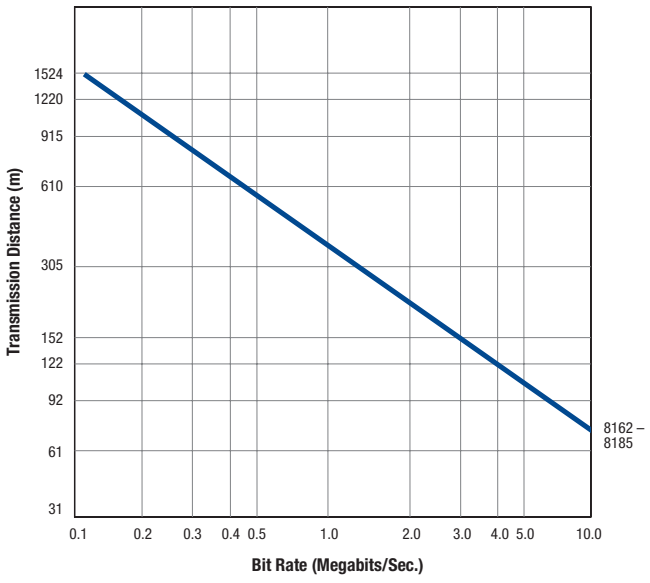



### Rise Time




Cables are terminated in their characteristic impedance. Signal source electrical characteristics: 50 Ohm and 10% to 90% rise time less than 5 nanoseconds.

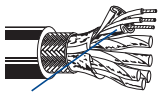
### Bit Rate




Charts assume 5% peak-to-peak time jitter as determined by eye pattern measurements of pseudorandom NRZ code.

# Individually Shielded Pairs with Overall Foil/Braid Shield

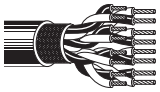
## Low-Capacitance Computer Cables for EIA RS-232, EIA RS-422 and Digital Audio Applications

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6 mm TC • Twisted Pair • Each Pair **Beldfoil®** Shielded • Overall **Beldfoil®** Shield + 65% TC Braid • 24 AWG TC DW | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| (60°C) VW-1<br>UL AWM Style 2493 | | NEC: CM<br>CEC: CM | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.061 | 1.55 | Individual Beldfoil® + Overall Beldfoil® + Overall 65% TC Braid + Drain Wire (24 AWG TC) | | | 100 | 78% | | | | see chart 3 (Tech Info Section) |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| **8162** | 2-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 6.2<br>30.0<br>57.1 | 2.8<br>13.6<br>25.9 | | | | | 0.343 | 8.71 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8163** | 3-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 7.1<br>34.2<br>66.1 | 3.2<br>15.5<br>30.0 | | | | | 0.359 | 9.12 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8164** | 4-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 8.2<br>39.7<br>79.1 | 3.7<br>18.0<br>35.9 | | | | | 0.388 | 9.86 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8165** | 5-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 9.0<br>45.2<br>89.3 | 4.1<br>20.5<br>40.5 | | | | | 0.413 | 10.49 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8166** | 6-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 9.0<br>50.0<br>99.2 | 4.1<br>22.7<br>45.0 | | | | | 0.446 | 11.33 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8167** | 7-Pair | | 500<br>1000 | 152<br>305 | 52.7<br>103.0 | 23.9<br>46.7 | | | | | 0.446 | 11.33 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8168** | 8-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 10.8<br>61.7<br>115.3 | 4.9<br>28.0<br>52.3 | | | | | 0.479 | 12.17 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8170** | 10-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 18.1<br>83.1<br>164.2 | 8.2<br>37.7<br>74.5 | | | | | 0.584 | 14.83 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8175** | 15-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 22.7<br>107.8<br>210.5 | 10.3<br>48.9<br>95.5 | | | | | 0.665 | 16.89 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8178** | 18-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 24.7<br>117.3<br>238.5 | 11.2<br>53.2<br>108.2 | | | | | 0.686 | 17.42 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |
| **8185** | 25-Pair | | 100<br>500<br>1000 | 31<br>152<br>305 | 32.4<br>160.9<br>356.7 | 14.7<br>73.0<br>161.8 | | | | | 0.822 | 20.88 | | | CDR/CDR<br>CDR/SCR | 13<br>22 | 41<br>72 | |

TC = Tinned Copper • DW = Drain Wire • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Overall Braid Shield

## Computer Cables for EIA RS-232

| Description | Part No. | No. of Pair | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **80°C • 24 - 18 AWG** • Stranded Bare Copper Wire • Twisted Pair • >80% Tinned Copper Braid | | | | | | | | | | | | | |
| **PVC Insulation** (Color Code: see chart 12, Tech Info Section) • **Grey Flame Retardant PVC Jacket** | | | | | | | | | | | | | |
| 750V | | IEC 332 | | | | | | | | Overall >80% TC Braid | | | - Survey and data transmission<br>- Check and drive systems<br>- Measure and monitor systems<br>- Interconnection of computer networks and outskirts interface |
|  | | | | | | | | | | | | | |
| LiYC Y-TP | | | | | | | | | | | | | |
| | **HMC0630** | 2 | 328 | 100 | 101.4 | 46.0 | (8x0.193) BC | 24 | 0.25 | | 0.220 | 5.60 | |
| | **HMC0631** | 3 | 328 | 100 | 143.3 | 65.0 | (8x0.193) BC | 24 | 0.25 | | 0.258 | 6.50 | |
| | **HMC0632** | 4 | 328 | 100 | 169.8 | 77.0 | (8x0.193) BC | 24 | 0.25 | | 0.280 | 7.10 | |
| | **HMC0633** | 5 | 328 | 100 | 198.4 | 90.0 | (8x0.193) BC | 24 | 0.25 | | 0.303 | 7.70 | |
| | **HMC0634** | 6 | 328 | 100 | 227.1 | 103.0 | (8x0.193) BC | 24 | 0.25 | | 0.323 | 8.20 | |
| | **HMC0635** | 8 | 328 | 100 | 284.4 | 129.0 | (8x0.193) BC | 24 | 0.25 | | 0.366 | 9.30 | |
| | **HMC0636** | 10 | 328 | 100 | 330.7 | 150.0 | (8x0.193) BC | 24 | 0.25 | | 0.394 | 10.00 | |
| | **HMC0637** | 12 | 328 | 100 | 354.9 | 161.0 | (8x0.193) BC | 24 | 0.25 | | 0.417 | 10.60 | |
| | **HMC0638** | 2 | 328 | 100 | 154.3 | 70.0 | (16x0.193) BC | 20 | 0.50 | | 0.276 | 7.00 | |
| | **HMC0639** | 3 | 328 | 100 | 207.2 | 94.0 | (16x0.193) BC | 20 | 0.50 | | 0.327 | 8.30 | |
| | **HMC0640** | 3 | 328 | 100 | 224.9 | 102.0 | (22x0.193) BC | 18 | 0.75 | | 0.335 | 8.50 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

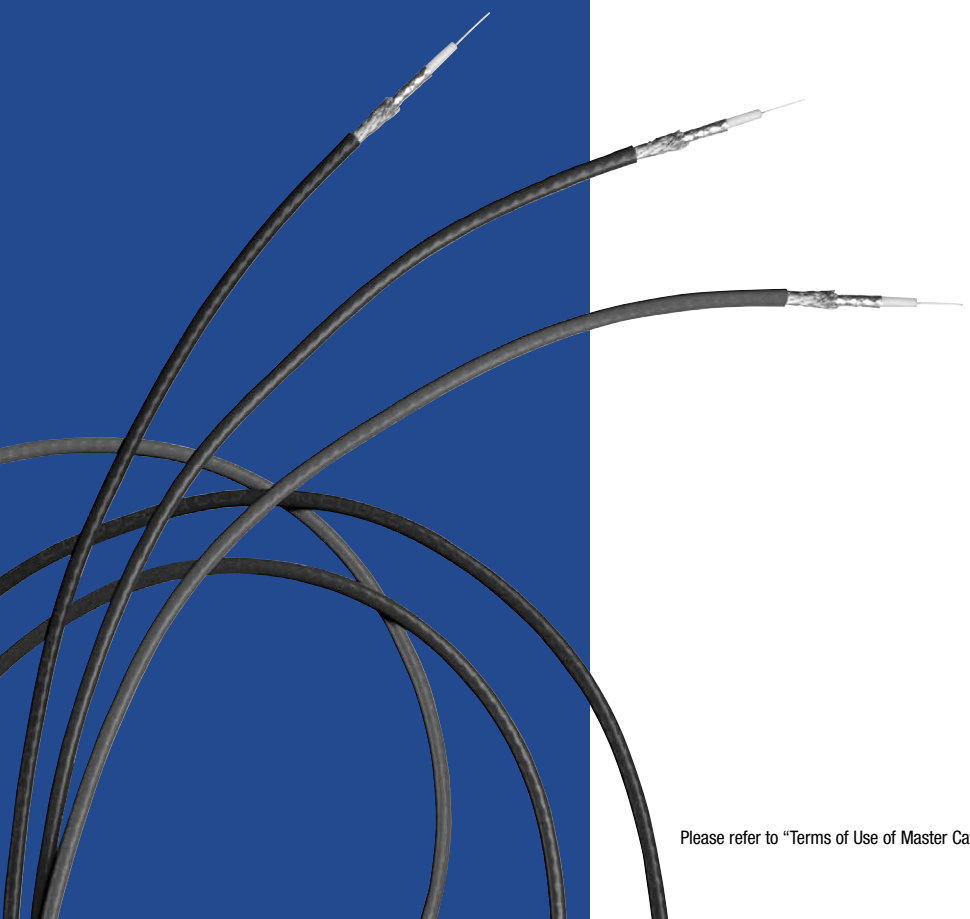
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# 6 MIL-C-17 Coaxes

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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### From Military to Civilian Use

Micro-coaxial cables are used in various consumer devices, military equipment and ultra-sound scanning equipment. There are different shielding configurations for different applications.

Although fiber optics, T1/E1, satellite and other high-tech methods are becoming the new standards, radio and especially television networks are connected with long distance coaxial cables. The history of these cables starts with the Second World War when the standard types were used by the military – when positive, reliable and trouble-free operation were essential to get users out of trouble.

Today – for different other purposes, Belden's cables offer performance second to none.

### Special Features

- **Short Coaxial Cable**
  Connectivity for home video equipment, or in ham radio setups. Also commonly used for implementing computer networks; in particular ethernet.
- **Long Distance Coaxial Cable**
  Connect radio networks and television networks, though this has largely been superseded by other more high-tech methods (fiber optics, T1/E1, satellite). It is still common for carrying cable television signals.
- **Micro-Coaxial Cable**
  Used in a range of consumer devices, military equipment, and also in ultra-sound scanning equipment.

### Key Applications

- Computer networks
- Radio
- Television
- Consumer devices
- Military equipment

### Availability

Most of our MIL-C-17 coax cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a MIL-C-17 coax cable in this catalog section that meets your technical requirements contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

### RG Designators

Standard types of coaxial cable were specified for military uses, in the form "RG-#" or "RG-#/U" (RG from radio guide, /U indicates multiple use). These references go back to World War II and were published in MIL-HDBK-216 (1962). These designations are now obsolete.

Currently the military standard is MIL-SPEC MIL-C-17. Numbers, such as M17/75-RG214, are given for military cables and manufacturer's catalog numbers for civilian applications. However, the RG-series designations were so common for generations that they are still used. Please be aware that since the handbook is withdrawn there is no standard to guarantee the electrical and physical characteristics of a cable described as "RG-# type".

The RG designators are mostly used to identify compatible connectors that fit the inner conductor, dielectric, and jacket dimensions of the old RG-series cables.

# 50 Ohm Coax

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 Ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30 AWG** • Stranded (7x0.10) 0.3 mm Silver-Plated Copperweld-Steel-Wire • 96 % Silver-Plated Copper Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown FEP Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-178 B/U | **MRG178** | | 3280 | 1000 | 19.8 | 9.0 | 0.3 mm 30 AWG (7x0.10) SPCSW | 0.033 | 0.84 | 96% SPC Braid | 0.071 | 1.80 | 50 | 69.5% | 32.0 | 104.9 max. | 10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000<br>3000 | 4.9<br>11.6<br>16.0<br>23.0<br>33.0<br>45.0<br>50.0<br>52.0<br>94.0 | 16.1<br>38.0<br>52.5<br>75.4<br>108.2<br>147.6<br>164.0<br>170.6<br>308.3 |
| **PTFE Insulation • Tinted Brown PTFE Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-196 A/U | **MRG196** | | 3280 | 1000 | 19.0 | 8.6 | 0.3 mm 30 AWG (7x0.10) SPCSW | 0.033 | 0.84 | 96% SPC Braid | 0.071 | 1.80 | 50 | 69.5% | 32.0 | 104.9 max. | | | see above |
| Also available with White PTFE Jacket. | | | | | | | | | | | | | | | | | | | |
| **26 AWG** • Stranded (7x0.17) 0.51 mm Silver-Plated Copperweld-Steel-Wire • 95 % Silver-Plated Copper Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown FEP Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-316 /U | **MRG316** | | 3280 | 1000 | 35.3 | 16.0 | 0.51 mm 26 AWG (7x0.17) SPCSW | 0.058 | 1.47 | 95% SPC Braid | 0.098 | 2.49 | 50 | 69.5% | 32.0 | 104.9 max. | 10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000<br>3000 | 3.5<br>7.5<br>11.0<br>15.0<br>21.0<br>28.0<br>32.0<br>34.0<br>58.0 | 11.5<br>24.6<br>36.1<br>49.2<br>68.9<br>91.8<br>105.0<br>111.5<br>190.2 |
| **PTFE Teflon® Insulation • Tinted Brown TFE Tape Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-188 A/U | **MRG188** | | 3280 | 1000 | 33.1 | 15.0 | 0.51 mm 26 AWG (7x0.17) SPCSW | 0.058 | 1.47 | 96% SPC Braid | 0.098 | 2.49 | 50 | 69.5% | 32.0 | 104.9 max. | | | see above |
| Also available with White PTFE Jacket. | | | | | | | | | | | | | | | | | | | |
| **19 AWG** • Solid 0.9 mm Silver-Plated Copperweld-Steel-Wire • 95 % Silver-Plated Copper Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown FEP Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-303 /U | **MRG303** | NEC: CL2P | 3280 | 1000 | 103.6 | 47.0 | 0.94 mm 19 AWG Solid SPCSW | 0.116 | 2.95 | 95% SPC Braid | 0.170 | 4.31 | 50 | 70% | 32.0 | 104.9 max. | 10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000<br>3000 | 1.1<br>2.7<br>3.9<br>5.8<br>8.6<br>12.0<br>13.5<br>14.5<br>27.0 | 3.6<br>8.9<br>12.8<br>19.0<br>28.2<br>39.4<br>44.3<br>47.6<br>88.6 |
| **PTFE Insulation • Tinted Brown FEP Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-142 B/U | **MRG142** | NEC: CMP CEC: CMP FT6 | 3280 | 1000 | 145.5 | 66.0 | 0.94 mm 19 AWG Solid SPCSW | 0.116 | 2.95 | 96% SPC Double Braid | 0.195 | 4.95 | 50 | 70% | 29.3 | 96.1 | 10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000<br>3000<br>8000<br>124000 | 1.3<br>3.0<br>4.4<br>6.3<br>9.3<br>12.5<br>14.5<br>15.3<br>29.3<br>57.8<br>85.4 | 4.1<br>9.8<br>14.4<br>20.7<br>30.5<br>41.0<br>47.6<br>50.2<br>96.1<br>189.6<br>280.1 |

SPCSW = Silver-Plated Copperweld-Steel-Wire • SPC = Silver-Plated Copper • DCR = DC resistance

Teflon® is a DuPont trademark.

# 50 Ohm Coax

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter | Nominal Core OD (Dielectric) | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | Nominal Attenuation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | pF/ft. | pF/m | MHz | dB/100 Ft. | dB/100 m |
| **15 AWG** • Solid 1.5 mm Silver-Plated Copperweld-Steel-Wire • 95 % Silver-Plated Copper Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown FEP Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-304 /U | **MRG304** | | 3280 | 1000 | 282.2 | 128.0 | 1.50 mm 15 AWG Solid SPCSW | 0.187 | 4.75 | 95 % SPC Braid | 0.283 | 7.20 | 50 | 69.5 % | 32.0 | 104.9 max. | 10 | 0.7 | 2.2 |
| | | | | | | | | | | | | | | | | | 50 | 1.8 | 5.9 |
| | | | | | | | | | | | | | | | | | 100 | 2.7 | 8.9 |
| | | | | | | | | | | | | | | | | | 200 | 4.2 | 13.8 |
| | | | | | | | | | | | | | | | | | 400 | 6.4 | 21.0 |
| | | | | | | | | | | | | | | | | | 700 | 9.0 | 29.5 |
| | | | | | | | | | | | | | | | | | 900 | 10.5 | 34.4 |
| | | | | | | | | | | | | | | | | | 1000 | 11.1 | 36.4 |
| | | | | | | | | | | | | | | | | | 8000 | 40.0 | 131.2 |
| **12 AWG** • Stranded (7x0.80) 2.4 mm Silver-Plated Copper • 96 % Silver-Plated Copper Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown TGL Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-165 /U | **MRG165** | | 3280 | 1000 | 436.5 | 198.0 | 2.4 mm 12 AWG (7x0.80) SPC | 0.283 | 7.20 | 96 % SPC Braid | 0.413 | 10.50 | 50 | 69.5 % | 29.3 | 96.1 | 10 | 0.5 | 1.8 |
| | | | | | | | | | | | | | | | | | 50 | 1.4 | 4.6 |
| | | | | | | | | | | | | | | | | | 100 | 2.1 | 6.9 |
| | | | | | | | | | | | | | | | | | 200 | 3.1 | 10.2 |
| | | | | | | | | | | | | | | | | | 400 | 4.7 | 15.4 |
| | | | | | | | | | | | | | | | | | 700 | 6.4 | 21.0 |
| | | | | | | | | | | | | | | | | | 900 | 7.4 | 24.3 |
| | | | | | | | | | | | | | | | | | 1000 | 8.0 | 26.2 |
| | | | | | | | | | | | | | | | | | 3000 | 13.7 | 44.9 |
| **12 AWG** • Stranded (7x0.79) 2.3 mm Silver-Plated Copper • 95 % Silver-Plated Copper Double Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown TGL Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-225 /U | **MRG225** | | 3280 | 1000 | 590.8 | 268.0 | 2.3 mm 12 AWG (7x0.79) SPC | 0.283 | 7.20 | 95 % SPC Double Braid | 0.425 | 10.80 | 50 | 69.5 % | 32.3 | 106.0 max. | 400 | 5.0 | 16.4 |

SPCSW = Silver-Plated Copperweld-Steel-Wire • SPC = Silver-Plated Copper • DCR = DC resistance

# 75 Ohm Coax

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter | Nominal Core OD (Dielectric) | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | Nominal Attenuation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | pF/ft. | pF/m | MHz | dB/ 100 Ft. | dB/ 100 m |
| **30 AWG** • Stranded (7x0.10) 0.3 mm Silver-Plated Copperweld-Steel-Wire • 95 % Silver-Plated Copper Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown FEP Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C | **MRG179** | | 3280 | 1000 | 35.3 | 16.0 | 0.3 mm 30 AWG (7x0.10) SPCSW | 0.062 | 1.58 | 95% SPC Braid | 0.100 | 2.54 | 75 | 69.5% | 22.9 | 75.0 max. | 400 | 21.0 | 68.8 |
| RG-179 B/U | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown TFE Tape Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C | **MRG187** | | 3280 | 1000 | 33.1 | 15.0 | 0.3 mm 30 AWG (7x0.10) SPCSW | 0.063 | 1.60 | 95% SPC Braid | 0.103 | 2.62 | 75 | 70% | 22.9 | 75.0 max. | | | see above |
| RG-187 A/U | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |
| Also available with White PTFE Jacket. | | | | | | | | | | | | | | | | | | | |
| **22 AWG** • Solid 0.64 mm Silver-Plated Copperweld-Steel-Wire • 95 % Silver-Plated Copper Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown FEP Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C | **MRG302** | | 3280 | 1000 | 130.1 | 59.0 | 0.64 mm 22 AWG Solid SPCSW | 0.148 | 3.75 | 95% SPC Braid | 0.203 | 5.15 | 75 | 69.5% | 32.0 | 104.9 max. | 400 | 8.6 | 28.2 |
| RG-302 /U | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown TGL Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C | **MRG140** | | 3280 | 1000 | 154.3 | 70.0 | 0.64 mm 22 AWG Solid SPCSW | 0.148 | 3.75 | 95% SPC Braid | 0.228 | 5.80 | 75 | 69.5% | 19.2 | 63.0 | 400 | 8.0 | 26.2 |
| RG-140 /U | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |

SPCSW = Silver-Plated Copperweld-Steel-Wire • SPC = Silver-Plated Copper • DCR = DC resistance

# 95 Ohm Coax

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter | Nominal Core OD (Dielectric) | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | Nominal Attenuation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | pF/ft. | pF/m | MHz | dB/100 Ft. | dB/100 m |
| **30 AWG** • Stranded (7x0.10) 0.3 mm Silver-Plated Copper-Steel-Wire • 91% Silver-Plated Copper Braid | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown FEP Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-180 B/U | **MRG180** | | 3280 | 1000 | 61.7 | 28.0 | 0.3 mm 30 AWG (7x0.10) SPCSW | 0.102 | 2.60 | 91% SPC Braid | 0.141 | 3.58 | 95 | 69.5% | 17.4 | 57.0 max. | 400 | 17.0 | 55.7 |
|  | | | | | | | | | | | | | | | | | | | |
| **PTFE Insulation • Tinted Brown PTFE Jacket** | | | | | | | | | | | | | | | | | | | |
| 200°C RG-195 A/U | **MRG195** | | 3280 | 1000 | 59.5 | 27.0 | 0.3 mm 30 AWG (7x0.10) SPCSW | 0.102 | 2.60 | 91% SPC Braid | 0.141 | 3.58 | 95 | 69.5% | 17.4 | 57.0 max. | | | see above |
|  | | | | | | | | | | | | | | | | | | | |

SPCSW = Silver-Plated Copperweld-Steel-Wire • SPC = Silver-Plated Copper • DCR = DC resistance

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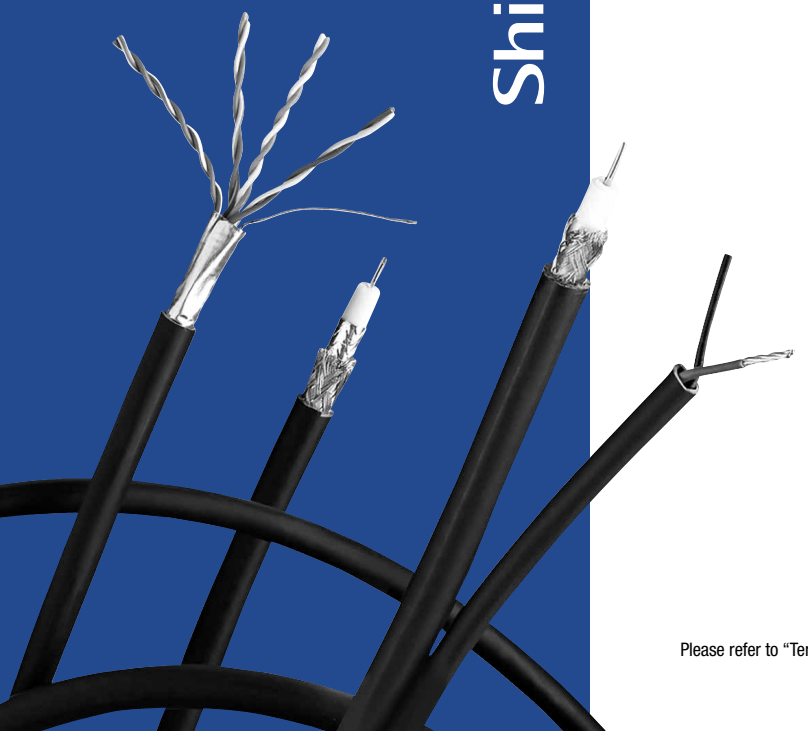




# 7 Shipboard and Offshore Cables

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| 300/500V, 90°C | 7.11 – 7.13 |

Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### All Aboard and Shipshape

Conditions at sea can get rough, so reliable communication is vital. Equipment must function well at all times and in all weathers. Belden cables meet the highest international marine standards – serving across the seven seas.

Belden's new Shipboard & Offshore cable line is comprised of Belden Brilliance®, DataTwist® and classic design cables designed to implement a wide range of shipboard audio, video, security, networking, control, instrument, communication and power applications. The Belden shipboard series also includes a selection of all-dielectric fiber optic cables.

### Key Applications

- Navigational instruments
- A/V equipment
- Propulsion and control system
- Marine networking

### Special Features

- Delivery of the highest quality A/V performance to operators and owners of private yachts, and passengers and crew on commercial ships.
- Fast, easy installation using standard connectors, with no special installation techniques or equipment required.
- Exclusive and unmatched Belden 10 Year Warranty.

### Availability

To assist you in selecting the approval of the proper cable for your application, the approval logos are indicated for each applicable product in this section.

Most of our Shipboard & Offshore cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a Shipboard & Offshore cable in this catalog section that meets your technical requirements contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

### Corresponding Literature

**Product Bulletins**
NP222: Shipboard Audio/Video ABS approved by ABS for Marine Installations

### Meeting the Standards

Cables comply with industry standards IEEE 45 and applicable sections of IEC 60092-376 for low-smoke and zero-halogen. Because of the global nature of the marine industry, the cables are designed and manufactured to comply with European Union RoHS Directive (2002/95/EC, 27-Jan-2003) governing the Reduction of Hazardous Substances in electrical and electronic equipment.

All Belden Shipboard & Offshore cables are designed to match the type approval program from either:

- ABS (American Bureau of Shipping) is the most widely recognized Safety Standards organization serving the shipbuilding and marine structures industries. This offers third-party certification of products – known as "Type Approval Program". With ABS approval, no additional special approvals or insurance company exceptions are required for Belden cable system installations.

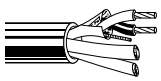
or

- GLC (Germanischer Lloyd Certification) offers an independent and professional service for the evaluation of management systems. The Germanischer Lloyd network is a very wide international service covering more than 135 countries.

# Audio, Control and Instrumentation Cables

## Low-Smoke Zero-Halogen



| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 150°C | **9451SB** | NEC:<br>CEC:<br>CMG-LS FT4<br>Limited Smoke | 1000 | 305 | 20.0 | 9.1 | 0.76 mm 22 AWG (7x30) TC | 0.046 | 1.16 | Overall Beldfoil® + Drain Wire (22 AWG TC) | 0.160 | 4.06 | 45 | 66% | CDR/CDR<br>CDR/SCR | 35<br>67 | 115.0<br>220.0 | Black, Red |
|  0.34 mm² 1-Pair | | | | | | | | | | | | | | | | | | |
| The jacket and shield are bonded so both can be removed with automatic stripping equipment. Drain wire is inside foil shield. | | | | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 105°C | **8723SB** | NEC:<br>CEC:<br>CMG-LS FT4<br>Limited Smoke | 1000 | 305 | 26.0 | 11.8 | 0.76 mm 22 AWG (7x30) TC | 0.046 | 1.16 | Individual Beldfoil® + Drain Wire (24 AWG TC) | 0.196 | 4.98 | 45 | 66% | CDR/CDR<br>CDR/SCR | 35<br>67 | 115.0<br>220.0 | Black & Red, Green & White |
|  2-Pair | | | | | | | | | | | | | | | | | | |
| Pairs cabled on common axis to reduce diameter. | | | | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| U300V RMS Non-Conduit | **8777SB** | NEC:<br>CEC:<br>CMG-LS FT4<br>Limited Smoke | † 500<br>U-1000<br>† 1000 | 152<br>305<br>305 | 19.6<br>38.1<br>39.0 | 8.9<br>17.3<br>17.7 | 0.76 mm 22 AWG (7x30) TC | 0.050 | 1.26 | Individual Beldfoil® + Drain Wire (22 AWG TC) | 0.273 | 6.93 | 50 | 66% | CDR/CDR<br>CDR/SCR | 30<br>55 | 98.0<br>180.0 | Black & Red, Black & White, Black & Green |
|  3-Pair | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance
† Spools are one piece, but length may vary 0% to +20% from length shown.

## Broadband Coaxial Cables

CATV Cables, Series 6, Low-Smoke Zero-Halogen

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Series 6 • 18 AWG** • Solid 1.0 mm Copper-Covered Steel • **Duobond® II** • 60% Aluminum Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam Polyethylene Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 75°C | **9116SB** | NEC:<br>CEC:<br>CMG-LS FT4<br>Limited Smoke | 1000 | 305 | 31.1 | 14.1 | 1.02 mm<br>18 AWG<br>Solid CCS<br>121.4 Ω/km*<br>91.9 Ω/km** | 0.180 | 4.57 | Duobond® II<br>+ 60% AL<br>Braid<br>29.5 Ω/km***<br>5.4 mm | 0.274 | 6.96 | 75 | 83% | 16.2 | 53.1 | 5<br>55<br>211<br>270<br>300<br>350<br>375<br>400<br>450<br>500<br>600<br>650<br>700<br>750<br>800<br>862<br>870<br>900<br>950<br>1000<br>1450<br>1800<br>2250<br>3000 | 0.54<br>1.45<br>2.64<br>2.97<br>3.13<br>3.39<br>3.52<br>3.65<br>3.88<br>4.09<br>4.51<br>4.72<br>4.92<br>5.11<br>5.27<br>5.47<br>5.49<br>5.60<br>5.79<br>5.99<br>7.80<br>8.60<br>9.82<br>11.31 | 1.77<br>4.76<br>8.66<br>9.74<br>10.27<br>11.12<br>11.55<br>11.97<br>12.73<br>13.42<br>14.80<br>15.49<br>16.14<br>16.76<br>17.29<br>17.95<br>18.01<br>18.37<br>19.00<br>19.65<br>25.60<br>28.20<br>32.20<br>37.10 |
| | | | | | | | | | | | | | | | | | | | |
| | | Sweep tested 5 MHz to 3 GHz | | | | | | | | | | | | | | | | | |



* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • CCS = Copper-Covered Steel • AL = Aluminum

## Precision Video Cable for Analog and Digital

Low Loss Serial Digital Coax, RG-6U Type, Low-Smoke Zero-Halogen

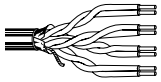
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD Inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD Inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RG-6/U Type • 18 AWG** • Solid 1.0 mm Bare Copper • **Duofoil®** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-injected Foam HDPE Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| SDI/HDTV<br>Digital Video<br>75°C | **1694SB** | NEC:<br>CEC:<br>CMG-LS FT4<br>Limited Smoke | 1000 | 305 | 46.0 | 20.9 | 1.02 mm<br>18 AWG<br>Solid BC<br>30.2 Ω/km*<br>21.0 Ω/km** | 0.180 | 4.57 | Duofoil®<br>+ 95% TC<br>Braid<br>9.2 Ω/km*** | 0.274 | 6.96 | 75 | 82% | 16.2 | 53.1 | 1<br>3.6<br>10<br>71.5<br>135<br>270<br>360<br>540<br>720<br>750<br>1000<br>1500<br>2250<br>3000<br>4500 | 0.2<br>0.5<br>0.7<br>1.6<br>2.1<br>3.0<br>3.4<br>4.2<br>4.9<br>5.0<br>5.9<br>7.3<br>9.1<br>10.7<br>13.3 | 0.8<br>1.5<br>2.4<br>5.2<br>6.9<br>9.7<br>11.3<br>13.9<br>16.2<br>16.4<br>19.3<br>24.0<br>30.0<br>35.0<br>43.6 |
| | | | | | | | | | | | | | | | | | | | |
| | | Sweep tested 5 MHz to 4.5 GHz | | | | | | | | | | | | | | | | | |



* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper

## Networking Cables

DataTwist® 5e ScTP, Low-Smoke Zero-Halogen

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | ACR dB/100m | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG** • Twisted Pairs • Solid 0.5 mm BC • Overall **Beldfoil®** Shield • RJ-45 Compatible • 24 AWG TC Drain Wire • 100 Ohm ± 15% | | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation** (Color Code: see chart below) • **Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 105°C | **1300SB** | NEC:<br>CEC:<br>CMG-LS FT4<br>Limited Smoke | 1000 | 305 | 35.1 | 15.9 | 0.51 mm<br>24 AWG<br>Solid BC | 0.042 | 1.07 | Non-Bonded-Pair Unshielded Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.260 | 6.60 | 1<br>4<br>8<br>10<br>16<br>20<br>25<br>31.25<br>62.5<br>100 | 2.0<br>4.1<br>5.8<br>6.5<br>8.2<br>9.3<br>10.4<br>11.7<br>17.0<br>22.0 | 62.3<br>53.3<br>48.8<br>47.3<br>44.3<br>42.8<br>41.3<br>39.9<br>35.4<br>32.3 | 60.3<br>49.2<br>43.0<br>40.8<br>36.1<br>33.5<br>30.9<br>28.2<br>18.4<br>10.3 | 60.8<br>48.7<br>42.7<br>40.8<br>36.7<br>34.7<br>32.8<br>30.9<br>24.8<br>20.8 | 60.3<br>49.2<br>43.0<br>40.8<br>36.1<br>33.5<br>30.9<br>28.2<br>18.4<br>10.3 | 20.0<br>23.0<br>24.5<br>25.0<br>25.0<br>25.0<br>24.3<br>23.6<br>21.5<br>20.1 |
|  | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | Shield is bonded to jacket inner wall for electrical stability.<br>Jacket sequentially marked at 0.6 m intervals. Third party verified to TIA/EIA-568-B.2, Category 5e | | | | | | | | | | | | | | | | | |

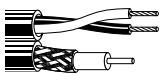
BC = Bare Copper • TC = Tinned Copper • ACR = Attenuation Crosstalk Ratio • DCR = DC resistance •
ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum •
RL = Return Loss • ScTP = Screened (Overall Foil) Twisted Pair(s)

### Color Code

| Pair No. | Color Combination |
|---|---|
| 1 | White/Blue Stripe & Blue |
| 2 | White/Orange Stripe & Orange |
| 3 | White/Green Stripe & Green |
| 4 | White/Brown Stripe & Brown |

## Security Composite Cables

CCTV plus Audio or Pan/Tilt/Zoom CCTV Control Applications
Low-Smoke Zero-Halogen

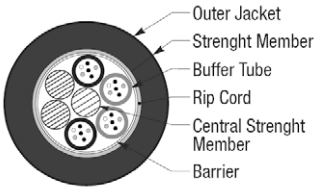
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color code | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component OD inch | Component OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Composite • (1) Series 6 Coax • 2 Conductor (Audio)** stranded | | | | | | | | | | | | | | | | |
| **FPE Coax Insulation • Polypropylene Pair Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | |
| 75°C | **1306SB** | NEC:<br>CEC:<br>CMG-LS FT4<br>Limited Smoke | 500<br>1000 | 152<br>305 | 37.0<br>76.1 | 16.8<br>34.5 | Black & Red | 0.514 | 13.06 | 1xAudio | 1-Pair 18 AWG 1.2 mm (7x26) BC | Unshielded | Polypro-pylene | FRNC Black | 0.239 | 6.07 |
|  | | | | | | | | | | 1xCCTV | Series 6 18 AWG 1.0 mm Solid BC | 95% BC Braid | FPE | FRNC Black | 0.275 | 6.99 |
| | | | | | | | Coax sweep tested to 2.25 GHz and jacket sequentially marked.<br>Third party verified to TIA/EIA-568-B.2, Category 5e | | | | | | | | | | |

BC = Bare Copper • DCR = DC resistance

# RiserLite® Loose Tube Indoor/Outdoor, Fiber Optic Cables#

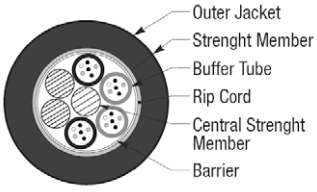
Single-Mode and Multimode-Riser-Rated, Low-Smoke Zero-Halogen

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **M9W** • Loose Tube • Single-Mode | | | | | | | | | | | | | | | | | | |
| **Synthetic Thixotropic Gel Construction • Overall Water-Blocking Tape • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 70°C | **M9W**830 | 6 (1x6) | Manufactured per Order | | 233.5 | 105.9 | Ø 250 ± 15 | 0.07 | 1.90 | Aramid Yarn | 0.38 | 9.65 | no | 2700 | 20 | – | 145 | 193 |
| | **M9W**831 | 12 (2x6) | | | 233.5 | 105.9 | | | | | 0.38 | 9.65 | | | | | | |
| | **M9W**832 | 24 (4x6) | | | 233.5 | 105.9 | | | | | 0.38 | 9.65 | | | | | | |
| | **M9W**834 | 48 (4x12)* | | | 332.0 | 150.6 | | | | | 0.48 | 12.18 | | | | | | |



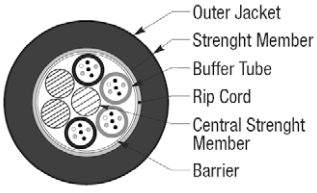

Construction: 6 fibers per tube, cabled with fillers. *12 fibers per tube

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **M9** • Loose Tube • Multimode 50/125 Grade 4 | | | | | | | | | | | | | | | | | | |
| **Synthetic Thixotropic Gel Construction • Overall Water-Blocking Tape • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 70°C | **M97**537 | 2 (2x1)** | Manufactured per Order | | 233.5 | 105.9 | Ø 250 ± 15 | 0.07 | 1.90 | Aramid Yarn | 0.38 | 9.65 | no | 2700 | 20 | – | 145 | 193 |
| | **M9A**830 | 6 (1x6) | | | 233.5 | 105.9 | | | | | 0.38 | 9.65 | | | | | | |
| | **M9A**831 | 12 (2x6) | | | 233.5 | 105.9 | | | | | 0.38 | 9.65 | | | | | | |
| | **M9A**832 | 24 (4x6) | | | 233.5 | 105.9 | | | | | 0.48 | 12.18 | | | | | | |
| | **M9A**834 | 48 (4x12)* | | | 332.0 | 150.6 | | | | | | | | | | | | |




Construction: 6 fibers per tube, cabled with fillers. *12 fibers per tube, **1 fiber per tube

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **M9C** • Loose Tube • Multimode 50/125 Grade 4 | | | | | | | | | | | | | | | | | | |
| **Synthetic Thixotropic Gel Construction • Overall Water-Blocking Tape • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 70°C | **M9C**830 | 6 (1x6) | Manufactured per Order | | 233.5 | 105.9 | Ø 250 ± 15 | 0.07 | 1.90 | Aramid Yarn | 0.38 | 9.65 | no | 2700 | 20 | – | 145 | 193 |
| | **M9C**831 | 12 (2x6) | | | 233.5 | 105.9 | | | | | 0.38 | 9.65 | | | | | | |
| | **M9C**832 | 24 (4x6) | | | 233.5 | 105.9 | | | | | 0.38 | 9.65 | | | | | | |
| | **M9C**834 | 48 (4x12)* | | | 332.0 | 150.6 | | | | | 0.48 | 12.18 | | | | | | |




Construction: 6 fibers per tube, cabled with fillers. *12 fibers per tube

# Available in fiber counts 1 through 144, and in all glass types.

# RiserLite® Loose Tube Indoor/Outdoor, Fiber Optic Cables#

## Single-Mode and Multimode-Riser-Rated, Low-Smoke Zero-Halogen *(continued)*

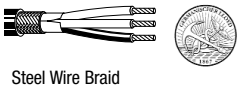


| Glass Types and Specifications | UOM | Single-Mode Fiber * | Multimode Grade 4 | Multimode Grade 5 |
|---|---|---|---|---|
| Operating Wavelength (Short) – nm | nm | 1310 | 850 | 850 |
| Operating Wavelength (Long) – nm | nm | 1550 | 1300 | 1300 |
| Min. OFL Bandwidth (@ Short Wavelength) | MHz-km | – | 500 | 1500 |
| Min. OFL Bandwidth (@ Long Wavelength) | MHz-km | – | 500 | 500 |
| Min. Laser Bandwidth (@ Short Wavelength) | MHz-km | – | 510 | 2000 |
| Min. Laser Bandwidth (@ Long Wavelength) | MHz-km | – | 500 | 500 |
| Max. Attenuation (@ Short Wavelength) | db/km | 0.4 | 3.0 | 3.0 |
| Max. Attenuation (@ Long Wavelength) | db/km | 0.3 | 1.0 | 1.0 |
| 100 Mb/s Fast Ethernet Link Length @ WL = 850 nm | m | – | 300 | 300 |
| 100 Mb/s Fast Ethernet Link Length @ WL = 1310 nm | m | 5000 | 2000 | 2000 |
| 1 Gb/s Ethernet Link Length @ WL = 850 nm | m | – | 600 | 1000** |
| 1 Gb/s Ethernet Link Length @ WL = 1310 nm | m | 5000 | 600 | 600 |
| 10 Gb/s Ethernet Link Length @ WL = 850 nm | m | – | 82 | 300 |
| 10 Gb/s Ethernet Link Length @ WL = 1310 nm | m | 10000 | 300 | 300 |

# Available in fiber counts 1 through 144, and in all glass types.
* Low water peak single-mode suitable for CWDM use complies with ITU G.652.c/d.
** > 200 m for engineered links
OFL: Overfilled Launch
Laser bandwidth: effective modal bandwidth, determined by RML or DMD performance specifications
Other constructions and fiber-types available, up to 144 fibers.
Minimum order for each construction is 1000 meters. Bulk long reels, manufactured per order.
Operating temperature: -40°C to +70°C

# Control for Propulsion Systems

300/500V, 180°C

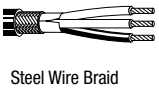
| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **180°C • 18 - 8 AWG** • Stranded Tinned Copper • FEP Inner Sheath • Galvanized Steel Wire Braid | | | | | | | | | | | | | |
| **PTFE Insulation • Overall Clear FEP Jacket** | | | | | | | | | | | | | |
| | | GL 7334077 HH | | | | | | | | Unshielded | | | In industrial areas with high temperature and increased mechanical stress, e.g.<br>- Shipbuilding industry<br>- Motor and turbine engineering<br>- Mechanical engineering |
|  Steel Wire Braid | | | | | | | | | | | | | |
| | **SHO 0001** | 2 | 3280 | 1000 | 156.5 | 71.0 | (24x0.20) TC | 18 | 0.75 | | 0.284 | 6.30 | |
| | **SHO 0002** | 3 | 3280 | 1000 | 194.0 | 88.0 | (24x0.20) TC | 18 | 0.75 | | 0.260 | 6.60 | |
| | **SHO 0003** | 5 | 3280 | 1000 | 291.0 | 132.0 | (24x0.20) TC | 18 | 0.75 | | 0.287 | 7.30 | |
| | **SHO 0004** | 2 | 3280 | 1000 | 191.8 | 87.0 | (32x0.20) TC | 17 | 1.00 | | 0.256 | 6.50 | |
| | **SHO 0005** | 3 | 3280 | 1000 | 262.3 | 119.0 | (32x0.20) TC | 17 | 1.00 | | 0.268 | 6.80 | |
| | **SHO 0006** | 4 | 3280 | 1000 | 286.6 | 130.0 | (32x0.20) TC | 17 | 1.00 | | 0.287 | 7.30 | |
| | **SHO 0007** | 2 | 3280 | 1000 | 218.3 | 99.0 | (30x0.25) TC | 16 | 1.50 | | 0.280 | 7.10 | |
| | **SHO 0008** | 3 | 3280 | 1000 | 269.0 | 122.0 | (30x0.25) TC | 16 | 1.50 | | 0.291 | 7.40 | |
| | **SHO 0009** | 4 | 3280 | 1000 | 310.8 | 141.0 | (30x0.25) TC | 16 | 1.50 | | 0.315 | 8.00 | |
| | **SHO 0010** | 5 | 3280 | 1000 | 379.2 | 172.0 | (30x0.25) TC | 16 | 1.50 | | 0.339 | 8.60 | |
| | **SHO 0011** | 7 | 3280 | 1000 | 474.0 | 215.0 | (30x0.25) TC | 16 | 1.50 | | 0.366 | 9.30 | |
| | **SHO 0012** | 12 | 3280 | 1000 | 868.6 | 394.0 | (30x0.25) TC | 16 | 1.50 | | 0.465 | 11.80 | |
| | **SHO 0013** | 2 | 3280 | 1000 | 328.5 | 149.0 | (50x0.25) TC | 14 | 2.50 | | 0.327 | 8.30 | |
| | **SHO 0014** | 3 | 3280 | 1000 | 432.1 | 196.0 | (50x0.25) TC | 14 | 2.50 | | 0.343 | 8.70 | |
| | **SHO 0015** | 4 | 3280 | 1000 | 540.1 | 245.0 | (50x0.25) TC | 14 | 2.50 | | 0.370 | 9.40 | |
| | **SHO 0016** | 5 | 3280 | 1000 | 665.8 | 302.0 | (50x0.25) TC | 14 | 2.50 | | 0.406 | 10.30 | |
| | **SHO 0017** | 7 | 3280 | 1000 | 806.9 | 366.0 | (50x0.25) TC | 14 | 2.50 | | 0.437 | 11.10 | |
| | **SHO 0018** | 2 | 3280 | 1000 | 487.2 | 221.0 | (56x0.30) TC | 12 | 4 | | 0.394 | 10.00 | |
| | **SHO 0019** | 3 | 3280 | 1000 | 634.9 | 288.0 | (56x0.30) TC | 12 | 4 | | 0.413 | 10.50 | |
| | **SHO 0020** | 4 | 3280 | 1000 | 787.0 | 357.0 | (56x0.30) TC | 12 | 4 | | 0.449 | 11.40 | |
| | **SHO 0021** | 5 | 3280 | 1000 | 1018.5 | 462.0 | (56x0.30) TC | 12 | 4 | | 0.488 | 12.40 | |
| | **SHO 0022** | 2 | 3280 | 1000 | 608.5 | 276.0 | (84x0.30) TC | 10 | 6 | | 0.492 | 12.50 | |
| | **SHO 0023** | 3 | 3280 | 1000 | 840.0 | 381.0 | (84x0.30) TC | 10 | 6 | | 0.520 | 13.20 | |
| | **SHO 0024** | 4 | 3280 | 1000 | 1036.2 | 470.0 | (84x0.30) TC | 10 | 6 | | 0.563 | 14.30 | |
| | **SHO 0025** | 2 | 3280 | 1000 | 877.4 | 398.0 | (80x0.40) TC | 8 | 10 | | 0.602 | 15.30 | |
| | **SHO 0026** | 3 | 3280 | 1000 | 1212.5 | 550.0 | (80x0.40) TC | 8 | 10 | | 0.638 | 16.20 | |
| | **SHO 0027** | 4 | 3280 | 1000 | 1538.8 | 698.0 | (80x0.40) TC | 8 | 10 | | 0.697 | 17.70 | |

TC = Tinned Copper • DCR = DC resistance

# Control for Propulsion Systems

300/500V, 180°C



| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **180°C • 18 - 8 AWG** • Stranded Tinned Copper • Impregnated Glass Fiber Yarn Inner Sheath • Galvanized Steel Wire Braid | | | | | | | | | | | | | |
| **PTFE Insulation** | | | | | | | | | | | | | |
| | | GL 6371373 HH | | | | | | | | Unshielded | | | In industrial areas with high temperature and increased mechanical stress, e.g.<br>- Shipbuilding industry<br>- Motor and turbine engineering<br>- Mechanical engineering |
|  Steel Wire Braid | | | | | | | | | | | | | |
| | **SHO0028** | 2 | 3280 | 1000 | 108.0 | 49.0 | (24x0.20) TC | 18 | 0.75 | | 0.193 | 4.90 | |
| | **SHO0029** | 3 | 3280 | 1000 | 152.1 | 69.0 | (24x0.20) TC | 18 | 0.75 | | 0.201 | 5.10 | |
| | **SHO0030** | 5 | 3280 | 1000 | 207.2 | 94.0 | (24x0.20) TC | 18 | 0.75 | | 0.240 | 6.10 | |
| | **SHO0031** | 2 | 3280 | 1000 | 134.5 | 61.0 | (32x0.20) TC | 17 | 1.00 | | 0.205 | 5.20 | |
| | **SHO0032** | 3 | 3280 | 1000 | 180.8 | 82.0 | (32x0.20) TC | 17 | 1.00 | | 0.217 | 5.50 | |
| | **SHO0033** | 4 | 3280 | 1000 | 207.2 | 94.0 | (32x0.20) TC | 17 | 1.00 | | 0.236 | 6.00 | |
| | **SHO0034** | 2 | 3280 | 1000 | 185.2 | 84.0 | (30x0.25) TC | 16 | 1.50 | | 0.224 | 5.70 | |
| | **SHO0035** | 3 | 3280 | 1000 | 220.5 | 100.0 | (30x0.25) TC | 16 | 1.50 | | 0.240 | 6.10 | |
| | **SHO0036** | 4 | 3280 | 1000 | 260.1 | 118.0 | (30x0.25) TC | 16 | 1.50 | | 0.260 | 6.60 | |
| | **SHO0037** | 5 | 3280 | 1000 | 313.1 | 142.0 | (30x0.25) TC | 16 | 1.50 | | 0.287 | 7.30 | |
| | **SHO0038** | 7 | 3280 | 1000 | 379.2 | 172.0 | (30x0.25) TC | 16 | 1.50 | | 0.315 | 8.00 | |
| | **SHO0039** | 12 | 3280 | 1000 | 612.9 | 278.0 | (30x0.25) TC | 16 | 1.50 | | 0.413 | 10.50 | |
| | **SHO0040** | 2 | 3280 | 1000 | 231.5 | 105.0 | (50x0.25) TC | 14 | 2.50 | | 0.268 | 6.80 | |
| | **SHO0041** | 3 | 3280 | 1000 | 308.6 | 140.0 | (50x0.25) TC | 14 | 2.50 | | 0.283 | 7.20 | |
| | **SHO0042** | 4 | 3280 | 1000 | 383.6 | 174.0 | (50x0.25) TC | 14 | 2.50 | | 0.315 | 8.00 | |
| | **SHO0043** | 5 | 3280 | 1000 | 471.8 | 214.0 | (50x0.25) TC | 14 | 2.50 | | 0.343 | 8.70 | |
| | **SHO0044** | 7 | 3280 | 1000 | 575.4 | 261.0 | (50x0.25) TC | 14 | 2.50 | | 0.374 | 9.50 | |
| | **SHO0045** | 2 | 3280 | 1000 | 348.3 | 158.0 | (56x0.30) TC | 12 | 4 | | 0.327 | 8.30 | |
| | **SHO0046** | 3 | 3280 | 1000 | 454.1 | 206.0 | (56x0.30) TC | 12 | 4 | | 0.354 | 9.00 | |
| | **SHO0047** | 4 | 3280 | 1000 | 562.2 | 255.0 | (56x0.30) TC | 12 | 4 | | 0.390 | 9.90 | |
| | **SHO0048** | 5 | 3280 | 1000 | 729.7 | 331.0 | (56x0.30) TC | 12 | 4 | | 0.425 | 10.80 | |
| | **SHO0049** | 2 | 3280 | 1000 | 436.5 | 198.0 | (84x0.30) TC | 10 | 6 | | 0.382 | 9.70 | |
| | **SHO0050** | 3 | 3280 | 1000 | 599.7 | 272.0 | (84x0.30) TC | 10 | 6 | | 0.409 | 10.40 | |
| | **SHO0051** | 4 | 3280 | 1000 | 740.7 | 336.0 | (84x0.30) TC | 10 | 6 | | 0.461 | 11.70 | |
| | **SHO0052** | 2 | 3280 | 1000 | 632.7 | 287.0 | (80x0.40) TC | 8 | 10 | | 0.520 | 13.20 | |
| | **SHO0053** | 3 | 3280 | 1000 | 868.6 | 394.0 | (80x0.40) TC | 8 | 10 | | 0.555 | 14.10 | |
| | **SHO0054** | 4 | 3280 | 1000 | 1106.7 | 502.0 | (80x0.40) TC | 8 | 10 | | 0.614 | 15.60 | |

TC = Tinned Copper • DCR = DC resistance

# Instrument & Communication

250V, 90°C

| Description | Part No. | No. of Pairs | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **90°C • 18 AWG** • Stranded Bare Copper • Twisted Pair • Fleece Cloth • Overall Bare Copper Braid | | | | | | | | | | | | | |
| **TPE-E-112 Insulation • Black TPE-O-107 Jacket** | | | | | | | | | | | | | |
| | GL 2067604 HH | | | | | | | | | Overall BC Braid | | | In industrial areas, e.g.<br>- Shipbuilding industry<br>- Mechanical engineering |
| | **SHO 0055** | 1 | 3280 | 1000 | 167.5 | 76.0 | (7x0.36) BC | 18 | 0.75 | | 0.252 | 6.40 | |
| | **SHO 0056** | 2 | 3280 | 1000 | 227.1 | 103.0 | (7x0.36) BC | 18 | 0.75 | | 0.280 | 7.10 | |
| | **SHO 0057** | 4 | 3280 | 1000 | 401.2 | 182.0 | (7x0.36) BC | 18 | 0.75 | | 0.402 | 10.20 | |
| | **SHO 0058** | 7 | 3280 | 1000 | 573.2 | 260.0 | (7x0.36) BC | 18 | 0.75 | | 0.492 | 12.50 | |
| | **SHO 0059** | 10 | 3280 | 1000 | 745.2 | 338.0 | (7x0.36) BC | 18 | 0.75 | | 0.563 | 14.30 | |
| | **SHO 0060** | 14 | 3280 | 1000 | 987.7 | 448.0 | (7x0.36) BC | 18 | 0.75 | | 0.646 | 16.40 | |
| | **SHO 0061** | 19 | 3280 | 1000 | 1239.0 | 562.0 | (7x0.36) BC | 18 | 0.75 | | 0.713 | 18.10 | |
| | **SHO 0062** | 24 | 3280 | 1000 | 1567.5 | 711.0 | (7x0.36) BC | 18 | 0.75 | | 0.815 | 20.70 | |

BC = Bare Copper • DCR = DC resistance

# Power & Control

300/500V, 90°C



| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **90°C • 16 - 2 AWG** • Stranded Bare Copper • Fleece Cloth | | | | | | | | | | | | | |
| **TPE-E-112 Insulation • Black TPE-O-107 Jacket** | | | | | | | | | | | | | |
| | | GL 3264106 HH | | | | | | | | Unshielded | | | In industrial areas, e.g.<br>- Shipbuilding industry<br>- Mechanical engineering |
| **SHO0063** | 2 | 3280 | 1000 | 158.7 | 72.0 | (7x0.52) BC | | 16 | 1.50 | | 0.256 | 6.50 | |
| **SHO0064** | 3 | 3280 | 1000 | 194.0 | 88.0 | (7x0.52) BC | | 16 | 1.50 | | 0.268 | 6.80 | |
| **SHO0065** | 4 | 3280 | 1000 | 235.9 | 107.0 | (7x0.52) BC | | 16 | 1.50 | | 0.291 | 7.40 | |
| **SHO0066** | 5 | 3280 | 1000 | 284.4 | 129.0 | (7x0.52) BC | | 16 | 1.50 | | 0.315 | 8.00 | |
| **SHO0067** | 7 | 3280 | 1000 | 361.6 | 164.0 | (7x0.52) BC | | 16 | 1.50 | | 0.339 | 8.60 | |
| **SHO0068** | 10 | 3280 | 1000 | 524.7 | 238.0 | (7x0.52) BC | | 16 | 1.50 | | 0.425 | 10.80 | |
| **SHO0069** | 14 | 3280 | 1000 | 690.0 | 313.0 | (7x0.52) BC | | 16 | 1.50 | | 0.476 | 12.10 | |
| **SHO0070** | 19 | 3280 | 1000 | 892.9 | 405.0 | (7x0.52) BC | | 16 | 1.50 | | 0.524 | 13.30 | |
| **SHO0071** | 24 | 3280 | 1000 | 1161.8 | 527.0 | (7x0.52) BC | | 16 | 1.50 | | 0.654 | 16.60 | |
| **SHO0072** | 2 | 3280 | 1000 | 233.7 | 106.0 | (7x0.68) BC | | 14 | 2.50 | | 0.303 | 7.70 | |
| **SHO0073** | 3 | 3280 | 1000 | 295.4 | 134.0 | (7x0.68) BC | | 14 | 2.50 | | 0.319 | 8.10 | |
| **SHO0074** | 4 | 3280 | 1000 | 423.3 | 192.0 | (7x0.68) BC | | 14 | 2.50 | | 0.346 | 8.80 | |
| **SHO0075** | 5 | 3280 | 1000 | 443.1 | 201.0 | (7x0.68) BC | | 14 | 2.50 | | 0.378 | 9.60 | |
| **SHO0076** | 2 | 3280 | 1000 | 324.1 | 147.0 | (56x0.30) BC | | 12 | 4 | | 0.343 | 8.70 | |
| **SHO0077** | 3 | 3280 | 1000 | 412.3 | 187.0 | (56x0.30) BC | | 12 | 4 | | 0.362 | 9.20 | |
| **SHO0078** | 4 | 3280 | 1000 | 535.7 | 243.0 | (56x0.30) BC | | 12 | 4 | | 0.409 | 10.40 | |
| **SHO0079** | 2 | 3280 | 1000 | 465.2 | 211.0 | (84x0.30) BC | | 10 | 6 | | 0.406 | 10.30 | |
| **SHO0080** | 3 | 3280 | 1000 | 597.4 | 271.0 | (84x0.30) BC | | 10 | 6 | | 0.429 | 10.90 | |
| **SHO0081** | 4 | 3280 | 1000 | 745.2 | 338.0 | (84x0.30) BC | | 10 | 6 | | 0.469 | 11.90 | |
| **SHO0082** | 2 | 3280 | 1000 | 826.7 | 375.0 | (80x0.40) BC | | 8 | 10 | | 0.555 | 14.10 | |
| **SHO0083** | 3 | 3280 | 1000 | 1073.6 | 487.0 | (80x0.40) BC | | 8 | 10 | | 0.594 | 15.10 | |
| **SHO0084** | 4 | 3280 | 1000 | 1239.0 | 562.0 | (80x0.40) BC | | 8 | 10 | | 0.654 | 16.60 | |
| **SHO0085** | 3 | 3280 | 1000 | 1560.9 | 708.0 | (126x0.40) BC | | 6 | 16 | | 0.697 | 17.70 | |
| **SHO0086** | 3 | 3280 | 1000 | 2376.6 | 1078.0 | (196x0.40) BC | | 4 | 25 | | 0.846 | 21.50 | |
| **SHO0087** | 3 | 3280 | 1000 | 3871.3 | 1756.0 | (276x0.40) BC | | 2 | 35 | | 0.996 | 25.30 | |

BC = Bare Copper • DCR = DC resistance

# Power & Control

300/500V, 90°C

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **90°C • 18 - 8 AWG** • Stranded Bare Copper • Fleece Cloth • Overall Bare Copper Braid | | | | | | | | | | | | | |
| **TPE-E-112 Insulation • Black TPE-O-107 Jacket** | | | | | | | | | | | | | |
| | | GL 2067504 HH | | | | | | | | Overall BC Braid | | | In industrial areas, e.g.<br>- Shipbuilding industry<br>- Mechanical engineering |
| **SHO0098** | 2 | 3280 | 1000 | 227.1 | 103.0 | (7x0.52) BC | 16 | 1.50 | | 0.280 | 7.10 | |
| **SHO0099** | 3 | 3280 | 1000 | 266.8 | 121.0 | (7x0.52) BC | 16 | 1.50 | | 0.295 | 7.50 | |
| **SHO0100** | 4 | 3280 | 1000 | 321.9 | 146.0 | (7x0.52) BC | 16 | 1.50 | | 0.319 | 8.10 | |
| **SHO0101** | 5 | 3280 | 1000 | 348.3 | 158.0 | (7x0.52) BC | 16 | 1.50 | | 0.346 | 8.80 | |
| **SHO0102** | 7 | 3280 | 1000 | 436.5 | 198.0 | (7x0.52) BC | 16 | 1.50 | | 0.370 | 9.40 | |
| **SHO0103** | 10 | 3280 | 1000 | 637.1 | 289.0 | (7x0.52) BC | 16 | 1.50 | | 0.461 | 11.70 | |
| **SHO0104** | 12 | 3280 | 1000 | 743.0 | 337.0 | (7x0.52) BC | 16 | 1.50 | | 0.492 | 12.50 | |
| **SHO0105** | 14 | 3280 | 1000 | 815.7 | 370.0 | (7x0.52) BC | 16 | 1.50 | | 0.508 | 12.90 | |
| **SHO0106** | 16 | 3280 | 1000 | 932.5 | 423.0 | (7x0.52) BC | 16 | 1.50 | | 0.543 | 13.80 | |
| **SHO0107** | 19 | 3280 | 1000 | 1053.8 | 478.0 | (7x0.52) BC | 16 | 1.50 | | 0.563 | 14.30 | |
| **SHO0108** | 24 | 3280 | 1000 | 1342.6 | 609.0 | (7x0.52) BC | 16 | 1.50 | | 0.654 | 16.60 | |
| **SHO0109** | 2 | 3280 | 1000 | 326.3 | 148.0 | (7x0.68) BC | 14 | 2.50 | | 0.323 | 8.20 | |
| **SHO0110** | 3 | 3280 | 1000 | 392.4 | 178.0 | (7x0.68) BC | 14 | 2.50 | | 0.346 | 8.80 | |
| **SHO0111** | 4 | 3280 | 1000 | 476.2 | 216.0 | (7x0.68) BC | 14 | 2.50 | | 0.378 | 9.60 | |
| **SHO0112** | 2 | 3280 | 1000 | 445.3 | 202.0 | (56x0.30) BC | 12 | 4 | | 0.374 | 9.50 | |
| **SHO0113** | 3 | 3280 | 1000 | 533.5 | 242.0 | (56x0.30) BC | 12 | 4 | | 0.394 | 10.00 | |
| **SHO0114** | 4 | 3280 | 1000 | 705.5 | 320.0 | (56x0.30) BC | 12 | 4 | | 0.449 | 11.40 | |
| **SHO0115** | 2 | 3280 | 1000 | 615.1 | 279.0 | (84x0.30) BC | 10 | 6 | | 0.437 | 11.10 | |
| **SHO0116** | 3 | 3280 | 1000 | 747.4 | 339.0 | (84x0.30) BC | 10 | 6 | | 0.461 | 11.70 | |
| **SHO0117** | 4 | 3280 | 1000 | 948.0 | 430.0 | (84x0.30) BC | 10 | 6 | | 0.508 | 12.90 | |
| **SHO0145** | 2 | 3280 | 1000 | 1104.5 | 501.0 | (80x0.40) BC | 8 | 10 | | 0.594 | 15.10 | |
| **SHO0146** | 4 | 3280 | 1000 | 1505.7 | 683.0 | (80x0.40) BC | 8 | 10 | | 0.701 | 17.80 | |

BC = Bare Copper • DCR = DC resistance

# Power & Control

300/500V, 90°C



| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

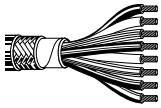
**90°C • 18 - 8 AWG** • Stranded Bare Copper • Fleece Cloth • Overall Bare Copper Braid

**TPE-E-112 Insulation • Black TPE-O-107 Jacket**

GL 2067504 HH

Overall BC Braid

In industrial areas, e.g.
- Shipbuilding industry
- Mechanical engineering



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHO0088** | 2 | 3280 | 1000 | 167.5 | 76.0 | (7x0.36) BC | 18 | 0.75 | | 0.252 | 6.40 | |
| **SHO0089** | 3 | 3280 | 1000 | 187.4 | 85.0 | (7x0.36) BC | 18 | 0.75 | | 0.264 | 6.70 | |
| **SHO0090** | 5 | 3280 | 1000 | 229.3 | 104.0 | (7x0.36) BC | 18 | 0.75 | | 0.299 | 7.60 | |
| **SHO0091** | 7 | 3280 | 1000 | 280.0 | 127.0 | (7x0.36) BC | 18 | 0.75 | | 0.319 | 8.10 | |
| **SHO0092** | 10 | 3280 | 1000 | 390.2 | 177.0 | (7x0.36) BC | 18 | 0.75 | | 0.386 | 9.80 | |
| **SHO0093** | 12 | 3280 | 1000 | 440.9 | 200.0 | (7x0.36) BC | 18 | 0.75 | | 0.413 | 10.50 | |
| **SHO0094** | 14 | 3280 | 1000 | 493.8 | 224.0 | (7x0.36) BC | 18 | 0.75 | | 0.429 | 10.90 | |
| **SHO0095** | 16 | 3280 | 1000 | 546.7 | 248.0 | (7x0.36) BC | 18 | 0.75 | | 0.449 | 11.40 | |
| **SHO0096** | 19 | 3280 | 1000 | 612.9 | 278.0 | (7x0.36) BC | 18 | 0.75 | | 0.465 | 11.80 | |
| **SHO0097** | 24 | 3280 | 1000 | 749.6 | 340.0 | (7x0.36) BC | 18 | 0.75 | | 0.524 | 13.30 | |

**90°C • 6 AWG - 3/0 MCM** • Stranded Bare Copper • Bare Copper Braid

**TPE-E-112 Insulation • Black TPE-O-107 Jacket**

Overall BC Braid

For internal wiring, e.g.
- Shipbuilding industry
- Mechanical engineering



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHO0119** | 1 | 3280 | 1000 | 593.0 | 269.0 | (126x0.40) BC | 6 | 16 | | 0.398 | 10.10 | |
| **SHO0120** | 1 | 3280 | 1000 | 837.7 | 380.0 | (196x0.40) BC | 4 | 25 | | 0.457 | 11.60 | |
| **SHO0121** | 1 | 3280 | 1000 | 1188.3 | 539.0 | (276x0.40) BC | 2 | 35 | | 0.547 | 13.90 | |
| **SHO0122** | 1 | 3280 | 1000 | 1554.2 | 705.0 | (392x0.40) BC | 1 | 50 | | 0.610 | 15.50 | |
| **SHO0123** | 1 | 3280 | 1000 | 2090.0 | 948.0 | (356x0.50) BC | 2/0 | 70 | | 0.685 | 17.40 | |
| **SHO0124** | 1 | 3280 | 1000 | 2788.8 | 1265.0 | (470x0.50) BC | 3/0 | 95 | | 0.819 | 20.80 | |

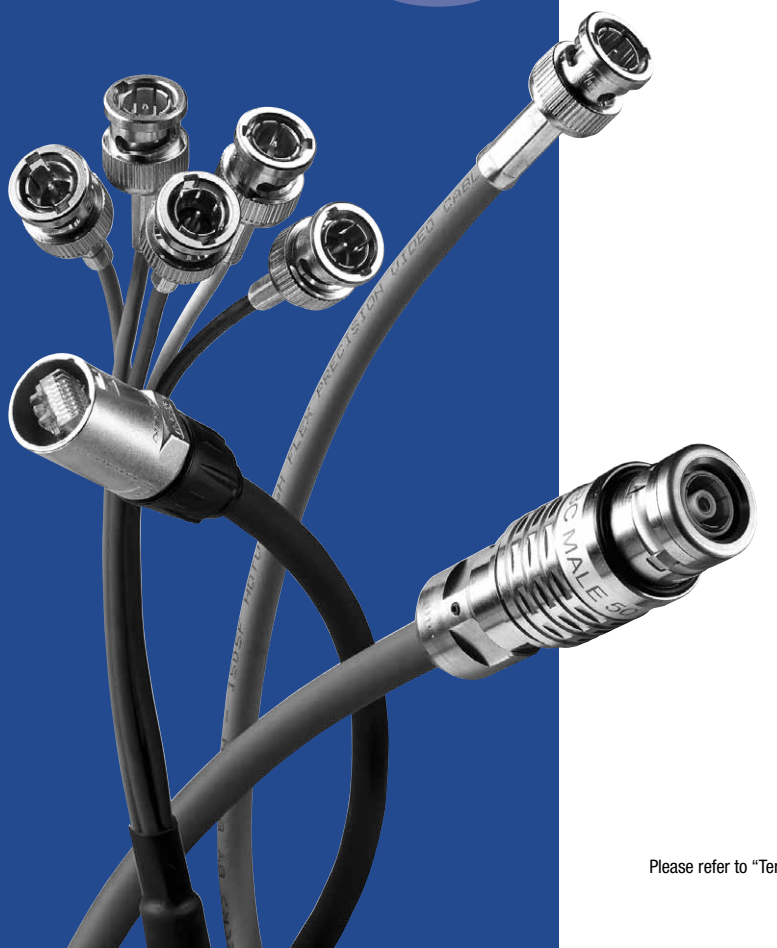
BC = Bare Copper • DCR = DC resistance

## Notes

BELDEN
SENDING ALL THE RIGHT SIGNALS



# 8 Cable Assemblies



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| Fiber Optic Assemblies for HDTV Cameras (SMPTE 311) | 8.6 |




Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### Brilliant in Every Way

Everyone in HDTV wants unmatched high life cycle performance, quality, longevity and peace of mind. Brilliance Assemblies are designed and optimized for HDTV. This requires the cabling to conform to the very highest of standards so it can deliver the very best in performance throughout its long lifetime. Quite simply, nothing beats a Belden cable – a proven fact, perfectly demonstrated by a product range that delivers top performance in every way and enhances the assurances offered by Brilliance Assemblies.

From precise installation with materials perfectly suited to their requirements to rigorous and proven testing methods supported by the Belden Installable Performance™ processes, users find that Brilliance Assemblies offer a peace of mind that is unmatched.

### Key Applications

- High-resolution monitors
- Project imaging
- OB Vans
- Satellite head ends
- Video networks
- CCTV
- Ethernet professional audio

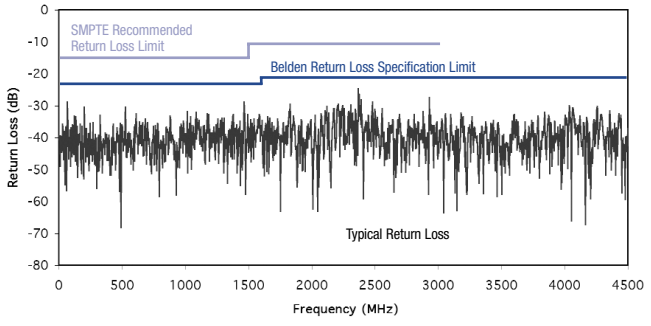
### Special Features

- **1505F:** This cable is the focus product for video cords, a super high flex coax developed by Belden for digital patch panel cabling requirements. The 1505F has a soft matte PVC jacket which envelopes two tinned copper braids with a unique compacted stranded central conductor. This combines the flexibility borne from its stranded design to stability and RL performance that come right from its solid core. The 1505F is fully sweep tested to 4.5 GHz.

- **Low Return Loss (RL):** Use your head room! Belden delivers Return Loss (RL) performance that offers ample head room below the SMPTE 292M -15dB requirement. Belden products offer a best in class RL performance.

#### Bandwidth

Broadcasting needs are evolving at a rapid rate. Brilliance Assemblies offer the most significant scope for ensuring growth whatever the bandwidth. Belden products offer a best in class RL performance tested to 4.5 GHz throughout the entire installation and monitoring processes and even after packaging.




- **Exceptional Flexibility and Superior Cable Life:** Under the stress of repeated pulling, flexing, bending and crushing, cables can quickly display discrepancies that lead to degraded signal transmission – or even breakage. To combat these usage problems, Belden offers robust performance and enhanced flexibility in all Brilliance Assemblies. An abrasion-resistant jacket adds further protection and flexibility.

- **Crush Resistance:** Improves bending/flexing without pushing out the centre pin and/or damaging attached equipment – ideal for the more rugged installations.

  High resistance to crushing is provided by the foamed high-density polyethylene. Belden products have as much as twice the crush resistance of similar commercially available products. This means that the cables are less susceptible to diameter variations during their installation and use – resulting in minimal degradation of impedance and RL.

### The Connectors

Brilliance Assemblies are put together using true 75 Ohm connectors that constantly perform to the very highest levels. Nominal 75 Ohm connectors can cause high BER (Bit Error Rate) and significantly reduce transmission distance.

Belden perfectly complements innovative products such as ADC's ProAx™ triax connectors and Neutrik's OpticalCon® next generation of HDTV camera connectors. The Belden line includes three one-piece connectors, a stripping tool and a compression tool that facilitates swift cable connection.

High quality BNC, RCA and F connectors, recommended for RGB patch cables, feature a brass and nickel construction with nickel-plated centre pins. In addition, they offer twin compression points that seal and hold the connector to the coaxial cable. By having two compression points, and a patent-pending viewing window on the connector, installation is made much simpler.

To meet the requirements of the market, Belden is able to deliver Brilliance Assemblies with other popular connector brands.

### Availability

Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find your assembly in this catalog section that meets your technical requirements contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

ProAx™ is an ADC Krone trademark.
OpticalCon® is a Neutrik trademark.

# Coax Cable Assemblies

## Video Cords

| Part No. | Gender | Standard Lengths | | Standard Unit Weight | | Cond. AWG (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | Nominal Attenuation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | pF/ft. | pF/m | MHz | dB/ 100 ft. | dB/ 100 m |

**Brilliance Assemblies • 1505F HDTV/SDI • BNC, RCA or F Connectors on both ends • Superflex 75 Ohm broadcast quality assembled colored cable with two strain relief boosts**

Digital video and HDTV run at higher frequencies and make better use of composite video for even greater picture clarity. To accommodate the need for higher frequency, and the ability to run more demanding applications such as high resolution VGA on large screens, HDTV, Hi-Res CAD, animation, editing and special effects, Belden uses the extremely popular 1505F which has the optimum design to meet these new high-end requirements. The Belden line includes high performance professional connectors with excellent connector pull strength and minimal signal loss. Perfect for patching, rack wiring, OB vans, satellite headends, CCTV, etc.

**Gas-injected Foam HDPE Insulation • PVC Jacket** (Matte Black, Red, Green, Blue, Yellow, White, Violet, Orange)

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.6 | 0.5 | 0.18 | 0.08 | 22 AWG | 0.145 | 3.68 | Double | 0.242 | 6.15 | 75 | 80% | 17.0 | 55.7 | 1 | 0.2 | 0.7 |
| 3.3 | 1.0 | 0.26 | 0.12 | 0.79 mm | | | 95% TC | | | | | | | 3.6 | 0.5 | 1.6 |
| 6.6 | 2.0 | 0.43 | 0.19 | (7x29) BC | | | Braid | | | | | | | 10 | 0.9 | 2.9 |
| 9.8 | 3.0 | 0.59 | 0.27 | 47.8 Ω/km* | | | 7.8 Ω/km*** | | | | | | | 71.5 | 2.5 | 8.2 |
| 16.4 | 5.0 | 0.92 | 0.42 | 40.0 Ω/km** | | | | | | | | | | 135 | 3.5 | 11.5 |
| 19.7 | 6.0 | 1.09 | 0.49 | | | | | | | | | | | 270 | 5.1 | 16.7 |
| 49.2 | 15.0 | 2.58 | 1.17 | | | | | | | | | | | 360 | 6.0 | 19.7 |
| 65.6 | 20.0 | 3.40 | 1.54 | | | | | | | | | | | 540 | 7.4 | 24.3 |
| 98.4 | 30.0 | 5.06 | 2.29 | | | | | | | | | | | 720 | 8.7 | 28.5 |
| 147.6 | 45.0 | 7.54 | 3.42 | | | | | | | | | | | 750 | 8.9 | 29.2 |
| | | | | | | | | | | | | | | 1000 | 10.5 | 34.4 |
| | | | | | | | | | | | | | | 1500 | 13.3 | 43.6 |
| | | | | | | | | | | | | | | 2250 | 16.9 | 55.4 |
| | | | | | | | | | | | | | | 3000 | 20.3 | 66.6 |



Return loss at 5-3000 MHz: ≥ 15 dB

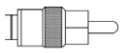
**1505F BNC-BNC • for Analog & Digital Video, Patchcords, CCTV, Satellite Uplink/Downlink, Telecom**



Example Part No. **CA00100**00C0D5
= 1505F BNC-BNC, 0.5 m, violet

| CA00100... | Length | Violet | Black | Red | Green | Blue | Yellow | White | Orange |
|---|---|---|---|---|---|---|---|---|---|
| | 0.5 | 00C0D5 | 01C0D5 | 02C0D5 | 03C0D5 | 04C0D5 | 05C0D5 | 06C0D5 | 07C0D5 |
| | 1.0 | 00C1 | 01C1 | 02C1 | 03C1 | 04C1 | 05C1 | 06C1 | 07C1 |
| | 2.0 | 00C2 | 01C2 | 02C2 | 03C2 | 04C2 | 05C2 | 06C2 | 07C2 |
| | 3.0 | 00C3 | 01C3 | 02C3 | 03C3 | 04C3 | 05C3 | 06C3 | 07C3 |
| | 5.0 | 00C5 | 01C5 | 02C5 | 03C5 | 04C5 | 05C5 | 06C5 | 07C5 |
| | 6.0 | 00C6 | 01C6 | 02C6 | 03C6 | 04C6 | 05C6 | 06C6 | 07C6 |
| | 15.0 | 00C15 | 01C15 | 02C15 | 03C15 | 04C15 | 05C15 | 06C15 | 07C15 |
| | 20.0 | 00C20 | 01C20 | 02C20 | 03C20 | 04C20 | 05C20 | 06C20 | 07C20 |
| | 30.0 | 00C30 | 01C30 | 02C30 | 03C30 | 04C30 | 05C30 | 06C30 | 07C30 |
| | 45.0 | 00C45 | 01C45 | 02C45 | 03C45 | 04C45 | 05C45 | 06C45 | 07C45 |

**1505F RCA-RCA • for Audio or Video, Projectors, Digital Audio (S/PDIF) Subwoofer, Analog Audio and Composite Video**



Example Part No. **CA00101**00C0D5
= 1505F RCA-RCA, 0.5 m, violet

| CA00101... | Length | Violet | Black | Red | Green | Blue | Yellow | White | Orange |
|---|---|---|---|---|---|---|---|---|---|
| | 0.5 | 00C0D5 | 01C0D5 | 02C0D5 | 03C0D5 | 04C0D5 | 05C0D5 | 06C0D5 | 07C0D5 |
| | 1.0 | 00C1 | 01C1 | 02C1 | 03C1 | 04C1 | 05C1 | 06C1 | 07C1 |
| | 2.0 | 00C2 | 01C2 | 02C2 | 03C2 | 04C2 | 05C2 | 06C2 | 07C2 |
| | 3.0 | 00C3 | 01C3 | 02C3 | 03C3 | 04C3 | 05C3 | 06C3 | 07C3 |
| | 5.0 | 00C5 | 01C5 | 02C5 | 03C5 | 04C5 | 05C5 | 06C5 | 07C5 |
| | 6.0 | 00C6 | 01C6 | 02C6 | 03C6 | 04C6 | 05C6 | 06C6 | 07C6 |
| | 15.0 | 00C15 | 01C15 | 02C15 | 03C15 | 04C15 | 05C15 | 06C15 | 07C15 |
| | 20.0 | 00C20 | 01C20 | 02C20 | 03C20 | 04C20 | 05C20 | 06C20 | 07C20 |
| | 30.0 | 00C30 | 01C30 | 02C30 | 03C30 | 04C30 | 05C30 | 06C30 | 07C30 |
| | 45.0 | 00C45 | 01C45 | 02C45 | 03C45 | 04C45 | 05C45 | 06C45 | 07C45 |

**1505F F-F • for Cable TV, Satellite and Antenna. The Brilliance Assemblies RF Video Cords can be Specially Ordered.**



Example Part No. **CA00102**00C0D5
= 1505F F-F, 0.5 m, violet

| CA00102... | Length | Violet | Black | Red | Green | Blue | Yellow | White | Orange |
|---|---|---|---|---|---|---|---|---|---|
| | 0.5 | 00C0D5 | 01C0D5 | 02C0D5 | 03C0D5 | 04C0D5 | 05C0D5 | 06C0D5 | 07C0D5 |
| | 1.0 | 00C1 | 01C1 | 02C1 | 03C1 | 04C1 | 05C1 | 06C1 | 07C1 |
| | 2.0 | 00C2 | 01C2 | 02C2 | 03C2 | 04C2 | 05C2 | 06C2 | 07C2 |
| | 3.0 | 00C3 | 01C3 | 02C3 | 03C3 | 04C3 | 05C3 | 06C3 | 07C3 |
| | 5.0 | 00C5 | 01C5 | 02C5 | 03C5 | 04C5 | 05C5 | 06C5 | 07C5 |
| | 6.0 | 00C6 | 01C6 | 02C6 | 03C6 | 04C6 | 05C6 | 06C6 | 07C6 |
| | 15.0 | 00C15 | 01C15 | 02C15 | 03C15 | 04C15 | 05C15 | 06C15 | 07C15 |
| | 20.0 | 00C20 | 01C20 | 02C20 | 03C20 | 04C20 | 05C20 | 06C20 | 07C20 |
| | 30.0 | 00C30 | 01C30 | 02C30 | 03C30 | 04C30 | 05C30 | 06C30 | 07C30 |
| | 45.0 | 00C45 | 01C45 | 02C45 | 03C45 | 04C45 | 05C45 | 06C45 | 07C45 |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • M = Male • F = Female • TC = Tinned Copper • BC = Bare Copper

To comfortably support today's broadcast technology, Brilliance Assemblies can be specially ordered:

1. for mobile television broadcast trucks with 179DT BNC-BNC (CA00103)
2. as an economical version with 1855A BNC-BNC (CA00106)
3. for long runs with 1505A BNC-BNC (CA00109)
4. for longer runs with 1694A BNC-BNC (CA00112)

All these Brilliance Assemblies are available in 10 colors (1505A with 8 colors).
If you require a specific connector, you can choose from the following brands: ADC, Neutrik, Damar+Hagen, Telegaertner.

| Recommened Color Schema: | |
|---|---|
| **Red+Black** | Analog audio |
| **RGB** (Red, Green, Blue) | Component video |
| **Orange** | Digital audio |
| **Yellow** | Composite video |
| **Violet** | Digital video/HDTV |

# Coax Cable Assemblies

## RGB Patch Cables

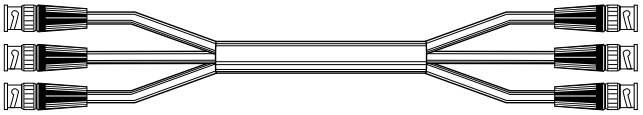
| Part No. | Gender | Standard Lengths | | Standard Unit Weight | | Cond. AWG (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | Nominal Attenuation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | pF/ft. | pF/m | MHz | dB/ 100 ft. | dB/ 100 m |

**Brilliance Assemblies • 1277R (3-Coax) and 1279R (5-Coax) HDTV/SDI • 3 or 5 BNC Connectors on both ends • Flexible 75 Ohm broadcast quality assembled RGB cable with strain relief boots**

RGB cables are used for component video formatted applications that segment the video signal into Red, Green and Blue elements, identified through use of corresponding cable jacket colors (RGB cables). Synchronization (Sync) and Vertical Hold (Hold) signals can be embedded within one of the elemental video components or they can be transmitted separately utilizing the 4th and 5th coaxes. When present, the 4th coax has a yellow jacket; the 5th coax has a black jacket.The outer jacket of the Belden line is stripped back 150 mm from both ends. The unique design of these cables also makes them ideal for multiple runs of composite video signals such as SDI or HDTV (video snake cable). The Belden lines are ideal for high-resolution monitor and projection imaging in corporate boardrooms, command and control centers, multi-purpose auditoriums, home theaters, performance venues, etc.

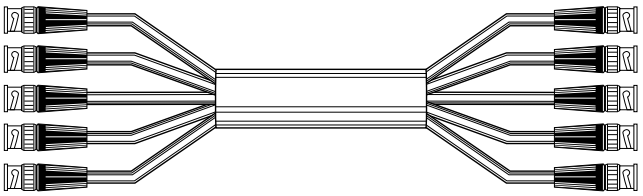
**Foam HDPE Insulation • Matte Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CA00150 01C1** | BNC-BNC | 3.3 | 1.0 | 0.24 | 25 AWG | 0.092 | 2.33 | Duofoil® | 0.320 | 8.13 | 75 | 80% | 17.0 | 55.7 | 5 | 1.2 | 3.8 |
| **CA00150 01C2** | | 6.6 | 2.0 | | 0.45 mm | Coax OD: | | 95% TC | 0.403 | 10.24 | | | | | 50 | 3.7 | 12.1 |
| **CA00150 01C3** | | 9.8 | 3.0 | | (Solid) BC | 0.114 | 2.90 | Braid | | | | | | | 100 | 4.9 | 16.1 |
| **CA00150 01C6** | | 19.7 | 6.0 | | | | | | | | | | | | 400 | 9.5 | 31.2 |
| **CA00150 01C15** | | 49.2 | 15.0 | | | | | | | | | | | | 750 | 13.4 | 44.0 |
| **CA00150 01C20** | | 65.6 | 20.0 | | | | | | | | | | | | 900 | 15.0 | 49.2 |
| **CA00150 01C30** | | 98.4 | 30.0 | | | | | | | | | | | | 1000 | 15.8 | 51.8 |
| **CA00150 01C45** | | 147.6 | 45.0 | | | | | | | | | | | | 3000 | 31.2 | 102.4 |



**Foam HDPE Insulation • Matte Black PVC Jacket**

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CA00151 01C1** | BNC-BNC | 3.3 | 1.0 | 25 AWG | 0.092 | 2.33 | Duofoil® | 0.320 | 8.13 | 75 | 80% | 17.0 | 55.7 | 5 | 1.2 | 3.8 |
| **CA00151 01C2** | | 6.6 | 2.0 | 0.45 mm | Coax OD: | | 95% TC | 0.403 | 10.24 | | | | | 50 | 3.7 | 12.1 |
| **CA00151 01C3** | | 9.8 | 3.0 | (Solid) BC | 0.114 | 2.90 | Braid | | | | | | | 100 | 4.9 | 16.1 |
| **CA00151 01C6** | | 19.7 | 6.0 | | | | | | | | | | | 400 | 9.5 | 31.2 |
| **CA00151 01C15** | | 49.2 | 15.0 | | | | | | | | | | | 750 | 13.4 | 44.0 |
| **CA00151 01C20** | | 65.6 | 20.0 | | | | | | | | | | | 900 | 15.0 | 49.2 |
| **CA00151 01C30** | | 98.4 | 30.0 | | | | | | | | | | | 1000 | 15.8 | 51.8 |
| **CA00151 01C45** | | 147.6 | 45.0 | | | | | | | | | | | 3000 | 31.2 | 102.4 |



* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • M = Male • F = Female • TC = Tinned Copper • BC = Bare Copper

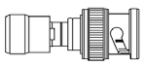
To comfortably support today's broadcast technology, Brilliance Assemblies can be specially ordered:

| | 3-Coax BNC-BNC | | 5-Coax BNC-BNC | |
|---|---|---|---|---|
| 1. same but Banana Peel® design | 1281S3 | (CA00152) | 1281S5 | (CA00153) |
| 2. as an economical version with 1855A | 7787A | (CA00154) | 7789A | (CA00155) |
| 3. for long runs with 1505A | 7794A | (CA00156) | 7796A | (CA00157) |
| 4. for longer runs with 1694A | 7710A | (CA00158) | 7712A | (CA00159) |

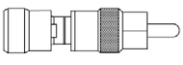
If you require a specific connector you can choose from the following brands: ADC, Neutrik, Damar+Hagen, Telegaertner.

**Additional Accessories for 1277R-1279R and 1281S3-S5 One-Piece Connector**

**1B25A** • 75-Ohm BNC (male)



**1R25A** • 75-Ohm RCA



**Stripping and Compression Tool**

**HCST** • Cable Prep Tool



**HCCT** • works with BNC, RCA and F Connectors



# Coax Cable Assemblies

## Triax Cables

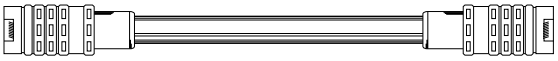


### Brilliance Assemblies • 7783AF Triax 8 HDTV/SDI • ProAx™ Triax Camera Connectors: Global Format on both ends • Flexible 75 Ohm broadcast quality assembled Triax cable

The Belden triax lines are assembled with ADC's ProAx™ triaxial camera connectors. This combination will undoubtedly change your views of triaxial assemblies. ADC's patented ProAx™ triaxial camera connector has a two-piece center conductor offering several options. Key benefits include the ability to swap gender parts from male to female and vice versa in only a few seconds and the way mates can be swapped equally quickly with Kings, Lemo, Fischer and Damar+Hagen parts. The Belden lines are ideal for field use, sporting/live events, mobile trucks, stadiums, fixed wiring, TV/Studio production.

**Foam Insulation • Red PVC Jacket**

| Part No. | Gender | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Cond. AWG (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA00200 02C50 | Male - Female | 164 | 50 | 13.56 | 6.15 | 0.99 mm | 0.178 | 4.52 | 90% SPC | 0.331 | 8.40 | 75 | 83% | 16.5 | 54.0 | 1 | 0.2 | 0.6 |
| CA00200 02C100 | | 328 | 100 | 26.01 | 11.80 | 20 AWG | | | Braid | | | | | | | 10 | 0.7 | 2.2 |
| CA00200 02C150 | | 492 | 150 | 38.47 | 17.45 | (19x0.36) SPC | | | + 80% BC | | | | | | | 20 | 1.0 | 3.2 |
| CA00200 02C200 | | 656 | 200 | 50.93 | 23.10 | 32.0 Ω/km* | | | Braid | | | | | | | 40 | 1.4 | 4.6 |
| CA00200 02C250 | | 820 | 250 | 63.38 | 28.75 | 22.0 Ω/km** | | | 10.0 Ω/km*** | | | | | | | 50 | 1.6 | 5.1 |
| | | | | | | | | | 6.5 mm | | | | | | | 60 | 1.7 | 5.6 |
| | | | | | | | | | | | | | | | | 100 | 2.3 | 7.5 |
| | | | | | | | | | | | | | | | | 300 | 4.2 | 13.8 |



male ProAx™ triax camera connectors: global format female

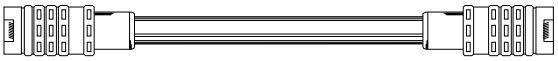
Return loss at 1-100 MHz: ≥ 26 dB
100-300 MHz: ≥ 23 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB
Brilliance® Broadcast Assembly line can be specially ordered with mates for Kings, Lemo Redel F, Fischer SE & KE and Damar+Hagen.

### Brilliance Assemblies • 7784AF Triax 11 HDTV/SDI • ProAx™ Triax Camera Connectors: Global Format on both ends • Flexible 75 Ohm broadcast quality assembled Triax cable

**Foam Insulation • Red PVC Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA00201 02C50 | Male - Female | 164 | 50 | 20.17 | 9.15 | 1.4 mm | 0.256 | 6.50 | 90% SPC | 0.433 | 11.00 | 75 | 82% | 16.5 | 54.0 | 1 | 0.2 | 0.5 |
| CA00201 02C100 | | 328 | 100 | 39.24 | 17.80 | 16 AWG | | | Braid | | | | | | | 10 | 0.5 | 1.6 |
| CA00201 02C150 | | 492 | 150 | 58.31 | 26.45 | (19x0.28) SPC | | | + 80% BC | | | | | | | 20 | 0.7 | 2.3 |
| CA00201 02C200 | | 656 | 200 | 77.38 | 35.10 | 26.0 Ω/km* | | | Braid | | | | | | | 40 | 1.0 | 3.3 |
| CA00201 02C500 | | 1640 | 500 | 191.80 | 87.00 | 18.0 Ω/km** | | | 8.0 Ω/km*** | | | | | | | 50 | 1.1 | 3.7 |
| | | | | | | | | | 8.5 mm | | | | | | | 60 | 1.3 | 4.1 |
| | | | | | | | | | | | | | | | | 100 | 1.6 | 5.4 |
| | | | | | | | | | | | | | | | | 300 | 3.1 | 10.3 |



male ProAx™ triax camera connectors: global format female

Return loss at 1-100 MHz: ≥ 26 dB
100-300 MHz: ≥ 23 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB
Brilliance® Broadcast Assembly line can be specially ordered with mates for Kings, Lemo Redel F, Fischer SE & KE and Damar+Hagen.

### Brilliance Assemblies • 7785A Triax 14 HDTV/SDI • ProAx™ Triax Camera Connectors: Global Format on both ends • Flexible 75 Ohm broadcast quality assembled Triax cable

**Foam Insulation • Red PVC Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA00202 02C50 | Male - Female | 164 | 50 | 30.31 | 13.75 | 2.21 mm | 0.382 | 9.70 | 90% SPC | 0.551 | 14.00 | 75 | 82% | 16.5 | 54.0 | 1 | 0.1 | 0.4 |
| CA00202 02C100 | | 328 | 100 | 59.52 | 27.00 | 12 AWG | | | Braid | | | | | | | 10 | 0.3 | 1.1 |
| CA00202 02C150 | | 492 | 150 | 88.74 | 40.25 | (7x0.75) SPC | | | + 80% BC | | | | | | | 20 | 0.5 | 1.6 |
| CA00202 02C200 | | 656 | 200 | 117.95 | 53.50 | 14.0 Ω/km* | | | Braid | | | | | | | 40 | 0.7 | 2.3 |
| CA00202 02C500 | | 1640 | 500 | 293.21 | 133.00 | 10.0 Ω/km** | | | 4.0 Ω/km*** | | | | | | | 50 | 0.8 | 2.6 |
| CA00202 02C1000 | | 3280 | 1000 | 585.32 | 265.50 | | | | 12.7 mm | | | | | | | 60 | 0.9 | 2.8 |
| | | | | | | | | | | | | | | | | 100 | 1.2 | 3.8 |
| | | | | | | | | | | | | | | | | 300 | 2.3 | 7.7 |



male ProAx™ triax camera connectors: global format female

Return loss at 5-850 MHz: ≥ 21 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB
Brilliance® Broadcast Assembly line can be specially ordered with mates for Kings, Lemo Redel F, Fischer SE & KE and Damar+Hagen

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • M = Male • F = Female • BC = Bare Copper • SPC = Silver-Plated Copper
ProAx™ is an ADC Krone trademark.

# Twisted Pair and Fiber Optic Cable Assemblies

## CatSnake™

| Part No. | Connector | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | ACR dB/100 m | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Brilliance Assemblies • 1305A • Mobile Cat 5e • Neutrik EtherCon® Connectors • CatSnake™ is a new design from Belden and assemblied with standard RJ45 connectors** | | | | | | | | | | | | | | | | | | |
| The round PVC jacket provides durability and the cable ends are assembled with Neutrik's EtherCon®. This design was developed to provide a comprehensive solution for data transfer in harsh and demanding applications. CatSnake™ assembly is particularly suitable for Ethernet networking in commercial audio, concert sound reinforcement, stage production, DMX lighting and industrial internet access environments. | | | | | | | | | | | | | | | | | | |
| **4 Bonded-pairs UTP • Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| **CA00250 01C50** | EtherCon® | 164 | 50 | 11.02 | 5.0 | 0.51 mm | 0.037 | 0.95 | Bonded-Pair | 0.295 | 7.49 | 1 | 2.0 | 65.3 | 63.3 | 60.8 | 63.3 | 20.0 |
| **CA00250 01C100** | | 328 | 100 | 19.84 | 9.0 | 24 AWG | | | Unshielded | | | 4 | 4.0 | 56.3 | 52.3 | 48.7 | 52.3 | 23.0 |
| **CA00250 01C500** | | 1640 | 500 | 90.39 | 41.0 | (7x32) TC | | | | | | 10 | 6.4 | 50.3 | 43.9 | 40.8 | 43.9 | 25.0 |
| | | | | | | | | | | | | 16 | 8.1 | 47.3 | 39.1 | 36.7 | 39.1 | 25.0 |
| | | | | | | | | | | | | 20 | 9.2 | 45.8 | 35.2 | 34.7 | 35.2 | 25.0 |
| | | | | | | | | | | | | 31.25 | 11.2 | 42.9 | 31.3 | 30.9 | 31.3 | 23.6 |
| | | | | | | | | | | | | 62.5 | 16.8 | 38.4 | 21.6 | 24.8 | 21.6 | 21.9 |
| | | | | | | | | | | | | 100 | 21.7 | 35.3 | 17.1 | 20.8 | 17.1 | 20.1 |
| | | | | | | | | | | | | 155 | 27.7 | 32.5 | 4.7 | 16.9 | 4.7 | 19.0 |
| | | | | | | | | | | | | 200 | 32.0 | 30.8 | 3.0 | 14.7 | 3.0 | 19.0 |
| | | | | | | | | | | | | 310 | 41.3 | 27.9 | > 0 | 10.9 | > 0 | 18.0 |
| | | | | | | | | | | | | 350 | 44.3 | 27.2 | > 0 | 9.9 | > 0 | 17.0 |



Brilliance® Broadcast Assembly line can be specially ordered as CA00251 with only RJ-45.

## Fiber Optic Assembly For HDTV Cameras (SMPTE 311)

| Part No. | Connector | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Component OD inch | Component OD mm | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Brilliance Assemblies • 7804C • SMPTE 311M HDTV cable • Single-Mode Fiber with copper conductors • Lemo 3K.93C connectors** | | | | | | | | | | | | | | | |
| With the rise of high-definition video applications, such as 1080i and 720p, the bandwidth demands on camera cables has grown significantly. To meet these new requirements, Belden now offers (new generation) 7804C, which consists of dual single-mode fiber optic cables and copper components for power and data, and a special connector made by Lemo. | | | | | | | | | | | | | | | |
| **Composite Cable: 2 Power Conductors • SM Fiber (24 AWG and 16 AWG) • Stranded TC Conductors • Black Belflex® Jacket** | | | | | | | | | | | | | | | |
| **CA00270 01C100** | 2x3K.93C.TLMC | 328 | 100 | 64.82 | 29.40 | – | 0.362 | 9.2 | 2xFiber | (2) Breakout Fibers SM/125µ/900µ core/clad/buffer | 38 AWG TC Braid 95% Shield Coverage 2.8 Ω/m* 9.2 Ω/km | 0.079 | 2.00 | 0.14 | 0.45 |
| **CA00270 01C500** | | 1640 | 500 | 318.79 | 144.60 | | | | | | | | | | |
| **CA00270 01C1.000** | | 3280 | 1000 | 636.25 | 288.60 | | | | | | | | | | |
| | | | | | | | 0.362 | 9.2 | | (2) Conductors 24 AWG (7x32) TC 0.024″ 23.3 Ω/m* 76.4 Ω/km | 38 AWG TC Braid 95% Shield Coverage 2.8 Ω/m* 9.2 Ω/km | 0.050 | 1.27 | 0.14 | 0.45 |
| | | | | | | | 0.362 | 9.2 | | (2) Conductors 16 AWG (65x34) TC 0.037″ 4.3 Ω/m* 14.1 Ω/km | 38 AWG TC Braid 95% Shield Coverage 2.8 Ω/m* 9.2 Ω/km | 0.093 | 2.36 | 0.14 | 0.45 |



Brilliance® Broadcast Assembly line can be specially ordered as CA00271 with: Neutrik's OpticalCon® • Suitable for indoor studio and camera applications acc. IEC 60664-1 (Pollution degree 1, over voltage category 1), not compatible to SMPTE standard.

* DC loop resistance • DCR = DC resistance • TC = Tinned Copper

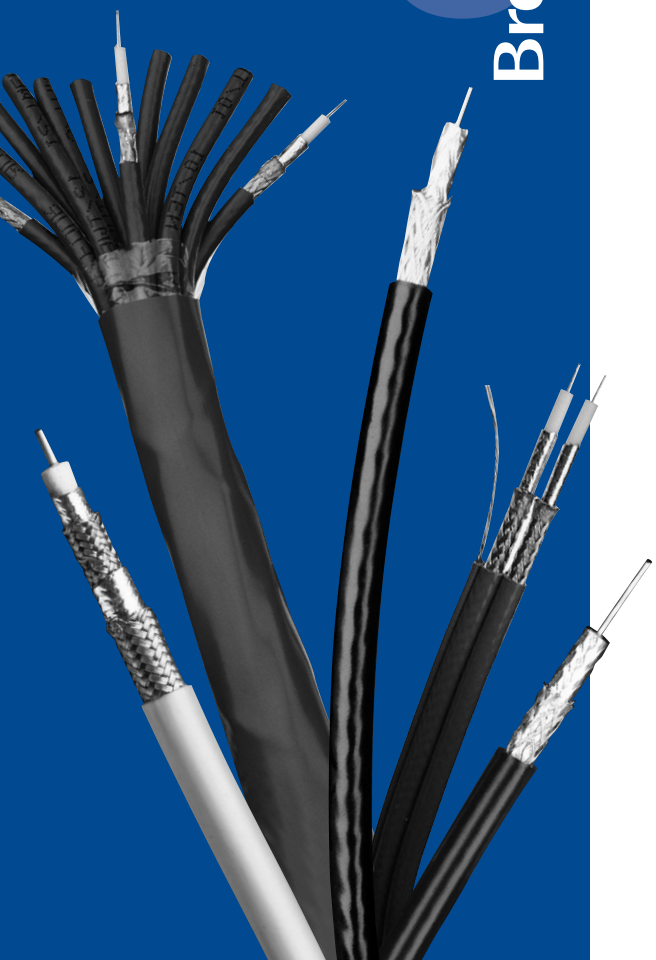
EtherCon® and OpticalCon® are Neutrik trademarks.

BELDEN
SENDING ALL THE RIGHT SIGNALS

BROADBAND



# 9 Broadband Coax Cables



## Table of Contents


| Broadband Coax Cables | Page No. |
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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

BROADBAND

## Bringing People Closer

Today, wireless communication is part of everyone's life as we increasingly communicate with each other and source information through networks such as cellular phones, TV broadcasting and WLAN. The strength of Belden is to anticipate market demands, adapt, invent and innovate to meet changing needs for increased bandwidth and easy installation.

Belden offers one of the most comprehensive, economical and modern ranges of reliable 75 Ohm and 50 Ohm coaxial cable products on the market. The distribution and drop coaxes feature Belden's innovative, high-performance Duobond Plus® shielding and/or Belden's Duobond® II shield.

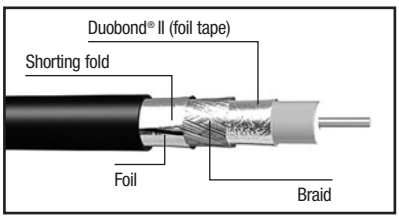
## Key Applications

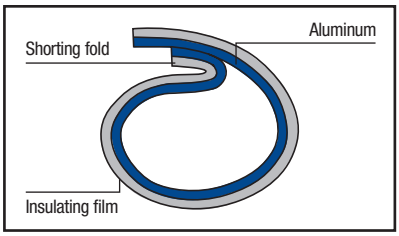
- Cable TV
- Satellite dish technology
- Broadband applications

## Special Features

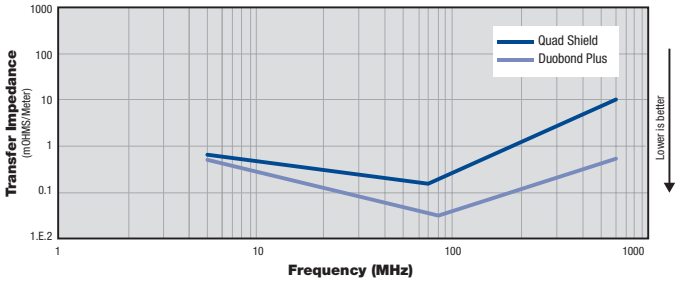
### 75 Ohm CATV

- **Duobond Plus®**
  Belden's Duobond Plus® has a three-shield construction consisting of a Duobond® II (foil tape) surrounded by a braid and an outer layer of foil with a unique shorting fold which creates the effect of a solid metal conduit. This combination offers superior high frequency shielding when compared with traditional Quad shields.




Duobond Plus® is faster to install, because the outer tape shield is bonded to the jacket and can be stripped easily in one step. Furthermore, this construction gives Duobond Plus® a smaller bending radius, greater flexibility and, compared to quad shielded coax, a 10 percent weight reduction.




Lower transfer impedance means better shielding performance.

Belden offers two different versions of Duobond Plus®:
- Better-Than-Quad (BTQ) with 50% shielding coverage.
- Better-Than-Triple (BTT) with 40% shielding coverage.

Better performance and easier installation are reasons why Duobond Plus® coax cables are so popular and widely used.

- **Duobond® II**
  The foil/braid type combines Duobond with an outer braid. This is added to provide greater protection against interference and to increase overall tensile strength. The combination foil/braid shield combines the advantages of 100% foil coverage with the strength and low DC resistance of the braid.

- **FRNC/LSNH**
  Belden has developed low-smoke (LS), fire-retardant (FR) and zero-halogen (ZH) cables. These three properties are annotated as FRNC/LSNH (also known as RNC/LSZH).

# Introduction

BROADBAND

## What is Class A?

The demands for screening attenuation and transfer impedance of the CATV cables are defined by European Standard EN50117-2:

1. Drop, indoor 5 MHz to 1000 MHz
2. Drop, outdoor 5 MHz to 1000 MHz
3. Trunk and Distribution 5 MHz to 1000 MHz
4. Drop, indoor 5 MHz to 3000 MHz
5. Drop, outdoor 5 MHz to 3000 MHz

EN-50117-1 is the version for coax cables. Part 1 is the generic specification. This part requires that the test method of transfer impedance and the screening attenuation accords to EN 50289-1-6.

### EN 50117 Screening Classes

| | |
|---|---|
| Class A++ | ≥ 105 dB from 30 MHz to 1000 MHz (screening attenuation)<br>≥ 95 dB from 1000 MHz to 2000 MHz (screening attenuation)<br>≥ 85 dB from 2000 MHz to 3000 MHz (screening attenuation)<br>≤ 0.9 mOhm/m from 5 to 30 MHz (transfer impedance) |
| Class A+ | ≥ 95 dB from 30 MHz to 1000 MHz (screening attenuation)<br>≥ 85 dB from 1000 MHz to 2000 MHz (screening attenuation)<br>≥ 75 dB from 2000 MHz to 3000 MHz (screening attenuation)<br>≤ 2.5 mOhm/m from 5 to 30 MHz (transfer impedance) |
| Class A | ≥ 85 dB from 30 MHz to 1000 MHz (screening attenuation)<br>≥ 75 dB from 1000 MHz to 2000 MHz (screening attenuation)<br>≥ 65 dB from 2000 MHz to 3000 MHz (screening attenuation)<br>≤ 5 mOhm/m from 5 to 30 MHz (transfer impedance) |
| Class B | ≥ 75 dB from 30 MHz to 1000 MHz (screening attenuation)<br>> 65 dB from 1000 MHz to 2000 MHz (screening attenuation)<br>> 55 dB from 2000 MHz to 3000 MHz (screening attenuation)<br>≤ 15 mOhm/m from 5 to 30 MHz (transfer impedance) |
| Class C | ≥ 75 dB from 30 MHz to 1000 MHz (screening attenuation)<br>> 65 dB from 1000 MHz to 2000 MHz (screening attenuation)<br>> 55 dB from 2000 MHz to 3000 MHz (screening attenuation)<br>≤ 50 mOhm/m from 5 to 30 MHz (transfer impedance) |

## New Technologies Need Better Cables

- From analog to digital.
- More protection from electromagnetic interference for multimedia applications (telephony, internet or video-on-demand).
- Interactive services like Two-Way-TV (TWTV) need return-path capable cables, according to class A.
- Backwards: 5 - 30 (65) MHz - Forward: 47 (80) - 862 MHz.

## Euroclass – European Union to Harmonize Test Standards and Transform All the National Regulations

The Construction Products Directive (CPD) was adopted in 1989. In 2002, the European Union published a series of harmonised test standards, called: Euroclass according to a classification in decreasing quality order from A to F:

Euroclass (draft: 2003)
A - no inflammable material
B* - Low flame height and heat production
C* - Moderate flame height and heat production
D* - Heat production comparable to that of burning construction wood
E - Moderate flame height
F - No fire performance requirement

** B = EN50399-2-2, C and D = EN50399-2-1*

CENELEC is currently working on a final version to cover the next years.

# Introduction

BROADBAND

## 50 Ohm Wireless

Belden's 50 Ohm RF cables provide best-in-class transmission performance and superior EMI/RFI shielding for greater noise reduction. They are ruggedly constructed and designed to be flexible for easy installation and routing.

Features include:

- **Lowest Loss**
  Belden's 50 Ohm RF cables provide the lowest loss of any land mobile radio-type coaxial cables on the market (from 5% to 10% lower, depending on the design and frequency). The result is better signal transmission at the same distance, or longer transmission distance with less attenuation. All cables are 100% sweep tested to 6 GHz to assure performance in future high frequency applications.

- **Low VSWR**
  VSWR is guaranteed to be 1.25:1 maximum over all frequencies (RL = -19 dB).

- **High Velocity of Propagation**
  The foamed high-density polyethylene insulation provides the highest velocity of any land mobile radio-type flexible coaxial product on the market. The high-density material properties provide superior crush resistance to minimise impedance variations and return loss, ensuring high performance both before and after installation. (Part number 7805 utilizes a solid PE dielectric).

- **Excellent Phase Stability**
  Belden's 50 Ohm RF cables exhibit excellent phase stability over both temperature changes and flexing, resulting in improved signal integrity and reliability.

- **Superior RF Shielding**
  The combination foil/braid shield provides in excess of 100 dB of effective EMI/RFI shielding.

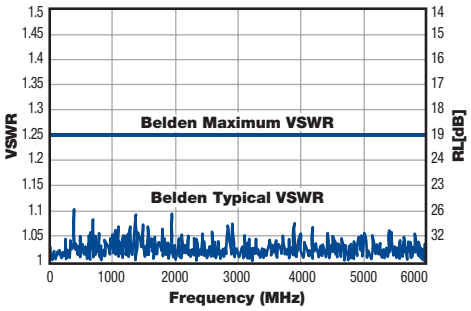
- **Unbonded Foil Shields** (on smaller constructions prevent connector shorting)
  In the smaller designs – RF200 and under – the spacing between the foil shield and the centre pin of the connector is extremely small. During the cable stripping process, bonded foil shields tend to tear if not cleanly cut, leaving very small foil "stringers" that can short the shield to the center conductor. Unbonded shields allow for the tape to be cut back from the dielectric, thereby eliminating the potential shorting problem. The unbonded shields are featured on RF100A, RF100LL, RF195 and RF200. Larger constructions – including the new water-blocked (WB) versions – have sufficient spacing between the shield and centre pin, and therefore feature bonded foil shields.

- **Unique Design**
  Belden's RF100LL is the only design of its type. It features a slightly larger center conductor and foamed polyethylene insulation, while maintaining the dimensions of the MIL-Spec cable, eliminating the need for special connectors. These two features combined produce an attenuation that is approximately 7% lower than the standard solid polyethylene RF100 design.

- **Connector Compatibility**
  The RF series cables are compatible with all standard land mobile radio-type connectors, including Times Microwave, RF Industries, Amphenol, Trompeter, EF Johnson and others.

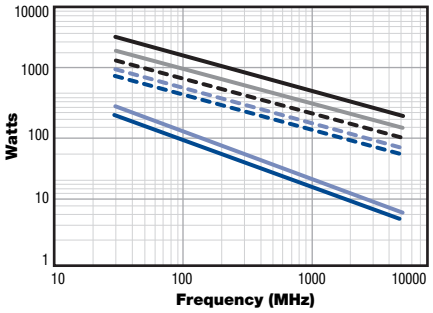
- **Conformable Coax**
  For applications requiring low VSWR and high shield effectiveness, Belden's complete product range of 50 Ohm conformable coax cables offers unequalled performance. These patented cables serve as a replacement for semi-rigid cables and, unlike semi-rigid, they are hand formable.

### Guaranteed VSWR




Note: Voltage Standing Wave Ratio (VSWR) is a measurement of the reflected power in a cable or instrument. The higher the VSWR the poorer the transmission characteristics of the cable.

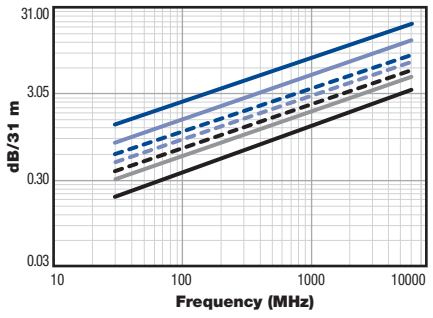
### Power Rating




Legend:

— RF100A
— RF100LL
--- RF195
--- RF200
--- RF240
— RF300
— RF400

### Attenuation




### Phase Stability

| Phase Attribute | Typical Range (0.45 GHz to 6.0 GHz) | |
|---|---|---|
| | ppm/°C | Degree/GHz/m |
| **Temperature** (-40°C to +55°C)[1] | ± 9 | ± 0.6 |
| **Bending & Flexing** (25 cycles)[2] | NA | ± 1.1 |

1: Per IEC 60965-1 clause 8.8
2: Per IEC 60965-1 clause 8.6

# Introduction

BROADBAND

## RF Cables Cross-Reference Guide

| RG Type | Cable Type | Belden Part No. | Amphenol | Commscope | Harbour Industries | Times Microwave |
|---|---|---|---|---|---|---|
| RG-174 | RF100A | **7805** | – | – | HPP100 | LMR®-100A |
| | RF100LL | **7805R** | – | – | – | – |
| RG-58 | RF195 | **7806A** | – | WBC™-195 | HPP100 | LMR®-195 |
| | RF195 | **7806R** | – | WBC™-195R | on request | on request |
| | RF200 | **7807A** | – | WBC™-200 | HPP200 | LMR®-200 |
| | RF200 | **7807R** | – | WBC™-200R | on request | on request |
| RG-8X | RF240 | **7808A** | TWB 2401 | WBC™-240 | HPP240 | LMR®-240 |
| | RF240 | **7808R** | TWB 2401-FR | WBC™-240R | on request | on request |
| | RF240 | **7808WB** | – | – | – | – |
| Intermediate | RF300 | **7809A** | – | WBC™-300 | HPP300 | LMR®-300 |
| | RF300 | **7809R** | – | WBC™-300R | on request | on request |
| | RF300 | **7809WB** | – | – | – | LMR®-300-DB |
| RG-8 | RF400 | **7810A** | TWB 4001 | WBC™-400 | HPP400 | LMR®-400 |
| | RF400 | **7810R** | TWB 4001-FR | WBC™-400R | on request | on request |
| | RF400 | **7810WB** | – | – | – | LMR®-400-DB |

WBC™ is a Commscope trademark.
LMR® is a Times Microwave trademark.

## RG Cable Replacement Guide

| Belden Part No. | Size | Replacing |
|---|---|---|
| 7805 | RF100A | RG-174/U |
| 7805R | RF100LL | RG-174/U |
| 7806A | RF195 | RG-58/U |
| 7807A | RF200 | RG-58/U |
| 7808A | RF240 | RG-8X |
| 7809A | RF300 | RG-8X |
| 7810A | RF400 | RG-8/U |

## Availability

Many of these cables are available off the shelf from distributors. If you have a new or unusual application or you cannot find a CATV cable in this catalog section that meets your technical requirements contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

## Corresponding Literature

### Product Bulletins

NP 182: Belden expands line of low loss 50 Ohm RF transmission cable
NP 186: RF500 and RF600 low loss 50 Ohm
NP E101: Messenger cable
NP 230: Wi-Fi Tower shielded twisted pair

# Connector Cross Reference

BROADBAND

| Belden | Cabelcon Hardline | Cabelcon F-Crimp | Cabelcon F-Compression | Thomas & Betts | PPC Hardline | PPC F-Crimp | PPC F-Compression | Telegaertner (BNC) | ADC | ADC F-Crimp |
|---|---|---|---|---|---|---|---|---|---|---|
| **CX3C0 Coax 3** | Type -46 | – | – | EI, EFI and X Series | H011 | – | – | – | – | – |
| **CX3C1 Coax 3** | Type -76 | – | – | EI, EFI and X Series | G012 | – | – | – | – | – |
| **CX3C2 Coax 3** | Type -46 | – | – | EI, EFI and X Series | H011 | – | – | – | – | – |
| **CX3C3 Coax 3** | Type -46 | – | – | EI, EFI and X Series | H011 | – | – | – | – | – |
| **CX4C0 Coax 4** | Type -413 | – | – | EI, EFI and X Series | E019 | – | – | – | – | – |
| **CX4C1 Coax 4** | Type -413 | – | – | EI, EFI and X Series | E019 | – | – | – | – | – |
| **CX4C2 Coax 4** | Type -413 | – | – | EI, EFI and X Series | E019 | – | – | – | – | – |
| **CX4C3 Coax 4** | Type -413 | – | – | EI, EFI and X Series | E019 | – | – | – | – | – |
| **CT167C1** | Type -32 | – | – | – | – | – | – | – | – | – |
| **CT167C3** | Type -32 | – | – | – | – | – | – | – | – | – |
| **CT167C0** | Type -32 | – | – | – | – | – | – | – | – | – |
| **CT167C2** | Type -32 | – | – | – | – | – | – | – | – | – |
| **CT125C1** | Type -21 | F-56-UNIV 5.7/8.8 | – | – | – | – | – | – | BNC-27 | on request |
| **CT125C3** | Type -21 | – | – | – | – | – | – | – | BNC-27 | on request |
| **CT125C0** | Type -21 | – | – | – | – | – | – | – | BNC-27 | on request |
| **CT100C0** | Type -01 | – | – | – | – | – | – | J01002A0000 | BNC-9 | CF-9 |
| **CT100C3** | Type -01 | – | – | – | – | – | – | J01002A0000 | BNC-9 | CF-9 |
| **CT100C1** | Type -01 | – | – | – | – | – | – | J01002A0000 | BNC-9 | CF-9 |
| **RG6D00 DB+** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | – | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **RG6D01 DB+** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | – | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **RG7C01** | Type -245 | – | F-RG7-CX3 6.0 | – | – | – | – | – | BNC-27 | on request |
| **RG7C02** | Type -245 | – | F-RG7-CX3 6.0 | – | – | – | – | – | BNC-27 | on request |
| **RG7C00** | – | – | – | – | – | – | – | – | BNC-27 | on request |
| **PRG11A2** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG11A3** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG11C0** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG11C2** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG11C4** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG11C6** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG11D0 DB+** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG11D1 DB+** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG11D3 DB+** | Type -32 | FM-RG11-ALM 7.4/11.7 | FM-RG11-CX3 7.5 | SNS11 Range | B004 | CFS 11 | EX11 | J01002A0054 (cut-away foil) | BNC-25-N | on request |
| **PRG7A00** | Type -21 | F-56-UNIV 5.7/8.8 | F-56-CX3 5.7 | SNS7 Range | A031 | – | CMP PRG7 | – | – | – |
| **PRG7A01** | Type -21 | F-56-UNIV 5.7/8.8 | F-56-CX3 5.7 | SNS7 Range | A031 | – | CMP PRG7 | – | – | – |
| **PRG7C00** | Type -21 | F-56-UNIV 5.7/8.8 | F-56-CX3 5.7 | SNS7 Range | A031 | – | CMP PRG7 | – | – | – |
| **PRG7C01** | Type -21 | F-56-UNIV 5.7/8.8 | F-56-CX3 5.7 | SNS7 Range | A031 | – | CMP PRG7 | – | – | – |

# Connector Cross Reference *(continued)*

BROADBAND

| Belden | Cabelcon Hardline | Cabelcon F-Crimp | Cabelcon F-Compression | Thomas & Betts | PPC Hardline | PPC F-Crimp | PPC F-Compression | Telegaertner (BNC) | ADC | ADC F-Crimp |
|---|---|---|---|---|---|---|---|---|---|---|
| **RG6A00** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | – | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **H105B00** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | – | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0013 | – | – |
| **H106T00** | Type -11 | F-59-ALM 3.9/7.6 | F-59-CX3 3.9 | – | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A1352 | BNC-2-N | on request |
| **H106T01** | Type -11 | F-59-ALM 3.9/7.6 | F-59-CX3 3.9 | – | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A1352 | BNC-2-N | on request |
| **H109C00** | – | – | – | – | – | – | – | – | – | – |
| **H109C02** | – | – | – | – | – | – | – | – | – | – |
| **H126A00** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | SNS6 Range | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **H126A02** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | SNS6 Range | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **H126A03** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | SNS6 Range | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **H126D00 DB+** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | SNS6 Range | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **H126D02 DB+** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | SNS6 Range | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **H126D03 DB+** | Type -01 | F-56-UNIV 4.9/8.8 | F-56-CX3 4.9 | SNS6 Range | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **H126D04 DB+** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 4.9 | SNS6 Range | A025 | CFS 6 | EX6 4.9 + CMP6 4.9 | J01002A0000 | BNC-8-N | CF-8 |
| **H125A00** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125A01** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125C02** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125A03** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125A04** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125A06** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125A07** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125A08** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125C00** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0010 | BNC-9 | CF-9 |
| **H125C01** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0038 | BNC-9 | CF-9 |
| **H125C03** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0038 | BNC-9 | CF-9 |
| **H125C04** | Type -01 | F-56-ALM 4.9/8.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0038 | BNC-9 | CF-9 |
| **H125D00** | Type -01 | F-56-ALM 3.7/6.4 | F-56-CX3 5.1 | SNS59 Range | A025 | CFS 6 JSUV | EX6 5.1 + CMP6 5.1 | J01002A0038 | BNC-9 | CF-9 |
| **H121A00** | Type -106 | F-59-ALM 3.7/6.4 | F-59-CX3 3.7 | – | – | – | CMP MC 37 | J01002A0016 | BNC-6 | on request |
| **H121A01** | Type -106 | F-59-ALM 3.7/6.4 | F-59-CX3 3.7 | – | – | – | CMP MC 37 | J01002A0016 | BNC-6 | on request |
| **H121A02** | Type -106 | F-59-ALM 3.7/6.4 | F-59-CX3 3.7 | – | – | – | CMP MC 37 | J01002A0016 | BNC-6 | on request |
| **H121A03** | Type -106 | F-59-ALM 3.7/6.4 | F-59-CX3 3.7 | – | – | – | CMP MC 37 | J01002A0016 | BNC-6 | on request |
| **H121A04** | Type -106 | F-59-ALM 3.7/6.4 | F-59-CX3 3.7 | – | – | – | CMP MC 37 | J01002A0016 | BNC-6 | on request |
| **H121C00** | Type -106 | F-59-ALM 3.7/6.4 | F-59-CX3 3.7 | – | – | – | CMP MC 37 | J01002A0016 | BNC-26-N | on request |

## Connector Cross Reference *(continued)*

BROADBAND

| Belden | Cabelcon Hardline | Cabelcon F-Crimp | Cabelcon F-Compression | Thomas & Betts | PPC Hardline | PPC F-Crimp | PPC F-Compression | Telegaertner (BNC) | ADC | ADC F-Crimp |
|---|---|---|---|---|---|---|---|---|---|---|
| **H123A02** | – | F-60-MINI 3.2/5.6 | – | Mini SNS Range | – | – | CMP MC 32 | J01002A0030 | BNC-26-N | on request |
| **H123A01** | – | F-60-MINI 3.2/5.6 | – | Mini SNS Range | – | – | CMP MC 32 | J01000A0030 | BNC-26-N | on request |
| **H123A00** | – | F-60-MINI 3.2/5.6 | – | Mini SNS Range | – | – | CMP MC 32 | J01000A0030 | – | – |
| **H1000C3** | Type -201/50 | NM/50-RG213-EPA 7.6/12.0 | – | – | B503 | – | – | J01000A0063 | – | – |
| **H1000C0** | Type -201/50 | NM/50-RG213-EPA 7.6/12.0 | – | – | B503 | – | – | J01000A0063 | – | – |
| **H1000C1** | Type -201/50 | NM/50-RG213-EPA 7.6/12.0 | – | – | B503 | – | – | J01000A0063 | – | – |
| **H1001C1** | Type -201/50 | NM/50-RG213-EPA 7.6/12.0 | – | – | B503 | – | – | J01000A0063 | – | – |
| **H500C00** | Type -204/50 | – | – | – | – | – | – | J01000A0063 | – | – |
| **MRG5900** | – | F-59-UNIV 3.9/8.4 | F-59-CX3 3.9 HEC | – | – | – | – | J01002A1352 | – | – |
| **MRG2130** | Type -206/50 | NM/50-RG213-EPA 7.6/12.0 | – | – | B501 | – | – | J01000A0059 | – | – |
| **MRG5800** | – | – | – | – | – | – | – | J01000F1255 | – | – |
| **1523A** | – | – | – | SNS11AS | – | – | – | – | BNC-25-N | on request |
| **1524M** | – | – | – | SNS11AS | – | – | – | – | BNC-25-N | on request |
| **9116** | – | – | – | SNS1PGU | – | – | – | – | BNC-20 | on request |
| **1674A** | – | – | – | SNS1PGU | – | – | – | – | – | – |

## Selection Guide: Class A Products

| Trunk and Distribution Cable | | | Drop Cable | |
|---|---|---|---|---|
| **Class A++** | **Class A+** | **Class A** | **Class A** | |
| **CX3C0** | **CX4C0** | **CT167C0** | **CT125C0** | **H125D00** |
| **CX3C1** | **CX4C1** | **CT167C1** | **CT125C1** | **H126D00** |
| **CX3C2** | **CX4C2** | **CT167C2** | **CT125C3** | **H126D02** |
| **CX3C3** | **CX4C3** | **CT167C3** | **H121A03** | **H126D03** |
| | **PRG11D0** | **PRG11A2** | **H121A04** | **H126D04** |
| | **PRG11D1** | **PRG11A3** | **H123A01** | **RG6D00** |
| | **PRG11D3** | **PRG11C0** | **H123A02** | **RG6D01** |
| | | **PRG11C2** | | |
| | | **PRG11C4** | | |
| | | **PRG11C6** | | |
| | | **1523A** | | |
| | | **1524M** | | |
| | | **1525A** | | |

# Broadband Coax
## Trunk Cables

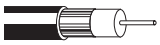
BROADBAND

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Coax 3C** • Solid 3.38 mm Bare Copper • **Copper-Foil** • 60 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Polyethylene Jacket** (Black or Green) | | | | | | | | | | | | | | | | | | | |
| 70°C | **CX3C0** | | 2296 | 700 | 496.9 | 225.4 | 3.38 mm Solid BC 4.5 Ω/km* 1.9 Ω/km** | 0.587 | 14.90 | Cu-foil + 60 % BC Braid 2.6 Ω/km*** 15.8 mm | 0.780 | 19.80 | 75 | 84 % | 16.5 | 54.0 | 5 | 0.1 | 0.4 |
| | | | 3444 | 1050 | 745.4 | 338.1 | | | | | | | | | | | 50 | 0.4 | 1.3 |
| | | | | | | | | | | | | | | | | | 100 | 0.5 | 1.8 |
| | | | | | | | | | | | | | | | | | 230 | 0.9 | 2.9 |
| | | | | | | | | | | | | | | | | | 400 | 1.2 | 3.9 |
| | | | | | | | | | | | | | | | | | 800 | 1.7 | 5.7 |
|  FB20 | | | | | | | | | | | | | | | | | 862 | 1.8 | 5.9 |
| | | | | | | | | | | | | | | | | | 1000 | 2.0 | 6.5 |
| | | | Return loss at 5-470 MHz: ≥ 26 dB 470-1000 MHz: ≥ 23 dB 1000-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB Transfer impedance at 5-30 MHz: ≤ 0.8 mΩ/m Screening Class: A++ Pulling Tension: 1200 N | | | | | | | | 1350 | 2.3 | 7.7 |
| | | | | | | | | | | | | | | | | | 1750 | 2.7 | 9.0 |
| | | | | | | | | | | | | | | | | | 2150 | 3.1 | 10.2 |
| | | | | | | | | | | | | | | | | | 2400 | 3.3 | 10.9 |
| 70°C | **CX3C3** | | 2296 | 700 | 626.5 | 284.2 | 3.38 mm Solid BC 4.5 Ω/km* 1.9 Ω/km** | 0.587 | 14.90 | Cu-foil + 60 % BC Braid 2.6 Ω/km*** 15.8 mm | 0.780 | 19.80 x 30.00 | 75 | 84 % | 16.5 | 54.0 | | | see above |
|  FB20 | | | | | | | | | | | | | | | | | | | |
| | | | Return loss at 5-470 MHz: ≥ 26 dB 470-1000 MHz: ≥ 23 dB 1000-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB Transfer impedance at 5-30 MHz: ≤ 0.8 mΩ/m Screening Class: A++ Pulling Tension: 6000 N | | | | | | | | | | |
| Available in Black. 7.2 mm ZP messenger | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CX3C2** | IEC 332-1 | 2296 | 700 | 620.4 | 281.4 | 3.38 mm Solid BC 4.5 Ω/km* 1.9 Ω/km** | 0.587 | 14.90 | Cu-foil + 60 % BC Braid 2.6 Ω/km*** 15.8 mm | 0.780 | 19.80 | 75 | 84 % | 16.5 | 54.0 | | | see above |
|  FB20 | | | | | | | | | | | | | | | | | | | |
| | | | Return loss at 5-470 MHz: ≥ 26 dB 470-1000 MHz: ≥ 23 dB 1000-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB Transfer impedance at 5-30 MHz: ≤ 0.8 mΩ/m Screening Class: A++ Pulling Tension: 1200 N | | | | | | | | | | |
| **Coax 3C** • Solid 3.38 mm Bare Copper • **Copper-Foil** | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Polyethylene Jacket** (Black or Green) | | | | | | | | | | | | | | | | | | | |
| 70°C | **CX3C1** | | 2296 | 700 | 419.8 | 190.4 | 3.38 mm Solid BC 4.5 Ω/km* 1.9 Ω/km** | 0.587 | 14.90 | Cu-foil 2.6 Ω/km*** 15.3 mm | 0.709 | 18.00 | 75 | 84 % | 16.5 | 54.0 | | | see above |
| | | | 3444 | 1050 | 629.6 | 285.6 | | | | | | | | | | | | | |
|  FB18 | | | | | | | | | | | | | | | | | | | |
| | | | Return loss at 5-470 MHz: ≥ 26 dB 470-1000 MHz: ≥ 23 dB 1000-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB Transfer impedance at 5-30 MHz: ≤ 0.8 mΩ/m Screening Class: A++ Pulling Tension: 1200 N | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • ZP = Stranded Zinc-Plated Steel

# Broadband Coax
## Trunk Cables

BROADBAND

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Coax 3.5A** • Solid 3.15 mm Copper-Clad Aluminium • Welded Aluminum Tube | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **YE00131** | | 3280 | 1000 | 282.2 | 128.0 | 3.15 mm Solid CCA 5.55 Ω/km* 3.5 Ω/km** | 0.513 | 13.03 | Welded Aluminum Tube 2.05 Ω/km*** 13.72 mm | 0.610 | 15.50 | 75 | 88% | 15.2 | 50.0 | 5<br>50<br>100<br>200<br>400<br>862<br>1000 | 0.1<br>0.5<br>0.6<br>1.0<br>1.4<br>2.1<br>2.3 | 0.5<br>1.5<br>2.1<br>3.1<br>4.5<br>6.9<br>7.4 |
|  | | | | | | | | | | | | | | | | | | | |
| Flooded | | | Return loss at | | 30-450 MHz: ≥ 30 dB<br>450-600 MHz: ≥ 28 dB<br>600-1000 MHz: ≥ 26 dB | | | | | Screening attenuation at 50-2150 MHz: ≥ 100 dB | | | | | | | | | |
| 70°C | **YE00132** | | 3280 | 1000 | 407.9 | 185.0 | 3.15 mm Solid CCA 5.55 Ω/km* 3.5 Ω/km** | 0.513 | 13.03 | Welded Aluminum Tube 2.05 Ω/km*** 13.72 mm | 0.610 | 15.50 | 75 | 88% | 15.2 | 50.0 | | | see above |
|  | | | | | | | | | | | | | | | | | | | |
| 2.75 mm Steel Wire messenger | | | Return loss at | | 30-450 MHz: ≥ 30 dB<br>450-600 MHz: ≥ 28 dB<br>600-1000 MHz: ≥ 26 dB | | | | | Screening attenuation at 50-2150 MHz: ≥ 100 dB | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • CCA = Copper-Clad Aluminum

# Broadband Coax
## Trunk Cables

BROADBAND

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Coax 4C** • Solid 2.23 mm Bare Copper • **Copper-Foil** • 60 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Polyethylene Jacket** (Black or Green) | | | | | | | | | | | | | | | | | | | |
| 70°C | **CX4C0** | | 1640 | 500 | 183.0 | 83.0 | 2.23 mm Solid BC 9.0 Ω/km* 4.5 Ω/km** | 0.402 | 10.20 | Cu-foil + 60 % BC Braid 4.5 Ω/km*** 11.0 mm | 0.543 | 13.80 | 75 | 82 % | 16.5 | 54.0 | 5 | 0.2 | 0.6 |
| | | | 3280 | 1000 | 366.0 | 166.0 | | | | | | | | | | | 50 | 0.6 | 1.9 |
| | | | | | | | | | | | | | | | | | 100 | 0.9 | 2.8 |
| | | | | | | | | | | | | | | | | | 230 | 1.3 | 4.4 |
| | | | | | | | | | | | | | | | | | 400 | 1.8 | 5.9 |
| | | | | | | | | | | | | | | | | | 800 | 2.7 | 8.8 |
| | | | | | | | | | | | | | | | | | 862 | 2.8 | 9.2 |
| | | | | | | | | | | | | | | | | | 1000 | 3.0 | 10.0 |
| | | | | | | | | | | | | | | | | | 1350 | 3.6 | 11.9 |
| | | | | | | | | | | | | | | | | | 1750 | 4.2 | 13.9 |
| | | | | | | | | | | | | | | | | | 2150 | 4.8 | 15.7 |
| | | | | | | | | | | | | | | | | | 2400 | 5.1 | 16.8 |
|  FB14 | | | Return loss at 5-470 MHz: ≥ 26 dB 470-1000 MHz: ≥ 23 dB 1000-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB Transfer impedance at 5-30 MHz: ≤ 1.9 mΩ/m Screening Class: A+ Pulling Tension: 400 N | | | | | | | | | | |
| 70°C | **CX4C3** | | 1640 | 500 | 248.0 | 112.5 | 2.23 mm Solid BC 9.0 Ω/km* 4.5 Ω/km** | 0.402 | 10.20 | Cu-foil + 60 % BC Braid 4.5 Ω/km*** 11.0 mm | 0.543 | 13.80 x 21.50 | 75 | 82 % | 16.5 | 54.0 | | | see above |
|  FB14 | | | Return loss at 5-470 MHz: ≥ 26 dB 470-1000 MHz: ≥ 23 dB 1000-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB Transfer impedance at 5-30 MHz: ≤ 1.9 mΩ/m Screening Class: A+ Pulling Tension: 6000 N | | | | | | | | | | |
| Available in Black. 5.8 mm ZP messenger | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Grey FRNC / LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CX4C2** | IEC 332-1 | 1640 | 500 | 211.6 | 96.0 | 2.23 mm Solid BC 9.0 Ω/km* 4.5 Ω/km** | 0.402 | 10.20 | Cu-foil + 60 % BC Braid 4.5 Ω/km*** 11.0 mm | 0.543 | 13.80 | 75 | 82 % | 16.5 | 54.0 | | | see above |
|  FB14 | | | Return loss at 5-470 MHz: ≥ 26 dB 470-1000 MHz: ≥ 23 dB 1000-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB Transfer impedance at 5-30 MHz: ≤ 1.9 mΩ/m Screening Class: A+ Pulling Tension: 400 N | | | | | | | | | | |
| **Coax 4C** • Solid 2.23 mm Bare Copper • **Copper-Foil** | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Polyethylene Jacket** (Black or Green) | | | | | | | | | | | | | | | | | | | |
| 70°C | **CX4C1** | | 1640 | 500 | 177.5 | 80.5 | 2.23 mm Solid BC 9.0 Ω/km* 4.5 Ω/km** | 0.402 | 10.20 | Cu-foil 4.5 Ω/km*** 10.6 mm | 0.543 | 13.80 | 75 | 82 % | 16.5 | 54.0 | | | see above |
| | | | 3280 | 1000 | 354.9 | 161.0 | | | | | | | | | | | | | |
|  FB14 | | | Return loss at 5-470 MHz: ≥ 26 dB 470-1000 MHz: ≥ 23 dB 1000-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB Transfer impedance at 5-30 MHz: ≤ 1.9 mΩ/m Screening Class: A+ Pulling Tension: 600 N | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • ZP = Stranded Zinc-Plated Steel

# Broadband Coax
## Distribution Cables

BROADBAND

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CT167C** • Solid 1.67 mm Bare Copper • **Copper-Foil** • 55 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **5-Cell Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT167C1** | | 328<br>820 | 100<br>250 | 24.5<br>61.2 | 11.1<br>27.8 | 1.67 mm Solid BC<br>15.0 Ω/km*<br>8.5 Ω/km** | 0.287 | 7.28 | Cu-foil + 55% BC Braid<br>6.5 Ω/km***<br>8.1 mm | 0.398 | 10.10 | 75 | 81% | 16.5 | 54.0 | 5<br>50<br>230<br>470<br>862<br>1000<br>1350<br>1750<br>2150<br>2400<br>3000 | 0.3<br>0.9<br>1.8<br>2.9<br>3.8<br>4.3<br>5.0<br>5.9<br>6.7<br>7.1<br>8.0 | 0.9<br>2.8<br>6.0<br>9.4<br>12.6<br>14.0<br>16.3<br>19.2<br>21.9<br>23.2<br>26.1 |
| Return loss at 5-470 MHz: ≥ 26 dB; 470-1000 MHz: ≥ 23 dB; 1000-2150 MHz: ≥ 18 dB. Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m; Screening Class: A; Pulling Tension: 300 N | | | | | | | | | | | | | | | | | | | |
| **5-Cell Polyethylene Insulation • Black RBS Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT167C3** | | 820 | 250 | 63.4 | 28.8 | 1.67 mm Solid BC<br>15.0 Ω/km*<br>8.5 Ω/km** | 0.287 | 7.28 | Cu-foil + 55% BC Braid<br>6.5 Ω/km***<br>8.1 mm | 0.398 | 10.10 | 75 | 81% | 16.5 | 54.0 | | | see above |
| RBS jacket | | | | | | | | | | | | | | | | | | | |
| Return loss at 5-470 MHz: ≥ 26 dB; 470-1000 MHz: ≥ 23 dB; 1000-2150 MHz: ≥ 18 dB. Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m; Screening Class: A; Pulling Tension: 300 N | | | | | | | | | | | | | | | | | | | |
| **5-Cell Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT167C0** | | 820<br>1640<br>3280 | 250<br>500<br>1000 | 52.4<br>104.7<br>209.4 | 23.8<br>47.5<br>95.0 | 1.67 mm Solid BC<br>15.0 Ω/km*<br>8.5 Ω/km** | 0.287 | 7.28 | Cu-foil + 55% BC Braid<br>6.5 Ω/km***<br>8.1 mm | 0.398 | 10.10 | 75 | 81% | 16.5 | 54.0 | | | see above |
| Return loss at 5-470 MHz: ≥ 26 dB; 470-1000 MHz: ≥ 23 dB; 1000-2150 MHz: ≥ 18 dB. Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m; Screening Class: A; Pulling Tension: 300 N | | | | | | | | | | | | | | | | | | | |
| **5-Cell Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT167C2** | IEC 322-1 | 820<br>1640<br>3280 | 250<br>500<br>1000 | 52.4<br>104.7<br>209.4 | 23.8<br>47.5<br>95.0 | 1.67 mm Solid BC<br>15.0 Ω/km*<br>8.5 Ω/km** | 0.287 | 7.28 | Cu-foil + 55% BC Braid<br>6.5 Ω/km***<br>8.1 mm | 0.398 | 10.10 | 75 | 81% | 16.5 | 54.0 | | | see above |
| Return loss at 5-470 MHz: ≥ 26 dB; 470-1000 MHz: ≥ 23 dB; 1000-2150 MHz: ≥ 18 dB. Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m; Screening Class: A; Pulling Tension: 300 N | | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper

# Broadband Coax
## Distribution Cables

BROADBAND

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Series 11 • 14 AWG** • Solid 1.63 mm Copper-Covered Steel • **Duobond® II** • 60 % Aluminum Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam Polyethylene Insulation • PVC Jacket** (Black and White) | | | | | | | | | | | | | | | | | | | |
| 80°C | **1523A** | NEC: CATV CM CEC: CM | 1000 | 305 | 67.0 | 30.4 | 1.63 mm 14 AWG Solid CCS 49.6 Ω/km* 36.1 Ω/km** | 0.280 | 7.11 | Duobond® II + 60% AL Braid 13.4 Ω/km*** 7.98 mm | 0.400 | 10.16 | 75 | 83% | 16.2 | 53.1 | 5<br>55<br>240<br>450<br>862<br>1000<br>1450<br>1800<br>2250<br>3000 | 0.3<br>0.9<br>1.8<br>2.5<br>3.5<br>3.8<br>5.0<br>5.7<br>6.5<br>8.0 | 1.1<br>3.0<br>5.8<br>8.0<br>11.4<br>12.4<br>16.4<br>18.7<br>21.3<br>26.3 |
| | | | Return loss at 5-470 MHz: ≥ 23 dB<br>470-862 MHz: ≥ 20 dB<br>862-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 1156 N<br>Sweep tested. 5 MHz to 1 GHz. | | | | | | | | | |
| 80°C Aerial | **1524AM** | | 1000 | 305 | 90.0 | 40.8 | 1.63 mm 14 AWG Solid CCS 49.6 Ω/km* 36.1 Ω/km** | 0.280 | 7.11 | Duobond® II + 60% AL Braid 13.4 Ω/km*** 7.98 mm | 0.400 x 0.580 | 10.16 x 14.73 | 75 | 83% | 16.2 | 53.1 | | | see above |
| | | | Return loss at 5-470 MHz: ≥ 23 dB<br>470-862 MHz: ≥ 20 dB<br>862-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 2400 N<br>Sweep tested. 5 MHz to 1 GHz. | | | | | | | | | |
| 1.83 mm galvanized steel messenger | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam Polyethylene Insulation • Polyethylene Jacket** (Black or Orange) | | | | | | | | | | | | | | | | | | | |
| 80°C Burial | **1525A** | | 1000 | 305 | 60.2 | 27.3 | 1.63 mm 14 AWG Solid CCS 49.6 Ω/km* 36.1 Ω/km** | 0.280 | 7.11 | Duobond® II + 60% AL Braid 13.4 Ω/km*** 7.98 mm | 0.400 | 10.16 | 75 | 83% | 16.2 | 53.1 | | | see above |
| Core Guard® | | | Return loss at 5-470 MHz: ≥ 23 dB<br>470-862 MHz: ≥ 20 dB<br>862-2150 MHz: ≥ 18 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 1156 N<br>Sweep tested. 5 MHz to 1 GHz. | | | | | | | | | |
| **PRG11C** • Solid 1.55 mm Bare Copper • **Copper-Foil** • 50 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Polyethylene Jacket** (Black or Green) | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11C0** | | 820<br>1640<br>3280 | 250<br>500<br>1000 | 37.5<br>75.0<br>149.9 | 17.0<br>34.0<br>68.0 | 1.55 mm Solid BC 20.0 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Cu-foil + 50% BC Braid 10.6 Ω/km*** 7.9 mm | 0.398 | 10.10 | 75 | 81% | 16.8 | 55.0 | 5<br>50<br>230<br>470<br>862<br>1000<br>1350<br>1750<br>2150<br>2400<br>3000 | 0.3<br>0.9<br>1.8<br>2.7<br>3.7<br>4.1<br>4.9<br>5.7<br>6.4<br>6.9<br>7.8 | 0.9<br>2.8<br>6.0<br>8.8<br>12.2<br>13.6<br>16.1<br>18.7<br>21.1<br>22.5<br>25.7 |
| | | | Return loss at 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 225 N | | | | | | | | | |
| 1000 m put-up available in Black only. | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11C6** | | 820<br>1640<br>3280 | 250<br>500<br>1000 | 63.4<br>126.8<br>253.5 | 28.8<br>57.5<br>115.0 | 1.55 mm Solid BC 20.0 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Cu-foil + 50% BC Braid 10.6 Ω/km*** 7.9 mm | 0.398 | 10.10 x 16.20 | 75 | 81% | 16.8 | 55.0 | | | see above |
| | | | Return loss at 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 4600 N | | | | | | | | | |
| Available in Black.<br>4.6 mm ZP messenger | | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • CCS = Copper-Covered Steel • AL = Aluminum • ZP = Stranded Zinc-Plated Steel

Duobond® II see technical information page 23.13.

# Broadband Coax
## Distribution Cables

BROADBAND

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PRG11C** • Solid 1.55 mm Bare Copper • **Copper-Foil** • 50 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11C2** | IEC 332-1 | 820 | 250 | 45.2 | 20.5 | 1.55 mm Solid BC 20.0 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Cu-foil + 50% BC Braid 10.6 Ω/km*** 7.9 mm | 0.398 | 10.10 | 75 | 81% | 16.8 | 55.0 | 5 | 0.3 | 0.9 |
| | | | 1640 | 500 | 90.4 | 41.0 | | | | | | | | | | | 50 | 0.9 | 2.8 |
| | | | | | | | | | | | | | | | | | 230 | 1.8 | 6.0 |
| | | | | | | | | | | | | | | | | | 470 | 2.7 | 8.8 |
| | | | | | | | | | | | | | | | | | 862 | 3.7 | 12.2 |
| | | | | | | | | | | | | | | | | | 1000 | 4.1 | 13.6 |
| | | | | | | | | | | | | | | | | | 1350 | 4.9 | 16.1 |
| | | | | | | | | | | | | | | | | | 1750 | 5.7 | 18.7 |
| | | | | | | | | | | | | | | | | | 2150 | 6.4 | 21.1 |
| | | | | | | | | | | | | | | | | | 2400 | 6.9 | 22.5 |
| | | | | | | | | | | | | | | | | | 3000 | 7.8 | 25.7 |
| | | | Return loss at 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 225 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11C4** | | 820 | 250 | 44.6 | 20.3 | 1.55 mm Solid BC 20.0 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Cu-foil + 50% BC Braid 10.6 Ω/km*** 7.9 mm | 0.398 | 10.10 | 75 | 81% | 16.8 | 55.0 | see above | | |
| | | | 1640 | 500 | 89.3 | 40.5 | | | | | | | | | | | | | |
| | | | 3280 | 1000 | 178.6 | 81.0 | | | | | | | | | | | | | |
| | | | Return loss at 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 225 N | | | | | | | | | |
| 1000 m put-up available in Black only. | | | | | | | | | | | | | | | | | | | |
| **PRG11A** • Solid 1.55 mm Bare Copper • **Duofoil®** • 50 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11A3** | | 1640 | 500 | 67.2 | 30.5 | 1.55 mm Solid BC 22.2 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Duofoil® + 50% TC Braid 12.8 Ω/km*** 7.9 mm | 0.398 | 10.10 | 75 | 81% | 16.8 | 55.0 | 5 | 0.3 | 0.9 |
| | | | | | | | | | | | | | | | | | 50 | 0.9 | 2.9 |
| | | | | | | | | | | | | | | | | | 230 | 2.0 | 6.4 |
| | | | | | | | | | | | | | | | | | 470 | 2.8 | 9.3 |
| | | | | | | | | | | | | | | | | | 862 | 4.0 | 13.0 |
| | | | | | | | | | | | | | | | | | 1000 | 4.3 | 14.2 |
| | | | | | | | | | | | | | | | | | 1350 | 5.1 | 16.8 |
| | | | | | | | | | | | | | | | | | 1750 | 5.9 | 19.5 |
| | | | | | | | | | | | | | | | | | 2150 | 6.7 | 21.9 |
| | | | | | | | | | | | | | | | | | 2400 | 7.1 | 23.4 |
| | | | | | | | | | | | | | | | | | 3000 | 8.1 | 26.7 |
| | | | Return loss at 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 225 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11A2** | | 1640 | 500 | 86.0 | 39.0 | 1.55 mm Solid BC 22.2 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Duofoil® + 50% TC Braid 12.8 Ω/km*** 7.9 mm | 0.398 | 10.10 | 75 | 81% | 16.8 | 55.0 | see above | | |
| | | | Return loss at 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m<br>Screening Class: A<br>Pulling Tension: 225 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper

Duofoil® see technical information page 23.13.

# Broadband Coax
## Distribution Cables

BROADBAND

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PRG11D** • Solid 1.55 mm Bare Copper • **Duobond Plus®** • 50 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11D3** | | 820 | 250 | 34.7 | 15.8 | 1.55 mm Solid BC 18.9 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Duobond Plus® + 50% TC Braid 9.5 Ω/km*** 8.1 mm | 0.398 | 10.10 | 75 | 81% | 16.8 | 55.0 | 5 | 0.3 | 0.9 |
| | | | 1640 | 500 | 69.4 | 31.5 | | | | | | | | | | | 50 | 0.9 | 2.8 |
|  BTQ | | | | | | | | | | | | | | | | | 230 | 1.9 | 6.2 |
| | | | | | | | | | | | | | | | | | 470 | 2.8 | 9.1 |
| | | | | | | | | | | | | | | | | | 862 | 3.9 | 12.7 |
| | | | | | | | | | | | | | | | | | 1000 | 4.2 | 13.9 |
| | | | | | | | | | | | | | | | | | 1350 | 5.0 | 16.5 |
| | | | Return loss at | 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 105 dB<br>Transfer impedance at 5-30 MHz: ≤ 1.9 mΩ/m<br>Screening Class: A+<br>Pulling Tension: 250 N | | | | | | | 1750 | 5.8 | 19.0 |
| | | | | | | | | | | | | | | | | | 2150 | 6.4 | 21.1 |
| | | | | | | | | | | | | | | | | | 2400 | 6.9 | 22.5 |
| | | | | | | | | | | | | | | | | | 3000 | 7.7 | 25.2 |
| **Gas-Injected Polyethylene Insulation • Black FRNC / LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11D1** | IEC 332-1 | 1640 | 500 | 97.0 | 44.0 | 1.55 mm Solid BC 16.4 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Duobond Plus® + 70% TC Braid 7.0 Ω/km*** 8.1 mm | 0.398 | 10.10 | 75 | 81% | 16.8 | 55.0 | | | see above |
|  BTQ | | | | | | | | | | | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 105 dB<br>Transfer impedance at 5-30 MHz: ≤ 1.9 mΩ/m<br>Screening Class: A+<br>Pulling Tension: 250 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG11D0** | | 1640 | 500 | 83.8 | 38.0 | 1.55 mm Solid BC 18.9 Ω/km* 9.4 Ω/km** | 0.285 | 7.25 | Duobond Plus® + 50% TC Braid 9.5 Ω/km*** 8.1 mm | 0.398 | 10.10 | 75 | 81% | 16.8 | 55.0 | | | see above |
|  BTQ | | | | | | | | | | | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 26 dB<br>470-1000 MHz: ≥ 23 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 105 dB<br>Transfer impedance at 5-30 MHz: ≤ 1.9 mΩ/m<br>Screening Class: A+<br>Pulling Tension: 250 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper

Duobond Plus® see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CT125C** • Solid 1.25 mm Bare Copper • **Copper-Foil** • 51 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **5-Cell Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT125C1** | | 820 | 250 | 31.4 | 14.3 | 1.25 mm | 0.217 | 5.50 | Cu-foil | 0.307 | 7.80 | 75 | 81% | 16.5 | 54.0 | 50 | 1.1 | 3.5 |
| | | | 1640 | 500 | 62.8 | 28.5 | Solid BC | | | + 51% BC | | | | | | | 230 | 2.4 | 7.8 |
| | | | 3280 | 1000 | 125.7 | 57.0 | 28.5 Ω/km* | | | Braid | | | | | | | 470 | 3.5 | 11.6 |
| | | | | | | | 15.0 Ω/km** | | | 13.5 Ω/km*** | | | | | | | 862 | 4.7 | 15.5 |
| | | | | | | | | | | 6.2 mm | | | | | | | 1000 | 5.2 | 17.0 |
| | | | | | | | | | | | | | | | | | 1750 | 6.7 | 22.0 |
| | | | | | | | | | | | | | | | | | 2150 | 7.9 | 26.0 |
| | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | | | |
| | | | 470-1000 MHz: ≥ 20 dB | | | | | | | Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m | | | | | | | | | |
| | | | 1000-2000 MHz: ≥ 18 dB | | | | | | | Screening Class: A | | | | | | | | | |
| | | | 2000-3000 MHz: ≥ 16 dB | | | | | | | Pulling Tension: 100 N | | | | | | | | | |
| **5-Cell Polyethylene Insulation • Black RBS Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT125C3** | | 1640 | 500 | 88.2 | 40.0 | 1.25 mm | 0.217 | 5.50 | Cu-foil | 0.307 | 7.80 | 75 | 81% | 16.5 | 54.0 | see above | | |
| | | | 3280 | 1000 | 176.4 | 80.0 | Solid BC | | | + 51% BC | | | | | | | | | |
| | | | | | | | 28.5 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 15.0 Ω/km** | | | 13.5 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 6.2 mm | | | | | | | | | |
| RBS jacket | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | | | |
| | | | 470-1000 MHz: ≥ 20 dB | | | | | | | Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m | | | | | | | | | |
| | | | 1000-2000 MHz: ≥ 18 dB | | | | | | | Screening Class: A | | | | | | | | | |
| | | | 2000-3000 MHz: ≥ 16 dB | | | | | | | Pulling Tension: 100 N | | | | | | | | | |
| **5-Cell Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT125C0** | | 328 | 100 | 15.0 | 6.8 | 1.25 mm | 0.217 | 5.50 | Cu-foil | 0.307 | 7.80 | 75 | 81% | 16.5 | 54.0 | see above | | |
| | | | 820 | 250 | 37.5 | 17.0 | Solid BC | | | + 51% BC | | | | | | | | | |
| | | | 1640 | 500 | 75.0 | 34.0 | 28.5 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 15.0 Ω/km** | | | 13.5 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 6.2 mm | | | | | | | | | |
| | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | | | |
| | | | 470-1000 MHz: ≥ 20 dB | | | | | | | Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m | | | | | | | | | |
| | | | 1000-2000 MHz: ≥ 18 dB | | | | | | | Screening Class: A | | | | | | | | | |
| | | | 2000-3000 MHz: ≥ 16 dB | | | | | | | Pulling Tension: 100 N | | | | | | | | | |
| **RG7C** • Solid 1.25 mm Bare Copper • **Copper-Foil** • 50 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **RG7C01** | | 820 | 250 | 34.4 | 15.6 | 1.25 mm | 0.224 | 5.70 | Cu-foil | 0.319 | 8.10 | 75 | 82% | 16.5 | 54.0 | 5 | 0.4 | 1.2 |
| | | | 1640 | 500 | 68.9 | 31.3 | Solid BC | | | + 50% BC | | | | | | | 50 | 1.0 | 3.4 |
| | | | | | | | 26.5 Ω/km* | | | Braid | | | | | | | 100 | 1.5 | 4.9 |
| | | | | | | | 14.5 Ω/km** | | | 12.0 Ω/km*** | | | | | | | 230 | 2.3 | 7.5 |
| | | | | | | | | | | 6.3 mm | | | | | | | 400 | 3.1 | 10.1 |
| | | | | | | | | | | | | | | | | | 800 | 4.5 | 14.6 |
| | | | | | | | | | | | | | | | | | 862 | 4.6 | 15.1 |
| | | | | | | | | | | | | | | | | | 1000 | 5.0 | 16.5 |
| | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | 1350 | 5.9 | 19.5 |
| | | | 470-1000 MHz: ≥ 20 dB | | | | | | | Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m | | | | | | | 1750 | 6.9 | 22.6 |
| | | | 1000-2000 MHz: ≥ 18 dB | | | | | | | Screening Class: B | | | | | | | 2150 | 7.7 | 25.3 |
| | | | 2000-3000 MHz: ≥ 16 dB | | | | | | | Pulling Tension: 90 N | | | | | | | 2400 | 8.2 | 27.0 |
| **Gas-Injected Polyethylene Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **RG7C02** IEC 332-1 | | 820 | 250 | 34.4 | 15.6 | 1.25 mm | 0.224 | 5.70 | Cu-foil | 0.319 | 8.10 | 75 | 82% | 16.5 | 54.0 | see above | | |
| | | | 1640 | 500 | 68.9 | 31.3 | Solid BC | | | + 50% BC | | | | | | | | | |
| | | | | | | | 26.5 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 14.5 Ω/km** | | | 12.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 6.3 mm | | | | | | | | | |
| | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | | | |
| | | | 470-1000 MHz: ≥ 20 dB | | | | | | | Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m | | | | | | | | | |
| | | | 1000-2000 MHz: ≥ 18 dB | | | | | | | Screening Class: B | | | | | | | | | |
| | | | 2000-3000 MHz: ≥ 16 dB | | | | | | | Pulling Tension: 90 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RG7C** • Solid 1.25 mm Bare Copper • **Copper-Foil** • 50 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **RG7C00** | | 820 | 250 | 34.4 | 15.6 | 1.25 mm Solid BC 26.5 Ω/km* 14.5 Ω/km** | 0.224 | 5.70 | Cu-foil + 50 % BC Braid 12.0 Ω/km*** 6.3 mm | 0.319 | 8.10 | 75 | 82% | 16.5 | 54.0 | 5 | 0.5 | 1.5 |
| | | | 1640 | 500 | 68.9 | 31.3 | | | | | | | | | | | 50 | 1.1 | 3.5 |
| | | | | | | | | | | | | | | | | | 100 | 1.5 | 5.0 |
| | | | | | | | | | | | | | | | | | 230 | 2.3 | 7.5 |
| | | | | | | | | | | | | | | | | | 400 | 3.1 | 10.1 |
| | | | | | | | | | | | | | | | | | 800 | 4.5 | 14.6 |
| | | | | | | | | | | | | | | | | | 862 | 4.7 | 15.5 |
| | | | | | | | | | | | | | | | | | 1000 | 5.2 | 17.0 |
| | | | Return loss at 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m<br>Screening Class: B<br>Pulling Tension: 90 N | | | | | | | | 1350 | 5.9 | 19.5 |
| | | | | | | | | | | | | | | | | | 1750 | 6.7 | 22.0 |
| | | | | | | | | | | | | | | | | | 2150 | 7.9 | 26.0 |
| | | | | | | | | | | | | | | | | | 2400 | 8.2 | 27.0 |
| **PRG7C** • Solid 1.2 mm Bare Copper • **Copper-Foil** • 40 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Polyethylene Jacket** (Black or Green) | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG7C01** | | 820 | 250 | 22.6 | 10.3 | 1.2 mm Solid BC 34.6 Ω/km* 15.6 Ω/km** | 0.213 | 5.40 | Cu-foil + 40 % BC Braid 19.0 Ω/km*** 5.84 mm | 0.280 | 7.10 | 75 | 83% | 16.5 | 54.0 | 5 | 0.4 | 1.2 |
| | | | 1640 | 500 | 45.2 | 20.5 | | | | | | | | | | | 50 | 1.1 | 3.6 |
| | | | 3280 | 1000 | 90.4 | 41.0 | | | | | | | | | | | 100 | 1.6 | 5.2 |
| | | | | | | | | | | | | | | | | | 230 | 2.4 | 7.9 |
| | | | | | | | | | | | | | | | | | 400 | 3.2 | 10.5 |
| | | | | | | | | | | | | | | | | | 800 | 4.6 | 15.2 |
| | | | | | | | | | | | | | | | | | 862 | 4.8 | 15.8 |
| | | | | | | | | | | | | | | | | | 1000 | 5.2 | 17.1 |
| | | | Return loss at 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB<br>Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m<br>Screening Class: B<br>Pulling Tension: 80 N | | | | | | | | 1350 | 6.1 | 20.1 |
| | | | | | | | | | | | | | | | | | 1750 | 7.1 | 23.2 |
| | | | | | | | | | | | | | | | | | 2150 | 7.9 | 26.0 |
| 250 m put-up available in Black only. | | | | | | | | | | | | | | | | | 2400 | 8.4 | 27.7 |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG7C00** | | B-328 | B-100 | 10.4 | 4.7 | 1.2 mm Solid BC 34.6 Ω/km* 15.6 Ω/km** | 0.213 | 5.40 | Cu-foil + 40 % BC Braid 19.0 Ω/km*** 5.84 mm | 0.280 | 7.10 | 75 | 83% | 16.5 | 54.0 | | | see above |
| | | | 820 | 250 | 25.9 | 11.8 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 51.8 | 23.5 | | | | | | | | | | | | | |
| | | | 3280 | 1000 | 103.4 | 46.9 | | | | | | | | | | | | | |
| | | | Return loss at 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB<br>Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m<br>Screening Class: B<br>Pulling Tension: 80 N | | | | | | | | | | |
| 1000 m put-up available in Black only. | | | | | | | | | | | | | | | | | | | |
| **PRG7A** • Solid 1.2 mm Bare Copper • **Duofoil®** • 40 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG7A00** | | 328 | 100 | 9.7 | 4.4 | 1.2 mm Solid BC 39.6 Ω/km* 15.6 Ω/km** | 0.213 | 5.40 | Duofoil® + 40 % TC Braid 24.0 Ω/km*** 5.84 mm | 0.280 | 7.10 | 75 | 83% | 16.5 | 54.0 | 5 | 0.5 | 1.6 |
| | | | | | | | | | | | | | | | | | 50 | 1.2 | 3.9 |
| | | | | | | | | | | | | | | | | | 100 | 1.6 | 5.4 |
| | | | | | | | | | | | | | | | | | 230 | 2.5 | 8.1 |
| | | | | | | | | | | | | | | | | | 400 | 3.3 | 10.7 |
| | | | | | | | | | | | | | | | | | 800 | 4.7 | 15.5 |
| | | | | | | | | | | | | | | | | | 862 | 4.9 | 16.1 |
| | | | | | | | | | | | | | | | | | 1000 | 5.3 | 17.5 |
| | | | Return loss at 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 39.0 mΩ/m<br>Screening Class: C<br>Pulling Tension: 80 N | | | | | | | | 1350 | 6.3 | 20.6 |
| | | | | | | | | | | | | | | | | | 1750 | 7.3 | 23.8 |
| | | | | | | | | | | | | | | | | | 2150 | 8.2 | 26.8 |
| | | | | | | | | | | | | | | | | | 2400 | 8.7 | 28.6 |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **PRG7A01** | | 3280 | 1000 | 147.7 | 67.0 | 1.2 mm Solid BC 39.6 Ω/km* 15.6 Ω/km** | 0.213 | 5.40 | Duofoil® + 40 % TC Braid 24.0 Ω/km*** 5.84 mm | 0.280 | 7.10 x 14.00 | 75 | 83% | 16.5 | 54.0 | | | see above |
| | | | Return loss at 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 39.0 mΩ/m<br>Screening Class: C<br>Pulling Tension: 3500 N | | | | | | | | | | |
| 3.6 mm ZP messenger | | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper • ZP = Stranded Zinc-Plated Steel
Duofoil® see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Series 6** • Solid 1.02 mm Copper-Covered Steel • **Duobond® II** • 60 % Aluminum Braid

**Gas-Injected Foam Polyethylene Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **9116** | NEC: | U-1000 | U-305 | 30.0 | 13.6 | 1.016 mm | 0.180 | 4.57 | Duobond® II | 0.270 | 6.86 | 75 | 83% | 16.2 | 53.1 | 5 | 0.5 | 1.8 |
| | | CATV | 1000 | 305 | 31.1 | 14.1 | Solid CCS | | | + 60% AL | | | | | | | 55 | 1.5 | 4.8 |
| | | CM | | | | | 121.3 Ω/km* | | | Braid | | | | | | | 240 | 2.8 | 9.2 |
| | | CEC: | | | | | 91.9 Ω/km** | | | 29.5 Ω/km*** | | | | | | | 450 | 3.9 | 12.7 |
|  | | CM | | | | | | | | 5.4 mm | | | | | | | 862 | 5.5 | 18.0 |
| | | | | | | | | | | | | | | | | | 1000 | 6.0 | 19.7 |
| | | | | | | | | | | | | | | | | | 1450 | 7.8 | 25.6 |
| | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | | | | 1800 | 8.6 | 28.2 |
| | | | 470-862 MHz: ≥ 20 dB | | | | Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m | | | | | | | | | | 2250 | 9.8 | 32.2 |
| | | | 862-2150 MHz: ≥ 18 dB | | | | Screening Class: B | | | | | | | | | | 3000 | 11.3 | 37.1 |

**Series 6** • Solid 1.02 mm Copper-Covered Steel • **Duobond® III** • 60 % Aluminum Braid Shield

**Gas-Injected Foam Polyethylene Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **9118** | NEC: | U-1000 | U-305 | 30.0 | 13.6 | 1.016 mm | 0.180 | 4.57 | Duobond® III | 0.278 | 7.06 | 75 | 83% | 16.2 | 53.1 | | | see above |
| | | CATV | 1000 | 305 | 30.0 | 13.6 | Solid CCS | | | + 60% AL | | | | | | | | | |
| | | CM | | | | | 113.2 Ω/km* | | | Braid | | | | | | | | | |
| | | CEC: | | | | | 91.9 Ω/km** | | | Duofoil® | | | | | | | | | |
|  | | CM | | | | | | | | 21.3 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 5.4 mm | | | | | | | | | |
| | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | | | | | | |
| U-305 m put-up also available in Beige, White and White Neutral. | | | 470-862 MHz: ≥ 20 dB | | | | Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m | | | | | | | | | | | | |
| | | | 862-2150 MHz: ≥ 18 dB | | | | Screening Class: B | | | | | | | | | | | | |

**RG6D** • Solid 1.0 mm Copper-Covered Steel • **Duobond Plus®** • 50 % Tinned Copper Braid

**Gas-Injected Polyethylene Insulation • White PVC Jacket**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **RG6D01** | | U-820 | U-250 | 27.0 | 12.3 | 1.0 mm | 0.180 | 4.57 | Duobond | 0.272 | 6.90 | 75 | 82% | 16.5 | 54.0 | 5 | 0.5 | 1.8 |
| | | | | | | | Solid CCS | | | Plus® | | | | | | | 50 | 1.4 | 4.7 |
| | | | | | | | 69.0 Ω/km* | | | + 50% TC | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | 55.0 Ω/km** | | | Braid | | | | | | | 230 | 3.0 | 9.8 |
|  | | | | | | | | | | 14.0 Ω/km*** | | | | | | | 400 | 4.0 | 13.0 |
| | | | | | | | | | | 5.4 mm | | | | | | | 800 | 5.7 | 18.7 |
| | | | | | | | | | | | | | | | | | 862 | 5.9 | 19.5 |
| BTQ | | | | | | | | | | | | | | | | | 1000 | 6.4 | 21.1 |
| | | | | | | | | | | | | | | | | | 1350 | 7.6 | 24.9 |
| | | Return loss at | 5-470 MHz: ≥ 20 dB | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB | | | | | | | | | | 1750 | 8.8 | 28.8 |
| | | | 470-1000 MHz: ≥ 18 dB | | | | Transfer impedance at 5-30 MHz: ≤ 4.5 mΩ/m | | | | | | | | | | 2150 | 9.8 | 32.3 |
| | | | 1000-2000 MHz: ≥ 16 dB | | | | Screening Class: A | | | | | | | | | | 2400 | 10.5 | 34.4 |
| | | | 2000-3000 MHz: ≥ 15 dB | | | | Pulling Tension: 570 N | | | | | | | | | | 3000 | 12.0 | 39.2 |

**Gas-Injected Polyethylene Insulation • White PVC Jacket**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **RG6D00** | | U-820 | U-250 | 25.9 | 11.8 | 1.0 mm | 0.180 | 4.57 | Duobond | 0.272 | 6.90 | 75 | 82% | 16.5 | 54.0 | | | see above |
| | | | | | | | Solid CCS | | | Plus® | | | | | | | | | |
| | | | | | | | 71.0 Ω/km* | | | + 40% TC | | | | | | | | | |
| | | | | | | | 55.0 Ω/km** | | | Braid | | | | | | | | | |
|  | | | | | | | | | | 16.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 5.4 mm | | | | | | | | | |
| BTT | | | | | | | | | | | | | | | | | | | |
| | | Return loss at | 5-470 MHz: ≥ 20 dB | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB | | | | | | | | | | | | |
| | | | 470-1000 MHz: ≥ 18 dB | | | | Transfer impedance at 5-30 MHz: ≤ 4.5 mΩ/m | | | | | | | | | | | | |
| | | | 1000-2000 MHz: ≥ 16 dB | | | | Screening Class: A | | | | | | | | | | | | |
| | | | 2000-3000 MHz: ≥ 15 dB | | | | Pulling Tension: 570 N | | | | | | | | | | | | |

**RG6A** • Solid 1.0 mm Copper-Covered Steel • **Duofoil®** • 40% Tinned Copper Braid

**Gas-Injected Polyethylene Insulation • PVC Jacket** (Black or White)

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **RG6A00** | | B-328 | B-100 | 10.6 | 4.8 | 1.0 mm | 0.180 | 4.57 | Duofoil® | 0.272 | 6.90 | 75 | 82% | 16.5 | 54.0 | | | see above |
| | | | U-820 | U-250 | 26.5 | 12.0 | Solid CCS | | | + 40% TC | | | | | | | | | |
| | | | | | | | 131.0 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 105.0 Ω/km** | | | 26.0 Ω/km*** | | | | | | | | | |
|  | | | | | | | | | | 5.3 mm | | | | | | | | | |
| BTQ | | | | | | | | | | | | | | | | | | | |
| | | Return loss at | 5-470 MHz: ≥ 20 dB | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | | | | | | |
| | | | 470-1000 MHz: ≥ 18 dB | | | | Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m | | | | | | | | | | | | |
| B-100 m put-up available in White only. | | | 1000-2000 MHz: ≥ 16 dB | | | | Screening Class: C | | | | | | | | | | | | |
| U-250 m put-up available in Black only | | | 2000-3000 MHz: ≥ 15 dB | | | | Pulling Tension: 570 N | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • AL = Aluminum • CCS = Copper-Covered Steel
Duofoil®, Duobond® II, Duobond® III and Duobond Plus® see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H126D (RG6)** • Solid 1.0 mm Bare Copper • **Duobond Plus®** • 50 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H126D04** | | 1640 | 500 | 44.1 | 20.0 | 1.0 mm Solid BC 37.0 Ω/km* 23.0 Ω/km** | 0.180 | 4.57 | Duobond Plus® + 50 % TC Braid 14.0 Ω/km*** 5.4 mm | 0.272 | 6.90 | 75 | 82% | 16.5 | 54.0 | 5 | 0.5 | 1.8 |
| | | | | | | | | | | | | | | | | | 50 | 1.4 | 4.7 |
| | | | | | | | | | | | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | | | | | | | | | | | 230 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 400 | 4.0 | 13.0 |
| | | | | | | | | | | | | | | | | | 800 | 5.7 | 18.7 |
| | | | | | | | | | | | | | | | | | 862 | 5.9 | 19.5 |
| BTQ | | | | | | | | | | | | | | | | | 1000 | 6.4 | 21.1 |
| | | | | | | | | | | | | | | | | | 1350 | 7.6 | 24.9 |
| | | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | | | | | | | | 1750 | 8.8 | 28.8 |
| | | | | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB; Transfer impedance at 5-30 MHz: ≤ 4.5 mΩ/m; Screening Class: A; Pulling Tension: 55 N | | | | | | | 2150 | 9.8 | 32.3 |
| | | | | | | | | | | | | | | | | | 2400 | 10.5 | 34.4 |
| | | | | | | | | | | | | | | | | | 3000 | 12.0 | 39.2 |
| **Gas-Injected Polyethylene Insulation • White FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H126D03** | IEC 332-3 | B-328 | B-100 | 10.8 | 4.9 | 1.0 mm Solid BC 37.0 Ω/km* 23.0 Ω/km** | 0.180 | 4.57 | Duobond Plus® + 50 % TC Braid 14.0 Ω/km*** 5.4 mm | 0.272 | 6.90 | 75 | 82% | 16.5 | 54.0 | see above | | |
| | | | U-820 | U-250 | 27.0 | 12.3 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 54.0 | 24.5 | | | | | | | | | | | | | |
| BTQ | | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB; Transfer impedance at 5-30 MHz: ≤ 4.5 mΩ/m; Screening Class: A; Pulling Tension: 55 N | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H126D02** | | B-328 | B-100 | 10.8 | 4.9 | 1.0 mm Solid BC 37.0 Ω/km* 23.0 Ω/km** | 0.180 | 4.57 | Duobond Plus® + 50 % TC Braid 14.0 Ω/km*** 5.4 mm | 0.272 | 6.90 | 75 | 82% | 16.5 | 54.0 | see above | | |
| | | | U-820 | U-250 | 27.0 | 12.3 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 54.0 | 24.5 | | | | | | | | | | | | | |
| BTQ | | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB; Transfer impedance at 5-30 MHz: ≤ 4.5 mΩ/m; Screening Class: A; Pulling Tension: 55 N | | | | | | | | | | |
| 500 m put-up available in Black only. | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H126D00** | | B-328 | B-100 | 10.4 | 4.7 | 1.0 mm Solid BC 39.0 Ω/km* 23.0 Ω/km** | 0.180 | 4.57 | Duobond Plus® + 40 % TC Braid 16.0 Ω/km*** 5.4 mm | 0.272 | 6.90 | 75 | 82% | 16.5 | 54.0 | see above | | |
| | | | U-820 | U-250 | 25.9 | 11.8 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 51.8 | 23.5 | | | | | | | | | | | | | |
| BTT | | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB; Transfer impedance at 5-30 MHz: ≤ 4.5 mΩ/m; Screening Class: A; Pulling Tension: 55 N | | | | | | | | | | |
| **H126A (RG6)** • Solid 1.0 mm Bare Copper • **Duofoil®** • 35 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H126A00** | | B-328 | B-100 | 10.6 | 4.8 | 1.0 mm Solid BC 49.0 Ω/km* 23.0 Ω/km** | 0.180 | 4.57 | Duofoil® + 35 % TC Braid 26.0 Ω/km*** 5.25 mm | 0.272 | 6.90 | 75 | 82% | 16.5 | 54.0 | see above | | |
| | | | U-820 | U-250 | 26.5 | 12.0 | | | | | | | | | | | | | |
| | | | 984 | 300 | 31.7 | 14.4 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 53.5 | 24.3 | | | | | | | | | | | | | |
| | | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB; Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m; Screening Class: C; Pulling Tension: 55 N | | | | | | | | | | |
| B-100 m put-up available in White only. | | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper

Duofoil® and Duobond Plus® see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**H126A (RG6)** • Solid 1.0 mm Bare Copper • **Duobond® II** • 70 % Tinned Copper Braid

**Gas-Injected Polyethylene Insulation • White PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **H126A03** | | 656 | 200 | 23.4 | 10.6 | 1.0 mm Solid BC 40.0 Ω/km* 23.0 Ω/km** | 0.180 | 4.57 | Duobond® II + 70 % TC Braid 17.0 Ω/km*** 5.25 mm | 0.272 | 6.90 | 75 | 82 % | 16.5 | 54.0 | 5 | 0.5 | 1.8 |
| | | | U-820 | U-250 | 29.2 | 13.3 | | | | | | | | | | | 50 | 1.4 | 4.7 |
| | | | 1640 | 500 | 58.4 | 26.5 | | | | | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | | | | | | | | | | | 230 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 400 | 4.0 | 13.0 |
| | | | | | | | | | | | | | | | | | 800 | 5.7 | 18.7 |
| | | | | | | | | | | | | | | | | | 862 | 5.9 | 19.5 |
| | | | | | | | | | | | | | | | | | 1000 | 6.4 | 21.1 |
| | | | | | | | | | | | | | | | | | 1350 | 7.6 | 24.9 |
| | | | | | | | | | | | | | | | | | 1750 | 8.8 | 28.8 |
| | | | | | | | | | | | | | | | | | 2150 | 9.8 | 32.2 |
| | | | | | | | | | | | | | | | | | 2400 | 10.5 | 34.4 |
| | | | | | | | | | | | | | | | | | 3000 | 12.0 | 39.2 |

Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 25.0 mΩ/m; Screening Class: C; Pulling Tension: 55 N

**Gas-Injected Polyethylene Insulation • White PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **H126A02** | | U-820 | U-250 | 25.9 | 11.8 | 1.0 mm Solid BC 45.0 Ω/km* 23.0 Ω/km** | 0.180 | 4.57 | Duobond® II + 50 % TC Braid 22.0 Ω/km*** 5.25 mm | 0.272 | 6.90 | 75 | 82 % | 16.5 | 54.0 | | | see above |

Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB; Transfer impedance at 5-30 MHz: ≤ 50.0 mΩ/m; Screening Class: C; Pulling Tension: 55 N

**H109C** • Solid 1.0 mm Bare Copper • **Copper-Foil** • 55 % Bare Copper Braid

**5-Cell Polyethylene Insulation • PVC Jacket** (Black or Brown)

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **H109C00** | | 820 | 250 | 27.0 | 12.3 | 1.0 mm Solid BC 41.0 Ω/km* 26.0 Ω/km** | 0.185 | 4.70 | Cu-foil + 55 % BC Braid 15.0 Ω/km*** 5.2 mm | 0.262 | 6.65 | 75 | 80 % | 17.1 | 56.0 | 5 | 0.5 | 1.6 |
| | | | 1640 | 500 | 54.0 | 24.5 | | | | | | | | | | | 50 | 1.4 | 4.6 |
| | | | 16400 | 5000 | 540.1 | 245.0 | | | | | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | | | | | | | | | | | 230 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 400 | 4.1 | 13.3 |
| | | | | | | | | | | | | | | | | | 800 | 5.9 | 19.2 |
| | | | | | | | | | | | | | | | | | 862 | 5.9 | 19.5 |
| | | | | | | | | | | | | | | | | | 1000 | 6.6 | 21.5 |
| | | | | | | | | | | | | | | | | | 1750 | 8.8 | 29.0 |
| | | | | | | | | | | | | | | | | | 2150 | 9.9 | 32.5 |
| | | | | | | | | | | | | | | | | | 2400 | 10.6 | 34.7 |

250 m put-up available in Brown only.
500 m put-up available in Black only.

Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB; Transfer impedance at 5-30 MHz: ≤ 10.0 mΩ/m; Screening Class: B; Pulling Tension: 55 N

**5-Cell Polyethylene Insulation • FRNC/LSNH Jacket** (Black or White)

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **H109C02** | IEC 332-1 | 820 | 250 | 24.8 | 11.3 | 1.0 mm Solid BC 41.0 Ω/km* 26.0 Ω/km** | 0.185 | 4.70 | Cu-foil + 55 % BC Braid 15.0 Ω/km*** 5.2 mm | 0.262 | 6.65 | 75 | 80 % | 17.1 | 56.0 | | | see above |

Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB; Transfer impedance at 5-30 MHz: ≤ 10.0 mΩ/m; Screening Class: B; Pulling Tension: 55 N

**H125C** • Solid 1.0 mm Bare Copper • **Copper-Foil** • 40 % Bare Copper Braid

**Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **H125C01** | | B-328 | B-100 | 8.6 | 3.9 | 1.0 mm Solid BC 41.0 Ω/km* 23.0 Ω/km** | 0.189 | 4.80 | Cu-foil + 40 % BC Braid 18.0 Ω/km*** 5.4 mm | 0.268 | 6.80 | 75 | 81 % | 16.8 | 55.0 | 5 | 0.4 | 1.4 |
| | | | 820 | 250 | 21.5 | 9.8 | | | | | | | | | | | 50 | 1.3 | 4.3 |
| | | | 1640 | 500 | 43.0 | 19.5 | | | | | | | | | | | 100 | 1.9 | 6.1 |
| | | | | | | | | | | | | | | | | | 230 | 2.8 | 9.2 |
| | | | | | | | | | | | | | | | | | 400 | 3.8 | 12.3 |
| | | | | | | | | | | | | | | | | | 800 | 5.4 | 17.7 |
| | | | | | | | | | | | | | | | | | 862 | 5.6 | 18.4 |
| | | | | | | | | | | | | | | | | | 1000 | 6.1 | 19.9 |
| | | | | | | | | | | | | | | | | | 1350 | 7.1 | 23.4 |
| | | | | | | | | | | | | | | | | | 1750 | 8.2 | 27.0 |
| | | | | | | | | | | | | | | | | | 2150 | 9.2 | 30.2 |
| | | | | | | | | | | | | | | | | | 2400 | 9.8 | 32.1 |

Return loss at 5-470 MHz: ≥ 23 dB; 470-1000 MHz: ≥ 20 dB; 1000-2000 MHz: ≥ 18 dB; 2000-3000 MHz: ≥ 16 dB

Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m; Screening Class: B; Pulling Tension: 55 N

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper
Duobond® II see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H125C** • Solid 1.0 mm Bare Copper • **Copper-Foil** • 40 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125C04** | IEC 332-1 | 1640 | 500 | 49.6 | 22.5 | 1.0 mm Solid BC 41.0 Ω/km* 23.0 Ω/km** | 0.189 | 4.80 | Cu-foil + 40 % BC Braid 18.0 Ω/km*** 5.4 mm | 0.268 | 6.80 | 75 | 81 % | 16.8 | 55.0 | 5 | 0.4 | 1.4 |
| | | | | | | | | | | | | | | | | | 50 | 1.3 | 4.3 |
| | | | | | | | | | | | | | | | | | 100 | 1.9 | 6.1 |
| | | | | | | | | | | | | | | | | | 230 | 2.8 | 9.2 |
| | | | | | | | | | | | | | | | | | 400 | 3.8 | 12.3 |
| | | | | | | | | | | | | | | | | | 800 | 5.4 | 17.7 |
| | | | | | | | | | | | | | | | | | 862 | 5.6 | 18.4 |
| | | | | | | | | | | | | | | | | | 1000 | 6.1 | 19.9 |
| | | | | | | | | | | | | | | | | | 1350 | 7.1 | 23.4 |
| | | | | | | | | | | | | | | | | | 1750 | 8.2 | 27.0 |
| | | | | | | | | | | | | | | | | | 2150 | 9.2 | 30.2 |
| | | | | | | | | | | | | | | | | | 2400 | 9.8 | 32.1 |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m<br>Screening Class: B<br>Pulling Tension: 55 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black, Brown, Crème, Grey or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125C00** | | B-328 | B-100 | 10.4 | 4.7 | 1.0 mm Solid BC 41.0 Ω/km* 23.0 Ω/km** | 0.189 | 4.80 | Cu-foil + 40 % BC Braid 18.0 Ω/km*** 5.4 mm | 0.268 | 6.80 | 75 | 81 % | 16.8 | 55.0 | | | see above |
| | | | 820 | 250 | 25.9 | 11.8 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 51.8 | 23.5 | | | | | | | | | | | | | |
| | | | 3280 | 1000 | 103.6 | 47.0 | | | | | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m<br>Screening Class: B<br>Pulling Tension: 55 N | | | | | | | | | |
| Brown, Crème and Grey available in B-100 m only. | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125C03** | | 820 | 250 | 49.1 | 22.3 | 1.0 mm Solid BC 41.0 Ω/km* 23.0 Ω/km** | 0.189 | 4.80 | Cu-foil + 40 % BC Braid 18.0 Ω/km*** 5.24 mm | 0.268<br>0.531 | 6.80<br>13.50 | 75 | 81 % | 16.8 | 55.0 | | | see above |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB<br>Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m<br>Screening Class: B<br>Pulling Tension: 55 N | | | | | | | | | |
| ShotGun | | | | | | | | | | | | | | | | | | | |
| **H125A** • Solid 1.0 mm Bare Copper • **Duofoil®** • 70 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125A08** | | 1640 | 500 | 45.2 | 20.5 | 1.0 mm Solid BC 41.0 Ω/km* 23.0 Ω/km** | 0.189 | 4.80 | Duofoil® + 70 % TC Braid 18.0 Ω/km*** 5.5 mm | 0.268 | 6.80 | 75 | 81 % | 16.8 | 55.0 | 5 | 0.5 | 1.8 |
| | | | | | | | | | | | | | | | | | 50 | 1.4 | 4.7 |
| | | | | | | | | | | | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | | | | | | | | | | | 230 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 400 | 3.9 | 12.9 |
| | | | | | | | | | | | | | | | | | 800 | 5.7 | 18.6 |
| | | | | | | | | | | | | | | | | | 862 | 5.9 | 19.3 |
| | | | | | | | | | | | | | | | | | 1000 | 6.4 | 20.9 |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m<br>Screening Class: B<br>Pulling Tension: 55 N | | | | | | | 1350<br>1750<br>2150<br>2400 | 7.5<br>8.7<br>9.7<br>10.4 | 24.6<br>28.4<br>31.9<br>34.0 |
| **Gas-Injected Polyethylene Insulation • White FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125A07** | IEC 332-1 | B-328 | B-100 | 10.8 | 4.9 | 1.0 mm Solid BC 41.0 Ω/km* 23.0 Ω/km** | 0.189 | 4.80 | Duofoil® + 70 % TC Braid 18.0 Ω/km*** 5.5 mm | 0.268 | 6.80 | 75 | 81 % | 16.8 | 55.0 | | | see above |
| | | | 1640 | 500 | 54.0 | 24.5 | | | | | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB<br>Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m<br>Screening Class: B<br>Pulling Tension: 55 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper

Duofoil® see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H125A** • Solid 1.0 mm Bare Copper • **Duofoil®** • 70 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125A06** | | B-328 | B-100 | 10.6 | 4.8 | 1.0 mm | 0.189 | 4.80 | Duofoil® | 0.268 | 6.80 | 75 | 81% | 16.8 | 55.0 | 5 | 0.5 | 1.8 |
| | | | U-820 | U-250 | 26.5 | 12.0 | Solid BC | | | + 70% TC | | | | | | | 50 | 1.4 | 4.7 |
| | | | 1640 | 500 | 52.9 | 24.0 | 41.0 Ω/km* | | | Braid | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | 23.0 Ω/km** | | | 18.0 Ω/km*** | | | | | | | 230 | 3.0 | 9.8 |
| | | | | | | | | | | 5.5 mm | | | | | | | 400 | 3.9 | 12.9 |
| | | | | | | | | | | | | | | | | | 800 | 5.7 | 18.6 |
| | | | | | | | | | | | | | | | | | 862 | 5.9 | 19.3 |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB | | | | | | | 1000 | 6.4 | 20.9 |
| | | | | 470-1000 MHz: ≥ 20 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m | | | | | | | 1350 | 7.5 | 24.6 |
| | | | | 1000-2000 MHz: ≥ 18 dB | | | | | | Screening Class: B | | | | | | | 1750 | 8.7 | 28.4 |
| | | | | 2000-3000 MHz: ≥ 16 dB | | | | | | Pulling Tension: 55 N | | | | | | | 2150 | 9.7 | 31.9 |
| | | | | | | | | | | | | | | | | | 2400 | 10.4 | 34.0 |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125A01** | | B-328 | B-100 | 8.2 | 3.7 | 1.0 mm | 0.189 | 4.80 | Duofoil® | 0.268 | 6.80 | 75 | 81% | 16.8 | 55.0 | | | see above |
| | | | 820 | 250 | 20.4 | 9.3 | Solid BC | | | + 40% TC | | | | | | | | | |
| | | | 1640 | 500 | 40.8 | 18.5 | 50.0 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 23.0 Ω/km** | | | 27.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 5.4 mm | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | | | |
| | | | | 470-1000 MHz: ≥ 20 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m | | | | | | | | | |
| | | | | 1000-2000 MHz: ≥ 18 dB | | | | | | Screening Class: C | | | | | | | | | |
| | | | | 2000-3000 MHz: ≥ 16 dB | | | | | | Pulling Tension: 55 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125A03** | IEC 332-1 | B-328 | B-100 | 9.3 | 4.2 | 1.0 mm | 0.189 | 4.80 | Duofoil® | 0.268 | 6.80 | 75 | 81% | 16.8 | 55.0 | | | see above |
| | | | 1640 | 500 | 46.3 | 21.0 | Solid BC | | | + 40% TC | | | | | | | | | |
| | | | | | | | 50.0 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 23.0 Ω/km** | | | 27.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 5.4 mm | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | | | |
| | | | | 470-1000 MHz: ≥ 20 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m | | | | | | | | | |
| | | | | 1000-2000 MHz: ≥ 18 dB | | | | | | Screening Class: C | | | | | | | | | |
| | | | | 2000-3000 MHz: ≥ 16 dB | | | | | | Pulling Tension: 55 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black, Brown, Grey or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125A00** | | B-328 | B-100 | 9.7 | 4.4 | 1.0 mm | 0.189 | 4.80 | Duofoil® | 0.268 | 6.80 | 75 | 81% | 16.8 | 55.0 | | | see above |
| | | | U-820 | U-250 | 24.3 | 11.0 | Solid BC | | | + 40% TC | | | | | | | | | |
| | | | 1640 | 500 | 48.5 | 22.0 | 50.0 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 23.0 Ω/km** | | | 27.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 5.4 mm | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | | | |
| | | | | 470-1000 MHz: ≥ 20 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m | | | | | | | | | |
| | | | | 1000-2000 MHz: ≥ 18 dB | | | | | | Screening Class: C | | | | | | | | | |
| Brown, Crème and Grey available in B-100 m only. | | | | 2000-3000 MHz: ≥ 16 dB | | | | | | Pulling Tension: 55 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125A04** | | 820 | 250 | 46.8 | 21.3 | 1.0 mm | 0.189 | 4.80 | Duofoil® | 0.268 | 6.80 | 75 | 81% | 16.8 | 55.0 | | | see above |
| | | | | | | | Solid BC | | | + 40% TC | 0.559 | 14.20 | | | | | | | |
| | | | | | | | 50.0 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 23.0 Ω/km** | | | 27.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 5.4 mm | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | | | |
| | | | | 470-1.000 MHz: ≥ 20 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m | | | | | | | | | |
| | | | | 1000-2000 MHz: ≥ 18 dB | | | | | | Screening Class: C | | | | | | | | | |
| ShotGun | | | | 2000-3000 MHz: ≥ 16 dB | | | | | | Pulling Tension: 55 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black PE Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125A02** | | 1640 | 500 | 83.8 | 38.0 | 1.0 mm | 0.189 | 4.80 | Duofoil® | 0.268 | 6.80 | 75 | 81% | 16.8 | 55.0 | | | see above |
| | | | | | | | Solid BC | | | + 50% TC | | x | | | | | | | |
| | | | | | | | 41.0 Ω/km* | | | Braid | | 12.00 | | | | | | | |
| | | | | | | | 23.0 Ω/km** | | | 18.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 5.4 mm | | | | | | | | | |
| | | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | | | |
| | | | | 470-1000 MHz: ≥ 20 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m | | | | | | | | | |
| | | | | 1000-2000 MHz: ≥ 18 dB | | | | | | Screening Class: B | | | | | | | | | |
| 4.4 mm ZP messenger | | | | 2000-3000 MHz: ≥ 16 dB | | | | | | Pulling Tension: 3500 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper • ZP = Stranded Zinc-Plated Steel
Duofoil® see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H125D** • Solid 1.0 mm Bare Copper • **Duobond Plus®** • 50% Tinned Copper Shield | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PE Jacket** (Green with White Stripe) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H125D00** | | 1640 | 500 | 45.2 | 20.5 | 1.0 mm Solid BC 37.0 Ω/km* 23.0 Ω/km** | 0.189 | 4.80 | Duobond Plus® + 50% TC Braid 14.0 Ω/km*** 5.6 mm | 0.280 | 7.10 | 75 | 80% | 16.8 | 55.0 | 5 | 0.5 | 1.7 |
| | | | 3280 | 1000 | 90.4 | 41.0 | | | | | | | | | | | 50 | 1.4 | 4.7 |
| | | | | | | | | | | | | | | | | | 100 | 1.9 | 6.2 |
| | | | | | | | | | | | | | | | | | 230 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 400 | 3.9 | 12.9 |
| | | | | | | | | | | | | | | | | | 800 | 5.7 | 18.8 |
| | | | | | | | | | | | | | | | | | 862 | 5.9 | 19.3 |
| | | | | | | | | | | | | | | | | | 1000 | 6.5 | 21.2 |
| | | | | | | | | | | | | | | | | | 1350 | 7.7 | 25.1 |
| | | | | | | | | | | | | | | | | | 1750 | 8.8 | 29.0 |
| | | | | | | | | | | | | | | | | | 2150 | 10.0 | 32.7 |
| | | | | | | | | | | | | | | | | | 2400 | 10.6 | 34.8 |



Shorting Fold

BTQ

Return loss at 5-470 MHz: ≥ 23 dB; 470-1000 MHz: ≥ 20 dB; 1000-2000 MHz: ≥ 18 dB; 2000-3000 MHz: ≥ 16 dB

Screening attenuation at 30-1000 MHz: ≥ 95 dB
Transfer impedance at 5-30 MHz: ≤ 5.0 mΩ/m
Screening Class: A
Pulling Tension: 60 N

**CT100C** • Solid 1.0 mm Bare Copper • **Copper-Foil** • 53% Bare Copper Braid

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5-Cell Polyethylene Insulation • PVC Jacket** (Black. Brown and White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT100C0** | | 328 | 100 | 11.5 | 5.2 | 1.0 mm Solid BC 41.0 Ω/km* 26.0 Ω/km** | 0.185 | 4.70 | Cu-foil + 53% BC Braid 15.0 Ω/km*** 5.35 mm | 0.262 | 6.65 | 75 | 82% | 16.8 | 55.0 | 50 | 1.5 | 4.6 |
| | | | 820 | 250 | 28.7 | 13.0 | | | | | | | | | | | 230 | 3.0 | 9.8 |
| | | | 1640 | 500 | 57.3 | 26.0 | | | | | | | | | | | 470 | 4.6 | 15.0 |
| | | | | | | | | | | | | | | | | | 862 | 5.9 | 19.5 |
| | | | | | | | | | | | | | | | | | 1000 | 6.6 | 21.5 |
| | | | | | | | | | | | | | | | | | 1750 | 8.8 | 29.0 |
| | | | | | | | | | | | | | | | | | 2150 | 9.9 | 32.5 |



Return loss at 5-470 MHz: ≥ 23 dB; 470-1000 MHz: ≥ 20 dB; 1000-2000 MHz: ≥ 18 dB; 2000-3000 MHz: ≥ 16 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB
Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m
Screening Class: B
Pulling Tension: 55 N

500 m put-up available in Black only.

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5-Cell Polyethylene Insulation • PVC RBS Jacket** (Black and White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT100C3** | | 328 | 100 | 11.2 | 5.1 | 1.0 mm Solid BC 41.0 Ω/km* 26.0 Ω/km** | 0.185 | 4.70 | Cu-foil + 53% BC Braid 15.0 Ω/km*** 5.35 mm | 0.262 | 6.65 | 75 | 82% | 16.8 | 55.0 | see above | | |
| | | | 820 | 250 | 28.1 | 12.8 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 56.2 | 25.5 | | | | | | | | | | | | | |
| | | | 3280 | 1000 | 112.4 | 51.0 | | | | | | | | | | | | | |



RBS jacket

Return loss at 5-470 MHz: ≥ 23 dB; 470-1000 MHz: ≥ 20 dB; 1000-2000 MHz: ≥ 18 dB; 2000-3000 MHz: ≥ 16 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB
Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m
Screening Class: B
Pulling Tension: 55 N

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5-Cell Polyethylene Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **CT100C1** | | 3280 | 1000 | 116.8 | 53.0 | 1.0 mm Solid BC 41.0 Ω/km* 26.0 Ω/km** | 0.185 | 4.70 | Cu-foil + 53% BC Braid 15.0 Ω/km*** 5.35 mm | 0.262 | 6.65 | 75 | 82% | 16.8 | 55.0 | see above | | |



Return loss at 5-470 MHz: ≥ 23 dB; 470-1000 MHz: ≥ 20 dB; 1000-2000 MHz: ≥ 18 dB; 2000-3000 MHz: ≥ 16 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB
Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m
Screening Class: B
Pulling Tension: 55 N

**H124A** • Solid 1.0 mm Bare Copper • **Duofoil®** • 31% Tinned Copper Braid

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H124A00** | | B-328 | B-100 | 6.8 | 3.1 | 1.0 mm Solid BC 58.0 Ω/km* 35.0 Ω/km** | 0.173 | 4.40 | Duofoil® + 31% TC Braid 23.0 Ω/km*** 5.1 mm | 0.232 | 5.90 | 75 | 84% | 16.2 | 53.0 | 5 | 0.6 | 2.0 |
| | | | U-820 | U-250 | 17.1 | 7.8 | | | | | | | | | | | 50 | 1.4 | 4.5 |
| | | | 1640 | 500 | 34.2 | 15.5 | | | | | | | | | | | 100 | 2.0 | 6.4 |
| | | | 16400 | 5000 | 341.7 | 155.0 | | | | | | | | | | | 230 | 2.9 | 9.5 |
| | | | | | | | | | | | | | | | | | 400 | 4.1 | 13.3 |
| | | | | | | | | | | | | | | | | | 800 | 5.9 | 19.3 |
| | | | | | | | | | | | | | | | | | 862 | 6.0 | 19.8 |
| | | | | | | | | | | | | | | | | | 1000 | 6.6 | 21.8 |
| | | | | | | | | | | | | | | | | | 1350 | 7.8 | 25.7 |
| | | | | | | | | | | | | | | | | | 1750 | 9.1 | 29.7 |
| | | | | | | | | | | | | | | | | | 2150 | 10.2 | 33.4 |
| | | | | | | | | | | | | | | | | | 2400 | 10.9 | 35.6 |



Return loss at 5-470 MHz: ≥ 23 dB; 470-1000 MHz: ≥ 20 dB; 1000-2000 MHz: ≥ 18 dB; 2000-3000 MHz: ≥ 16 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB
Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m
Screening Class: C
Pulling Tension: 55 N

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper

Duofoil® and Duobond Plus® see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H121C** • Solid 0.8 mm Bare Copper • **Copper-Foil** • 45 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H121C00** | | B-328 | B-100 | 6.0 | 2.7 | 0.8 mm | 0.138 | 3.50 | Cu-foil | 0.197 | 5.00 | 75 | 84 % | 16.2 | 53.0 | 5 | 0.5 | 1.7 |
| | | | 1640 | 500 | 29.8 | 13.5 | Solid BC | | | + 45 % BC | | | | | | | 50 | 1.6 | 5.3 |
| | | | | | | | 59.0 Ω/km* | | | Braid | | | | | | | 100 | 2.3 | 7.5 |
| | | | | | | | 35.0 Ω/km** | | | 24.0 Ω/km*** | | | | | | | 230 | 3.5 | 11.4 |
| | | | | | | | | | | 4.1 mm | | | | | | | 400 | 4.6 | 15.1 |
| | | | | | | | | | | | | | | | | | 800 | 6.6 | 21.7 |
| | | | | | | | | | | | | | | | | | 862 | 6.9 | 22.6 |
| | | | | | | | | | | | | | | | | | 1000 | 7.5 | 24.5 |
| | | | Return loss at | | 5-470 MHz: ≥ 20 dB | | | | | Screening attenuation at 30-1000 MHz: ≥ 80 dB | | | | | | | 1350 | 8.8 | 28.7 |
| | | | | | 470-1000 MHz: ≥ 18 dB | | | | | Transfer impedance at 5-30 MHz: ≤ 10.0 mΩ/m | | | | | | | 1750 | 10.1 | 33.0 |
| | | | | | 1000-2000 MHz: ≥ 16 dB | | | | | Screening Class: B | | | | | | | 2150 | 11.3 | 36.9 |
| | | | | | 2000-3000 MHz: ≥ 15 dB | | | | | Pulling Tension: 40 N | | | | | | | 2400 | 12.0 | 39.2 |
| **H121A** • Solid 0.8 mm Bare Copper • **Duofoil®** • 75 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H121A03** | | B-328 | B-100 | 6.4 | 2.9 | 0.8 mm | 0.138 | 3.50 | Duofoil® | 0.197 | 5.00 | 75 | 84 % | 16.2 | 53.0 | 5 | 0.7 | 2.3 |
| | | | U-984 | U-300 | 19.2 | 8.7 | Solid BC | | | + 75 % TC | | | | | | | 50 | 1.8 | 5.9 |
| | | | 1640 | 500 | 32.0 | 14.5 | 55.0 Ω/km* | | | Braid | | | | | | | 100 | 2.5 | 8.1 |
| | | | | | | | 35.0 Ω/km** | | | 20.0 Ω/km*** | | | | | | | 230 | 3.7 | 12.1 |
| | | | | | | | | | | 4.1 mm | | | | | | | 400 | 4.8 | 15.9 |
| H121B | | | | | | | | | | | | | | | | | 800 | 6.9 | 22.7 |
| | | | | | | | | | | | | | | | | | 862 | 7.2 | 23.6 |
| | | | | | | | | | | | | | | | | | 1000 | 7.8 | 25.6 |
| | | | Return loss at | | 5-470 MHz: ≥ 20 dB | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB | | | | | | | 1350 | 9.1 | 30.0 |
| | | | | | 470-1000 MHz: ≥ 18 dB | | | | | Transfer impedance at 5-30 MHz: ≤ 4.2 mΩ/m | | | | | | | 1750 | 10.5 | 34.5 |
| | | | | | 1000-2000 MHz: ≥ 16 dB | | | | | Screening Class: A | | | | | | | 2150 | 11.8 | 38.6 |
| | | | | | 2000-3000 MHz: ≥ 15 dB | | | | | Pulling Tension: 45 N | | | | | | | 2400 | 12.5 | 41.0 |
| **Gas-Injected Polyethylene Insulation • White FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H121A04** | IEC 332-1 | B-328 | B-100 | 7.3 | 3.3 | 0.8 mm | 0.138 | 3.50 | Duofoil® | 0.197 | 5.00 | 75 | 84 % | 16.2 | 53.0 | | | see above |
| | | | 1640 | 500 | 36.4 | 16.5 | Solid BC | | | + 75 % TC | | | | | | | | | |
| | | | | | | | 55.0 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 35.0 Ω/km** | | | 20.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 4.1 mm | | | | | | | | | |
| H121B | | | | | | | | | | | | | | | | | | | |
| | | | Return loss at | | 5-470 MHz: ≥ 20 dB | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB | | | | | | | | | |
| | | | | | 470-1000 MHz: ≥ 18 dB | | | | | Transfer impedance at 5-30 MHz: ≤ 4.2 mΩ/m | | | | | | | | | |
| | | | | | 1000-2000 MHz: ≥ 16 dB | | | | | Screening Class: A | | | | | | | | | |
| | | | | | 2000-3000 MHz: ≥ 15 dB | | | | | Pulling Tension: 45 N | | | | | | | | | |
| **H121A** • Solid 0.8 mm Bare Copper • **Duofoil®** • 40 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H121A01** | | 1640 | 500 | 22.0 | 10.0 | 0.8 mm | 0.138 | 3.50 | Duofoil® | 0.197 | 5.00 | 75 | 84 % | 16.2 | 53.0 | | | see above |
| | | | 3280 | 1000 | 44.1 | 20.0 | Solid BC | | | + 40 % TC | | | | | | | | | |
| | | | | | | | 75.0 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 35.0 Ω/km** | | | 40.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 4.1 mm | | | | | | | | | |
| | | | Return loss at | | 5-470 MHz: ≥ 20 dB | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | | | |
| | | | | | 470-1000 MHz: ≥ 18 dB | | | | | Transfer impedance at 5-30 MHz: ≤ 33.0 mΩ/m | | | | | | | | | |
| | | | | | 1000-2000 MHz: ≥ 16 dB | | | | | Screening Class: C | | | | | | | | | |
| | | | | | 2000-3000 MHz: ≥ 15 dB | | | | | Pulling Tension: 40 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H121A00** | | B-328 | B-100 | 6.4 | 2.9 | 0.8 mm | 0.138 | 3.50 | Duofoil® | 0.197 | 5.00 | 75 | 84 % | 16.2 | 53.0 | | | see above |
| | | | 820 | 250 | 16.0 | 7.3 | Solid BC | | | + 40 % TC | | | | | | | | | |
| | | | 1640 | 500 | 32.0 | 14.5 | 75.0 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 35.0 Ω/km** | | | 40.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 4.1 mm | | | | | | | | | |
| | | | Return loss at | | 5-470 MHz: ≥ 20 dB | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | | | |
| | | | | | 470-1000 MHz: ≥ 18 dB | | | | | Transfer impedance at 5-30 MHz: ≤ 33.0 mΩ/m | | | | | | | | | |
| | | | | | 1000-2000 MHz: ≥ 16 dB | | | | | Screening Class: C | | | | | | | | | |
| | | | | | 2000-3000 MHz: ≥ 15 dB | | | | | Pulling Tension: 40 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper
Duofoil® see technical information page 23.13.

# Broadband Coax
## Drop Cables

BROADBAND

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H121A** • Solid 0.8 mm Bare Copper • **Duofoil®** • 40 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H121A02** | C-328 | C-100 | 11.0 | 5.0 | 0.8 mm Solid BC 75.0 Ω/km* 35.0 Ω/km** | 0.138 | 3.50 | Duofoil® + 40% TC Braid 40.0 Ω/km*** 4.1 mm | 0.197 0.417 | 5.00 10.60 | 75 | 84% | 16.2 | 53.0 | 5 | 0.7 | 2.3 |
| | | | | | | | | | | | | | | | | 50 | 1.8 | 5.9 |
| | | | | | | | | | | | | | | | | 100 | 2.5 | 8.1 |
| | | | | | | | | | | | | | | | | 230 | 3.7 | 12.1 |
| | | | | | | | | | | | | | | | | 400 | 4.8 | 15.9 |
| | | | | | | | | | | | | | | | | 800 | 6.9 | 22.7 |
| | | | | | | | | | | | | | | | | 862 | 7.2 | 23.6 |
| ShotGun | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB; Transfer impedance at 5-30 MHz: ≤ 33.0 mΩ/m; Screening Class: C; Pulling Tension: 40 N | | | | | | | 1000 | 7.8 | 25.6 |
| | | | | | | | | | | | | | | | | 1350 | 9.1 | 30.0 |
| | | | | | | | | | | | | | | | | 1750 | 10.5 | 34.5 |
| | | | | | | | | | | | | | | | | 2150 | 11.8 | 38.6 |
| | | | | | | | | | | | | | | | | 2400 | 12.5 | 41.0 |
| **H123A** • Solid 0.65 mm Bare Copper • **Duofoil®** • 88 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • FRNC / LSNH Jacket** (White or Black) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H123A02** | IEC 332-1 1640 | 500 | 30.9 | 14.0 | 0.65 mm Solid BC 72.0 Ω/km* 55.0 Ω/km** | 0.114 | 2.90 | Duofoil® + 88% TC Braid 17.0 Ω/km*** 3.4 mm | 0.169 | 4.30 | 75 | 84% | 16.5 | 54.0 | 5 | 0.8 | 2.7 |
| | | | | | | | | | | | | | | | | 50 | 2.1 | 7.0 |
| | | | | | | | | | | | | | | | | 100 | 3.0 | 9.7 |
| | | | | | | | | | | | | | | | | 230 | 4.4 | 14.5 |
| | | | | | | | | | | | | | | | | 400 | 5.8 | 19.1 |
| | | | | | | | | | | | | | | | | 800 | 8.3 | 27.3 |
| | | | | | | | | | | | | | | | | 862 | 8.6 | 28.3 |
| | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m; Screening Class: B; Pulling Tension: 33 N | | | | | | | 1000 | 9.3 | 30.6 |
| | | | | | | | | | | | | | | | | 1350 | 10.9 | 35.9 |
| | | | | | | | | | | | | | | | | 1750 | 12.6 | 41.2 |
| | | | | | | | | | | | | | | | | 2150 | 14.0 | 46.0 |
| | | | | | | | | | | | | | | | | 2400 | 14.9 | 48.9 |
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H123A01** | B-328 1640 | B-100 500 | 6.4 32.0 | 2.9 14.5 | 0.65 mm Solid BC 72.0 Ω/km* 55.0 Ω/km** | 0.114 | 2.90 | Duofoil® + 88% TC Braid 17.0 Ω/km*** 3.4 mm | 0.169 | 4.30 | 75 | 84% | 16.5 | 54.0 | | | see above |
| | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m; Screening Class: B; Pulling Tension: 33 N | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Black, Blue, Green, Red or White) | | | | | | | | | | | | | | | | | | | |
| 70°C | **H123A00** | B-328 U-820 1640 26240 | B-100 U-250 500 8.000 | 4.0 9.9 19.8 317.5 | 1.8 4.5 9.0 144.0 | 0.65 mm Solid BC 92.0 Ω/km* 55.0 Ω/km** | 0.114 | 2.90 | Duofoil® + 44% TC Braid 37.0 Ω/km*** 3.4 mm | 0.163 | 4.15 | 75 | 84% | 16.5 | 54.0 | | | see above |
| | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB; Transfer impedance at 5-30 MHz: ≤ 37.0 mΩ/m; Screening Class: C; Pulling Tension: 33 N | | | | | | | | | |
| U 250 m and 500 m put-up available in White only. | | | | | | | | | | | | | | | | | | | |
| **H122A** • Solid 0.4 mm Copper-Covered Steel • **Duofoil®** • 60 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • White PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H122A00** | B-328 1640 | B-100 500 | 3.1 15.4 | 1.4 7.0 | 0.4 mm Solid CCS 490.0 Ω/km* 450.0 Ω/km** | 0.077 | 1.95 | Duofoil® + 60% TC Braid 40.0 Ω/km*** 2.1 mm | 0.144 | 3.65 | 75 | 80% | 16.8 | 55.0 | 5 | 1.4 | 4.7 |
| | | | | | | | | | | | | | | | | 50 | 3.4 | 11.3 |
| | | | | | | | | | | | | | | | | 100 | 4.6 | 15.3 |
| | | | | | | | | | | | | | | | | 230 | 6.5 | 21.2 |
| | | | | | | | | | | | | | | | | 400 | 9.1 | 30.0 |
| | | | | | | | | | | | | | | | | 800 | 13.2 | 43.3 |
| | | | | | | | | | | | | | | | | 862 | 13.4 | 43.8 |
| | | Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB | | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 85 dB; Transfer impedance at 5-30 MHz: ≤ 25.0 mΩ/m; Screening Class: C; Pulling Tension: 40 N | | | | | | | 1000 | 14.8 | 48.5 |
| | | | | | | | | | | | | | | | | 1350 | 17.2 | 56.5 |
| | | | | | | | | | | | | | | | | 1750 | 19.7 | 64.8 |
| | | | | | | | | | | | | | | | | 2150 | 22.1 | 72.5 |
| | | | | | | | | | | | | | | | | 2400 | 23.4 | 76.9 |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper • CCS = Copper-Covered Steel

Duofoil® see technical information page 23.13.

# Broadband Coax
## Headend Cables

BROADBAND

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**20 AWG** • Solid 0.8 mm Silver-Plated Copper-Covered Steel • **Duobond Plus®** • 95 % Aluminum Braid

**Gas-Injected Foam Polyethylene Insulation • PVC Jacket** (available in Black, Grey, White, Red, Blue, Yellow, Brown, Orange, Green, Purple, Beige, Pink or Aqua)

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **9167** | NEC: CATVR CMR CEC: CMG FT4 | 1000 | 305 | 27.1 | 12.3 | 0.81 mm 20 AWG Solid SPCCS 99.4 Ω/km* 84.6 Ω/km** | 0.144 | 3.66 | Duobond Plus® + 95 % AL Braid 14.8 Ω/km*** 4.3 mm | 0.242 | 6.15 | 75 | 83 % | 16.2 | 53.1 | 5 | 0.8 | 2.5 |
| | | | | | | | | | | | | | | | | | 50 | 1.8 | 6.0 |
| | | | | | | | | | | | | | | | | | 240 | 3.6 | 11.7 |
| | | | | | | | | | | | | | | | | | 450 | 5.0 | 16.3 |
| | | | | | | | | | | | | | | | | | 862 | 7.0 | 22.9 |
| | | | | | | | | | | | | | | | | | 1000 | 7.7 | 25.2 |


Shorting Fold

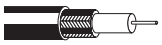
Return loss at 5-470 MHz: ≥ 20 dB; 470-862 MHz: ≥ 18 dB; 862-2150 MHz: ≥ 16 dB

Screening attenuation at 30-1000 MHz: ≥ 85 dB
Sweep tested. 5 MHz to 1 GHz.

**23 AWG** • Solid 0.6 mm Copper-Covered Steel • 95 % Bare Copper Braid

**Polyethylene Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **MRG5900** | 328 | 100 | 10.1 | 4.6 | 0.58 mm Solid CCS 94.0 Ω/km* 79.0 Ω/km** | 0.146 | 3.70 | 95 % BC Braid 15.0 Ω/km*** 4.3 mm | 0.242 | 6.15 | 75 | 66 % | 20.4 | 67.0 | 5 | 0.9 | 2.9 |
| | | B-328 | B-100 | 10.1 | 4.6 | | | | | | | | | | | 50 | 2.4 | 8.0 |
| | | B-656 | B-200 | 20.3 | 9.2 | | | | | | | | | | | 100 | 3.5 | 11.6 |
| | | 1640 | 500 | 50.7 | 23.0 | | | | | | | | | | | 230 | 5.2 | 17.2 |
| | | 3280 | 1000 | 101.4 | 46.0 | | | | | | | | | | | 400 | 7.6 | 25.0 |
| | | | | | | | | | | | | | | | | 800 | 11.5 | 37.8 |
| | | | | | | | | | | | | | | | | 862 | 12.0 | 39.2 |
| | | | | | | | | | | | | | | | | 1000 | 13.1 | 42.9 |
| | | | | | | | | | | | | | | | | 1350 | 15.2 | 50.0 |
| | | | | | | | | | | | | | | | | 1750 | 17.4 | 57.0 |
| | | | | | | | | | | | | | | | | 2150 | 19.2 | 63.0 |



Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 65 dB

**23 AWG** • Solid 0.6 mm Bare Copper • 92 % Double Tinned Copper Braid

**Polyethylene Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **H106T00** | B-328 | B-100 | 12.6 | 5.7 | 0.58 mm Solid BC 97.5 Ω/km* 79.0 Ω/km** | 0.146 | 3.70 | 92 % TC Braid + 92 % TC Braid 18.5 Ω/km*** 4.9 mm | 0.236 | 6.00 | 75 | 66 % | 20.4 | 67.0 | 5 | 0.7 | 2.4 |
| | | 1640 | 500 | 62.8 | 28.5 | | | | | | | | | | | 50 | 2.4 | 8.0 |
| | | | | | | | | | | | | | | | | 100 | 3.5 | 11.6 |
| | | | | | | | | | | | | | | | | 230 | 5.6 | 18.3 |
| | | | | | | | | | | | | | | | | 400 | 7.6 | 25.0 |
| | | | | | | | | | | | | | | | | 800 | 11.5 | 37.8 |
| | | | | | | | | | | | | | | | | 862 | 12.0 | 39.2 |
| | | | | | | | | | | | | | | | | 1000 | 13.1 | 42.9 |



Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB

**Polyethylene Insulation • Grey FRNC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | **H106T01** | IEC 332-1 | 1640 | 500 | 63.9 | 29.0 | 0.58 mm Solid BC 97.5 Ω/km* 79.0 Ω/km** | 0.146 | 3.70 | 92 % TC Braid + 92 % TC Braid 18.5 Ω/km*** 4.9 mm | 0.236 | 6.00 | 75 | 66 % | 20.4 | 67.0 | see above | | |



Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB

Screening attenuation at 30-1000 MHz: ≥ 75 dB

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper • SPCCS = Silver-Plated Copper-Covered Steel • AL = Aluminum • CCS = Copper-Covered Steel

Duobond Plus® see technical information page 23.13.

# Wireless Coax

## Low Loss 50 Ohm Transmission

BROADBAND

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RG174 • 25 AWG** • Solid 0.46 mm Bare Copper • **Beldfoil®** • 90% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **7805** | | † 100 | 31 | 1.8 | 0.8 | 0.455 mm | 0.061 | 1.55 | Beldfoil® | 0.110 | 2.79 | 50 | 66% | 31.2 | 102.4 | 30 | 3.8 | 12.4 |
| RF 100A | | | 500 | 152 | 5.5 | 2.5 | 25 AWG | | | + 90% TC | | | | | | | 50 | 4.9 | 16.1 |
| | | | 1000 | 305 | 9.9 | 4.5 | Solid BC | | | Braid | | | | | | | 150 | 8.6 | 28.2 |
| | | | | | | | 40.4 Ω/km* | | | 29.9 Ω/km*** | | | | | | | 220 | 10.4 | 34.2 |
| | | | | | | | 10.5 Ω/km** | | | 2.15 mm | | | | | | | 450 | 15.2 | 49.9 |
| | | | | | | | | | | | | | | | | | 900 | 22.0 | 72.3 |
| | | | | | | | | | | | | | | | | | 1500 | 28.8 | 94.3 |
| | | | | | | | | | | | | | | | | | 1800 | 31.7 | 104.0 |
| | | | | | | | | | | | | | | | | | 2000 | 33.4 | 109.7 |
| | | | | | | | | | | | | | | | | | 2500 | 37.9 | 124.2 |
| | | | | | | | | | | | | | | | | | 3000 | 42.0 | 137.8 |
| | | | | | | | | | | | | | | | | | 4500 | 52.3 | 171.5 |
| | | | 100% Sweep tested. 6 GHz max. VSWR 1.25:1 | | | | | | | | | | | | | | 5800 | 60.9 | 199.8 |
| | | | Mates with standard RG-174 connectors. Suitable for aerial applications when supported by a messenger wire. | | | | | | | | | | | | | | 6000 | 62.0 | 203.3 |
| **RG174 • 24 AWG** • Solid 0.5 mm Bare Copper • **Beldfoil®** • 93% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Foam HDPE Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **7805R** | NEC: | † 100 | 31 | 1.8 | 0.8 | 0.5 mm | 0.060 | 1.52 | Beldfoil® | 0.110 | 2.79 | 50 | 73.5% | 26.2 | 86.0 | 30 | 3.5 | 11.5 |
| RF 100LL | | CMR | 500 | 152 | 5.5 | 2.5 | 24 AWG | | | + 93% TC | | | | | | | 50 | 4.6 | 15.0 |
| | | CEC: | 1000 | 305 | 9.9 | 4.5 | Solid BC | | | Braid | | | | | | | 150 | 8.0 | 26.1 |
| | | CMG FT4 | | | | | 124.7 Ω/km* | | | 30.5 Ω/km*** | | | | | | | 220 | 9.6 | 31.6 |
| | | | | | | | 94.2 Ω/km** | | | 2.12 mm | | | | | | | 450 | 14.1 | 46.1 |
| | | | | | | | | | | | | | | | | | 900 | 20.2 | 66.4 |
| | | | | | | | | | | | | | | | | | 1500 | 26.6 | 87.3 |
| | | | | | | | | | | | | | | | | | 1800 | 29.5 | 96.7 |
| | | | | | | | | | | | | | | | | | 2000 | 31.2 | 102.3 |
| | | | | | | | | | | | | | | | | | 2500 | 35.5 | 116.3 |
| | | | | | | | | | | | | | | | | | 3000 | 39.4 | 129.2 |
| | | | | | | | | | | | | | | | | | 4500 | 50.1 | 164.2 |
| | | | 100% Sweep tested. 6 GHz max. VSWR 1.25:1 | | | | | | | | | | | | | | 5800 | 59.0 | 193.6 |
| | | | Mates with standard RG-174 connectors. | | | | | | | | | | | | | | 6000 | 60.6 | 198.7 |
| **RG-58 Type • 19 AWG** • Solid 0.9 mm Bare Copper • **Duofoil®** • 90% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **7806A** | | 500 | 152 | 14.6 | 6.6 | 0.9 mm | 0.110 | 2.79 | Duofoil® | 0.195 | 4.95 | 50 | 77% | 24.3 | 79.7 | 30 | 2.0 | 6.6 |
| RF 195 | | | 1000 | 305 | 22.9 | 10.4 | 19 AWG | | | + 90% TC | | | | | | | 50 | 2.5 | 8.2 |
| | | | | | | | Solid BC | | | Braid | | | | | | | 150 | 4.1 | 13.3 |
| | | | | | | | 38.7 Ω/km* | | | 13.8 Ω/km*** | | | | | | | 220 | 4.9 | 16.1 |
| | | | | | | | 24.9 Ω/km** | | | 3.39 mm | | | | | | | 450 | 7.1 | 23.4 |
| | | | | | | | | | | | | | | | | | 900 | 10.3 | 33.8 |
| | | | | | | | | | | | | | | | | | 1500 | 13.7 | 44.8 |
| | | | | | | | | | | | | | | | | | 1800 | 15.2 | 49.7 |
| | | | | | | | | | | | | | | | | | 2000 | 16.1 | 52.8 |
| | | | | | | | | | | | | | | | | | 2500 | 18.3 | 60.1 |
| | | | | | | | | | | | | | | | | | 3000 | 20.5 | 67.3 |
| | | | | | | | | | | | | | | | | | 4500 | 26.5 | 86.8 |
| | | | 100% Sweep tested. 6 GHz max. VSWR 1.25:1 | | | | | | | | | | | | | | 5800 | 31.2 | 102.4 |
| Available in PVC (7806R) | | | Mates with standard RG-58 connectors. Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | 6000 | 32.0 | 105.0 |
| **RG-58 Type • 17 AWG** • Solid 1.15 mm Bare Copper • **Duofoil®** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **7807A** | | 500 | 152 | 15.0 | 6.8 | 1.15 mm | 0.116 | 2.95 | Duofoil® | 0.195 | 4.95 | 50 | 85% | 23.5 | 77.1 | 30 | 1.6 | 5.4 |
| RF 200 | | | 1000 | 305 | 24.0 | 10.9 | 17 AWG | | | + 95% TC | | | | | | | 50 | 2.1 | 7.0 |
| | | | | | | | Solid BC | | | Braid | | | | | | | 150 | 3.7 | 12.1 |
| | | | | | | | 24.7 Ω/km* | | | 13.8 Ω/km*** | | | | | | | 220 | 4.5 | 14.6 |
| | | | | | | | 10.9 Ω/km** | | | 3.55 mm | | | | | | | 450 | 6.5 | 21.2 |
| | | | | | | | | | | | | | | | | | 900 | 9.2 | 30.1 |
| | | | | | | | | | | | | | | | | | 1500 | 12.0 | 39.2 |
| | | | | | | | | | | | | | | | | | 1800 | 13.2 | 43.2 |
| | | | | | | | | | | | | | | | | | 2000 | 14.0 | 45.8 |
| | | | | | | | | | | | | | | | | | 2500 | 15.7 | 51.6 |
| | | | | | | | | | | | | | | | | | 3000 | 17.5 | 57.3 |
| | | | | | | | | | | | | | | | | | 4500 | 22.0 | 72.3 |
| | | | 100% Sweep tested. 6 GHz max. VSWR 1.25:1 | | | | | | | | | | | | | | 5800 | 25.2 | 82.7 |
| Available in PVC (7807R) | | | Mates with standard land mobile radio type connectors. Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | 6000 | 25.9 | 85.1 |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper
† May contain more than one piece. Min. length of any one piece is 7.6 m (25 ft.).
Duofoil® see technical information page 23.13.

# Wireless Coax

## Low Loss 50 Ohm Transmission

BROADBAND

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RG-8X Type • 15 AWG** • Solid 1.45 mm Bare Copper • **Duobond® II** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C RF 240 | **7808A** | | 500 | 152 | 18.0 | 8.2 | 1.45 mm 15 AWG Solid BC 19.7 Ω/km* 10.5 Ω/km** | 0.150 | 3.81 | Duobond® II + 95% TC Braid 9.2 Ω/km*** 4.41 mm | 0.240 | 6.10 | 50 | 86% | 23.0 | 75.5 | 30 | 1.3 | 4.1 |
| | | | 1000 | 305 | 39.0 | 17.7 | | | | | | | | | | | 50 | 1.6 | 5.3 |
| | | | | | | | | | | | | | | | | | 150 | 2.8 | 9.3 |
| | | | | | | | | | | | | | | | | | 220 | 3.4 | 11.1 |
| | | | | | | | | | | | | | | | | | 450 | 4.9 | 16.1 |
| | | | | | | | | | | | | | | | | | 900 | 7.0 | 22.9 |
| | | | | | | | | | | | | | | | | | 1500 | 9.1 | 30.0 |
| | | | | | | | | | | | | | | | | | 1800 | 10.1 | 33.2 |
| Available: 7808R - PVC 7808WB - Flooded Water-resistant Polyethylene | | | | | | | | | | | | | | | | | 2000 | 10.7 | 35.0 |
| | | | | | | | | | | | | | | | | | 2500 | 12.0 | 39.5 |
| | | | | | | | | | | | | | | | | | 3000 | 13.4 | 43.9 |
| | | | | | | | | | | | | | | | | | 4500 | 16.7 | 54.7 |
| | | 100% Sweep tested. 6 GHz max. VSWR 1.25:1 Mates with standard RG-8X connectors. Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | | 5800 | 19.5 | 64.0 |
| | | | | | | | | | | | | | | | | | 6000 | 19.8 | 65.0 |
| **Intermediate Type • 13 AWG** • Solid 1.83 mm Bare Copper • **Duobond® II** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C RF 300 | **7809A** | | 500 | 152 | 30.6 | 13.9 | 1.83 mm 13 AWG Solid BC 14.7 Ω/km* 6.9 Ω/km** | 0.190 | 4.83 | Duobond® II + 95% TC Braid 7.8 Ω/km*** 5.55 mm | 0.300 | 7.62 | 50 | 86% | 23.0 | 75.5 | 30 | 1.0 | 3.4 |
| | | | 1000 | 305 | 58.0 | 26.3 | | | | | | | | | | | 50 | 1.3 | 4.2 |
| | | | | | | | | | | | | | | | | | 150 | 2.2 | 7.3 |
| | | | | | | | | | | | | | | | | | 220 | 2.7 | 8.9 |
| | | | | | | | | | | | | | | | | | 450 | 3.9 | 12.9 |
| | | | | | | | | | | | | | | | | | 900 | 5.6 | 18.3 |
| | | | | | | | | | | | | | | | | | 1500 | 7.3 | 24.0 |
| | | | | | | | | | | | | | | | | | 1800 | 8.1 | 26.5 |
| Available: 7809R - PVC 7809WB - Flooded Water-resistant Polyethylene | | | | | | | | | | | | | | | | | 2000 | 8.6 | 28.2 |
| | | | | | | | | | | | | | | | | | 2500 | 9.7 | 31.9 |
| | | | | | | | | | | | | | | | | | 3000 | 10.8 | 35.4 |
| | | | | | | | | | | | | | | | | | 4500 | 13.5 | 44.4 |
| | | 100% Sweep tested. 6 GHz max. VSWR 1.25:1 Mates with land mobile radio type connectors. Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | | 5800 | 15.8 | 51.8 |
| | | | | | | | | | | | | | | | | | 6000 | 16.0 | 52.6 |
| **RG-8 Type • 10 AWG** • Solid 2.6 mm Bare Copper-Covered Aluminum • **Duobond® II** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C RF 400 | **7810A** | | 500 | 152 | 42.5 | 19.3 | 2.6 mm 10 AWG Solid BCCA 13.6 Ω/km* 4.4 Ω/km** | 0.285 | 7.24 | Duobond® II + 95% TC Braid 9.2 Ω/km*** 8.11 mm | 0.403 | 10.23 | 50 | 86% | 23.0 | 75.5 | 30 | 0.6 | 2.1 |
| | | | 1000 | 305 | 86.0 | 39.0 | | | | | | | | | | | 50 | 0.9 | 2.8 |
| | | | | | | | | | | | | | | | | | 150 | 1.5 | 4.9 |
| | | | | | | | | | | | | | | | | | 220 | 1.8 | 6.0 |
| | | | | | | | | | | | | | | | | | 450 | 2.7 | 8.8 |
| | | | | | | | | | | | | | | | | | 900 | 3.8 | 12.6 |
| | | | | | | | | | | | | | | | | | 1500 | 5.1 | 16.6 |
| | | | | | | | | | | | | | | | | | 1800 | 5.6 | 18.5 |
| Available: 7810R - PVC 7810WB - Flooded Water-resistant Polyethylene | | | | | | | | | | | | | | | | | 2000 | 6.0 | 19.6 |
| | | | | | | | | | | | | | | | | | 2500 | 6.7 | 22.0 |
| | | | | | | | | | | | | | | | | | 3000 | 7.4 | 24.4 |
| | | | | | | | | | | | | | | | | | 4500 | 9.5 | 31.1 |
| | | 100% Sweep tested. 6 GHz max. VSWR 1.25:1 Mates with 9913 and land mobile radio type connectors. Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | | 5800 | 11.1 | 36.4 |
| | | | | | | | | | | | | | | | | | 6000 | 11.4 | 37.3 |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • BCCA = Bare Copper-Covered Aluminum • TC = Tinned Copper

Duobond® II see technical information page 23.13.

# Wireless Coax

## Low Loss 50 Ohm Transmission

BROADBAND

**RF 500 Type • 7 AWG** • Solid 3.6 mm Bare Copper-Covered Aluminum • **Duobond® II** • 90% Tinned Copper Braid

**Foam HDPE Insulation • Black Polyethylene Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **7976A** | | 500 | 152 | 56.0 | 25.4 | 3.6 mm | 0.370 | 9.40 | Duobond® II | 0.500 | 12.70 | 50 | 84% | 25.1 | 82.4 | 30 | 0.5 | 1.8 |
| | | | 1000 | 305 | 108.0 | 49.0 | 7 AWG | | | + 90% TC | | | | | | | 50 | 0.7 | 2.4 |
| | | | | | | | Solid BCCA | | | Braid | | | | | | | 150 | 1.2 | 3.9 |
| | | | | | | | 8.0 Ω/km* | | | 5.3 Ω/km*** | | | | | | | 220 | 1.5 | 4.9 |
| | | | | | | | 2.7 Ω/km** | | | 10.45 mm | | | | | | | 450 | 2.2 | 7.2 |
| | | | | | | | | | | | | | | | | | 900 | 3.2 | 10.5 |
| | | | | | | | | | | | | | | | | | 1500 | 4.2 | 13.8 |
| | | | | | | | | | | | | | | | | | 1800 | 4.7 | 15.4 |
| Available: | | | | | | | | | | | | | | | | | 2000 | 5.0 | 16.4 |
| 7976R - PVC | | | | | | | | | | | | | | | | | 2500 | 5.7 | 18.7 |
| 7976WB - Flooded Water-resistant Polyethylene | | | | | | | | | | | | | | | | | 3000 | 6.3 | 20.7 |
| | | | | | | | | | | | | | | | | | 4500 | 8.0 | 26.2 |
| | | | 100% Sweep tested. | | | | | | | | | | | | | | 5800 | 9.3 | 30.5 |
| | | | Suitable for outdoor applications and aerial applications when supported by a messenger wire. | | | | | | | | | | | | | | 6000 | 9.5 | 31.2 |

**RF 600 Type • 5.5 AWG** • Solid 4.47 mm Bare Copper-Covered Aluminum • **Duobond® II** • 85% Tinned Copper Braid

**Foam HDPE Insulation • Black Polyethylene Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **7977A** | | 500 | 152 | 73.6 | 33.4 | 4.47 mm | 0.455 | 11.56 | Duobond® II | 0.590 | 14.99 | 50 | 85% | 24.6 | 80.7 | 30 | 0.5 | 1.5 |
| | | | 1000 | 305 | 145.1 | 65.8 | 5.5 AWG | | | + 85% TC | | | | | | | 50 | 0.6 | 2.0 |
| | | | | | | | Solid BCCA | | | Braid | | | | | | | 150 | 1.0 | 3.2 |
| | | | | | | | 7.6 Ω/km* | | | 5.9 Ω/km*** | | | | | | | 220 | 1.2 | 3.9 |
| | | | | | | | 1.7 Ω/km** | | | 12.65 mm | | | | | | | 450 | 1.7 | 5.6 |
| | | | | | | | | | | | | | | | | | 900 | 2.5 | 8.3 |
| | | | | | | | | | | | | | | | | | 1500 | 3.4 | 11.2 |
| | | | | | | | | | | | | | | | | | 1800 | 3.8 | 12.4 |
| | | | | | | | | | | | | | | | | | 2000 | 4.0 | 13.2 |
| Available: | | | | | | | | | | | | | | | | | 2500 | 4.6 | 15.0 |
| 7977R - PVC | | | | | | | | | | | | | | | | | 3000 | 5.1 | 16.6 |
| 7977WB - Flooded Water-resistant Polyethylene | | | | | | | | | | | | | | | | | 3500 | 5.5 | 18.2 |
| | | | | | | | | | | | | | | | | | 4500 | 6.4 | 21.1 |
| | | | 100% Sweep tested. 6 GHz. | | | | | | | | | | | | | | 5800 | 7.6 | 24.8 |
| | | | Suitable for outdoor applications and aerial applications when supported by a messenger wire. | | | | | | | | | | | | | | 6000 | 7.8 | 25.4 |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BCCA = Bare Copper-Covered Aluminum • TC = Tinned Copper

Duobond® II see technical information page 23.13.

# Wireless Coax
## 50 Ohm Transmission

BROADBAND

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H1000C** • Solid 2.6 mm Bare Copper • **Copper-Foil** • 85% Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H1000C3** | | 1640 | 500 | 97.0 | 44.0 | 2.62 mm Solid BC 12.3 Ω/km* 3.5 Ω/km** | 0.281 | 7.15 | Cu-foil + 85% BC Braid 8.8 Ω/km*** 8.0 mm | 0.406 | 10.30 | 50 | 83% | 24.4 | 80.0 | 5 | 0.2 | 0.8 |
| | | | | | | | | | | | | | | | | | 50 | 0.9 | 2.8 |
| | | | | | | | | | | | | | | | | | 100 | 1.2 | 4.0 |
| | | | | | | | | | | | | | | | | | 230 | 1.9 | 6.1 |
| | | | | | | | | | | | | | | | | | 400 | 2.6 | 8.4 |
| | | | | | | | | | | | | | | | | | 800 | 3.8 | 12.3 |
| | | | | | | | | | | | | | | | | | 862 | 4.2 | 13.8 |
| | | | | | | | | | | | | | | | | | 1000 | 4.3 | 14.0 |
| | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB | | | | | | | 1350 | 5.1 | 16.7 |
| | | | | | | | | | | | | | | | | | 1750 | 5.9 | 19.5 |
| | | | | | | | | | | | | | | | | | 2150 | 6.9 | 22.5 |
| | | | | | | | | | | | | | | | | | 2400 | 7.2 | 23.6 |
| **Gas-Injected Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H1000C0** | | C-328 | C-100 | 19.6 | 8.9 | 2.62 mm Solid BC 12.3 Ω/km* 3.5 Ω/km** | 0.281 | 7.15 | Cu-foil + 50% BC Braid 8.8 Ω/km*** 7.8 mm | 0.406 | 10.30 | 50 | 83% | 24.4 | 80.0 | | | see above |
| | | | 1640 | 500 | 98.1 | 44.5 | | | | | | | | | | | | | |
| | | | 6560 | 2000 | 392.4 | 178.0 | | | | | | | | | | | | | |
| | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H1000C1** | | C-328 | C-100 | 15.0 | 6.8 | 2.62 mm Solid BC 12.3 Ω/km* 3.5 Ω/km** | 0.281 | 7.15 | Cu-foil + 50% BC Braid 8.8 Ω/km*** 7.8 mm | 0.406 | 10.30 | 50 | 83% | 24.4 | 80.0 | | | see above |
| | | | 1640 | 500 | 75.0 | 34.0 | | | | | | | | | | | | | |
| | | | 3280 | 1000 | 149.9 | 68.0 | | | | | | | | | | | | | |
| | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB | | | | | | | | | |
| **H1001C** • Stranded (19x0.54) 2.7 mm Bare Copper • **Copper-Foil** • 50% Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H1001C1** | | 1640 | 500 | 117.9 | 53.5 | 2.7 mm (19x0.54) BC 16.5 Ω/km* 4.5 Ω/km** | 0.283 | 7.20 | Cu-foil + 50% BC Braid 12.0 Ω/km*** 7.15 mm | 0.406 | 10.30 | 50 | 83% | 24.4 | 80.0 | 5 | 0.3 | 1.0 |
| | | | | | | | | | | | | | | | | | 50 | 1.0 | 3.3 |
| | | | | | | | | | | | | | | | | | 100 | 1.4 | 4.7 |
| | | | | | | | | | | | | | | | | | 230 | 2.2 | 7.2 |
| | | | | | | | | | | | | | | | | | 400 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 800 | 4.4 | 14.4 |
| | | | | | | | | | | | | | | | | | 862 | 4.5 | 14.9 |
| | | | | | | | | | | | | | | | | | 1000 | 5.0 | 16.3 |
| | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 100 dB | | | | | | | 1350 | 5.9 | 19.3 |
| | | | | | | | | | | | | | | | | | 1750 | 6.9 | 22.5 |
| | | | | | | | | | | | | | | | | | 2150 | 7.7 | 25.4 |
| | | | | | | | | | | | | | | | | | 2400 | 8.3 | 27.1 |
| **H500C** • Solid 2.5 mm Bare Copper • **Copper-Foil** • 50% Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **H500C00** | | C-328 | C-100 | 23.6 | 10.7 | 2.5 mm Solid BC 15.3 Ω/km* 3.8 Ω/km** | 0.276 | 7.00 | Cu-foil + 50% BC Braid 11.5 Ω/km*** 7.45 mm | 0.386 | 9.80 | 50 | 81% | 25.0 | 82.0 | 5 | 0.3 | 0.9 |
| | | | 820 | 250 | 59.0 | 26.8 | | | | | | | | | | | 50 | 0.9 | 2.9 |
| | | | 1640 | 500 | 117.9 | 53.5 | | | | | | | | | | | 100 | 1.3 | 4.1 |
| | | | 6560 | 2000 | 471.8 | 214.0 | | | | | | | | | | | 230 | 2.0 | 6.5 |
| | | | | | | | | | | | | | | | | | 400 | 2.7 | 8.7 |
| | | | | | | | | | | | | | | | | | 800 | 3.9 | 12.9 |
| | | | | | | | | | | | | | | | | | 862 | 4.1 | 13.4 |
| | | | | | | | | | | | | | | | | | 1000 | 4.5 | 14.6 |
| | | Return loss at | 5-470 MHz: ≥ 23 dB<br>470-1000 MHz: ≥ 20 dB<br>1000-2000 MHz: ≥ 18 dB<br>2000-3000 MHz: ≥ 16 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 95 dB | | | | | | | 1350 | 5.3 | 17.4 |
| | | | | | | | | | | | | | | | | | 1750 | 6.2 | 20.3 |
| | | | | | | | | | | | | | | | | | 2150 | 7.0 | 23.0 |
| | | | | | | | | | | | | | | | | | 2400 | 7.5 | 24.6 |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper

# Wireless Coax
## 50 Ohm Transmission

BROADBAND



### MRG213 • Stranded (7x0.75) 2.25 mm Bare Copper • 92 % Bare Copper Braid

**Polyethylene Insulation • Black PVC Jacket**

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | MRG2130 | | 328 | 100 | 29.8 | 13.5 | 2.25 mm | 0.285 | 7.25 | 92% BC | 0.406 | 10.30 | 50 | 66% | 30.5 | 100.0 | 5 | 0.5 | 1.5 |
| | | | 820 | 250 | 74.4 | 33.8 | (7x0.75) BC | | | Braid | | | | | | | 50 | 1.4 | 4.6 |
| | | | 1640 | 500 | 148.8 | 67.5 | 11.5 Ω/km* | | | 5.5 Ω/km*** | | | | | | | 100 | 2.0 | 6.6 |
| | | | 3280 | 1000 | 297.6 | 135.0 | 6.0 Ω/km** | | | 8.0 mm | | | | | | | 230 | 3.2 | 10.4 |
| | | | | | | | | | | | | | | | | | 400 | 4.3 | 14.1 |
| | | | | | | | | | | | | | | | | | 800 | 6.4 | 21.1 |
| | | | | | | | | | | | | | | | | | 862 | 6.7 | 22.1 |
| | | | | | | | | | | | | | | | | | 1000 | 7.3 | 24.1 |
| | | | | | | | | | | | | | | | | | 1350 | 8.8 | 29.0 |
| | | | | | | | | | | | | | | | | | 1750 | 10.5 | 34.3 |
| | | | | | | | | | | | | | | | | | 2150 | 11.9 | 39.1 |
| | | | | | | | | | | | | | | | | | 2400 | 12.9 | 42.4 |



Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 65 dB

### H155A • Stranded (19x0.28) 1.4 mm Tinned Copper • **Duofoil®** • 80 % Bare Copper Braid

**Gas-Injected Polyethylene Insulation • Black Polyethylene Jacket**

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | H155A01 | | B-328 | B-100 | 8.2 | 3.7 | 1.41 mm | 0.154 | 3.90 | Duofoil® | 0.213 | 5.40 | 50 | 80% | 25.6 | 84.0 | 5 | 0.8 | 2.5 |
| | | | 3280 | 1000 | 81.6 | 37.0 | (19x0.28) TC | | | + 80% TC | | | | | | | 50 | 2.1 | 6.9 |
| | | | | | | | 32.4 Ω/km* | | | Braid | | | | | | | 100 | 2.8 | 9.1 |
| | | | | | | | 15.4 Ω/km** | | | 17.0 Ω/km*** | | | | | | | 230 | 4.1 | 13.4 |
| | | | | | | | | | | 4.5 mm | | | | | | | 400 | 5.5 | 18.0 |
| | | | | | | | | | | | | | | | | | 800 | 8.0 | 26.1 |
| | | | | | | | | | | | | | | | | | 862 | 8.3 | 27.3 |
| | | | | | | | | | | | | | | | | | 1000 | 9.0 | 29.6 |
| | | | | | | | | | | | | | | | | | 1350 | 10.6 | 34.9 |
| | | | | | | | | | | | | | | | | | 1750 | 12.3 | 40.3 |
| | | | | | | | | | | | | | | | | | 2150 | 14.0 | 46.0 |
| | | | | | | | | | | | | | | | | | 2400 | 15.0 | 49.1 |



Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 85 dB

**Gas-Injected Polyethylene Insulation • Grey PVC Jacket**

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | H155A00 | | B-328 | B-100 | 8.2 | 3.7 | 1.41 mm | 0.154 | 3.90 | Duofoil® | 0.213 | 5.40 | 50 | 80% | 25.6 | 84.0 | | | see above |
| | | | 820 | 250 | 20.4 | 9.3 | (19x0.28) TC | | | + 80% TC | | | | | | | | | |
| | | | 1640 | 500 | 40.8 | 18.5 | 32.4 Ω/km* | | | Braid | | | | | | | | | |
| | | | 3280 | 1000 | 81.6 | 37.0 | 15.4 Ω/km** | | | 17.0 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 4.5 mm | | | | | | | | | |



Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 85 dB

### MRG58 • Stranded (19x0.18) 0.9 mm Tinned Copper • 93 % Tinned Copper Braid

**Gas-Injected Polyethylene Insulation • PVC Jacket** (Black or White)

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70°C | MRG5800 | | 328 | 100 | 7.7 | 3.5 | 0.91 mm | 0.116 | 2.95 | + 93% TC | 0.195 | 4.95 | 50 | 66% | 30.5 | 100.0 | 5 | 1.0 | 3.3 |
| | | | 1640 | 500 | 38.6 | 17.5 | (19x0.18) TC | | | Braid | | | | | | | 50 | 3.2 | 10.6 |
| | | | | | | | 52.0 Ω/km* | | | 16.0 Ω/km*** | | | | | | | 100 | 4.6 | 15.1 |
| | | | | | | | 36.0 Ω/km** | | | 3.5 mm | | | | | | | 230 | 7.0 | 23.1 |
| | | | | | | | | | | | | | | | | | 400 | 9.4 | 30.7 |
| | | | | | | | | | | | | | | | | | 800 | 13.4 | 44.1 |
| | | | | | | | | | | | | | | | | | 862 | 14.0 | 45.8 |
| | | | | | | | | | | | | | | | | | 1000 | 15.1 | 49.6 |
| | | | | | | | | | | | | | | | | | 1350 | 17.7 | 58.2 |
| | | | | | | | | | | | | | | | | | 1750 | 20.4 | 66.8 |
| | | | | | | | | | | | | | | | | | 2150 | 22.7 | 74.6 |
| | | | | | | | | | | | | | | | | | 2400 | 24.1 | 79.2 |



Return loss at 5-470 MHz: ≥ 20 dB; 470-1000 MHz: ≥ 18 dB; 1000-2000 MHz: ≥ 16 dB; 2000-3000 MHz: ≥ 15 dB

Screening attenuation at 30-1000 MHz: ≥ 65 dB

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • TC = Tinned Copper

Duofoil® see technical information page 23.13.

# Wireless Coax

## 50 Ohm Microwave Cables

BROADBAND

### M17/151 Type • 29 AWG • Solid 0.28 mm Silver-Plated Copper-Covered Steel • 100% Copper-Tin Composite Braid

**TFE Teflon® Insulation • Unjacketed**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UL AWM Style 10245 (30 V 105°C) | 1674A# | | 50 | 15 | 0.2 | 0.1 | 0.279 mm | 0.033 | 0.85 | 100% CT | 0.047 | 1.19 | 50 | 69.5% | 29.5 | 96.8 | 500 | 25.0 | 82.0 |
| | | | 100 | 31 | 0.4 | 0.2 | 29 AWG | | | Composite | | | | | | | 1000 | 36.7 | 120.3 |
| | | | 500 | 152 | 1.9 | 0.9 | Solid SPCCS | | | Braid | | | | | | | 2000 | 53.8 | 176.5 |
| | | | 1000 | 305 | 3.7 | 1.7 | 698.6 Ω/km* | | | 26.2 Ω/km*** | | | | | | | 3000 | 67.3 | 220.8 |
| | | | | | | | 672.4 Ω/km** | | | 1.19 mm | | | | | | | 5000 | 89.3 | 292.8 |
| | | | | | | | | | | | | | | | | | 7000 | 107.5 | 352.6 |
| | | | | | | | | | | | | | | | | | 10000 | 130.9 | 429.5 |
| | | | | | | | | | | | | | | | | | 15000 | 163.8 | 537.4 |
| | | | | | | | | | | | | | | | | | 18000 | 181.2 | 594.3 |
| Available with Silver-Plated Copper CDR (1674B) | | | | | | | | | | | | | | | | | 20000 | 192.1 | 630.0 |

### RG-405/U Type • 24 AWG • Solid 0.5 mm Silver-Plated Copper-Covered Steel • 100% Copper-Tin Composite Braid

**TFE Teflon® Insulation • Unjacketed**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UL AWM Style 10245 (30 V 105°C) | 1671A# | | 50 | 15 | 2.0 | 0.9 | 0.5 mm | 0.062 | 1.57 | 100% CT | 0.085 | 2.16 | 50 | 69.5% | 29.5 | 96.8 | 500 | 15.0 | 49.2 |
| | | | 100 | 31 | 2.4 | 1.1 | 24 AWG | | | Composite | | | | | | | 1000 | 22.2 | 72.8 |
| | | | † 500 | 152 | 7.5 | 3.4 | Solid SPCCS | | | Braid | | | | | | | 2000 | 32.8 | 107.6 |
| | | | † 1000 | 305 | 14.1 | 6.4 | 244.1 Ω/km* | | | 33.5 Ω/km*** | | | | | | | 3000 | 41.2 | 135.2 |
| | | | | | | | 210.6 Ω/km** | | | 2.16 mm | | | | | | | 5000 | 54.9 | 180.0 |
| | | | | | | | | | | | | | | | | | 7000 | 66.4 | 217.9 |
| Available: | | | | | | | | | | | | | | | | | 10000 | 81.2 | 266.4 |
| 1671J - with PVC jacket (Black or Clear) | | | | | | | | | | | | | | | | | 15000 | 102.0 | 334.7 |
| 1671B - with Silver-Plated Copper, unjacketed | | | | | | | | | | | | | | | | | 18000 | 113.0 | 370.8 |
| Suitable for outdoor applications. | | | | | | | | | | | | | | | | | 20000 | 120.0 | 393.7 |

### RG-402/U Type • 19 AWG • Solid 0.9 mm Silver-Plated Copper-Covered Steel • 100% Copper-Tin Composite Braid

**TFE Teflon® Insulation • Unjacketed**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UL AWM Style 10245 (30 V 105°C) | 1673A# | | 50 | 15 | 3.3 | 1.5 | 0.9 mm | 0.116 | 2.95 | 100% CT | 0.138 | 3.51 | 50 | 69.5% | 29.5 | 96.8 | 500 | 8.0 | 26.2 |
| | | | 100 | 31 | 4.0 | 1.8 | 19 AWG | | | Composite | | | | | | | 1000 | 12.0 | 39.4 |
| | | | † 250 | 76 | 7.9 | 3.6 | Solid SPCCS | | | Braid | | | | | | | 2000 | 18.1 | 59.4 |
| | | | 500 | 152 | 15.0 | 6.8 | 82.1 Ω/km* | | | 14.8 Ω/km*** | | | | | | | 3000 | 22.9 | 75.1 |
| | | | | | | | 67.3 Ω/km** | | | 4.52 mm | | | | | | | 5000 | 31.0 | 101.7 |
| | | | | | | | | | | | | | | | | | 7000 | 37.8 | 124.0 |
| | | | | | | | | | | | | | | | | | 10000 | 46.6 | 152.9 |
| Available: | | | | | | | | | | | | | | | | | 15000 | 59.1 | 193.9 |
| 1673J - with PVC jacket (Black or Clear) | | | | | | | | | | | | | | | | | 18000 | 65.8 | 215.9 |
| 1673B - with Silver-Plated Copper, unjacketed | | | | | | | | | | | | | | | | | 20000 | 70.0 | 229.7 |

### RG-401/U Type • 14 AWG • Solid 1.65 mm Silver-Plated Copper • 100% Copper-Tin Composite Braid

**TFE Teflon® Insulation • Unjacketed**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UL AWM Style 10245 (30 V 105°C) | 1675A# | | † 50 | 15 | 4.0 | 1.8 | 1.65 mm | 0.210 | 5.33 | 100% CT | 0.246 | 6.25 | 50 | 69.5% | 29.6 | 97.1 | 500 | 3.8 | 12.5 |
| | | | †† 100 | 31 | 8.1 | 3.7 | 14 AWG | | | Composite | | | | | | | 1000 | 4.4 | 14.4 |
| | | | †† 250 | 76 | 20.3 | 9.2 | Solid SPC | | | Braid | | | | | | | 2000 | 6.8 | 22.3 |
| | | | †† 500 | 152 | 40.6 | 18.4 | 34.4 Ω/km* | | | 26.2 Ω/km*** | | | | | | | 3000 | 10.4 | 34.1 |
| | | | | | | | 8.2 Ω/km** | | | 6.25 mm | | | | | | | 5000 | 13.4 | 44.0 |
| | | | | | | | | | | | | | | | | | 7000 | 18.5 | 60.7 |
| | | | | | | | | | | | | | | | | | 10000 | 22.8 | 74.8 |
| | | | | | | | | | | | | | | | | | 15000 | 28.4 | 93.2 |
| | | | | | | | | | | | | | | | | | 18000 | 36.6 | 120.1 |
| Available with Clear PVC jacket (1675J) | | | | | | | | | | | | | | | | | 20000 | 41.0 | 134.5 |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • CT = Copper-Tin • SPC = Silver-Plated Copper • SPCCS = Silver-Plated Copper-Covered Steel

# Protected by one or more of U.S. Patent Nos. 4,694,122 and 5,292,001. Patent held in the U.S., Singapore, Australia, Germany, France and England. Patent pending in Japan.

† 76 m put-up: Exact 3 pieces (maximum), 15 m (50 ft.) minimum length.
152 m put-up: Exact 5 pieces (maximum), 15 m (50 ft.) minimum length.
305 m put-up: Exact 8 pieces (maximum), 15 m (50 ft.) minimum length.

†† May contain more than one piece, minimum length of any one piece is 7.6 m (25 ft.).

Teflon® is a DuPont trademark.

BELDEN
SENDING ALL THE RIGHT SIGNALS



# 10 Wireless Solutions

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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### Meets the Need for True Wireless Mobility

Today, we are totally dependent on "network access" to do business, gather information, monitor and analyze the activities around us, and communicate with other systems, networks, and people – all over the world.

While conventional hard-wired networks meet these conventional needs, a new need is developing: the need for mobility. People are no longer willing to be tied to their desks; they can't afford it.

Current wireless technology does provide a degree of mobility, but it suffers from a major limitation. These networks were designed solely to carry data. They were never intended to simultaneously handle data, multimedia streams, and voice traffic.

This means your mobile network users face various access problems that are a function of the wireless equipment they're using, the type of information they're accessing, and their physical location. This is hardly "mobility".

In an ideal wireless networking world, none of these factors should arise. Everything should be seamless to the user – seamless mobility.

Only Belden's wireless solution meets this ideal.

### The Evolution of Wireless – Local Area Networks

Classic wired LANs were created to provide fast data access from fixed locations. To turn these LANs into Wireless Local Area Network (WLANs), the standard approach has been to replace the fixed user locations – usually a wall- or floor-jack – with a wireless (radio) access point (AP). Each AP serves a physical area, or "cell".

IEEE Standards 802.11a, 802.11b and 802.11g define wireless signals in terms of radio frequency, data rate, and other characteristics. These standards are the same as those used in a home network, often known as Wi-Fi®. However, when this wireless technology is deployed in a cell-based fashion in large enterprise-wide or campus-wide environments, significant implementation, performance, and management challenges arise. In short, a large-scale, cell-based WLAN is achieved at the expense of performance and complexity.

Foremost among these challenges is the fact that cell-based systems are plagued by co-channel interference, which occurs when two AP cells operating on the same channel transmit at the same time. Such interference is the primary cause of diminished system capacity.

Next, even if you can live with co-channel interference, cell-based systems require personnel with deep RF engineering expertise. They need to perform RF site surveys to determine where to place APs, and they must also play a game of give-and-take to identify just the right balance of channelization, acceptable co-channel interference, transmit power, and unique antenna selection for each AP.

With the Belden wireless solution, all of this RF-related complexity disappears. Enterprises cannot help but be surprised by the elegance and simplicity of this solution. There is no need for RF cell planning. In fact, only a rudimentary understanding of wireless is required. All-the-while, network performance is dramatically improved with seamless mobility, ubiquitous coverage, elimination of co-channel interference, and unmatched system capacity.

### Structure

| Belden Wireless Solution | Cell-Plan WLAN |
|---|---|
| AP based | Cell based |
| Centralized processing | Distributed processing |
| "Thin" access points | Intelligent access points |
| Channel blankets | Cells |
| Channel used to increase capacity | Channel used to extend coverage |
| Clients associate with the switch | Clients associate with each AP |

### An Elegant Solution to the Most Difficult WLAN Problems

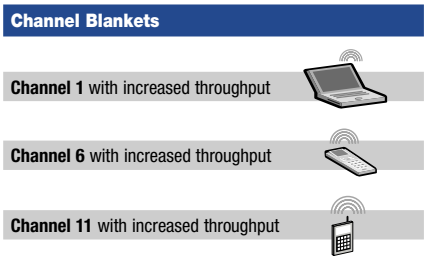
The Belden wireless solution takes a fresh approach to high-performance wireless networking. It starts by eliminating the basic concepts normally considered the very foundation of wireless networks: RF cells and RF cell planning. Instead, it uses a channel blanket topology in which each radio channel is used everywhere – on every access point – thereby creating blankets of coverage. A centralized Belden wireless switch combined with Belden wireless access points form an elegant solution that avoids the classic problems of cell-based WLANs.

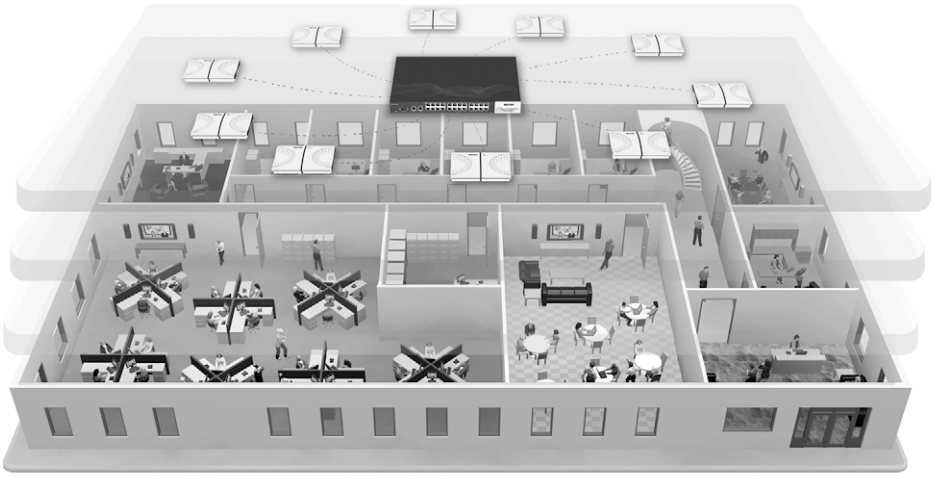
The result: seamless mobility with no security concerns, no roaming latency, no co-channel interference, robust client connections that simply do not drop, and the ability to design for a guaranteed and predictable level of service.

In addition, you can separate the Belden channel blankets to give your IT personnel the unique option of physically segregating different user types (802.11a, b and g), traffic types (voice, data, and video), and roles (private and public zones) onto different channels, thereby guaranteeing quality of service for all users. This is beyond, and in addition to, the traditional way of logically segregating users via VLANs.

# Introduction

### Belden's Network Topology



### The Mobility Benefits of Wireless

Belden's wireless solution provides "wire-like" performance and reliability, with full mobility, best-in-class security, and easy management.

Consider the following benefits of the Belden wireless solution.

### Easy to Plan

No RF expertise is needed. Using Belden's software planning tool, you simply input the square meter coverage and the desired quality of service, and it will tell you how many APs you need to use and where. Then simply place them as needed. Belden's architecture allows you to space APs as close together as desired, to ensure that your clients always operate at their full communications speed. High bandwidth coverage is complete and ubiquitous.

### Easy to Deploy, Validate, and Maintain

Power over ethernet is built into the Belden switch so there's no need for a midspan or endspan device. When it's time to deploy the system, simply place the Belden switch in a central location, configure it, and install the configuration-less APs. No assignment of IP address is needed.

With the Belden wireless solution, validation involves measuring the data rate for each channel in a single pass.

When adds/drops/changes occur, simply add or remove APs as needed. No network reconfiguration or re-planning is needed. Adding or removing an AP has no effect on an existing set-up.

### Easy for Users

Users no longer need to consider their proximity to an AP to achieve connectivity. They go wherever they want, secure in the knowledge that their grade of service stays consistent. VoIP users don't need to be concerned with having their calls dropped. And they certainly don't need to be stationary to initiate a call, as some other systems require. In short, users simply go about their work, without having to think about the network at all. The promise of "seamless mobility" is fulfilled.

# Introduction

### Delivers the Highest Wireless Performance

Unlike the case of cell-based WLAN systems, Belden's unique architecture yields an enterprise-grade wireless LAN with no trade-offs between coverage, capacity, and mobility. At the same time, a new level of resiliency and flexibility is achieved; one that is physically not available in alternative architectures.
The Belden wireless solution creates extended zones of coverage for every available 802.11a/b/g radio channel, by allowing them to operate from all APs controlled by the Belden switch. In this fully-centralized architecture, the switch makes all of the decisions for packet delivery on the wireless network.

- **Ubiquitous Coverage**
  The Belden switch prevents co-channel interference by ensuring that only non-interfering APs are permitted to transmit simultaneously on the same channel. With the interference headache eliminated, your enterprise is free to deploy as many APs as needed, wherever needed, to deliver the desired grade of service, typically stipulated in terms of data rate to the client. Coverage and (as we shall see below) capacity, are no longer handicapped by the built-in drawbacks of trying to deploy scarce 802.11 channels in a cell-based fashion.

- **Highest Capacity and Bandwidth**
  The Belden solution goes beyond eliminating the classic trade-off between coverage and capacity. It provides the industry's highest capacity and bandwidth and achieves this on multiple levels:

  - Eliminates "Edge Users"
    The freedom of AP placement enables the delivery of a consistent data rate to all clients, everywhere. This automatically eliminates the "edge user" phenomenon that is prevalent in cell-based solutions. An edge user is one that is too far from its associated AP to connect at the highest allowable data rate. Unfortunately, when that edge user transmits, it degrades the overall bandwidth of the entire cell for everybody. In the Belden wireless solution, the absence of cells, a consistent data rate, and bounded rate adaptation means maximum available bandwidth, everywhere, always.
  - Eliminates Client "Bunching"
    With multiple APs able to concurrently receive on the same channels, clients will always be served by the AP that is best able to do so. The client "bunching" effect seen in all cell-based solutions, in which clients overload a strong AP even when there are underutilized adjacent APs, does not exist in the Belden solution. The result is efficient balancing of system traffic and retention of maximum system bandwidth.
  - Highest Capacity Through Layered Blankets
    Since the Belden Solution covers the entire enterprise with overlapping blankets on independent channels, it is possible to multiply the capacity at any given point in the enterprise. In the case of the 2.4 GHz band, this implies that local capacity can be tripled by using all three channels on separate but overlapping blankets. While traditional cell planning uses three channels to provide coverage, Belden uses them to provide capacity.
  - Boosts Total System Bandwidth
    The very nature of a centrally-controlled channel blanket creates micro-uplink domains and the ability to dynamically maximize channel reuse on the downlink, all of which increases total aggregate system bandwidth multiple times over that of alternative systems.

- **Seamless, Zero-latency Mobility**
  Traditional WLAN enables portability, not mobility. The great irony is that wireless may work while the user is stationary, but is seriously impaired by inefficient AP-to-AP handoffs when moving. In the Belden wireless solution, the user associates once with the switch, and then proceeds to move freely within the channel blanket, without ever experiencing inter-AP handoffs. This ensures that communications are never interrupted or disrupted by mobility.

- **Wire-Like Resilient Connectivity**
  The Belden wireless solution is the only WLAN system that introduces the concept of uplink path diversity. Within the channel blanket, multiple APs can simultaneously hear the client's transmission. The switch selects the optimal point of reception for each packet instance. Should anything happen to any one link, the system transparently continues to hear the client through the other available links – without dropping a packet. This makes the system uniquely resistant to AP failures, natural fades in RF signals, and external interferers (a common problem with the unlicensed spectrum of 802.11).

- **A new Level of Quality of Service (QoS)**
  A system's ability to support multiple applications and multiple tenants depends on how well it handles the natural competition between different types of traffic, devices, and users. Voice and data traffic have different tolerances that make co-existence on the same channel a challenge. The backward compatibility of mixed mode 802.11b/g comes at the cost of significantly degraded throughput for all 802.11g devices, when even a small percentage of 802.11b devices are introduced. And different user roles also dictate different treatment – for example, doctors using the WLAN should never be subjected to a shortage of bandwidth due to congestion created by patients and visitors who are working on public networks. The layered channel blanket architecture of the Belden Solution gives IT unprecedented flexibility to dedicate physical channel bandwidth to one type of use over another. The bottom line is a new level of configuration flexibility, never before seen, which enables IT to eliminate, not just mitigate, contention between user and device types.

This is the essence of true triple-play convergence – the data-voice-video holy grail of the WLAN world. Only Belden delivers it. Voice over IP calls don't get dropped due to contention with data transmissions. And separating mission critical users from public users on separate channel blankets ensures that no user "hogs" bandwidth at the expense of others. The result is a seamless coexistence of all applications and user types.

### Implementation

| Belden Wireless Solution | Cell-Plan WLAN |
|---|---|
| **Design Parameters** | |
| Capacity is the only design criteria | Capacity, coverage, and roaming are competing design criteria |
| Consider only the number and location of APs | Need to consider number and location of APs<br>Must design for:<br>– Channelization<br>– Transmit power<br>– Antenna type<br>Must predict:<br>– Co-channel interference<br>– Overlap zones<br>– Collision domain sharing |
| **Deployment Activities** | |
| Configure switch only | Configure each AP and switch |
| One IP for switch only | Assign IP addresses to each AP. |
| **Validation of Design** | |
| Measure performance of each channel in one pass | Measure performance of each AP |
| | Find overlap zones – measure hand-off effectiveness |
| | Identify collision domain sharing; aggregate throughput |
| **Adjustment of Design** | |
| Add one or more AP – no configuration or re-planning needed | Re-channelize and re-model |

# Wireless Products




BWAP-200

## Belden's Wireless Access Points

Belden's BWAP-200 access points are the point-of-network-entry for users of the Belden wireless solution. Elegant in their simplicity, these APs provide a true plug-and-play architecture for implementing large-scale, enterprise-grade WLANs. They are powered from industry-standard PoE (Power over Ethernet – IEEE 802.3af) and they support any off-the-shelf wireless network interface card (NIC).

Belden APs, combined with Belden BWS-8008/BWS-8024 Switches, embody the Belden wireless solution. Using Belden's "Channel Blanket Technology", this wireless LAN provides seamless mobility with no roaming latency, no co-channel interference, and the ability to design for a guaranteed and predictable level of service.

Only the Belden wireless solution combines the mobility of a WLAN with the simplicity of a conventional hard-wired LAN. In fact, only a rudimentary understanding of wireless/radio frequency technology is required.

Belden's APs require no set-up or configuration. These system components are just radios – with no software, no storage, no "smarts". All traffic decisions are made by the centralized 8- or 24-port Belden switch.

Belden's BWAP-200 access points are client agnostic; clients don't associate with any access point. Instead, the APs act as a conduit to rapidly funnel all traffic between switch and client. The net effect is ubiquitous, interference-free coverage, consistent bandwidth, and zero-latency mobility – all with the resilience of a wired connection.

In the Belden wireless solution, when adds, drops and changes occur, simply add or remove APs as needed. No network re-configuration or re-planning is needed. Adding or removing an AP has no effect on an existing set-up.

## The Best Performance

Unlike cell-based WLAN systems, the Belden wireless solution yields an enterprise-grade wireless LAN with no trade-offs between coverage, capacity, and mobility.

# Wireless Products

## Specifications

### WLAN Standards

**IEEE 802.11b, 2.4 GHz**
(short/long preamble support)

**IEEE 802.11g, 2.4 GHz**
(pure mode, mixed model)

**IEEE 802.11a, 5 GHz**
(4.96 homeland security)

**Homeland security/public safety 4.9 GHz**

### Wi-Fi* Collaboration Features (Requires a Belden Switch)

**Centralized management and configuration** (no configuration in access point)

**Centralized authenication and encryption** (transparent to AP)

**Enhanced Voice over IP (VoIP) support**

**Spectrum reuse support**

**Quality of Service (QoS)**

**Multiple networks**

**VLAN tagging**

**SNMP traps to report AP disconnect**

**Live AP status to switch**

### Spectrum

| | | |
|---|---|---|
| **Number of simultaneous channels** | Up to two, regardless of band (i.e., two 2.4 GHz channels, two 5 GHz channels, or one channel in each band configured to operate concurrently) | |
| **Public safety** | 4.9 - 5 GHz | |
| **Available channels** | **802.11a****<br>5.15-5.25 GHz<br>5.25-5.35 GHz<br>5.505-5.725 GHz<br>5.725-5.850 GHz | **802.11b/g*****<br>2.402-2.472 GHz (U.S.)<br>2.402-2.482 GHz (ETSI)<br>2.402-2.494 GHz (Japan) |

### Transmission Power (Mean)

| **802.11a** | **802.11b/g** | **802.11g** |
|---|---|---|
| 18 dBm (max)<br>(limited by local regulation) | 17 dBm (max) | 15dBm (max) |

### Supported Rates

| **802.11a** | **802.11b** | **802.11g** |
|---|---|---|
| 6, 9, 12, 24, 36,<br>48, 54 Mp/s | 1, 2, 5.5, 11 Mp/s | 1, 2, 5.5, 6, 9, 11, 12,<br>18, 24, 36, 48, 54 Mp/s |

### Receive Sensitivity

| **802.11a** | **802.11b/g** | |
|---|---|---|
| 6 Mp/s: -88 dBm | 1 Mp/s: -91 dBm | 24 Mp/s: -82 dBm |
| 9 Mp/s: -87 dBm | 2 Mp/s: -88 dBm | 36 Mp/s: -79 dBm |
| 12 Mp/s: -86 dBm | 5.5 Mp/s: -87 dBm | 48 Mp/s: -74 dBm |
| 18 Mp/s: -84 dBm | 6 Mp/s: -89 dBm | 48 Mp/s: -74 dBm |
| 24 Mp/s: -81 dBm | 9 Mp/s: -88 dBm | |
| 36 Mp/s: -77 dBm | 11 Mp/s: -85 dBm | |
| 48 Mp/s: -73 dBm | 12 Mp/s: -87 dBm | |
| 54 Mp/s: -69 dBm | 18 Mp/s: -85 dBm | |

### Regulations Approval

| | |
|---|---|
| **Safety** | UL 60950-1<br>EN 60950-1<br>IEC 60950-1 |
| **EMC** | FCC Part 15 class B<br>EN 301 489-1-17<br>VCCI Technical Requirement,<br>V-3/2001.04 |
| **Radio**<br>(including modular approval) | FCC Part 15 C<br>FCC Part 15 E<br>EN 300 328<br>EN 301 893<br>Japan Type Certificate:<br>Article 2, clause 1 |

### Physical Properties

| | |
|---|---|
| **Dimensions**<br>(W x H x D) | 195 mm x 125 mm x 45 mm<br>(7.7″ x 4.2″ x 1.8″) |
| **Weight** | 400 gr/0.88 lbs. |
| **Installation options** | Horizontal (desktop)<br>Vertical (wall or ceiling mount) |
| **LEDs** | Power<br>LAN Activity<br>2 x WLAN Activity (2 colors) |
| **Power** | PoE (IEEE 802.3af)<br>Power supply (optional):<br>48VDC |

### Environmental

| | | |
|---|---|---|
| **Operational** | Temperature:<br>0ºC to 50ºC<br>(32ºF to 122ºF) | Humidity:<br>0% to 90%<br>non-condensing |
| **Storage** | Temperature:<br>-45ºC to +85ºC<br>(-49ºF to 185ºF) | Humidity:<br>0% to 90%,<br>non-condensing |

### Ordering Information

| | |
|---|---|
| **BWAP-200** | Dual 802.11 a/b/g radios |

* Wi-Fi is a registered trade mark of Wi-Fi alliance.

** Available channels limited by local regulations;
U.S. has 13 non-overlapping channels

*** Available channels limited by local regulations;
U.S. and ETSI have 3 non-overlapping channels,
Japan has 4 non-overlapping channels

# Wireless Products



BWS-8008 – 8-port switch
BWS-8024 – 24-port switch

## Belden's Heart of WLAN

Belden's BWS-8008 (8-port) and BWS-8024 (24-port) switches are the foundation for the Belden wireless solution: a highly secure, enterprise-grade, high-capacity and campus-wide WLAN. BWS-8008/BWS-8024 switches – and the BWAP-200 access points that they control – make possible Belden's channel blanket technology: a technology that delivers seamless mobility with no security concerns, no roaming latency, no co-channel interference and the ability to design for a guaranteed and predictable level of service.

To achieve this unprecedented level of service, Belden's switches allow the same channel to be transmitted from every AP in the system. By providing centralized control of each channel blanket, the enterprise can tailor the WLAN to support different types of users and applications, concurrently, and without performance trade-offs. Belden's switches also take care of radio-frequency (RF) issues, making RF-related complexity disappear. As a result, only a rudimentary understanding of wireless/RF is needed to implement and maintain the system.

Under Belden's channel blanket architecture, the APs make no decisions on their own. Instead, the switch provides centralized control over all APs, for a network that easily accommodates moves, adds, and changes. Both the 8-port and 24-port versions of the switch can be used alone or with multiple switches, for a wireless LAN that can be easily scaled to meet the needs of a growing organization.

Belden's intelligent switches create a network with the flexibility, simplicity and the performance to support data, video, and voice (VoWLAN) applications in wide-reaching WLAN deployments. With power over ethernet built into the switch, there also is no need for either a midspan or endspan device.

## The Best Performance

Unlike cell-based WLAN systems, the Belden wireless solution yields an enterprise-grade, wireless LAN with no trade-offs between coverage, capacity and mobility. Also, it achieves a new level of resiliency and flexibility – one that is not available in alternative architectures.

# Wireless Products

## Specifications

| Standards | |
|---|---|
| **WLAN** | IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11i |
| **Ethernet** | IEEE 802.3x, full/half duplex<br>IEEE 802.1q, VLAN tagging |
| **Interfaces** | |
| **WLAN (APs)** | BWS-8008: 8 x 100 BaseT Ethernet with IEEE 802.3af PoE (out of band, 6 wires)<br><br>BWS-8024: 24 x 100 BaseT Ethernet with IEEE 802.3af PoE (out of band, 6 wires) |
| **LAN (Wired LAN)** | BWS-8008: 1 x 100 BaseT Ethernet Port<br><br>BWS-8024: 2 x 100/1000 BaseT Ethernet Ports (2nd port is for redundancy option) |
| **Wireless Performance** | |
| **Channels** | Up to 2 simultaneous WLAN channels, regardless of band (i.e., two 2.4 GHz channels, two 5 GHz channels, or one channel in each band) |
| **Capacity** | Configurable data rate for each channel (up to 54 Mp/s) |
| **Bandwidth** | Triple the aggregate bandwidth of a/b/g channel, for effective data rates of up to 162 Mp/s on a standard channel |
| **Roaming** | Intra-switch – 0 mSec, Inter-switch < 50 mSec |
| **Management** | |
| **User Interface** | Secure web-based Graphical User Interface (GUI) |
| **SNMP** | Version 2 |
| **Redundancy** | Master-to-backup auto fallback |
| **Logging** | Remote and local SYSLOG |
| **Upgrades** | Firmware upgrade through Web/CLI |
| **Security** | |
| **Encryption** | 802.11i hardware-based encryption including: WEP-64, WEP-128, WPA-TKIP, WPA2-AES (CCMP) |
| **Authentication** | RADIUS (802.1x)<br><br>WPA Pre-Shared Key (PSK)<br><br>MAC Address-based ACL, EAP,<br><br>TTS, TTLS, LEAP, PEAP, MD5 |

| Network Names & VLAN | |
|---|---|
| **Network names** | 16 Network names (SSIDs) per channel |
| **VLANs** | 4096 Ethernet VLAN, Network name to VLAN mapping |
| **Regulations Approval** | |
| **Safety** | UL 60950-1, EN 60950-1, IEC 60950-1 |
| **EMC** | FCC Part 15 Class B, EN 300386, VCCI technical requirements, V-3/2001.04 |
| **Physical** | |
| **Installation options** | Rack mount (19″/0.48 m 1U) and desktop |
| **Dimensions** (W x H x D) | BWS-8008: 430 mm x 45 mm x 240 mm (16.9″ x 1.8″ x 9.4″)<br><br>BWS-8024: 440 mm x 45 mm x 395 mm (17.3″ x 1.7″ x 15.5″) |
| **Weight** | BWS-8008: 3 kg/6.6 lbs.<br>BWS-8024: 4.5 kg/9.9 lbs. |
| **LEDs** | Power, LAN activity, activity on AP ports |
| **Power** | 100-240/2A Max<br>PoE to WLAN ports: 15W per port |
| **Environmental** | |
| **Operational** | Temperature: 0°C to 45°C (32°F to 113°F)<br>Humidity: 0% to 90%, non-condensing |
| **Storage** | Temperature: -20°C to +70°C (-4°F to 158°F)<br>Humidity: 0% to 90%, non-condensing |
| **Ordering Information** | |
| **BWS-8008**<br>**BWS-8024** | 8-port switch<br>24-port switch |

BELDEN
SENDING ALL THE RIGHT SIGNALS



# 11 Enclosures and Accessories



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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### Providing All the Right Connections

Belden is the largest company of its kind, combining cables, connectivity, enclosures and many other product solutions for highly technical industries around the globe. As the exclusive occupant in this market position, Belden provides thousands of satisfied customers with over a billion euros worth of trusted solutions every year, much of which supports the commercial networking sector. By combining our expertise in the design and manufacture of cables, connectivity, enclosures and related products, Belden now offers a product line of staggering magnitude, engineering triumphs and rich resources – worldwide.

### Belden Enclosures

The complete line of Belden enclosure solutions are designed to meet the unique needs of data networks and control console systems. Whether it's the protection of sensitive data equipment, the ability to mount equipment of varied sizes and depths, or the need to organize and neatly route installed cables, Belden has the solution you need. Belden provides you with single source convenience for all of your cable management requirements.

### Enclosures and Racks

Choose from a variety of vertical enclosures, open frame racks and wall mount enclosures, all expertly engineered to optimize product quality and performance. Although standard configurations of the most popular enclosures are offered for fast delivery needs, all custom enclosures and racks have numerous mounting, cable and patch cord management options, along with a variety of accessories. This selection of Belden enclosures and racks will meet virtually any mounting, storage or protection requirement for your application.

### Single Sourcing Convenience

The cable management product families in this catalog are offered to cabling professionals for ultimate convenience in single sourcing. As a Belden customer, you also have the assurance of total dependability by working with a market leader and a trusted partner who has a vested interest in optimizing your operations and investments. We want to make sure you not only get the products you need with ease, but they also perform reliably.

### Availability

Please contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com for availability.

### Freestanding Modular Enclosures

| Type | Rack Space | Heights | | Panel Mount | | Width | | Depth | |
|---|---|---|---|---|---|---|---|---|---|
| | | inch | m | inch | m | inch | m | inch | m |
| **Data Standard** | 25, 39, 42, 46U | 48, 72, 78, 84 | 1.21, 1.82, 1.98, 2.13 | 19 or 23 | 0.48/0.58 | 29 | 0.73 | 30 | 0.76 |
| **Data Deep** | 39, 42, 46U | 72, 78, 84 | 1.82, 1.98, 2.13 | 19 or 23 | 0.48/0.58 | 29 | 0.73 | 34 | 0.86 |
| **Data Slim** | 25, 39, 42, 46U | 48, 72, 78, 84 | 1.21, 1.82, 1.98, 2.13 | 19 | 0.48 | 24 | 0.60 | 30 | 0.76 |
| **Ultra Server** | 42U, 45U | 78, 84 | 1.98, 2.13 | 19 | 0.48 | 24 | 0.60 | 36 | 0.86 |
| **Ultra Deep Server** | 45U | 84 | 2.13 | 19 | 0.48 | 24 | 0.60 | 42 | 1.06 |
| **Giga Server** | 45U | 84 | 2.13 | 19 | 0.48 | 26 | 0.66 | 42 | 1.06 |

# Modular Enclosures

## Data Standard Enclosure 29″ Wide x 30″ Deep (0.73 x 0.76 m)

BST-Style Data Standard Enclosure



### Data Standard Enclosure

The Data Standard is a freestanding enclosure that easily accommodates large components. The unit's mounting rails can be adjusted, after installation, from 19″ (0.48 m) EIA to 23″ (0.58 m) EIA spacing to allow for cable management and different depths of equipment. Among the many features and benefits of this modular unit are:

- Reversible doors: Spring-loaded hinges allow quick change of door swing.
- Lift-off side panels: Flush surface lock fasteners permit quick disconnect and lift off.
- Cable gland plate: Adjustable bottom plate minimizes dirt and dust inside the enclosure.
- Cable access top: Features a 14.25″ x 4″ (0.36 x 0.10 m) cable access rubber gland which helps prevent dust from entering the enclosure.
- Rear cable plate: Two, 3-7/8″ x 8-1/2″ (0.07 x 0.02 m) openings for cable access with removable plates and edge grommet kit. Also features two 1.75″ (0.04 m) capped openings.
- Tempered safety glass: Strengthens door and is easy-to-clean, non-scratching, tinted bronze color enhances overall appearance.
- Grounding kit Included.

### Frames



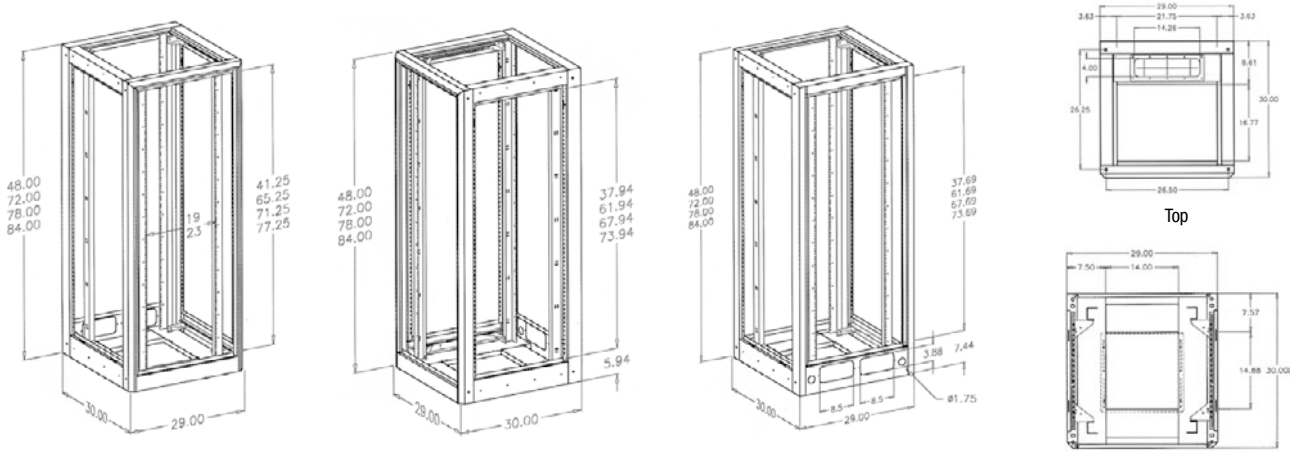
BST 48 BST 72 BST 78 BST 84

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Modular Enclosures

Data Standard Enclosure 29″ Wide x 30″ Deep (0.73 x 0.76 m)
*(continued)*

### Dimensions




### Technical Specifications

| Enclosure Size | Rack Spaces | Mounting | Weight | | Heights | | Width | | Depth | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | lbs. | kg | inch | m | inch | m | inch | m |
| **BST48** Frame, Grand Plate, Casters & Levelers | 25U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 230 | 105 | 48 | 1.21 | 29 | 0.73 | 30 | 0.76 |
| **BST72** Frame, Grand Plate, Casters & Levelers | 39U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 325 | 147 | 72 | 1.82 | 29 | 0.73 | 30 | 0.76 |
| **BST78** Frame, Grand Plate, Casters & Levelers | 42U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 350 | 158 | 78 | 1.98 | 29 | 0.73 | 30 | 0.76 |
| **BST84** Frame, Grand Plate, Casters & Levelers | 46U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 360 | 163 | 84 | 2.13 | 29 | 0.73 | 30 | 0.76 |

### How to order

BST – ☐ — ☐ — ☐ ☐ ☐ ☐ ☐ ☐

| Frame Heigh |
|---|
| 48″ (1.21 m) |
| 72″ (1.82 m) |
| 78″ (1.98 m) |
| 84″ (2.13 m) |

| Mounting | |
|---|---|
| # | Description |
| 1 | 19″ mounting (0.48 m) |
| 2 | 23″ mounting (0.58 m) |
| 3 | 6 mm mounting |
| 0 | None |
| (Frame Mount Shelf Application) | |

| Front | |
|---|---|
| # | Description |
| 1 | Solid |
| 2 | Glass |
| 3 | Glass Vented |
| 4 | Perforated |
| 0 | None |

| Sides | |
|---|---|
| # | Description |
| 1 | One Side |
| 2 | Two Sides |
| 3 | One Side Perforated |
| 4 | Two Sides Perforated |
| 0 | None |

| Color | |
|---|---|
| # | Description |
| 1 | Blue |
| 2 | Beige |
| 3 | Black |
| 4 | Grey |

| Top | |
|---|---|
| # | Description |
| 2 | 10″ Diameter Fan (0.25 m) |
| 3 | 4″ Diameter Fans (0.10 m) |
| 4 | Solid |
| 5 | Vented |
| 0 | None |

| Rear | |
|---|---|
| # | Description |
| 1 | Solid |
| 2 | Vented |
| 3 | Filtered |
| 0 | None |

| Power Strips | |
|---|---|
| # | Description |
| 2 | 4′ 16 Outlet Surge Suppressor, 15′ Cord |
| 3 | 2′ 8 Outlet 15 Amp/15′ Cord |
| 4 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) 15 Amp/15′ Cord |
| 5 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) Surge Suppressor, 15 Amp/15′ Cord |
| 6 | 4′ 16 Outlet Surge Suppressor 20 Amp/15′ Cord |
| 0 | None |

### For Example:

| Description | Belden Part Number |
|---|---|
| Data Standard 84″ (2.13 m) Black, 19″ (0.48 m) Mounting, 10″ (0.25 m) Fan Top, Glass Door, Vented Rear Door, Two Sides, 20 Amp Power Strip | **BST84-3-122226** |
| Data Standard 84″ (2.13 m) Black Frames w/19″ (0.48 m) Mounting | **BST84-3-100000** |

EIA - 310 - D Compliant
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

# Modular Enclosures

## Data Standard Enclosure 29″ Wide x 30″ Deep (0.73 x 0.76 m) *(continued)*

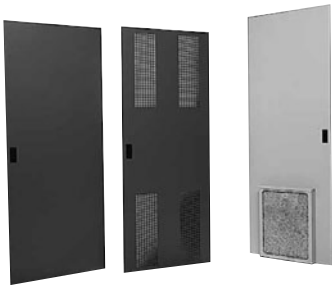
Solid Front Door



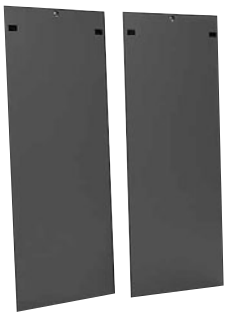
Tempered Glass Front Door



Rear Doors: Solid, Vented, Filtered



Side Panels



Removable Tops



| Description | Belden Part Number |
|---|---|
| **Front Doors** | |
| **Solid Front Door** | |
| Solid Steel Front Door with Latch and Lock, 48″ (1.21 m) | **B4829-SF-C** |
| Solid Steel Front Door with Latch and Lock, 72″ (1.82 m) | **B7229-SF-C** |
| Solid Steel Front Door with Latch and Lock, 78″ (1.98 m) | **B7829-SF-C** |
| Solid Steel Front Door with Latch and Lock, 84″ (2.13 m) | **B8429-SF-C** |
| **Tempered Glass Front Door** | |
| Tempered Glass Front Door with Latch and Lock, 48″ (1.21 m) | **B4829-GF-C** |
| Tempered Glass Front Door with Latch and Lock, 72″ (1.82 m) | **B7229-GF-C** |
| Tempered Glass Front Door with Latch and Lock, 78″ (1.98 m) | **B7829-GF-C** |
| Tempered Glass Front Door with Latch and Lock, 84″ (2.13 m) | **B8429-GF-C** |
| **Glass Vented Front Door** | |
| Tempered Glass Front Vented Door with Latch and Lock, 48″ (1.21 m) | **B4829-VF-C** |
| Tempered Glass Front Vented Door with Latch and Lock, 72″ (1.82 m) | **B7229-VF-C** |
| Tempered Glass Front Vented Door with Latch and Lock, 78″ (1.98 m) | **B7829-VF-C** |
| Tempered Glass Front Vented Door with Latch and Lock, 84″ (2.13 m) | **B8429-VF-C** |
| **Perforated Front Door** | |
| Perforated Front Door with Latch and Lock, 48″ (1.21 m) | **B4829-PD-C** |
| Perforated Front Door with Latch and Lock, 72″ (1.82 m) | **B7229-PD-C** |
| Perforated Front Door with Latch and Lock, 78″ (1.98 m) | **B7829-PD-C** |
| Perforated Front Door with Latch and Lock, 84″ (2.13 m) | **B8429-PD-C** |
| **Rear Doors** | |
| **Solid Rear Door** | |
| Solid Steel Rear Door with Latch and Lock, 48″ (1.21 m) | **B4829-SR-C** |
| Solid Steel Rear Door with Latch and Lock, 72″ (1.82 m) | **B7229-SR-C** |
| Solid Steel Rear Door with Latch and Lock, 78″ (1.98 m) | **B7829-SR-C** |
| Solid Steel Rear Door with Latch and Lock, 84″ (2.13 m) | **B8429-SR-C** |
| **Vented Rear Door** | |
| Vented Steel Rear Door with Latch and Lock, 48″ (1.21 m) | **B4829-VR-C** |
| Vented Steel Rear Door with Latch and Lock, 72″ (1.82 m) | **B7229-VR-C** |
| Vented Steel Rear Door with Latch and Lock, 78″ (1.98 m) | **B7829-VR-C** |
| Vented Steel Rear Door with Latch and Lock, 84″ (2.13 m) | **B8429-VR-C** |
| **Filtered Rear Door** | |
| Filtered Rear Door with Latch and Lock, 48″ (1.21 m) | **B4829-FR-C** |
| Filtered Rear Door with Latch and Lock, 72″ (1.82 m) | **B7229-FR-C** |
| Filtered Rear Door with Latch and Lock, 78″ (1.98 m) | **B7829-FR-C** |
| Filtered Rear Door with Latch and Lock, 84″ (2.13 m) | **B8429-FR-C** |
| **Side Panels** | |
| **Single Side Panels** | |
| 1-Solid Lift-off Side Panel with Lock, 48″ (1.21 m) | **B4801-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 72″ (1.82 m) | **B7201-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 78″ (1.98 m) | **B7801-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 84″ (2.13 m) | **B8401-SP-C** |
| **Pair of Side Panels** | |
| 2-Solid Lift-off Side Panels with Lock, 48″ (1.21 m) | **B4802-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 72″ (1.82 m) | **B7202-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 78″ (1.98 m) | **B7802-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 84″ (2.13 m) | **B8402-SP-C** |
| **Removable Tops** | |
| Solid Top | **B2918-TP-1-C** |
| Vented Top | **B2918-TP-2-C** |
| Solid Top with 10″ (0.25 m) Diameter Fan, 550 CFM | **B2918-TP-3-C** |
| Solid Top with (4) 4″ (0.10 m) Diameter Fans, Four Fans = 320 CFM | **B2918-TP-4-C** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Modular Enclosures

## Data Deep Enclosure 29″ Wide x 34″ Deep (0.73 x 0.86 m)

BDP-Style Data Deep Enclosure



### Data Deep Enclosure

The Data Deep is a freestanding enclosure that features a 34″ (0.86 m) depth for mounting servers, UPS units, controllers, battery backups, network monitors and more. The unit's mounting rails can be adjusted, after installation, from 19″ (0.48 m) EIA to 23″ (0.58 m) EIA spacing to allow for cable management and different depths of equipment. Among the many features and benefits of this modular unit are:

- Reversible doors: Spring-loaded hinges allow quick change of door swing.
- Lift-off side panels: Flush surface lock fasteners permit quick disconnect and lift off.
- Cable gland plate: Adjustable bottom plate minimizes dirt and dust inside the enclosure.
- Cable access top: Features a 14.25″ x 4″ (0.36 x 0.10 m) cable access rubber gland which helps prevent dust from entering the enclosure.
- Rear cable plate: Two, 3-7/8″ x 8-1/2″ (0.07 x 0.02 m) openings for cable access with removable plates and edge grommet kit. Also features two 1.75″ (0.04 m) capped openings.
- Tempered safety glass: Strengthens door and is easy-to-clean, non-scratching, tinted bronze color enhances overall appearance.
- Grounding kit Included.

### Frames



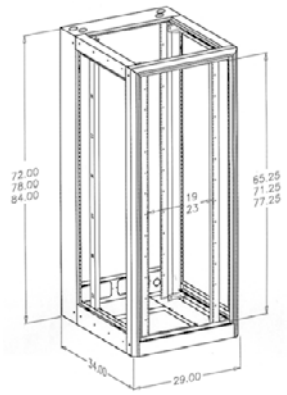
BDP 72 BDP 78 BDP 84

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

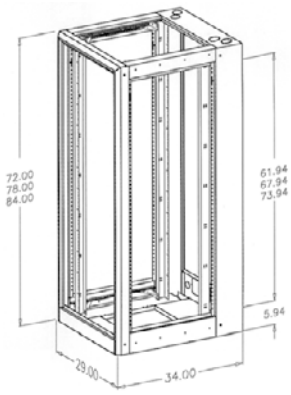
# Modular Enclosures

Data Deep Enclosure 29″ Wide x 34″ Deep (0.73 x 0.86 m)
*(continued)*

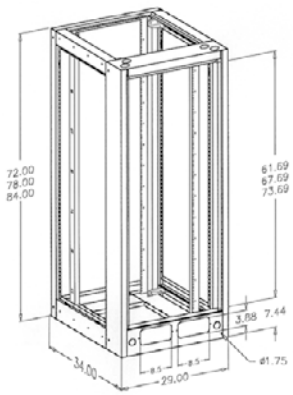
### Dimensions



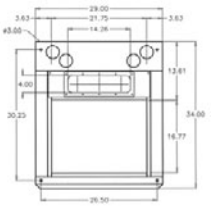

Front



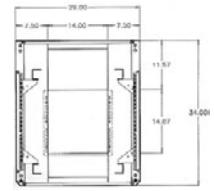

Side




Back



Top



Bottom

### Technical Specifications

| Enclosure Size | Rack Spaces | Mounting | Weight | | Heights | | Width | | Depth | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | lbs. | kg | inch | m | inch | m | inch | m |
| **BDP72** Frame, Grand Plate, Casters & Levelers | 39U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 350 | 158 | 72 | 1.82 | 29 | 0.73 | 34 | 0.86 |
| **BDP78** Frame, Grand Plate, Casters & Levelers | 42U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 380 | 172 | 78 | 1.98 | 29 | 0.73 | 34 | 0.86 |
| **BDP84** Frame, Grand Plate, Casters & Levelers | 46U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 390 | 177 | 84 | 2.13 | 29 | 0.73 | 34 | 0.86 |

### How to order

BDP – [ ] — [ ] — [ ] [ ] [ ] [ ] [ ]

| Frame Heigh |
|---|
| 72″ (1.82 m) |
| 78″ (1.98 m) |
| 84″ (2.13 m) |

| Mounting | |
|---|---|
| # | Description |
| 1 | 19″ mounting (0.48 m) |
| 2 | 23″ mounting (0.58 m) |
| 3 | 6 mm mounting |
| 0 | None |
| (Frame Mount Shelf Application) | |

| Front | |
|---|---|
| # | Description |
| 1 | Solid |
| 2 | Glass |
| 3 | Glass Vented |
| 4 | Perforated |
| 0 | None |

| Sides | |
|---|---|
| # | Description |
| 1 | One Side |
| 2 | Two Sides |
| 3 | One Side Perforated |
| 4 | Two Sides Perforated |
| 0 | None |

| Color | |
|---|---|
| # | Description |
| 1 | Blue |
| 2 | Beige |
| 3 | Black |
| 4 | Grey |

| Top | |
|---|---|
| # | Description |
| 2 | 10″ Diameter Fan (0.25 m) |
| 3 | 4″ Diameter Fans (0.10 m) |
| 4 | Solid |
| 5 | Vented |
| 0 | None |

| Rear | |
|---|---|
| # | Description |
| 1 | Solid |
| 2 | Vented |
| 3 | Filtered |
| 0 | None |

| Power Strips | |
|---|---|
| # | Description |
| 2 | 4′ 16 Outlet Surge Suppressor, 15′ Cord |
| 3 | 2′ 8 Outlet 15 Amp/15′ Cord |
| 4 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) 15 Amp/15′ Cord |
| 5 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) Surge Suppressor, 15 Amp/15′ Cord |
| 6 | 4′ 16 Outlet Surge Suppressor 20 Amp/15′ Cord |
| 0 | None |

### For Example:

| Description | Belden Part Number |
|---|---|
| Data Standard 84″ (2.13 m) Black, 19″ (0.48 m) Mounting, 10″ (0.25 m) Fan Top, Glass Door, Vented Rear Door, Two Sides, 20 Amp Power Strip | **BDP84-3-122226** |
| Data Standard 84″ (2.13 m) Black Frames w/19″ (0.48 m) Mounting | **BDP84-3-100000** |

EIA - 310 - D Compliant
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

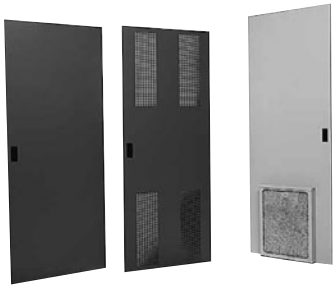
# Modular Enclosures

## Data Deep Enclosure 29″ Wide x 34″ Deep (0.73 x 0.86 m) *(continued)*

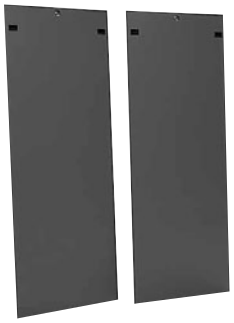
Tempered Glass Front Door



Rear Doors: Solid, Vented, Filtered



Side Panels



Removable Tops



| Description | Belden Part Number |
|---|---|
| **Front Doors** | |
| **Solid Front Door** | |
| Solid Steel Front Door with Latch and Lock, 72″ (1.82 m) | **B7229-SF-C** |
| Solid Steel Front Door with Latch and Lock, 78″ (1.98 m) | **B7829-SF-C** |
| Solid Steel Front Door with Latch and Lock, 84″ (2.13 m) | **B8429-SF-C** |
| **Tempered Glass Front Door** | |
| Tempered Glass Front Door with Latch and Lock, 72″ (1.82 m) | **B7229-GF-C** |
| Tempered Glass Front Door with Latch and Lock, 78″ (1.98 m) | **B7829-GF-C** |
| Tempered Glass Front Door with Latch and Lock, 84″ (2.13 m) | **B8429-GF-C** |
| **Glass Vented Front Door** | |
| Tempered Glass Front Vented Door with Latch and Lock, 72″ (1.82 m) | **B7229-VF-C** |
| Tempered Glass Front Vented Door with Latch and Lock, 78″ (1.98 m) | **B7829-VF-C** |
| Tempered Glass Front Vented Door with Latch and Lock, 84″ (2.13 m) | **B8429-VF-C** |
| **Perforated Front Door** | |
| Perforated Front Door with Latch and Lock, 72″ (1.82 m) | **B7229-PD-C** |
| Perforated Front Door with Latch and Lock, 78″ (1.98 m) | **B7829-PD-C** |
| Perforated Front Door with Latch and Lock, 84″ (2.13 m) | **B8429-PD-C** |
| **Rear Doors** | |
| **Solid Rear Door** | |
| Solid Steel Rear Door with Latch and Lock, 72″ (1.82 m) | **B7229-SR-C** |
| Solid Steel Rear Door with Latch and Lock, 78″ (1.98 m) | **B7829-SR-C** |
| Solid Steel Rear Door with Latch and Lock, 84″ (2.13 m) | **B8429-SR-C** |
| **Vented Rear Door** | |
| Vented Steel Rear Door with Latch and Lock, 72″ (1.82 m) | **B7229-VR-C** |
| Vented Steel Rear Door with Latch and Lock, 78″ (1.98 m) | **B7829-VR-C** |
| Vented Steel Rear Door with Latch and Lock, 84″ (2.13 m) | **B8429-VR-C** |
| **Filtered Rear Door** | |
| Filtered Rear Door with Latch and Lock, 72″ (1.82 m) | **B7229-FR-C** |
| Filtered Rear Door with Latch and Lock, 78″ (1.98 m) | **B7829-FR-C** |
| Filtered Rear Door with Latch and Lock, 84″ (2.13 m) | **B8429-FR-C** |
| **Side Panels** | |
| **Single Side Panel** | |
| 1-Solid Lift-off Side Panel with Lock, 72″ (1.82 m) | **B7201-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 78″ (1.98 m) | **B7801-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 84″ (2.13 m) | **B8401-SP-C** |
| **Pair of Side Panels** | |
| 2-Solid Lift-off Side Panels with Lock, 72″ (1.82 m) | **B7202-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 78″ (1.98 m) | **B7802-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 84″ (2.13 m) | **B8402-SP-C** |
| **Removable Tops** | |
| Solid Top | **B2918-TP-1-C** |
| Vented Top | **B2918-TP-2-C** |
| Solid Top with 10″ (0.25 m) Diameter Fan, 550 CFM | **B2918-TP-3-C** |
| Solid Top with (4) 4″ (0.10 m) Diameter Fans, Four Fans = 320 CFM | **B2918-TP-4-C** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Modular Enclosures

## Data Slim Enclosure 24″ Wide x 30″ Deep (0.60 x 0.76 m)

BSL-Style Data Slim Enclosure



### Data Slim Enclosure

The Data Slim is a freestanding enclosure with a 24″ (0.60 m) footprint. This makes the enclosure ideal for computer rooms where space is at a premium. The unit's mounting rails have 19″ (0.48 m) EIA spacing to allow for cable management and different depths of equipment. Among the many features and benefits of this modular unit are:

- Reversible doors: Spring-loaded hinges allow quick change of door swing.
- Lift-off side panels: Flush surface lock fasteners permit quick disconnect and lift off.
- Cable gland plate: Adjustable bottom plate minimizes dirt and dust inside the enclosure.
- Cable access top: Features a 14.25″ x 4″ (0.36 x 0.10 m) cable access rubber gland which helps prevent dust from entering the enclosure.
- Rear cable plate: One, 3-7/8″ x 8-1/2″ (0.07 x 0.02 m) openings for cable access with a removable plate and edge grommet kit. Also features two 1.75″ (0.04 m) capped openings.
- Tempered safety glass: Strengthens door and is easy-to-clean, non-scratching, tinted bronze color enhances overall appearance.
- Grounding kit Included.

### Frames



BSL 48



BSL 72



BSL 78



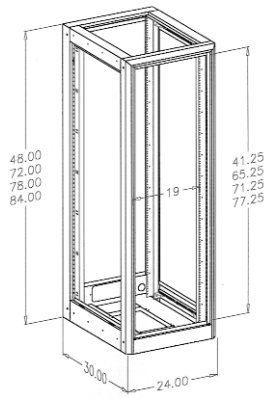
BSL 84

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

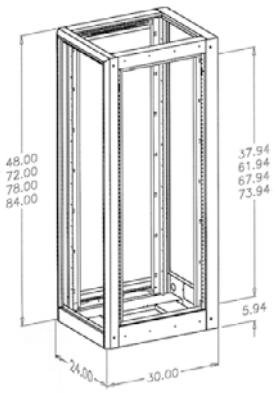
# Modular Enclosures

Data Slim Enclosure 24″ Wide x 30″ Deep (0.60 x 0.76 m)
*(continued)*

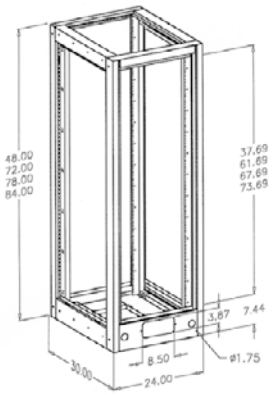
### Dimensions



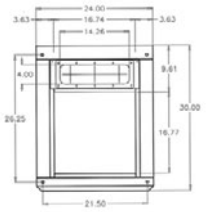

Front



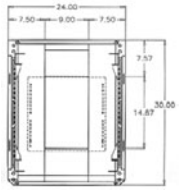

Side




Back




Top




Bottom

### Technical Specifications

| Enclosure Size | | Rack Spaces | Mounting | Weight | | Heights | | Width | | Depth | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | lbs. | kg | inch | m | inch | m | inch | m |
| **BSL48** | Frame, 2-pair 19″ (0.48 m) mtg Rails* | 25U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 230 | 105 | 48 | 1.21 | 29 | 0.73 | 30 | 0.76 |
| **BSL72** | Frame, 2-pair 19″ (0.48 m) mtg Rails* | 39U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 325 | 147 | 72 | 1.82 | 29 | 0.73 | 30 | 0.76 |
| **BSL78** | Frame, 2-pair 19″ (0.48 m) mtg Rails* | 42U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 350 | 158 | 78 | 1.98 | 29 | 0.73 | 30 | 0.76 |
| **BSL84** | Frame, 2-pair 19″ (0.48 m) mtg Rails* | 46U | 19″ (0.48 m), 23″ (0.58 m) or Frame Mount Shelf | 360 | 163 | 84 | 2.13 | 29 | 0.73 | 30 | 0.76 |

### How to order

BSL – ☐ — ☐ — ☐ ☐ ☐ ☐ ☐ ☐

**Frame Heigh**

| | |
|---|---|
| 48″ (1.21 m) | |
| 72″ (1.82 m) | |
| 78″ (1.98 m) | |
| 84″ (2.13 m) | |

**Color**

| # | Description |
|---|---|
| 1 | Blue |
| 2 | Beige |
| 3 | Black |
| 4 | Grey |

**Mounting**

| # | Description |
|---|---|
| 1 | 19″ mounting (0.48 m) |
| 3 | 6 mm mounting |

**Top**

| # | Description |
|---|---|
| 2 | 10″ Diameter Fan (0.25 m) |
| 3 | 4″ Diameter Fans (0.10 m) |
| 4 | Solid |
| 5 | Vented |
| 0 | None |

**Front**

| # | Description |
|---|---|
| 1 | Solid |
| 2 | Glass |
| 3 | Glass Vented |
| 4 | Perforated |
| 0 | None |

**Rear**

| # | Description |
|---|---|
| 1 | Solid |
| 2 | Vented |
| 3 | Filtered |
| 0 | None |

**Sides**

| # | Description |
|---|---|
| 1 | One Side |
| 2 | Two Sides |
| 3 | One Side Perforated |
| 4 | Two Sides Perforated |
| 0 | None |

**Power Strips**

| # | Description |
|---|---|
| 2 | 4′ 16 Outlet Surge Suppressor, 15′ Cord |
| 3 | 2′ 8 Outlet 15 Amp/15′ Cord |
| 4 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) 15 Amp/15′ Cord |
| 5 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) Surge Suppressor, 15 Amp/15′ Cord |
| 6 | 4′ 16 Outlet Surge Suppressor 20 Amp/15′ Cord |
| 0 | None |

### For Example:

| Description | Belden Part Number |
|---|---|
| Data Standard 84″ (2.13 m) Black, 19″ (0.48 m) Mounting, 10″ (0.25 m) Fan Top, Glass Door, Vented Rear Door, Two Sides, 20 Amp Power Strip | **BSL84-3-122226** |
| Data Standard 84″ (2.13 m) Black Frames w/19″ (0.48 m) Mounting | **BSL84-3-100000** |

* = Casters & Levelers • EIA - 310 - D Compliant
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

# Modular Enclosures

## Data Slim Enclosure 24″ Wide x 30″ Deep (0.60 x 0.76 m) *(continued)*

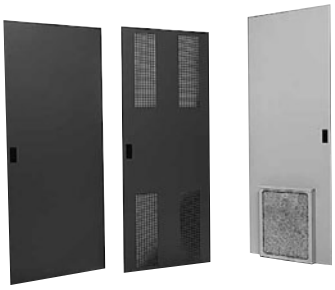
Solid Front Door



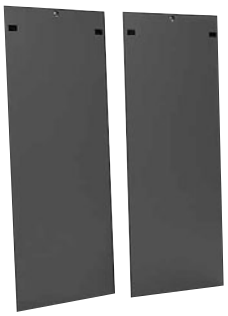
Tempered Glass Front Door



Rear Doors: Solid, Vented, Filtered



Side Panels



Removable Tops



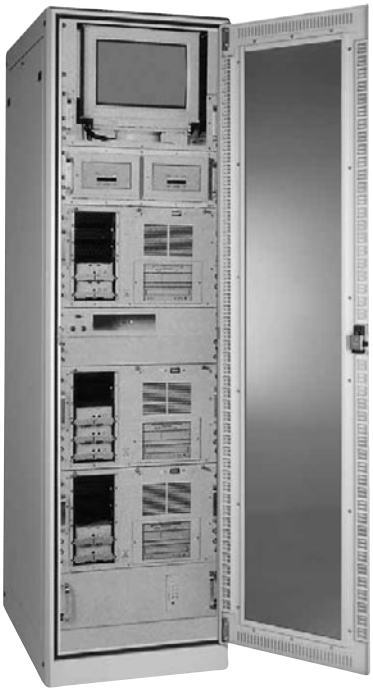
| Description | Belden Part Number |
|---|---|
| **Front Doors** | |
| **Solid Front Door** | |
| Solid Steel Front Door with Latch and Lock, 48″ (1.21 m) | **B4824-SF-C** |
| Solid Steel Front Door with Latch and Lock, 72″ (1.82 m) | **B7224-SF-C** |
| Solid Steel Front Door with Latch and Lock, 78″ (1.98 m) | **B7824-SF-C** |
| Solid Steel Front Door with Latch and Lock, 84″ (2.13 m) | **B8424-SF-C** |
| **Tempered Glass Front Door** | |
| Tempered Glass Front Door with Latch and Lock, 48″ (1.21 m) | **B4824-GF-C** |
| Tempered Glass Front Door with Latch and Lock, 72″ (1.82 m) | **B7224-GF-C** |
| Tempered Glass Front Door with Latch and Lock, 78″ (1.98 m) | **B7824-GF-C** |
| Tempered Glass Front Door with Latch and Lock, 84″ (2.13 m) | **B8424-GF-C** |
| **Glass Vented Front Door** | |
| Tempered Glass Front Vented Door with Latch and Lock, 48″ (1.21 m) | **B4824-VF-C** |
| Tempered Glass Front Vented Door with Latch and Lock, 72″ (1.82 m) | **B7224-VF-C** |
| Tempered Glass Front Vented Door with Latch and Lock, 78″ (1.98 m) | **B7824-VF-C** |
| Tempered Glass Front Vented Door with Latch and Lock, 84″ (2.13 m) | **B8424-VF-C** |
| **Perforated Front Door** | |
| Perforated Front Door with Latch and Lock, 48″ (1.21 m) | **B4824-PD-C** |
| Perforated Front Door with Latch and Lock, 72″ (1.82 m) | **B7224-PD-C** |
| Perforated Front Door with Latch and Lock, 78″ (1.98 m) | **B7824-PD-C** |
| Perforated Front Door with Latch and Lock, 84″ (2.13 m) | **B8424-PD-C** |
| **Rear Doors** | |
| **Solid Rear Door** | |
| Solid Steel Rear Door with Latch and Lock, 48″ (1.21 m) | **B4824-SR-C** |
| Solid Steel Rear Door with Latch and Lock, 72″ (1.82 m) | **B7224-SR-C** |
| Solid Steel Rear Door with Latch and Lock, 78″ (1.98 m) | **B7824-SR-C** |
| Solid Steel Rear Door with Latch and Lock, 84″ (2.13 m) | **B8424-SR-C** |
| **Vented Rear Door** | |
| Vented Steel Rear Door with Latch and Lock, 48″ (1.21 m) | **B4824-VR-C** |
| Vented Steel Rear Door with Latch and Lock, 72″ (1.82 m) | **B7224-VR-C** |
| Vented Steel Rear Door with Latch and Lock, 78″ (1.98 m) | **B7824-VR-C** |
| Vented Steel Rear Door with Latch and Lock, 84″ (2.13 m) | **B8424-VR-C** |
| **Filtered Rear Door** | |
| Filtered Rear Door with Latch and Lock, 48″ (1.21 m) | **B4824-FR-C** |
| Filtered Rear Door with Latch and Lock, 72″ (1.82 m) | **B7224-FR-C** |
| Filtered Rear Door with Latch and Lock, 78″ (1.98 m) | **B7824-FR-C** |
| Filtered Rear Door with Latch and Lock, 84″ (2.13 m) | **B8424-FR-C** |
| **Side Panels** | |
| **Single Side Panels** | |
| 1-Solid Lift-off Side Panel with Lock, 48″ (1.21 m) | **B4801-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 72″ (1.82 m) | **B7201-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 78″ (1.98 m) | **B7801-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 84″ (2.13 m) | **B8401-SP-C** |
| **Pair of Side Panels** | |
| 2-Solid Lift-off Side Panels with Lock, 48″ (1.21 m) | **B4802-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 72″ (1.82 m) | **B7202-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 78″ (1.98 m) | **B7802-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 84″ (2.13 m) | **B8402-SP-C** |
| **Removable Tops** | |
| Solid Top | **B2418-TP-1-C** |
| Vented Top | **B2418-TP-2-C** |
| Solid Top with 10″ (0.25 m) Diameter Fan, 550 CFM | **B2418-TP-3-C** |
| Solid Top with (4) 4″ (0.10 m) Diameter Fans, Four Fans = 320 CFM | **B2418-TP-4-C** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Modular Enclosures

## Ultra Server Enclosure 24″ Wide x 36″ Deep (0.60 x 0.91 m)

BUS-Style Ultra Server Enclosure



### Ultra Server Enclosure

The Ultra Server is a freestanding enclosure with a 24″ (0.58 m) wide x 36″ (0.91 m) deep footprint. The enclosure features numerous top and bottom entry points for easy configuration to match your needs and an anti-tip device to prevent the enclosure from tipping when servers and shelves are extended. The unit's mounting rails have 19″ (0.48 m) EIA spacing to allow for cable management and different depths of equipment. Among the many features and benefits of this modular unit are:

- Reversible doors: Spring-loaded hinges allow quick change of door swing.
- Lift-off side panels: Flush surface lock fasteners permit quick disconnect and lift off.
- Door and side panel security: Doors and side panels lock; handles are flush mounted.
- Cable access top: Features a 14.25″ x 4″ (0.36 x 0.10 m) cable access rubber gland which helps prevent dust from entering the enclosure.
- Tempered safety glass: Strengthens door and is easy-to-clean, non-scratching, tinted bronze color enhances overall appearance.
- Grounding kit Included.

### Frames



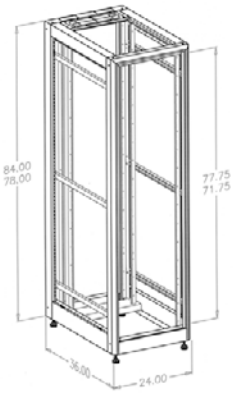
BUS 78 BUS 84

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

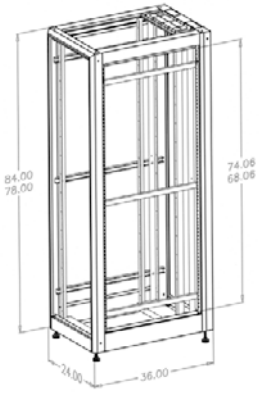
# Modular Enclosures

Ultra Server Enclosure 24″ Wide x 36″ Deep (0.60 x 0.91 m)
*(continued)*

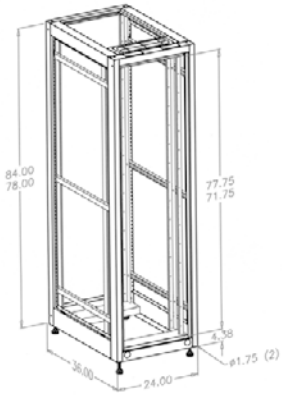
### Dimensions



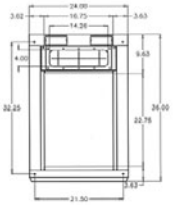

Front



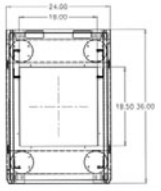

Side




Back




Top




Bottom

### Technical Specifications

| Enclosure Size | Rack Spaces | Mounting | Weight | | Heights | | Width | | Depth | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | lbs. | kg | inch | m | inch | m | inch | m |
| **BUS78** Frame, 3-pair 19″ (0.48 m) mtg Rails* | 42U | 19″ (0.48 m) | 350 | 158 | 78 | 1.98 | 24 | 0.60 | 36 | 0.91 |
| **BUS84** Frame, 3-pair 19″ (0.48 m) mtg Rails* | 45U | 19″ (0.48 m) | 370 | 167 | 84 | 2.13 | 24 | 0.60 | 36 | 0.91 |

### How to order

BUS – [ ] — [ ] — [1] [ ] [ ] [ ] [ ] [ ]

**Frame Heigh**

| | |
|---|---|
| 78″ (1.98 m) | |
| 84″ (2.13 m) | |

**Color**

| # | Description |
|---|---|
| 2 | Beige |
| 3 | Black |

**Mounting**

| # | Description |
|---|---|
| 1 | 19″ (0.48 m) 6 mm - 3 pr. |

**Top**

| # | Description |
|---|---|
| 1 | Perforated |
| 2 | 10″ Diameter Fan (0.25 m) |
| 3 | 4″ Diameter Fans (0.10 m) |
| 4 | Solid |
| 0 | None |

**Front**

| # | Description |
|---|---|
| 1 | Glass Vented Slam |
| 2 | Perforated Slam |
| 3 | Glass Vented Swing |
| 4 | Perforated Swing |
| 5 | Rigid Perf Swing |
| 6 | Split Perf Swing |
| 0 | None |

**Rear**

| # | Description |
|---|---|
| 1 | Glass Vented Slam |
| 2 | Perforated Slam |
| 3 | Glass Vented Swing |
| 4 | Perforated Swing |
| 5 | Rigid Perf Swing |
| 6 | Split Perf Swing |
| 0 | None |

**Sides**

| # | Description |
|---|---|
| 1 | One Side |
| 2 | Two Sides |
| 3 | One Side Perforated |
| 4 | Two Sides Perforated |
| 0 | None |

**Power Strips**

| # | Description |
|---|---|
| 2 | 4′ 16 Outlet Surge Suppressor, 15′ Cord |
| 3 | 2′ 8 Outlet 15 Amp/15′ Cord |
| 4 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) 15 Amp/15′ Cord |
| 5 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) Surge Suppressor, 15 Amp/15′ Cord |
| 6 | 4′ 16 Outlet Surge Suppressor 20 Amp/15′ Cord |
| 0 | None |

### For Example:

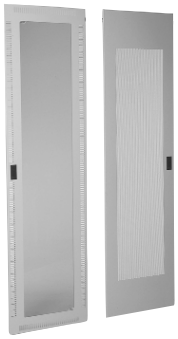
| Description | Belden Part Number |
|---|---|
| Ultra Server 84″ (2.13 m) Black, 19″ (0.48 m) Mounting, 10″ (0.25 m) Fan Top, Perforated Slam Front and Rear Door, 2 Sides, 20 Amp Power Strip | **BUS84-3-122226** |
| Ultra Server 84″ (2.13 m) Black Frames w/19″ (0.48 m) Mounting | **BUS84-3-100000** |

* = Casters & Levelers • EIA - 310 - D Compliant
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# Modular Enclosures

## Ultra Server Enclosure 24″ Wide x 36″ Deep (0.60 x 0.91 m) *(continued)*

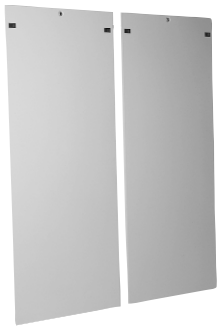
Tempered Glass Vented Doors



Perforated Doors



Side Panels



| Description | Belden Part Number |
|---|---|
| **Front Door** | |
| **Tempered Glass Vented Doors** | |
| Tempered Glass Front/Rear Door with Latch and Lock, 78″ (1.98 m) | **B7824-SVF-C** |
| Tempered Glass Front/Rear Door with Latch and Lock, 84″ (2.13 m) | **B8424-SVF-C** |
| **Perforated Door** | |
| Perforated Front/Rear Door with Latch and Lock, 78″ (1.98 m) | **B7824-SPR-C** |
| Perforated Front/Rear Door with Latch and Lock, 84″ (2.13 m) | **B8424-SPR-C** |
| **Side Panels** | |
| **Single Side Panel** | |
| 1-Solid Lift-off Side Panel with Lock, 78″ (1.98 m) | **B7836-01-SP-C** |
| 1-Solid Lift-off Side Panel with Lock, 84″ (2.13 m) | **B8436-01-SP-C** |
| **Pair of Side Panels** | |
| 2-Solid Lift-off Side Panels with Lock, 78″ (1.98 m) | **B7836-02-SP-C** |
| 2-Solid Lift-off Side Panels with Lock, 84″ (2.13 m) | **B8436-02-SP-C** |
| **Removable Tops/Cooling Devices** | |
| Solid Top | **B2430-TP-1-C** |
| Solid Top with 10″ (0.25 m) Diameter Fan, 550 CFM | **B2430-TP-3-C** |
| Solid Top with (4) 4″ (0.10 m) Diameter Fans, Four Fans = 320 CFM | **B2430-TP-4-C** |
| Perforated Top | **B2430-TP-6-C** |
| 19″ (0.48 m) Fan Tray | **B9315-7200** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

Solid Removable Top w/10″ Fan (0.25 m)



Solid Removable Top w/(4) 4″ Fans (0.10 m)



19″ Fan Tray (0.48 m)



# Modular Enclosures

## Ultra Deep Server Enclosure 24″ Wide x 42″ Deep (0.60 x 1.06 m)

BUSD-Style Ultra Deep Server Enclosure



### Ultra Deep Server Enclosure

The Ultra Deep Server is a freestanding enclosure with a 24″ (0.60 m) wide x 42″ (1.06 m) deep footprint. The enclosure features numerous top and bottom entry points for easy configuration to match your needs and an anti-tip device to prevent the enclosure from tipping when servers and shelves are extended. Among the many features and benefits of this modular unit are:

- Reversible doors: Spring-loaded hinges allow quick change of door swing.
- Split rear doors: French-style perforated rear doors maximize space between enclosures.
- Lift-off side panels: Flush surface lock fasteners permit quick disconnect and lift off.
- Door and side panel security: Doors and side panels lock; handles are flush mounted.
- Cable access top: Features a 14.25″ x 4″ (0.36 x 0.10 m) cable access rubber gland which helps prevent dust from entering the enclosure.
- Tempered safety glass: Strengthens door and is easy-to-clean, non-scratching, tinted bronze color enhances overall appearance.
- Grounding kit Included.

### Frames



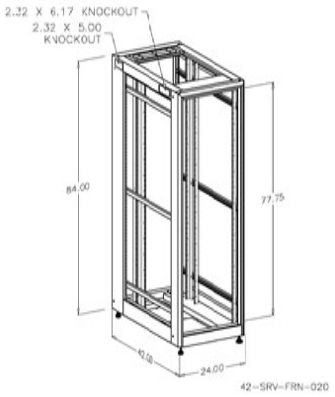
BUSD 84

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

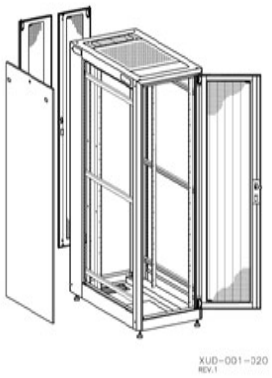
# Modular Enclosures

Ultra Deep Server Enclosure 24″ Wide x 42″ Deep (0.60 x 1.06 m)
*(continued)*

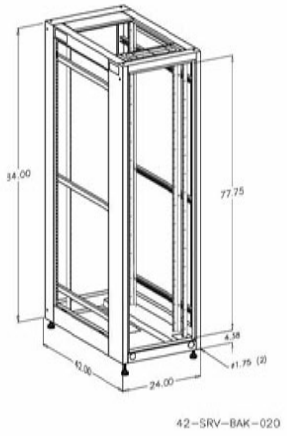
### Dimensions



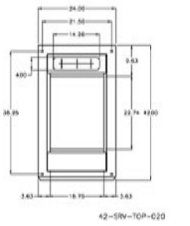

Front



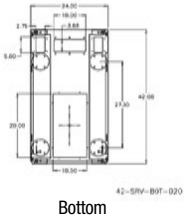

Side




Back




Top




Bottom

### Technical Specifications

| Enclosure Size | Rack Spaces | Mounting | Weight | | Heights | | Width | | Depth | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | lbs. | kg | inch | m | inch | m | inch | m |
| **BUSD84** Frame, 3-pair 19″ (0.48 m) mtg Rails* | 45U | 19″ (0.48 m) | 400 | 181 | 84 | 2.13 | 24 | 0.60 | 42 | 1.06 |

### How to order

BUSD – **84** — [ ] — **1** [ ] [ ] [ ] [ ] [ ]

| Frame Heigh |
|---|
| 84″ (2.13 m) |

| Mounting | |
|---|---|
| # | Description |
| 1 | 19″ (0.48 m) 6 mm - 3 pr. |

| Front | |
|---|---|
| # | Description |
| 1 | Glass Vented Swing |
| 2 | Rigid Perf Swing |
| 3 | Split Perf Swing |
| 4 | Glass Vented Slam |
| 5 | Perforated Slam |
| 0 | None |

| Sides | |
|---|---|
| # | Description |
| 1 | One Side Solid |
| 2 | Two Sides Solid |
| 3 | One Side Perforated |
| 4 | Two Sides Perforated |
| 0 | None |

| Color | |
|---|---|
| # | Description |
| 2 | Beige |
| 3 | Black |

| Top | |
|---|---|
| # | Description |
| 1 | Perforated |
| 2 | 10″ Diameter Fan (0.25 m) |
| 3 | 4″ Diameter Fans (0.10 m) |
| 4 | Solid |
| 0 | None |

| Rear | |
|---|---|
| # | Description |
| 1 | Rigid Perf Swing |
| 2 | Split Perf Swing |
| 3 | Perforated Swing |
| 4 | Glass Vented Swing |
| 5 | Glass Vented Slam |
| 6 | Perforated Slam |
| 0 | None |

| Power Strips | |
|---|---|
| # | Description |
| 2 | 4′ 16 Outlet Surge Suppressor, 15′ Cord |
| 3 | 2′ 8 Outlet 15 Amp/15′ Cord |
| 4 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) 15 Amp/15′ Cord |
| 5 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) Surge Suppressor, 15 Amp/15′ Cord |
| 6 | 4′ 16 Outlet Surge Suppressor 20 Amp/15′ Cord |

### For Example:

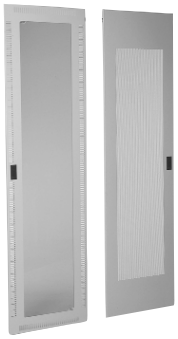
| Description | Belden Part Number |
|---|---|
| Ultra Deep 84″ (2.13 m) Black, 19″ (0.48 m) Mounting, 10″ (0.25 m) Fan Top, Front Rigid Perforated Door, Rear Split Perforated Door, Two Sides, 20 Amp Power Strip | **BUSD84-3-122226** |
| Ultra Server 84″ (2.13 m) Black Frames with 19″ (0.48 m) Mounting | **BUSD84-3-100000** |

* = Casters & Levelers • EIA - 310 - D Compliant
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# Modular Enclosures

## Ultra Deep Server Enclosure 24″ Wide x 42″ Deep (0.60 x 1.06 m) *(continued)*

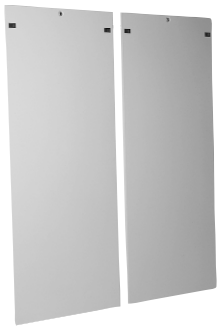
Tempered Glass Vented Doors



Perforated Doors



Side Panels



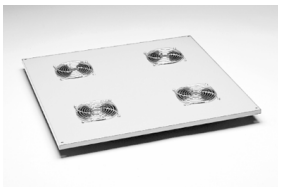
| Description | Belden Part Number |
|---|---|
| **Front Door** | |
| **Tempered Glass Front Door** | |
| Tempered Glass Front (Vented) Door with Swing Handle, Latch and Lock | **B8424-DSVF-C** |
| **Rigid Perforated Front Door** | |
| Rigid Perforated Front Door with Swing Handle, Latch and Lock | **B8424-DSPR-C** |
| **Rear Door** | |
| **Perforated Rear Door** | |
| Split Door with Swing Handle, Latch and Lock | **B8424-DSSR-C** |
| Rigid Door with Swing Handle, Latch and Lock | **B8424-DSPR-C** |
| Door with Swing Handle, Latch and Lock | **B8424-DSVR-C** |
| **Side Panels** | |
| **Single Side Panel** | |
| 1-Solid Lift-off Side Panel with Lock | **B8436-01-SP-C** |
| 1-Perforated Lift-off Side Panel with Lock | **B8436-01-SPP-C** |
| **Pair of Side Panels** | |
| 2-Solid Lift-off Side Panels with Lock | **B8436-02-SP-C** |
| 2-Perforated Lift-off Side Panels with Lock | **B8436-02-SPP-C** |
| **Removable Tops/Cooling Devices** | |
| Solid Top | **B2430-TP-1-C** |
| Solid Top with 10″ (0.25 m) Diameter Fan, 550 CFM | **B2430-TP-3-C** |
| Solid Top with (4) 4″ (0.10 m) Diameter Fans, Four Fans = 320 CFM | **B2430-TP-4-C** |
| Perforated Top | **B2430-TP-6-C** |
| 19″ (0.48 m) Fan Tray | **B9315-7200** |
| **Cable Management Troughs** | |
| 76.5″ (1.93 m) Steel Vertical Cable Trough | **B433-5114** |
| Steel Front Horizontal Cable Trough | **B433-5115-F** |
| Steel Rear Horizontal Cable Trough | **B433-5115-R** |
| Steel Side Horizontal Cable Trough | **B433-5118** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

Solid Removable Top w/10″ Fan (0.25 m)



Solid Removable Top w/(4) 4″ Fans (0.10 m)



19″ Fan Tray (0.48 m)



# Modular Enclosures

## Giga Server Enclosure 26″ Wide x 42″ Deep (0.66 x 1.06 m)

BGS-Style Giga Server Enclosure



### Giga Server Enclosure

The Giga Server is a freestanding enclosure with a 26″ (0.66 m) wide x 42″ (1.06 m) deep footprint. Each of the four corners of the enclosure has a built-in vertical cable channel. The unit's mounting rails have 19″ (0.48 m) EIA spacing to allow for cable management and different depths of equipment. Hinged cable access panels allow for large bundles of cable to be quickly routed from enclosure to enclosure or from the front of the enclosure to the rear of the enclosure. Among the many features and benefits of this modular unit are:

- Reversible door: Spring-loaded hinges allow quick change of door swing.
- Split rear doors: French-style perforated rear doors maximize space between enclosures.
- Lift-off side panels: Flush surface lock fasteners permit quick disconnect lift off.
- Door and side panel security: Doors and side panels lock; handles are flush mounted.
- Integrated cable management.
- Grounding kit included.

### Frames



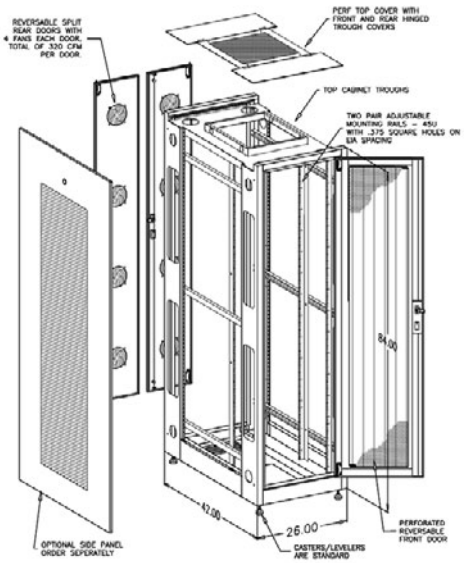
BGS 84

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Modular Enclosures

Giga Server Enclosure 26″ Wide x 42″ Deep (0.66 x 1.06 m)
*(continued)*

### Dimensions




Side

### Technical Specifications

| Enclosure Size | Rack Spaces | Mounting | Weight | | Heights | | Width | | Depth | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | lbs. | kg | inch | m | inch | m | inch | m |
| **BGS84 84**″ Frame, 3-pr. 19″ (0.48 m) mtg Rails* | 45U | 19″ (0.48 m) | 400 | 181 | 84 | 2.13 | 26 | 0.66 | 42 | 1.06 |

### How to order

BGS – **84** — **3** — **1** — ☐ ☐ ☐ ☐ ☐

**Frame Heigh**
84″ (2.13 m)

**Color**

| # | Description |
|---|---|
| 3 | Black |

**Mounting**

| # | Description |
|---|---|
| 1 | 19″ (0.48 m) 6 mm - 3 pr. |

**Top**

| # | Description |
|---|---|
| 1 | Perforated |
| 0 | None |

**Front**

| # | Description |
|---|---|
| 1 | Rigid Perforated |
| 0 | None |

**Rear**

| # | Description |
|---|---|
| 2 | Split Perf Swing |
| 3 | Perforated Swing |
| 0 | None |

**Sides**

| # | Description |
|---|---|
| 1 | One Side Solid |
| 2 | Two Sides Solid |
| 3 | One Side Perforated |
| 4 | Two Sides Perforated |
| 0 | None |

**Power Strips**

| # | Description |
|---|---|
| 2 | 4′ 16 Outlet Surge Suppressor, 15′ Cord |
| 3 | 2′ 8 Outlet 15 Amp/15′ Cord |
| 4 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) 15 Amp/15′ Cord |
| 5 | 19″ (0.48 m) Rack Mount 6 Outlet (Rear) Surge Suppressor, 15 Amp/15′ Cord |
| 6 | 4′ 16 Outlet Surge Suppressor 20 Amp/15′ Cord |
| 0 | None |

### For Example:

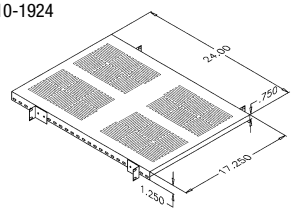
| Description | Belden Part Number |
|---|---|
| Giga Server 84″ (2.13 m) Black, 3-pair 19″ (0.48 m) Mounting, Perforated Top, Rigid Perforated Front, Split Fan Doors, Two Perforated Sides, 20 Amp Power Strip | **BGS84-3-122226** |
| Giga Server 84″ (2.13 m) Black , with 3-pair 19″ (0.48 m) Mounting | **BGS84-3-100000** |

* = Casters & Levelers • EIA - 310 - D Compliant
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

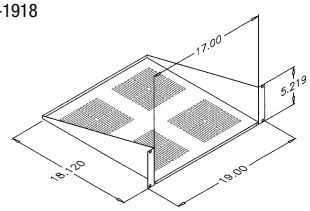
# Modular Enclosure Options and Accessories

## Enclosure Shelves

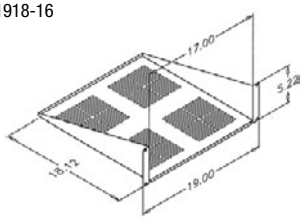
B9010-1924



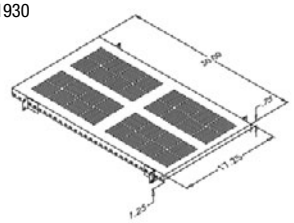

B9011-1918



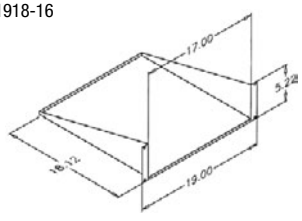

B9011-1918-16



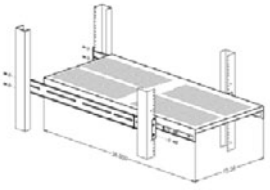

B9010-1930



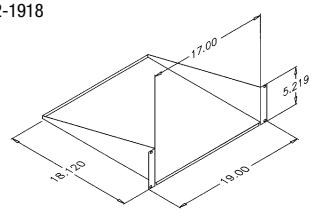
B9012-1918-16




B9013-1936



B9012-1918



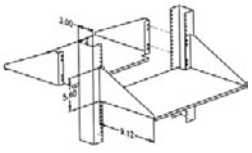

### Enclosure Shelves

Modular Enclosure Shelves are available in widths of 19″ (0.48 m) and 23″ (0.58 m) with mounting depths of 24″ (0.60 m), 30″ (0.76 m) and 36″ (0.91 m). Load ratings range from 70 lbs. (31 kg) up to 200 lbs. (90 kg). All shelves are black in color unless otherwise noted below.

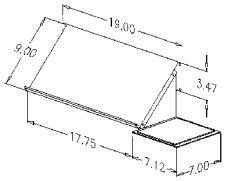
| Description | Belden Part Number |
|---|---|
| **19″ (0.48 m) Shelves** | |
| **19″ (0.48 m) Heavy-Duty Adjustable Shelf (Vented)** | |
| 4 Point Mounting, 24″ (0.60 m) Depth, 150 lbs. (68 kg) Load Rating | **B9010-1924** |
| 4 Point Mounting, 30″ (0.76 m) Depth, 150 lbs. (68 kg) Load Rating | **B9010-1930** |
| 4 Point Mounting, 36″ (0.91 m) Depth, 150 lbs. (68 kg) Load Rating | **B9010-1936** |
| **19″ (0.48 m) Flush Mount Cantilevered Shelf (Vented)** | |
| 12″ (0.30 m) Depth, Fits 24″ (0.60 m) Wall Mount, 70 lbs. (31 kg) Load Rating | **B9011-1912** |
| 18″ (0.45 m) Depth, 75 lbs. (34 kg) Load Rating | **B9011-1918** |
| 18″ (0.45 m) Depth, 50 lbs. (22 kg) Load Rating | **B9011-1918-16** |
| **19″ (0.48 m) Flush Mount Cantilevered Shelf (Solid)** | |
| 18″ (0.45 m) Depth, 75 lbs. (34 kg) Load Rating | **B9012-1918** |
| 18″ (0.45 m) Depth, 50 lbs. (22 kg) Load Rating | **B9012-1918-16** |
| **19″ (0.48 m) Heavy Duty Sliding Adjustable Shelf (Vented)** | |
| 4 Point Mounting, 24″ (0.60 m) Depth, 200 lbs. (90 kg) Load Rating | **B9015-1924** |
| 4 Point Mounting, 30″ (0.76 m) Depth, 100 lbs. (45 kg) Load Rating | **B9013-1930** |
| 4 Point Mounting, 36″ (0.91 m) Depth, 100 lbs. (45 kg) Load Rating | **B9013-1936** |
| 19″ (0.48 m) Keyboard Shelf (Fixed Front of Mounting Rail with Mouse Pad) | **B9014-1907** |
| 19″ (0.48 m) Drawer, Monitor and Keyboard Shelf | **B9015-1902** |
| 19″ (0.48 m) Sliding Rotating Keyboard Shelf | **B9015-1909** |
| **19″ (0.48 m) Center Mount Shelf Kit (2-shelves)** | |
| 21″ (0.53 m) Depth, Aluminum, 100 lbs. (45 kg) Load Rating | **B9016-1921** |
| 21″ (0.53 m) Depth, Black, 100 lbs. (45 kg) Load Rating | **B9016-1921-3** |
| 19″ (0.48 m) Drawer, Utility, 4U, 16″ (0.40 m) Depth | **B9017-0200** |
| Pivot Cable Retractor | **B9309-0100** |
| **19″ (0.48 m) Quick Disconnect Shelf** | |
| 6 mm Mounting Rails, 24″ (0.60 m) Depth, 200 lbs. (90 kg) Load Rating | **B9010-1924-Q** |
| 6 mm Mounting Rails, 30″ (0.76 m) Depth, 200 lbs. (90 kg) Load Rating | **B9010-1930-Q** |

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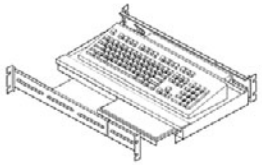
B9016-1921



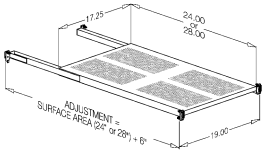
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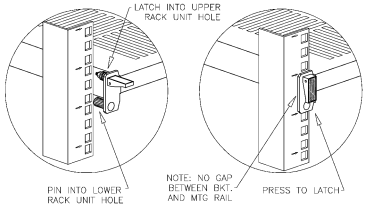



B9015-1909



B9010-1930-Q

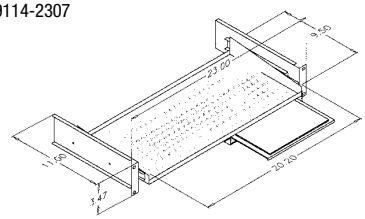


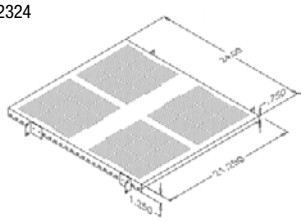
# Modular Enclosure Options and Accessories

Enclosure Shelves *(continued)*

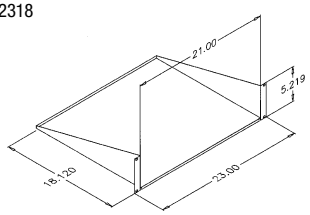
B9114-2307



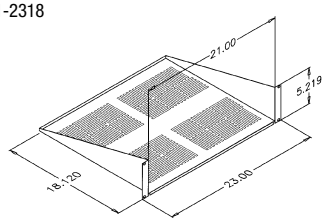
B9110-2324



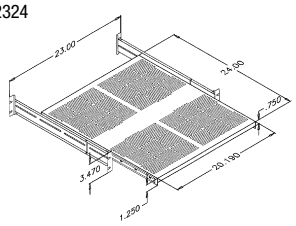
B9112-2318



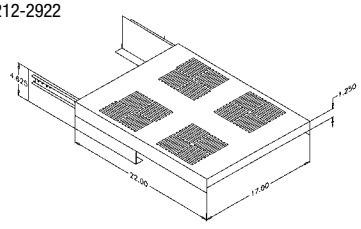
B9111-2318



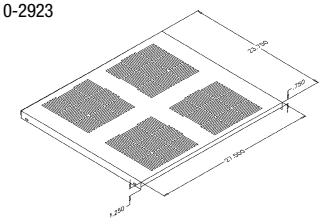
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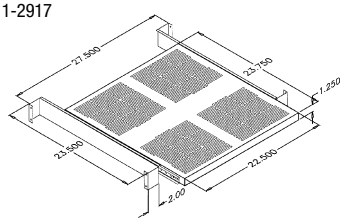
B9212-2922



B9210-2923



B9211-2917



| Description | Belden Part Number |
|---|---|
| **23″ (0.58 m) Shelves** | |
| **23″ (0.58 m) Heavy Duty Adjustable Shelf (Vented)** | |
| 4 Point Mounting, 180 lbs. (81 kg) Load Rating | **B9110-2324** |
| **23″ (0.58 m) Flush Mount Cantilevered Shelf (Vented)** | |
| 70 lbs. (31 kg) Load Rating | **B9111-2318** |
| **23″ (0.58 m) Flush Mount Cantilevered Shelf (Solid)** | |
| 70 lbs. (31 kg) Load Rating | **B9112-2318** |
| **23″ (0.58 m) Heavy Duty Sliding Adjustable Shelf (Vented)** | |
| 4 Point Mounting, 85 lbs. (38 kg) Load Rating | **B9113-2324** |
| 23″ (0.58 m) Sliding Keyboard Shelf with Mouse Pad | **B9114-2307** |
| **Frame Shelves** | |
| **27.5″ (0.69 m) Wide Side Mount Shelf (Vented)** | |
| 23.75″ (0.60 m) Depth, 180 lbs. (81 kg) Load Rating | **B9210-2923** |
| 23.75″ (0.60 m) Depth, 90 lbs. (40 kg) Load Rating | **B9211-2917** |
| **17″ (0.43 m) Wide Bottom Mount Sliding Server Shelf (Vented)** | |
| 22″ (0.55 m) Depth, 100 lbs. (45 kg) Load Rating | **B9212-2922** |

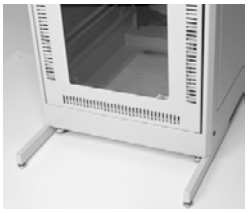
These products are in the process of being assessed for RoHS compliance.
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# Modular Enclosure Options and Accessories

Anti-Tip, Grounding Bars, Mounting Hardware

BUS-ATD-0010

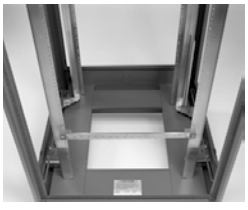




B9714-0720



B9714-0190



B8913-0100



## Enclosure Anti-Tip Device

The data standard, data slim, data deep and ultra deep server modular enclosures are configured with an anti-tip device which protects the enclosure from tipping when servers and shelves are extended.

| Description | Belden Part Number |
|---|---|
| Anti-Tip Device for Ultra Deep Server | **BUS-ATD-0010-C** |
| Anti-Tip Device for Data Standard | **BST-ATD-0030-3** |
| Anti-Tip Device for Data Deep | **BDP-ATD-0200-3** |
| Anti-Tip Device for Data Slim | **BSL/BST-ATD-0300-3** |

## Grounding Bars

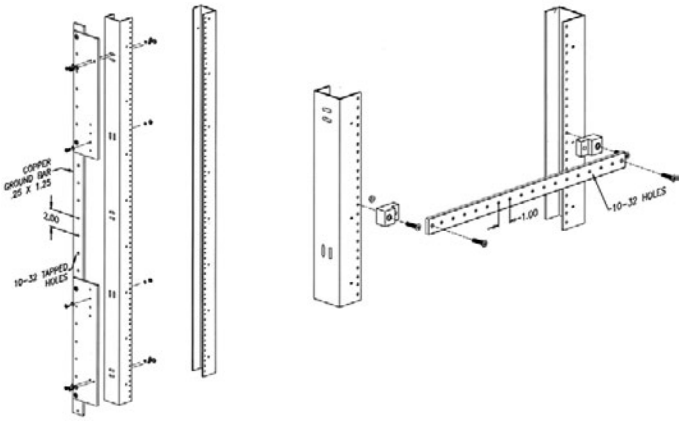
Copper grounding bars are available for mounting on any of the enclosure types. Grounding bars are available for vertical or horizontal mounting.

| Description | Belden Part Number |
|---|---|
| 70″ (1.77 m) Vertical Isolated Copper Ground Bar, Tapped 10-32 | **B9714-0720** |
| 10″ (0.25 m) Horizontal Isolated Copper Ground Bar, Tapped 10-32 | **B9714-0190** |

## Enclosure Mounting Hardware

The enclosure mounting hardware line includes a variety of bolts, screws and nuts for securing the enclosure.

| Description | Belden Part Number |
|---|---|
| 4, 5/16-18 Hex Head Bolt; 4, 5/16-18 Hex Nut; 8-5/16 Flat Washer | **B8910-0100** |
| 10-32 Mounting Screws, Package of 50 | **B8911-0100** |
| M6 Mounting Cagenut, Package of 50 | **B8913-0100** |
| M6 Mounting Screw, Package of 50 | **B8914-0100** |
| 10-32 Mounting Hardware, 10-32 Floating Cagenut, Package of 50 | **B8915-0100** |




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# Modular Enclosure Options and Accessories
## Mounting Rails

Mounting Rails Demonstrated in Enclosure



BRL-3024-0100



BRL-3012-0200



BRL-3006-0300



### Enclosure Mounting Rails

The enclosure mounting rail line includes 19″ (0.48 m) and 23″ (0.58 m) rails which are fully adjustable to accommodate different mounting depths.

| Description | Belden Part Number |
|---|---|
| **Data Standard** | |
| **Adjustable Mounting Rails 19″ or 23″ (0.48 m or 0.58 m)** | |
| Tapped 10-32, 48″ (1.21 m) | **BST4819-23** |
| Tapped 10-32, 72″ (1.82 m) | **BST7219-23** |
| Tapped 10-32, 78″ (1.98 m) | **BST7819-23** |
| Tapped 10-32, 84″ (2.13 m) | **BST8419-23** |
| 6 mm with Hardware, 84″ (2.13 m) | **BST8419-23SQ** |
| **Data Slim** | |
| **Adjustable Mounting Rails 19″ or 23″ (0.48 m or 0.58 m)** | |
| Tapped 10-32, 72″ (1.82 m) | **BSL7219** |
| 6 mm with Hardware, 72″ (1.82 m) | **BSL7219SQ-2** |
| Tapped 10-32, 78″ (1.98 m) | **BSL7819** |
| Tapped 10-32, 84″ (2.13 m) | **BSL8419** |
| **Data Deep** | |
| **Adjustable Mounting Rails 19″ or 23″ (0.48 m or 0.58 m)** | |
| Tapped 10-32, 72″ (1.82 m) | **BDP7219-23** |
| 6 mm with Hardware, 72″ (1.82 m) | **BDP7219-23SQ** |
| Tapped 10-32, 78″ (1.98 m) | **BDP7819-23** |
| Tapped 10-32, 84″ (2.13 m) | **BDP8419-23** |

### Enclosure Partial Rail Kits

The enclosure partial rail kit line includes 6U, 12U and 24U rails for increased mounting flexibility.

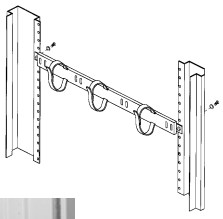
| Description | Belden Part Number |
|---|---|
| 19″ (0.48 m) Partial Rail Kit (6U) | **BRL-3006-0300** |
| 19″ (0.48 m) Partial Rail Kit (12U) | **BRL-3012-0200** |
| 19″ (0.48 m) Partial Rail Kit (24U) | **BRL-3024-0100** |

These products are in the process of being assessed for RoHS compliance.
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# Modular Enclosure Options and Accessories

## Cable Management and Light Kits

B9713-0200



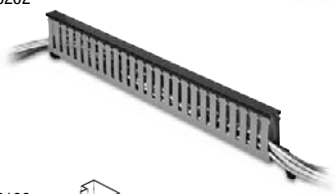


Horizontal: B9713-0200
Vertical: B9712-0100

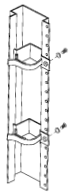
B9713-0201



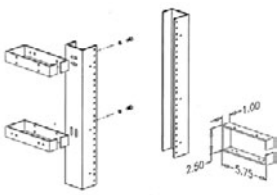
B9713-0202



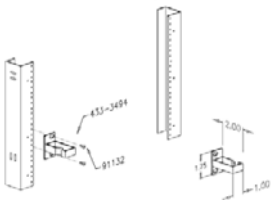
B9712-0100



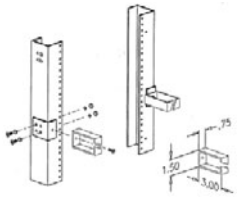
B9712-0101



B9712-0103



B9712-0102



### Front to Rear Cable Management

Front to rear cable management makes routing of cable neat, keeps them secure and manages bend radius.

| Description | Belden Part Number |
|---|---|
| **Front to Rear Cable Management** | |
| w/3 Velcro Straps | **B9713-0200** |
| for 30″ & 34″ (0.76 & 0.86 m) deep Enclosure 1″ x 3″ (0.025 x 0.076 m) Finger Stock | **B9713-0201** |
| for 36″ deep Enclosure 1″ x 3″ (0.025 x 0.076 m) Finger Stock | **B9713-0202** |
| **Vertical Cable Management** | |
| Corner Mount Vertical Cable Management Ring 3″ x 3″ (0.076 x 0.076 m) w/Velcro Strap | **B9712-0100** |
| Side Mount Cable Management 2.5″ x 5.75″ (0.063 x 0.074 m) | **B9712-0101** |
| Front Mount Cable Management 1.5″ x 3″ (0.038 x 0.076 m) | **B9712-0102** |
| 1U Cable Manager 1″ wide x 2″ deep (0.025 x 0.050 m) | **B9712-0103** |
| Mounting Rail Single M-Clip (XUSD) | **B9712-0106** |
| Mounting Rail Dual M-Clip (XUSD) | **B9712-0107** |
| Mounting Rail 84″ (2.13 m) Lacing Panel Black (Data Standard, Data Slim, Data Deep) | **B9712-0108** |
| 78″ (1.98 m) Lacing Panel Black (Data Standard, Data Slim, Data Deep) | **B9712-0109** |
| 78″ (1.98 m) Lacing Panel Black (Ultra Server, Ultra Deep Server) | **B9712-0109S** |
| **Light Kits** | |
| With Dual adjustable 5 Watt Halogen Lights & Dimmer, UL-Listed | **B9420-1905** |
| With Single adjustable 5 Watt Halogen Light & Dimmer, UL-Listed | **B9420-1906** |

B9712-0106



B9712-0108,
B9712-0109



B9712-0107



B9420-1905



B9420-1906

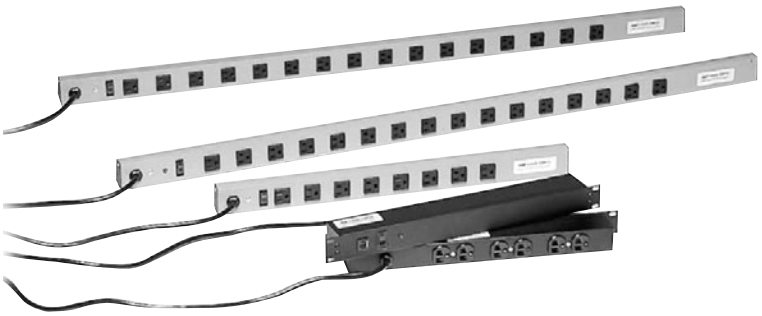


These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

# Modular Enclosure Options and Accessories

## Enclosure Power Strips

### Power Strips





5-15P 3 Prong | L5-15P Locking | 5-20P | L5-20P Locking

### Technical Specifications

| Part Number | Number of Outlets | Amps | Plug Type | Protection | | Switch | Outlet Spacing (inch) | Volts | Receptacle Type | Cord Length | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Surge | Circuit | | | | | ft. | m |
| **B9411-1602** | 16 | 15 | 5-15P 3 Prong | Yes | Yes | Yes | 2.500 | 120 | 5-15R | 15 | 4.6 |
| **B9412-0801** | 8 | 15 | 5-15P 3 Prong | No | Yes | Yes | 2.000 | 125 | 5-15R | 15 | 4.6 |
| **B9413-0601** | 6 | 15 | 5-15P 3 Prong | No | Yes | Yes | 1.500 | 125 | 5-15R | 15 | 4.6 |
| **B9414-0602** | 6 | 15 | 5-15P 3 Prong | Yes | Yes | Yes | 1.500 | 125 | 5-15R | 15 | 4.6 |
| **B9415-1601** | 10 | 20 | L5-20P Locking | No | Yes | Yes | 4.300 | 120 | 5-15R | 15 | 4.6 |
| **B9415-1602** | 16 | 20 | L5-20P Locking | No | Yes | Yes | 2.500 | 120 | 5-15R | 15 | 4.6 |
| **B9415-1603** | 16 | 20 | 5-20P | No | Yes | Yes | 2.430 | 120 | 5-15R | 15 | 4.6 |
| **B9415-1606** | 6 | 20 | L5-20P Locking | No | Yes | Yes | 2.650 | 120 | 5-15R | 15 | 4.6 |
| **B9415-1607** | 10 | 15 | L5-15P Locking | No | Yes | Yes | 4.250 | 120 | 5-15R | 15 | 4.6 |
| **B9415-1608** | 16 | 20 | L5-20P Locking | No | No | No | 2.735 | 120 | 5-15R | 15 | 4.6 |
| **B9415-1610** | 16 | 20 | 5-20P 3 Prong | Yes | Yes | No | 2.250 | 125 | 5-20R | 15 | 4.6 |
| **B9416-1001** | 10 | 20 | L5-20P Locking | No | Yes | Yes | – | 120 | 5-15R | 15 | 4.6 |

| Description | Belden Part Number |
|---|---|
| 4′ (1.2 m) 16 Outlet Strip Surge Suppressor, 15′ (4.6 m) Power Cord, UL-Listed | **B9411-1602** |
| 2′ (0.6 m) 8 Outlet Strip, 15 Amp/15′ (4.6 m) Power Cord, UL-Listed | **B9412-0801** |
| 19″ (0.48 m) Rack Mount 6 Outlet Strip (Rear), 15 Amp/15′ (4.6 m) Power Cord, UL-Listed | **B9413-0601** |
| 19″ (0.48 m) Rack Mount 6 Outlet Strip (Rear) Surge, 15 Amp/15′ (4.6 m) Power Cord, UL-Listed | **B9414-0602** |
| 4′ (1.2 m) 10 Outlet Strip, 20 Amp/15′ (4.6 m) Power Cord w/Twist Lock Plug, UL-Listed | **B9415-1601** |
| 4′ (1.2 m) 16 Outlet Strip, 20 Amp/15′ (4.6 m) Power Cord w/Twist Lock Plug, UL-Listed | **B9415-1602** |
| 4′ (1.2 m) 16 Outlet Strip, 20 Amp/15′ (4.6 m) Power Cord, UL-Listed | **B9415-1603** |
| 6 Outlet Strip, 20 Amp/15′ (4.6 m) Power Cord w/Twist Lock Plug, UL-Listed | **B9415-1606** |
| 10 Outlet Strip, 15 Amp/15′ (4.6 m) Power Cord w/Twist Lock Plug, UL-Listed | **B9415-1607** |
| 4′ (1.2 m) 16 Outlet Strip, 20 Amp/15′ (4.6 m) Power Cord | **B9415-1608** |
| 4′ (1.2 m) 16 Outlet Strip, 20 Amp Receptacle, Surge, CB, No Switch, 15′ (4.6 m) Cord, UL-Listed | **B9415-1610** |
| 19″ (0.48 m) Rack Mount 6 Outlet Front, 4 Outlet Rear, 20 Amp/15′ (4.6 m) Cord, w/Twist Lock Plug | **B9416-1001** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Modular Enclosure Options and Accessories

## Mission Critical Power Accessories

Mission Critical Power Accessory



### Mission Critical Power Accessories

Slim-Line™ low-profile, power distribution, designed for high-density, mission critical server applications, the SL series provides maximum power in a low profile chassis. Employing multiple configurations, the Easy-Read™ digital ammeter and clearly labeled circuits, SL series assures easy management and monitoring for current requirements and future expansions.

- Datacenter grade receptacles
- 1.25″ (0.03 m) low profile
- Easy-Read™ digital ammeter

Dual-circuit, vertical power distribution, designed for high-density, mission critical server applications, the DBVD series provides dual-source in one vertical, power distribution unit. Employing multiple configurations, the Easy-Read™ digital ammeter and clearly labeled circuits, DBVD assures easy management and monitoring for current requirements and future expansions.

- High-density, dual source
- Side-by-side outlet configuration
- Easy-Read™ digital ammeter
- Clearly labeled circuits

### Technical Specifications

| Part Number | Circuit Type | Volts | Amps | Unit Length | | Plug Type | Cord Length | | Outlet Type | Qty. | Power (Watts) | Est. Server Qty. | | | Ammeter |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | inch | m | | ft. | m | | | | 300W | 400W | 500W | |
| **B9418-0801** | Single | 120 | 20 | 24 | 0.60 | Straight | 15 | 4.6 | 5-15/20 | 8 | 1920 | 10 | 8 | 6 | Yes |
| **B9418-0802** | Single | 120 | 20 | 24 | 0.60 | L5-20 | 15 | 4.6 | 5-15/20 | 8 | 1920 | 10 | 8 | 6 | Yes |
| **B9418-1201** | Single | 120 | 20 | 60 | 1.52 | L5-20 | 15 | 4.6 | 5-15/20 | 12 | 1920 | 10 | 8 | 6 | Yes |
| **B9418-2401** | Single | 120 | 30 | 60 | 1.52 | L5-30 | 15 | 4.6 | 5-15/20 | 24 | 2880 | 15 | 12 | 9 | No |
| **B9418-2402** | Dual | 120 | 2 x 20 | 60 | 1.52 | 2 x L5-20 | 15 | 4.6 | 5-15/20 | 2 x 12 | 2 x 1920 | 10 | 8 | 6 | No |
| **B9418-2403** | Dual | 120 | 2 x 20 | 60 | 1.52 | L5-20 | 15 | 4.6 | 5-15/20 | 2 x 12 | 2 x 1920 | 10 | 8 | 6 | Yes |
| **B9418-2410** | Single | 120 | 30 | 60 | 1.52 | L5-30 | 15 | 4.6 | 5-15/20 | 24 | 2880 | 15 | 12 | 9 | Yes |
| **B9418-4801** | Dual | 208 | 2 x 30 | 68 | 1.72 | 2 x L6-30 | 10 | 3.1 | C-13 | 2 x 24 | 2 x 4992 | 24 | 21 | 17 | Yes |
| **B9418-7201** | Dual | 208 3-phase | 2 x 20 | 68 | 1.72 | 2 x L21-20 | 10 | 3.1 | C-12 | 2 x 36 | 2 x 5757 | 32 | 24 | 19 | Yes |

| Description | Belden Part Number |
|---|---|
| 24″ (0.60 m) 8 Outlet 20 Amp Circuit, 120 Volt, Straight Plug, 15′ (4.6 m) Power Cord, with Ammeter, UL-Listed | **B9418-0801** |
| 24″ (0.60 m) 8 Outlet 20 Amp Circuit, 120 Volt, L-5 20 Plug, 15′ (4.6 m) Power Cord, with Ammeter, UL-Listed | **B9418-0802** |
| 60″ (1.52 m) 12 Outlet 20 Amp 120 Volt, L-5 20 Plug, 15′ (4.6 m) Power Cord with Ammeter, UL-Listed | **B9418-1201** |
| 60″ (1.52 m) 24 Outlet 30 Amp 120 Volt, L-5 30 Plug, 15′ (4.6 m) Power Cord, UL-Listed | **B9418-2401** |
| 60″ (1.52 m) Dual 12 Outlet, Dual 20 Amp Circuit, 120 Volt, Dual L-5 20 Plug, 15′ (4.6 m) Power Cord, UL-Listed | **B9418-2402** |
| 60″ (1.52 m) Dual 12 Outlet, Dual 20 Amp Circuit, 120 Volt, Single L-5 20 Plug, 15′ (4.6 m) Power Cord, with Ammeter, UL-Listed | **B9418-2403** |
| 60″ (1.52 m) 24 Outlet 30 Amp 120 Volt, L-5 30 Plug, 15′ (4.6 m) Power Cord, with Ammeter, UL-Listed | **B9418-2410** |
| 68″ (1.72 m) Dual 24 Outlet, Dual 30 Amp Circuit, Dual L-6 30 Plug, C-13 Outlets, 10′ (3.1 m) Power Cord, with Ammeter, UL-Listed | **B9418-4801** |
| 68″ (1.72 m) Dual 36 Outlet, Dual 20 Amp Circuit, Dual L-21 20 Plug, C-12 Outlets, 10′ (3.1 m) Power Cord, with Ammeter, UL-Listed | **B9418-7201** |

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

# Modular Enclosure Options and Accessories

## Climate Monitors and Controllers

B9318-0400




B9318-0300



B9318-0200



These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

### Climate Monitor

Designed specifically for internal computer cabinet installation, this low-cost self-contained unit continually monitors climate via an internally-generated web page or SNMP. Values are graphed to see trends.

Its small size permits mounting in cabinet corners or the cabinet "attic" area and eliminates the environment monitor from occupying a 1-U space.

All software is contained inside the unit. The user supplies an Internet connection and an IP address. Administration of the unit is accomplished via the web page. When user-defined thresholds are exceeded, alarms can be sent via email or SNMP trap.

A full set of internal sensors are included:

- Temperature
- Air flow
- Sound
- Humidity
- Light

A variety of optional remote sensors are easily added. Up to 16 remote sensors can be added using Category 3 telephone wire and RJ-11 connectors. Remote sensors include:

- Webcam
- Water sensor
- City power monitor
- Door sensors
- Remote temperature sensor
- In-line power monitoring

Remote sensors allow the unit to monitor up to 16 cabinets hundreds of feet apart and show the status of air-conditioning outputs. There is one remote RJ-11 sensor receptacle on the unit. Simple splitters are used to expand to use all 16 sensors.

Software protocols include:

- Web (HTTP)
- FTP (firmware upgrades)
- WAP (cell phone display)
- SMTP/POP
- Graphing
- XML
- SNMP (full MIB)
- PDA display format
- Excel™

The webcam used is an IP-based Axis 205; it can be installed locally or remotely. Firmware updates can be made by FTP file transfer which eliminates retuning the unit to the factory.

| Description | Belden Part Number |
|---|---|
| Climate Monitor (Temperature, Heat, Humidity, Airflow, Sound) | **B9318-0400** |

### Electronic Fan Controller

- Remote temperature sensor with eight feet of cable allows mounting of controller in convenient location while precisely monitoring temperature at any point within the cabinet.
- Digital display shows actual temperature and programmed setpoint.
- Universal mounting bracket allows mounting to EIA rails or enclosure frame.
- Temperature range from -29˚C (-20˚F) to 60˚C (140˚F).

| Description | Belden Part Number |
|---|---|
| Electronic Fan Controller | **B9318-0300** |

### Thermostat Fan Controller

- Low cost mechanical controller with Internal Bi-metal sensing element.
- Position controller inside cabinet where temperature is to be monitored.
- Universal mounting bracket allows mounting to EIA rails or enclosure frame.
- Temperature range from -23˚C (-10˚F) to 38˚C (100˚F).

| Description | Belden Part Number |
|---|---|
| Thermostat Fan Controller | **B9318-0200** |

# Wall Mount Enclosures and Accessories

## Wall Mount Enclosures

BWM 4820-GD

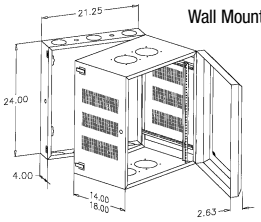


BWM 2406-SD



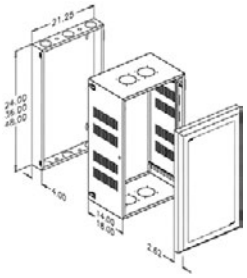
BWM 2420-SD





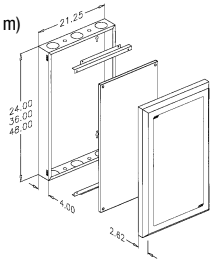

Wall Mount Assy. Swing-Out View
20″ (0.50 m) Depth/
24″ (0.60 m) Depth

Wall Mount Assy.
Rear Section
Mid Section
Front Door w/Glass

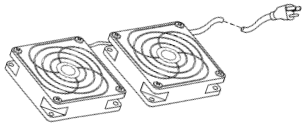


Wall Mount Assy. 4″ (0.10 m)
Depth Rear Section
Plywood Back Board
(Opt.) Front Door
with Glass

6″ (0.15 m) Depth




BWM-9312-1600 Fan Assembly
(2) 4″ (0.10 m) Diameter Fans (160 CFM) w/Guard

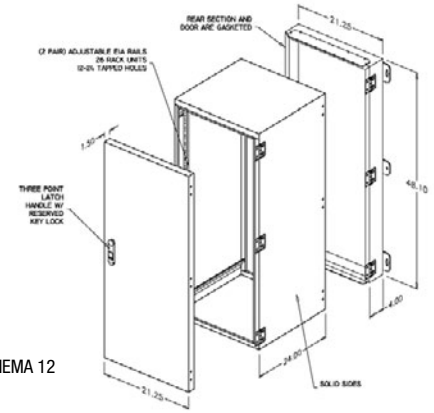


### Wall Mount Enclosure

The Wall Mount Enclosure provides a secure and permanent location for a variety of components. Most units feature 19″ (0.48 m) mounting rails and are available with either a glass door with lock or a steel door with lock and 1 pair of 10-32 tapped rails. A 48″ (1.21 m) NEMA-12 model is also offered for harsh environments.

| Description | Weight | Mounting | Belden Part Number |
|---|---|---|---|
| **Wall Mount Enclosure** | | | |
| **24″ (0.60 m) Wall Mount Enclosure 6″ (0.15 m) Depth** | | | |
| with Glass Door with Lock | 40 lbs. (18 kg) | Back Board | **BWM-2406-GD-C** |
| with Steel Door with Lock | 35 lbs. (15 kg) | Back Board | **BWM-2406-SD-C** |
| **24″ (0.60 m) Wall Mount Enclosure 20″ (0.50 m) Depth** | | | |
| with Glass Door with Lock | 75 lbs. (34 kg) | 12U | **BWM-2420-GD-C** |
| with Steel Door with Lock | 70 lbs. (31 kg) | 12U | **BWM-2420-SD-C** |
| **24″ (0.60 m) Wall Mount Enclosure 24″ (0.60 m) Depth** | | | |
| with Glass Door with Lock | 80 lbs. (36 kg) | 12U | **BWM-2424-GD-C** |
| with Steel Door with Lock | 75 lbs. (34 kg) | 12U | **BWM-2424-SD-C** |
| **36″ (0.91 m) Wall Mount Enclosure 6″ (0.15 m) Depth** | | | |
| with Glass Door with Lock | 45 lbs. (20 kg) | Back Board | **BWM-3606-GD-C** |
| with Steel Door with Lock | 45 lbs. (20 kg) | Back Board | **BWM-3606-SD-C** |
| **36″ (0.91 m) Wall Mount Enclosure 20″ (0.50 m) Depth** | | | |
| with Glass Door with Lock | 90 lbs. (40 kg) | 18U | **BWM-3620-GD-C** |
| with Steel Door with Lock | 85 lbs. (38 kg) | 18U | **BWM-3620-SD-C** |
| **36″ (0.91 m) Wall Mount Enclosure 24″ (0.60 m) Depth** | | | |
| with Glass Door with Lock | 98 lbs. (44 kg) | 18U | **BWM-3624-GD-C** |
| with Steel Door with Lock | 95 lbs. (43 kg) | 18U | **BWM-3624-SD-C** |
| **48″ (1.21 m) Wall Mount Enclosure 6″ (0.15 m) Depth** | | | |
| with Glass Door with Lock | 75 lbs. (34 kg) | Back Board | **BWM-4806-GD-C** |
| with Steel Door with Lock | 65 lbs. (29 kg) | Back Board | **BWM-4806-SD-C** |
| **48″ (1.21 m) Wall Mount Enclosure 20″ (0.50 m) Depth** | | | |
| with Glass Door with Lock | 120 lbs. (54 kg) | 25U | **BWM-4820-GD-C** |
| with Steel Door with Lock | 110 lbs. (49 kg) | 25U | **BWM-4820-SD-C** |
| **48″ (1.21 m) Wall Mount Enclosure 24″ (0.60 m) Depth** | | | |
| with Glass Door with Lock | 135 lbs. (61 kg) | 25U | **BWM-4824-GD-C** |
| with Steel Door with Lock | 125 lbs. (56 kg) | 25U | **BWM-4824-SD-C** |
| **48″ (1.21 m) NEMA 12 Wall Mount Enclosure 24″ (0.60 m) Depth** | | | |
| with Steel Door with Latch | 205 lbs. (92 kg) | 26U | **BWM-4830-SD-3S0001** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.




NEMA 12

# Wall Mount Enclosures and Accessories

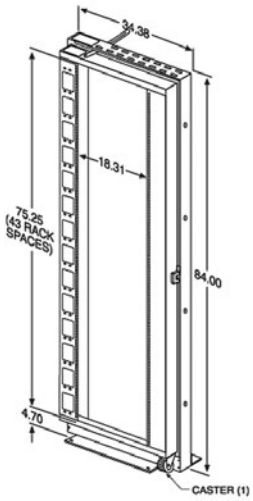
## Accessories and Swing Racks

Optional Basket



### Wall Mount Enclosure Accessories

| Description | Belden Part Number |
|---|---|
| **Caster/Leveler Base** | |
| Caster/Leveler Base, 20″ or 24″ (0.50 m or 0.60 m) | **B8912-0200-C** |
| **Back Board** | |
| 24″ (0.60 m) Plywood Back Board (Black) | **BWM-2401** |
| 36″ (0.91 m) Plywood Back Board (Black) | **BWM-3601** |
| 48″ (1.21 m) Plywood Back Board (Black) | **BWM-4801** |
| **Fan Assembly** | |
| Fan Assembly (2) 4″ (0.10 m) Diameter Fans (160 CFM) with Guard | **BWM-9312-1600** |
| **Mounting Uprights** | |
| 19″ (0.48 m) Mounting Uprights, 24″ (0.60 m) | **BWM-2419** |
| 19″ (0.48 m) Mounting Uprights, 36″ (0.91 m) | **BWM-3619** |
| 19″ (0.48 m) Mounting Uprights, 48″ (1.21 m) | **BWM-4819** |

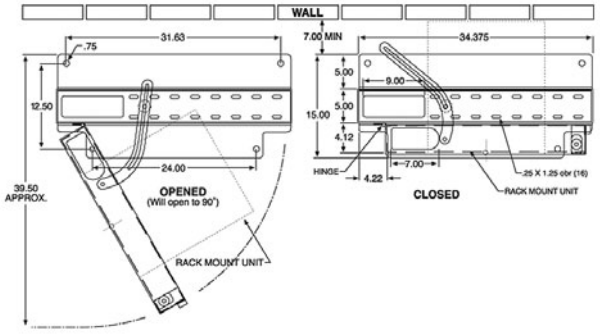



### Swing Racks

The Swing Rack provides easy access to the rear of rack mounted equipment in a freestanding environment. It is ideal for applications where space is limited and rear access is essential.

| Description | Weight | Mounting | Belden Part Number |
|---|---|---|---|
| 84″ (2.13 m) Swing-out Distribution Rack | 179 lbs. (81 kg) | 34U | **BSW-8419** |
| Power Strip Mounting Kit (Sold Separately) | | | **BSW-0100** |
| Top Mounting Wire Basket (24″/0.60 m Long) (Sold Separately) | | | **BSW-0200** |

Swing Racks




These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

## Notes

BELDEN
SENDING ALL THE RIGHT SIGNALS



# 12 Open Frame Racks and Accessories



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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### Sources of a Higher Magnitude

Belden is the largest company of its kind, combining cable, connectivity, enclosures and many other product solutions for highly technical industries around the globe. As the exclusive occupant in this market position, Belden provides thousands of satisfied customers with over a billion euros worth of trusted solutions every year, much of which supports the commercial networking sector. By combining our expertise in the design and manufacture of cables, connectivity, enclosures and related products, Belden now offers a product line of staggering magnitude, engineering triumphs and rich resources – worldwide.

### Belden Open Frame Racks

The complete line of Belden open frame racks are designed to meet the unique needs of data networks and other cabling systems. Whether it's the protection of sensitive equipment, the ability to mount equipment of varied sizes and depths, or the need to organize and neatly route installed cables, Belden has the solution you need. Belden provides you with single source convenience for all of your cable management requirements.

### Enclosures and Racks

Choose from a variety of vertical enclosures, open frame racks and wall mount enclosures, all expertly engineered to optimize product quality and performance. Although standard configurations of the most popular enclosures are offered for fast delivery needs, all custom enclosures and racks have numerous mounting, cable and patch cord management options, along with a variety of accessories. This selection of Belden enclosures and racks will meet virtually any mounting, storage or protection requirement for your application.

### Cable Ties

Belden cable ties are available in a complete variety of sizes for varying load capacities and are available in standard nylon or weather-resistant nylon.

| Type | Tensile/Shear Strength | | Length | | Weather Resistant |
|---|---|---|---|---|---|
| | lbs. | kg | inch | m | |
| **Miniature** | 18 lbs. | 8 | 4″ or 8″ | 0.70/0.20 | |
| **Intermediate** | 40 lbs. | 18 | 5 1/2″ to 14 1/2″ | 0.13/0.36 | • |
| **Standard** | 50 lbs. | 22 | 8″ to 17 3/4″ | 0.70/0.45 | • |
| **Heavy Duty** | 120 lbs. | 54 | 15″ | 0.38 | |
| **Heavy Duty** | 175 lbs. | 79 | 17 3/4″ to 48″ | 0.45/1.27 | |
| **Velcro** | 23 lbs./sq.in | 10 | 8″ or 12″ | 0.20/0.30 | |

### Single Sourcing Convenience

The cable management product families in this catalog are offered to cabling professionals for ultimate convenience in single sourcing. As a Belden customer, you also have the assurance of total dependability by working with a market leader and a trusted partner who has a vested interest in optimizing your operations and investments. We want to make sure you not only get the products you need with ease, but they also perform reliably.

### Availability

Please contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com for availability.

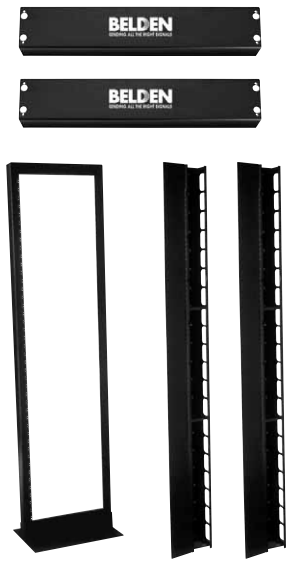
### Open Frame Racks

| Type | Rack Space | Heights | | Panel Mount | | Width | | Depth | |
|---|---|---|---|---|---|---|---|---|---|
| | | inch | m | inch | m | inch | m | inch | m |
| **Swing Rack** | 43U | 84 | 2.13 | 19 | 0.48 | 34, 38 | 0.86, 0.96 | 15 | 0.38 |
| **Distribution Rack** | 25, 39, 44U | 48, 72, 84 | 1.21, 1.82, 2.13 | 19, 23 | 0.48, 0.58 | 21.2, 25.2 | 0.53, 0.64 | 21 | 0.53 |
| **Cable Management Rack** | 44U | 84 | 2.13 | 19 | 0.48 | 23.75, 25.75 | 0.60, 0.65 | 15, 22 | 0.38, 0.55 |
| **Copper Rack Kit** | 44U | 84 | 2.13 | 19 | 0.48 | 30.75 | 0.78 | 14 | 0.35 |
| **Fiber Rack Kit** | 44U | 84 | 2.13 | 19, 23 | 0.48, 0.58 | 25, 29 | 0.63, 0.73 | 14 | 0.35 |
| **Wall Mount Rack – Swing-out** | 19, 25U | 36, 48 | 0.91, 1.21 | 19 | 0.48 | 20 | 0.50 | 12 to 18 | 0.30 to 0.45 |
| **Wall Mount Rack – Hinged** | 2U, 4U, 6U | 3.5, 7, 11 | 0.088, 0.17, 0.27 | 19 | 0.48 | 19, 19.5 | 0.48, 0.49 | 4, 9.5 | 0.10, 0.24 |

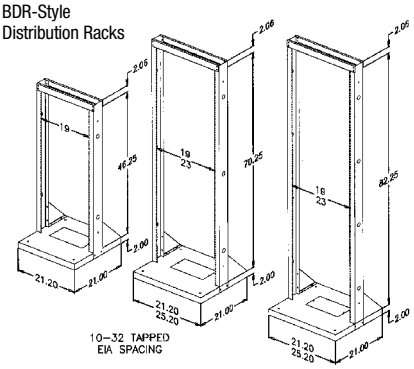
# Open Frame Rack Kits & Accessories

## Distribution Racks, Vertical Cable Managers

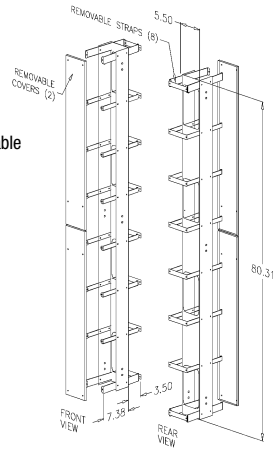
AX101174 Rack Kit




BDR-Style
Distribution Racks




BDR-Style
Vertical Cable
Managers




These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

### Open Frame Rack Kits

Rack kits are offered for both copper and fiber cabling. Welded and knock-down rack assemblies are available for copper; knock-down rack kits are available for fiber. All units feature one rack with either one or two vertical and two horizontal channels.

| Description | Mounting | Weight | | Belden Part Number |
|---|---|---|---|---|
| | | lbs. | kg | |
| **Copper Rack Kit** | | | | |
| Welded Rack Assembly – Black, 19″ x 84″ (7′) (One Rack w/2 Vertical & 2 Horizontal Channels), (0.48 x 2.13 m) | 44U | 145 | 66 | **AX101174** |
| Knock-Down Rack Assembly – Black, 19″ x 84″ (7′) (One Rack w/2 Vertical & 2 Horizontal Channels), (0.48 x 2.13 m) | 44U | 145 | 66 | **AX101175** |
| **Fiber Rack Kit** | | | | |
| Knock-Down Rack Assembly – Black, 19″ x 84″ (7′) (One Rack with 1 Vertical & 2 Horizontal Channels), (0.48 x 2.13 m) | 44U | 106 | 49 | **AX101176** |
| Knock-Down Rack Assembly – Grey, 23″ x 84″ (7′) (One Rack with 1 Vertical & 2 Horizontal Channels), (0.58 x 2.13 m) | 44U | 113 | 52 | **AX101177** |
| **Floor Mount Rack** | | | | |
| Knock-Down Rack Assembly – Black, 19″ x 84″ (7′) (w/Two Horizontal Channels) (0.48 x 2.13 m) | 44U | 65 | 30 | **AX101178** |
| Knock-Down Rack Assembly – Grey, 19″ x 84″ (7′) (w/Two Horizontal Channels) (0.48 x 2.13 m) | 44U | 65 | 30 | **AX101254** |
| Knock-Down Rack Assembly – Black, 23″ x 84″ (7′) (w/Two Horizontal Channels) (0.58 x 2.13 m) | 44U | 70 | 32 | **AX100931** |
| Knock-Down Rack Assembly – Grey, 23″ x 84″ (7′) (w/Two Horizontal Channels) (0.58 x 2.13 m) | 44U | 70 | 32 | **AX100930** |
| Welded Rack Assembly – Black, 19″ x 84″ (7′) (w/Two Horizontal Channels) (0.48 x 2.13 m) | 44U | 65 | 30 | **AX101179** |

### Distribution Racks

The distribution rack features 19″ or 23″ (0.48 m or 0.58 m) mounting rails for attaching a variety of rack mounted equipment. 48″, 72″ and 84″ (1.21 m, 1.82 m and 2.13 m) high models are included in the line.

| Description | Mounting | Weight | | Belden Part Number |
|---|---|---|---|---|
| | | lbs. | kg | |
| 48″ (1.21 m) Distribution Rack, 19″ (0.48 m) Mounting Rails | 25U | 34 | 15 | **BDR-4819** |
| 72″ (1.82 m) Distribution Rack, 19″ (0.48 m) Mounting Rails | 39U | 43 | 20 | **BDR-7219** |
| 84″ (2.13 m) Distribution Rack, 19″ (0.48 m) Mounting Rails | 39U | 50 | 23 | **BDR-8419** |
| 84″ (2.13 m) Distribution Rack, 19″ (0.48 m) Mounting Rails, 4″ (0.10 m) Channel with Angle Base,12-24 EIA Spacing | 45U | 60 | 27 | **BDR-8419-4** |
| 72″ (1.82 m) Distribution Rack, 23″ (0.58 m) Mounting Rails | 39U | 45 | 20 | **BDR-7223** |
| 84″ (2.13 m) Distribution Rack, 23″ (0.58 m) Mounting Rails | 45U | 52 | 24 | **BDR-8423** |
| Caster Kit for BDR Racks | | | | **B8912-0100** |

### Vertical Cable Managers

The vertical cable managers are used to manage patch cords in front and cables in the back. Available in 72″ (1.82 m) and 84″ (2.13 m) heights, the units are available with removable side panels and doors. They can be used with distribution racks (BDR-Style) and rack kit.

| Description | Belden Part Number |
|---|---|
| 72″ (1.82 m) Vertical Cable Manager | **BDR-7201** |
| 84″ (2.13 m) Vertical Cable Manager | **BDR-8401** |
| 84″ (2.13 m) Vertical Cable Manager, Double Sided with Cover | **BDR-8403** |

# Open Frame Rack Kits & Accessories

## Vertical and Horizontal Cable Management Channel, Cable Management Racks & Server Racks

AX101181 Horizontal Cable Management Channel



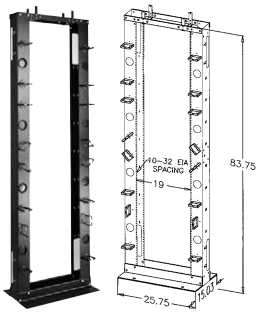

AX101180 Vertical Cable Management Channel



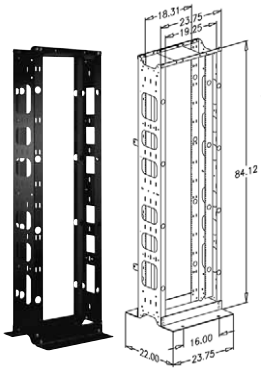
AX101371 Multi-Rack Attachment Spacer



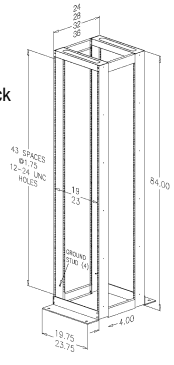
BCR-8419
84″ (2.13 m)
Cable Management Rack




BCR-8419-10
84″ (2.13 m)
Cable Management Rack w/10″ Channel




BSR-8419
Server Rack




These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

### Vertical Cable Management Channel

Vertical cable management channels are offered for both copper and fiber cabling. Available in heights of 84″ (2.13 m), the channels make cable organization quick and easy, with swing out/removable doors.

| Description | Weight | | Belden Part Number |
|---|---|---|---|
| | lbs. | kg | |
| **Copper** | | | |
| Knock-Down Assembly – Black, 5″ x 84″ (7′), (0.12 x 2.13 m) | 40 | 18 | **AX101180** |
| **Fiber** | | | |
| Knock-Down Assembly – Grey, 5″ x 84″ (0.12 x 2.13 m) | 35 | 16 | **AX100932** |
| Knock-Down Assembly – Black, 5″ X 84″ (0.12 x 2.13 m) | 35 | 16 | **AX100933** |
| Multi-Rack Attachment (Spacer) Kit<br>Use between Two Fiber Vertical Managers (AX100932-933) | – | – | **AX101371** |

### Horizontal Cable Management Channel

Horizontal cable management channels are available in widths of 19″ (0.48 m) and 23″ (0.58 m). The channels make cable organization quick and easy.

| Description | Weight | | Belden Part Number |
|---|---|---|---|
| | lbs. | kg | |
| 19″ (0.48 m) Horizontal Cable Management Channel, Black | 6 | 3 | **AX101181** |
| 19″ (0.48 m) Horizontal Cable Management Channel, Grey | 6 | 3 | **AX101182** |
| 23″ (0.58 m) Horizontal Cable Management Channel, Black | 8 | 4 | **AX101184** |
| 23″ (0.58 m) Horizontal Cable Management Channel, Grey | 8 | 4 | **AX101183** |

### Cable Management Rack

The cable management racks are designed for 19″ (0.48 m) rack-mount equipment and are 84″ (2.13 m) high. Model BCR-8419-10 features a channel that can be adjusted up to 10″ (0.25 m) deep.

| Description | Mounting | Weight | | Belden Part Number |
|---|---|---|---|---|
| | | lbs. | kg | |
| 84″ (2.13 m) Cable Management Rack,<br>19″ (0.48 m) Mounting Rails | 45 | 53 | 24 | **BCR-8419** |
| 84″ (2.13 m) Cable Management Rack,<br>19″ (0.48 m) Mounting Rails,<br>10″ (0.25 m) Channel with Cable Management | 45 | 60 | 27 | **BCR-8419-10** |

### Server Rack

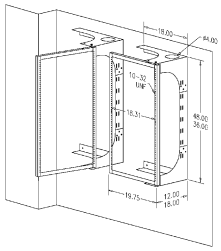
Server racks are designed for either 19″ (0.48 m) or 23″ (0.58 m) rack-mount equipment and are 84″ (2.13 m) high. The server rack is available in depths of 24″(0.60 m), 28″ (0.71 m) 32″ (0.81 m) and 36″ (0.91 m) to accommodate different equipment needs.

| Description | Belden Part Number |
|---|---|
| 84″ (2.13 m) Four Post Server Rack, 19″ (0.48 m) Mounting, Depth 24″ (0.60 m) | **BSR-8419-24** |
| 84″ (2.13 m) Four Post Server Rack, 19″ (0.48 m) Mounting, Depth 28″ (0.71 m) | **BSR-8419-28** |
| 84″ (2.13 m) Four Post Server Rack, 19″ (0.48 m) Mounting, Depth 32″ (0.81 m) | **BSR-8419-32** |
| 84″ (2.13 m) Four Post Server Rack, 19″ (0.48 m) Mounting, Depth 36″ (0.91 m) | **BSR-8419-36** |
| 84″ (2.13 m) Four Post Server Rack, 23″ (0.58 m) Mounting, Depth 24″ (0.60 m) | **BSR-8423-24** |
| 84″ (2.13 m) Four Post Server Rack, 23″ (0.58 m) Mounting, Depth 28″ (0.71 m) | **BSR-8423-28** |
| 84″ (2.13 m) Four Post Server Rack, 23″ (0.58 m) Mounting, Depth 32″ (0.81 m) | **BSR-8423-32** |
| 84″ (2.13 m) Four Post Server Rack, 23″ (0.58 m) Mounting, Depth 36″ (0.91 m) | **BSR-8423-36** |

# Wall Mount Racks & Accessories

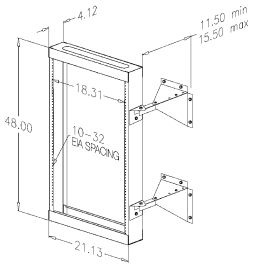
BWR-3619





BWR-4819 – Swing-out Distribution Racks
19″ x 48″ Depth Range 11.5″ to 15.5″ (0.29 m - 0.39 m)






AX100785 Wall Mount Bracket, 2U



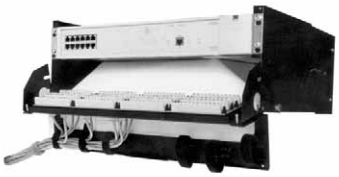
BWR-1219 – 12″ (0.30 m) Wall Mont Rack
Hinged Mounting for
Easy Access



Adjustable Shelf
2″ - 6″ (0.05 m - 0.15 m)



AX102514 – 4U Wall Mount Bracket w/2U Swivel



BER-6X6 –
6U Wall Mount Rack
w/6U and 6U Front

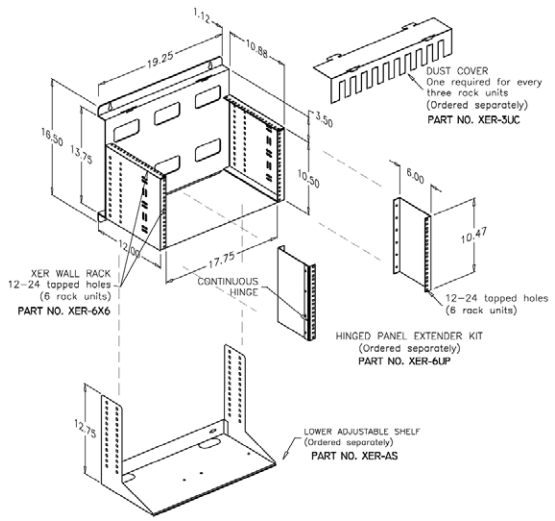


## Wall Mount Racks

Wall mount racks are available in two styles: hinged and swing out. The hinged rack is 12″ (0.30 m) in height and features an adjustable lower shelf. The swing out rack is available in heights of 36″ (0.91 m) and 48″ (1.21 m) with 19″ (0.48 m) mounting rails. 2U, 4U and 6U wall mount racks are also offered.

| Description | Mounting | Weight | | Belden Part Number |
|---|---|---|---|---|
| | | lbs. | kg | |
| **Swing Out Rack** | | | | |
| 36″ (0.91 m) Wall Mount Swing-out Rack, 19″ (0.48 m) Mounting Rails x 12″ (0.30 m) Fixed Depth | 18U | 30 | 14 | **BWR-3619-12** |
| 36″ (0.91 m) Wall Mount Swing-out Rack, 19″ (0.48 m) Mounting Rails x 18″ (0.45 m) Depth | 18U | 30 | 14 | **BWR-3619-18** |
| 48″ (1.21 m) Wall Mount Swing-out Rack, 19″ (0.48 m) Mounting Rails, 11.5″ - 15.5″ (0.29 m - 0.39 m) Adjustable Depth | 25U | 39 | 18 | **BWR-4819** |
| 48″ (1.21 m) Wall Mount Swing-out Rack, 19″ (0.48 m) Mounting Rails x 12″ (0.30 m) Fixed Depth | 25U | 39 | 18 | **BWR-4819-12** |
| 48″ (1.21 m) Mount Swing-out Rack, 19″ (0.48 m) Mounting Rails x 18″ (0.45 m) Depth | 25U | 39 | 18 | **BWR-4819-18** |
| **Hinged Rack** | | | | |
| 12″ (0.30 m) Wall Mount Rack, Hinged 19″ (0.48 m) Mounting Rails x 9″ (0.22 m) Fixed Depth | 6U | 26 | 12 | **BWR-1219** |
| **Wall Mount Bracket** | | | | |
| 2U Wall Mount Bracket, Black | 2U | 4 | 2 | **AX100785** |
| 4U Wall Mount Bracket, Black | 4U | 8 | 4 | **AX100786** |
| 4U Wall Mount Bracket w/2U Swivel | | | | **AX102514** |
| **6U Wall Mount Rack** | | | | |
| 6U Wall Mount Rack with 6U Top and 6U Front Rack Space, Tapped 12-24 EIA | 6″ (0.15 m) | 17 | 8 | **BER-6X6** |
| Bottom Accessory Shelf | – | – | – | **BER-AS** |
| Front Mounted Swing-out Patch Panel Kit, 6U | – | – | – | **BER-6UP** |
| Single, 3U Space Top Dust Cover | – | – | – | **BER-3UC** |

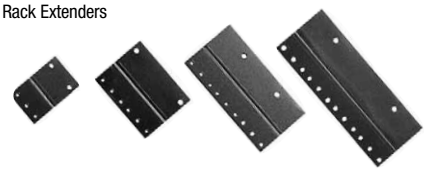
These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.



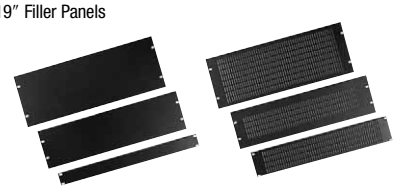
# Open Frame Rack Accessories & Cable/Cord Management Units

Extender Brackets, Filler Panels, Patch Cord Organizers

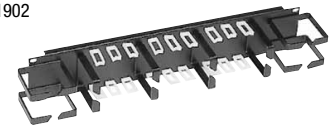
Rack Extenders



19″ Filler Panels



B9511-1902



B9510-1901



B9512-1901



Top: B9512-1902
Bottom: B9512-1902



## Open Frame Rack Extender Brackets

The open frame rack extender brackets are used to extend a 19″ (0.48 m) panel/equipment mounting for 23″ (0.58 m).

| Description | Belden Part Number |
|---|---|
| 1U 23″ (0.58 m) EIA To 19″ (0.48 m) EIA Extender Bracket | **B9810-0100** |
| 2U 23″ (0.58 m) EIA To 19″ (0.48 m) EIA Extender Bracket | **B9811-0200** |
| 3U 23″ (0.58 m) EIA To 19″ (0.48 m) EIA Extender Bracket | **B9812-0300** |
| 4U 23″ (0.58 m) EIA To 19″ (0.48 m) EIA Extender Bracket | **B9813-0400** |

## Filler Panels

Filler panels are available in solid or vented for improved air flow.

| Description | Belden Part Number |
|---|---|
| 1U 19″ (0.48 m) Solid Filler Panel, Grey | **A0644497** |
| 2U 19″ (0.48 m) Solid Filler Panel, Grey | **A0644499** |
| 1U 19″ (0.48 m) Solid Filler Panel, Black | **B9910-0100** |
| 2U 19″ (0.48 m) Solid Filler Panel, Black | **B9911-0200** |
| 3U 19″ (0.48 m) Solid Filler Panel, Black | **B9912-0300** |
| 4U 19″ (0.48 m) Solid Filler Panel, Black | **B9913-0400** |
| 2U 19″ (0.48 m) Vented Filler Panel, Black | **B9914-0200** |
| 3U 19″ (0.48 m) Vented Filler Panel, Black | **B9915-0300** |
| 4U 19″ (0.48 m) Vented Filler Panel, Black | **B9916-0400** |

## Patch Cord Organizers

The patch cord organizers keep wires and cable under control.
Among the many features of the patch cord organizers are:

- Horizontal/vertical patch cord management
- Front/rear management
- Removable covers
- Bend radius control

| Description | Belden Part Number |
|---|---|
| 1U 19″ (0.48 m) Cable Organizer | **B9510-1901** |
| 2U 19″ (0.48 m) Cable Organizer with Saddle Rings | **B9511-1902** |
| 1U 19″ (0.48 m) Rack Mount Cable Organizer with Finger Stock and Cover (1.5″ x 2″, 0.038 x 0.050 m) | **B9512-1901** |
| 2U 19″ (0.48 m) Rack Mount Cable Organizer with Finger Stock and Cover (3″ x 3″, 0.076 x 0.076 m) | **B9512-1902** |
| 2U 19″ (0.48 m) Cable Organizer with Finger Stock and Cover Front and Rear | **B9512-1902-FR** |
| 2U 19″ (0.48 m) Cable Organizer with Quick Touch (2″ x 3″, 0.050 x 0.076 m) | **B9513-1902** |
| 1U 19″ (0.48 m) Cable Organizer with Radius (Waterfall) | **B9514-1901** |
| 1U 23″ (0.58 m) Cable Organizer | **B9610-2301** |
| 2U 23″ (0.58 m) Cable Organizer with Saddle Rings | **B9611-2302** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

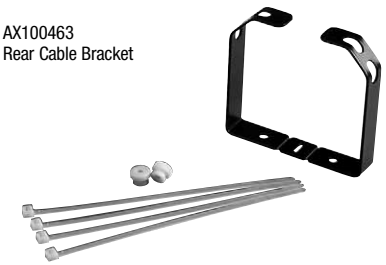
# Open Frame Rack Accessories & Cable / Cord Management Units

## Ring Panels, Organizer Trays, Brackets & Patch Cord Channel

AX100249 Organizer Tray, 3U



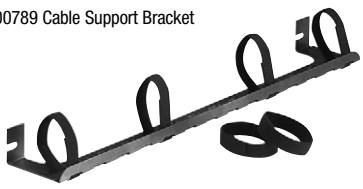
AX100463
Rear Cable Bracket



AX101173 Cable Tie Bar



AX100789 Cable Support Bracket



AX100793 Patch Cord Organizer Channel



A0396695 Organizer Ring Panel, 2U



A0644488 Organizer Panel, 1U



### Open Frame Rack Cable and Patch Cord Management

The open frame rack cable and patch cord management accessories can be used with patch panels in open frame racks for distribution cable and patch cord organization, routing and protection. They allow easier cord access and simplify moves, additions and changes.

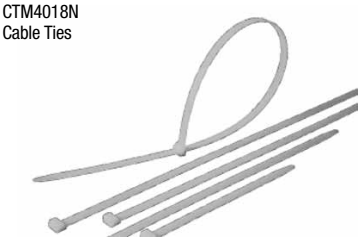
| Description | Mounting | Belden Part Number |
|---|---|---|
| Organizer Ring Panel, Grey | 2U | **A0396695** |
| Organizer Ring Panel, Black | 2U | **A0403977** |
| Organizer Panel, Grey | 1U | **A0644488** |
| Organizer Panel, Black | 1U | **A0644489** |
| Organizer Panel, Grey | 2U | **A0644490** |
| Organizer Panel, Black | 2U | **A0644492** |
| Organizer Tray, Grey | 3U | **AX100248** |
| Organizer Tray, Black | 3U | **AX100249** |
| Rear Cable Bracket, Grey | – | **AX100462** |
| Rear Cable Bracket, Black | – | **AX100463** |
| Cable Support Bracket, Grey | 0U | **AX100788** |
| Cable Support Bracket, Black | 0U | **AX100789** |
| Patch Cord Organizer Channel, Grey | 1U | **AX100792** |
| Patch Cord Organizer Channel, Black | 1U | **AX100793** |
| Patch Cord Organizer Channel, Grey | 2U | **AX100794** |
| Patch Cord Organizer Channel, Black | 2U | **AX100795** |
| Patch Cord Organizer Channel, Grey | 4U | **AX100796** |
| Patch Cord Organizer Channel, Black | 4U | **AX100797** |
| Cable Tie Bar, Black | 0U | **AX101173** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Cable Ties

Miniature, Intermediate, Standard & Heavy-Duty

CTM4018N
Cable Ties



CTM4018B
Cable Ties



## Cable Ties

The cable ties line features miniature, intermediate, standard and heavy duty cable ties. They are available in tensile strengths ranging from 8 to 80 kg (18 to 175 lbs.) and are manufactured from various grades of nylon including weather-resistant nylon for use in sunshine/outdoor applications. They are offered in lengths from 4″ (0.10 m) to 48″ (1.21 m). Color: natural (indoor), black (outdoor). Velcro cable ties are also available.

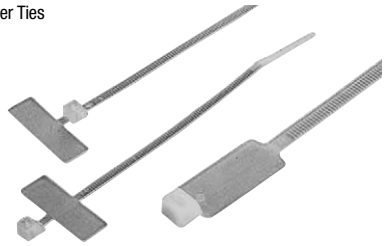
| Description | Length | | Width | | Loop Tensile Strength | | Max. Bundled Diameter | | Belden Part Number |
|---|---|---|---|---|---|---|---|---|---|
| | inch | mm | inch | mm | lbs. | N | inch | mm | |
| **Miniature** 8 kg (18 lbs.) Tensile Strength | | | | | | | | | |
| Nylon Cable Tie, 100 pcs, Natural, 4″ (0.10 m) | 3.9 | 100 | 0.098 | 2.5 | 18 | 80 | 1.0 | 25 | **CTM4018N** |
| Nylon Cable Tie, 100 pcs, Natural, 5.5″ (0.13 m) | 5.6 | 142 | 0.098 | 2.5 | 18 | 80 | 1.4 | 35 | **CTM5P18N** |
| Nylon Cable Tie, 100 pcs, Natural, 8″ (0.20 m) | 8.0 | 203 | 0.098 | 2.5 | 18 | 80 | 2.2 | 55 | **CTM8018N** |
| **Intermediate** 18 kg (40 lbs.) Tensile Strength | | | | | | | | | |
| Nylon Cable Tie, 100 pcs, Natural, 5.5″ (0.13 m) | 5.6 | 142 | 0.125 | 3.2 | 40 | 178 | 1.4 | 35 | **CTI5P40N** |
| Nylon Cable Tie, 100 pcs, Natural, 8″ (0.20 m) | 8.0 | 203 | 0.141 | 3.6 | 40 | 178 | 2.2 | 55 | **CTI8040N** |
| Nylon Cable Tie, 100 pcs, Natural, 11″ (0.27 m) | 11.5 | 292 | 0.141 | 3.6 | 40 | 178 | 3.3 | 85 | **CTI11P40N** |
| Nylon Cable Tie, 100 pcs, Natural, 14.5″ (0.36 m) | 14.5 | 368 | 0.141 | 3.6 | 40 | 178 | 4.0 | 103 | **CTI14P40N** |
| Weather Resistant Nylon Cable Tie, 100 pcs, Black, 5.5″ (0.13 m) | 5.6 | 142 | 0.125 | 3.2 | 40 | 178 | 1.4 | 35 | **CTI5P40BW** |
| Weather Resistant Nylon Cable Tie, 100 pcs, Black, 8″ (0.20 m) | 8.0 | 203 | 0.141 | 3.6 | 40 | 178 | 2.2 | 55 | **CTI8040BW** |
| Weather Resistant Nylon Cable Tie, 100 pcs, Black, 11.5″ (0.29 m) | 11.5 | 292 | 0.141 | 3.6 | 40 | 178 | 3.3 | 85 | **CTI11P40BW** |
| Weather Resistant Nylon Cable Tie, 100 pcs, Black, 14.5″ (0.36 m) | 14.5 | 368 | 0.141 | 3.6 | 40 | 178 | 4.0 | 103 | **CTI14P40BW** |
| **Standard** 22 kg (50 lbs.) Tensile Strength | | | | | | | | | |
| Nylon Cable Tie, 100 pcs, Natural, 8″ (0.20 m) | 8.0 | 203 | 0.180 | 4.6 | 50 | 222 | 2.2 | 55 | **CTS8050N** |
| Nylon Cable Tie, 100 pcs, Natural, 11″ (0.27 m) | 11.0 | 280 | 0.188 | 4.8 | 50 | 222 | 3.2 | 81 | **CTS1150N** |
| Nylon Cable Tie, 100 pcs, Natural, 14.5″ (0.36 m) | 14.5 | 368 | 0.188 | 4.8 | 50 | 222 | 4.0 | 103 | **CTS14P50N** |
| Nylon Cable Tie, 100 pcs, Natural, 17.75″ (0.45 m) | 17.7 | 450 | 0.188 | 4.8 | 50 | 222 | 5.1 | 131 | **CTS17P50N** |
| Weather Resistant Nylon Cable Tie, 100 pcs, Black, 8″ (0.20 m) | 8.0 | 203 | 0.180 | 4.6 | 50 | 222 | 2.2 | 55 | **CTS8050BW** |
| Weather Resistant Nylon Cable Tie, 100 pcs, Black, 11.5″ (0.29 m) | 11.0 | 280 | 0.188 | 4.8 | 50 | 222 | 3.2 | 81 | **CTS1150BW** |
| Weather Resistant Nylon Cable Tie, 100 pcs, Black, 14.5″ (0.36 m) | 14.5 | 368 | 0.188 | 4.8 | 50 | 222 | 4.0 | 103 | **CTS14P50BW** |
| Weather Resistant Nylon Cable Tie, 100 pcs, Black, 17.75″ (0.45 m) | 17.7 | 450 | 0.188 | 4.8 | 50 | 222 | 5.1 | 131 | **CTS17P50BW** |
| **Heavy Duty** 54 kg (120 lbs.) Tensile Strength | | | | | | | | | |
| Nylon Cable Tie, 100 pcs, Natural, 15″ (0.38 m) | 15.0 | 380 | 0.298 | 7.6 | 120 | 533 | 4.3 | 111 | **CTH15120N** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Cable Ties

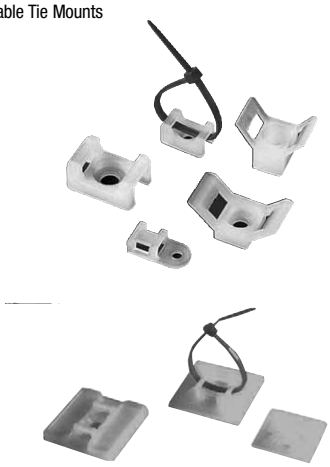
## Marker Ties, Cable Tie Mounts

Marker Ties



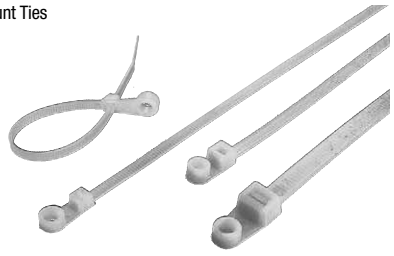
| Description | Length | | Width | | Loop Tensile Strength | | Max. Bundled Diameter | | Belden Part Number |
|---|---|---|---|---|---|---|---|---|---|
| | inch | mm | inch | mm | lbs. | N | inch | mm | |
| **Heavy Duty Nylon Cable Tie** 80 kg (175 lbs.) Tensile Strength | | | | | | | | | |
| 100 pcs, Natural, 17.75″ (0.45 m) | 17.7 | 450 | 0.313 | 8.0 | 175 | 778 | 5.2 | 134 | **CTH17P175N** |
| 100 pcs, Natural, 21.7″ (0.55 m) | 21.7 | 550 | 0.313 | 8.0 | 175 | 778 | 6.5 | 167 | **CTH21P175N** |
| 100 pcs, Natural, 36″ (0.91 m) | 36.0 | 914 | 0.352 | 9.0 | 175 | 778 | 10.6 | 271 | **CTH36P175N** |
| 100 pcs, Natural, 48″ (1.21 m) | 48.0 | 1219 | 0.352 | 9.0 | 175 | 778 | 15.0 | 382 | **CTH48P175N** |
| **Mount Ties** | | | | | | | | | |
| 100 pcs, Natural, 18 kg (40 lbs.), 6″ (0.15 m) | 6.7 | 171 | 0.145 | 3.7 | 40 | 178 | 1.6 | 40 | **CTI6040NM** |
| 100 pcs, Natural, 22 kg (50 lbs.), 11.57″ (0.29 m) | 11.8 | 300 | 0.188 | 4.8 | 50 | 222 | 3.3 | 85 | **CTS11P50NM** |
| 100 pcs, Natural, 22 kg (50 lbs.), 14.5″ (0.36 m) | 14.6 | 370 | 0.188 | 4.8 | 50 | 222 | 4.0 | 103 | **CTS14P50NM** |

Cable Tie Mounts



| Description | Length | | Width | | Loop Tensile Strength | | Max. Bundled Diameter | | Marking Pad | | Belden Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | inch | mm | inch | mm | lbs. | N | inch | mm | inch | mm | |
| **Marker Ties** 8 kg (18 lbs.) Tensile Strength | | | | | | | | | | | |
| 100 pcs, Natural, 4″ (0.10 m) | 3.9 | 100 | 0.098 | 2.5 | 18 | 80 | 1.0 | 25 | 0.98 x 0.31 | 25 x 8 | **CTM4018NMK** |
| 100 pcs, Natural, 4.25″ (0.10 m) | 4.3 | 110 | 0.098 | 2.5 | 18 | 80 | 1.0 | 25 | 0.98 x 0.32 | 26 x 8 | **CTM4P18NMK** |
| 100 pcs, Natural, 5″ (0.12 m) | 5.1 | 130 | 0.098 | 2.5 | 18 | 80 | 1.0 | 25 | 1.10 x 0.79 | 28 x 20 | **CTM5018NMK** |
| 100 pcs, Natural, 8″ (0.20 m) | 7.9 | 200 | 0.098 | 2.5 | 18 | 80 | 2.0 | 50 | 1.18 x 0.59 | 30 x 15 | **CTM8018NMK** |
| **Marker Ties** 22.5 kg (50 lbs.) Tensile Strength | | | | | | | | | | | |
| 100 pcs, Natural, 8″ (0.20 m) | 7.9 | 200 | 0.180 | 4.6 | 50 | 222 | 2.0 | 50 | 1.10 x 0.51 | 28 x 13 | **CTS8050NMK** |
| 100 pcs, Natural, 10.5″ (0.26 m) | 10.6 | 270 | 0.180 | 4.6 | 50 | 222 | 3.0 | 75 | 1.10 x 0.51 | 28 x 13 | **CTS10P50NMK** |

Mount Ties



| Description | Length | | Width | | Mounting Method | Belden Part Number |
|---|---|---|---|---|---|---|
| | inch | mm | inch | mm | | |
| **Cable Tie Mounts** | | | | | | |
| Cable Tie Mount S.A. M, 100 per Bag | 0.49 | 12.5 | 0.49 | 12.5 | Self Adhesive | **TM100S4** |
| Cable Tie Mount S.A. M-I, 100 per Bag | 0.75 | 19.0 | 0.74 | 19.0 | #4 M2.5 Screw + Self Adhesive | **TM101SS2** |
| Cable Tie Mount S.A. M-I-S, 100 per Bag | 1.10 | 28.0 | 1.10 | 28.0 | #4 M2.5 Screw + Self Adhesive | **TM102** |
| Cable Tie Mount Sc. M-I, 100 per Bag | 0.50 | 12.8 | 0.27 | 7.0 | #4 M2.5 Screw | **TM1** |
| Cable Tie Mount Sc. I-S-HD, 100 per Bag | 0.91 | 23.0 | 0.63 | 16.0 | 1/4 M6 Screw | **TM2** |
| Cable Tie Mount Sc. I-S-HD, 100 per Bag | 1.18 | 30.0 | 0.58 | 14.7 | #10 M5 Screw | **TM4** |

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

Cable mounts compatible with following cable tie cross section.
S.A. = Self Adhesive • M = Miniature • Sc. = Screw on type • I = Intermediate • S = Standard • HD = Heavy Duty

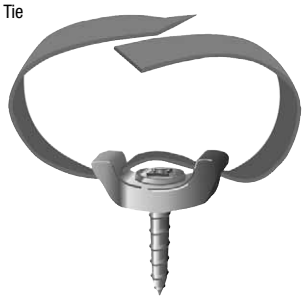
# Cable Ties

## Velcro Ties, Saddles, Saddle Ties

AX100781
Velcro Saddle



AX102512
Saddle Tie



AX102516
12≤ Fiber Optic Cable Manager



| Description | Belden Part Number |
|---|---|
| **Velcro Cable Ties** | |
| Velcro Cable Ties, 25 per Roll, 8″ (0.20 m) | **AX100783** |
| Velcro Cable Ties, 25 per Roll, 12″ (0.30 m) | **AX100784** |
| Velcro Saddle, 25 pcs | **AX100781** |
| Velcro Saddle Kit with #8 Wood Screw, 10 pcs | **AX102512** |
| Velcro Saddle Kit with 10/32 Rack Screw, 10 pcs | **AX102513** |
| 15′ (4.6 m) Roll x 5/8″ (0.20 m) Polywrap, Cut to Length as required | **AX102515** |
| 12″ (0.30 m) Fiber Optic Cable Manager | **AX102516** |
| 24″ (0.60 m) Fiber Optic Cable Manager | **AX102517** |

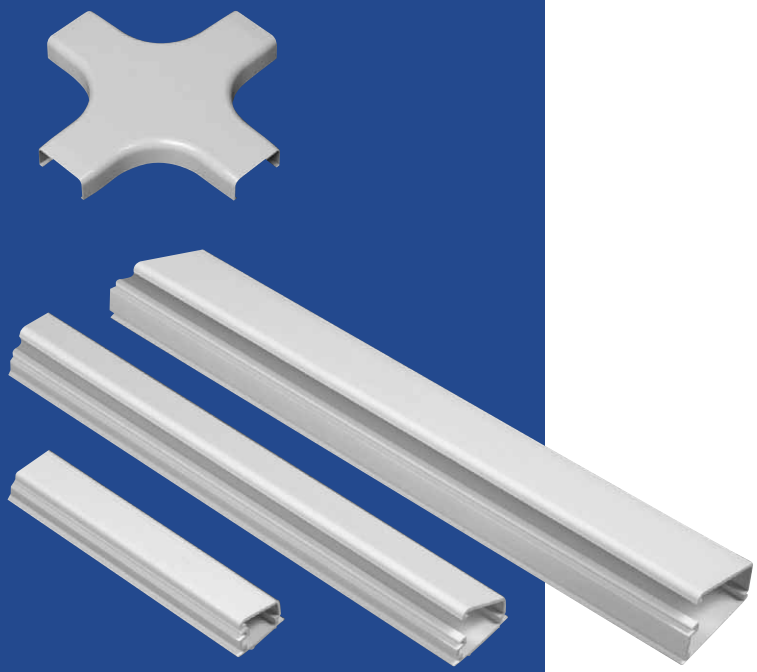
These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

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# 13 Surface Raceway Systems



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| Raceway Fill Capacity Chart | 13.4 |


Please refer to “Terms of Use of Master Catalog” on page 23.22.

# One-Piece Latching Raceway

BFT-Style Surface Raceway Systems



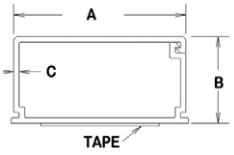
## Surface Raceway System

The surface raceway system is a functional, affordable, attractive solution for wire enclosure applications in commercial, industrial and residential environments. The product line includes extruded raceways with pre-applied adhesive backings, fittings, and adapter boxes.

- One-piece design features patented hinge (Lid can be opened in any mounting position.)
- Parts are made of a strong, durable, lightweight, UL 94-VO compliant PVC
- UL 5A specification for 600 volt applications
- One inch (0.025 m) minimum bend radius accessories available for Category 5e, 6 and fiber optic installations

All products are fully paintable and available in three sizes:

- 3/4″ x 1/2″ (0.700 x 0.050 m, Model No. 03SR)
- 1″ x 1/2″ (0.025 x 0.050 m, Model No. 05SR)
- 1-1/2″ x 3/4″ (0.050 x 0.700 m, Model No. 09SR)




| Description | Dimensions | | | | | | | | Belden Part Number |
|---|---|---|---|---|---|---|---|---|---|
| | A | | B | | C | | Tape Width | | |
| | inch | mm | inch | mm | inch | mm | inch | mm | |
| **One-piece Latching Raceway** | | | | | | | | | |
| **03SR** White, 2.4 m (8 ft.), 20 pcs 3/4″ x 1/2″ (0.700 x 0.050 m) | 0.760 | 19.3 | 0.505 | 12.8 | 0.050 | 1.27 | 0.500 | 12.7 | **BFT-03SRW8** |
| **05SR** White, 2.4 m (8 ft.), 20 pcs 1″ x 1/2″ (0.025 x 0.050 m) | 1.010 | 25.7 | 0.505 | 12.8 | 0.050 | 1.27 | 0.750 | 19.1 | **BFT-05SRW8** |
| **09SR** White, 2.4 m (8 ft.), 20 pcs 1-1/2″ x 3/4″(0.050 x 0.700 m) | 1.500 | 38.1 | 0.755 | 19.2 | 0.050 | 1.27 | 1.000 | 25.4 | **BFT-09SRW8** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

### Area of Raceway

| Modell No. | sq. in. | mm² |
|---|---|---|
| **03SR** | 0.259 | 167.10 |
| **05SR** | 0.488 | 314.84 |
| **09SR** | 0.827 | 533.55 |

See chart on page 13.4 for Raceway fill capacities.

# Accessories & Adapter Boxes



BFT-CE03W Ceiling Entry



BFT-EC03W End Cap



BFT-FO03W High Radius Elbow



BFT-9003W Flat Elbow



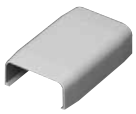
BFT-IN30W Inside Corner



BFT-OC03W Outside Corner



BFT-SC03W Splice Cover



BFT-3T03W 3-Way Tee



BFT-4T03W 4-Way Tee



AX102610 MediaFlex Double Gang Adapter Box



## Surface Raceway System Accessories

A wide variety of accessories are available for the surface raceway system including:

- Ceiling entries
- End caps (end cap doubles as reducer to all three raceway sizes)
- High radius elbows
- Flat elbows
- Inside corners
- Splice covers
- Outside corners
- 3-way and 4-way tees

| Description | Belden Part Number | | |
|---|---|---|---|
| | 03SR | 05SR | 09SR |
| Ceiling Entry, White, 10 pcs | **BFT-CE03W** | **BFT-CE05W** | **BFT-CE09W** |
| Splice Cover, White, 10 pcs | **BFT-SC03W** | **BFT-SC05W** | **BFT-SC09W** |
| End Cap, White, 10 pcs | **BFT-EC03W** | **BFT-EC05W** | **BFT-EC09W** |
| 3-way Tee, White, 10 pcs | **BFT-3T03W** | **BFT-3T05W** | **BFT-3T09W** |
| Flat 90 Elbow, White, 10 pcs | **BFT-9003W** | **BFT-9005W** | **BFT-9009W** |
| Inside Corner, White, 10 pcs | **BFT-IN03W** | **BFT-IN05W** | **BFT-IN09W** |
| Outside Corner, White, 10 pcs | **BFT-OC03W** | **BFT-OC05W** | **BFT-OC09W** |
| 4-way Tee, White, 10 pcs | **BFT-4T03W** | **BFT-4T05W** | **BFT-4T09W** |
| High Radius Elbow, White, 10 pcs | **BFT-FO03W** | **BFT-FO05W** | **BFT-FO09W** |

## Surface Raceway System Adapter Boxes

MediaFlex surface adapter boxes are one part of the comprehensive line of plates and inserts that snap together to create a full line of modular workstation outlets. MediaFlex surface adapter boxes are designed to work with Belden surface raceway systems. The MediaFlex surface adapter boxes are available in single and double gang configuration.

- Good depth allow more room for cable management and bend radius
- Comes with mounting plate for added installation flexibility
- No special tools required, therefore reduces installation time
- Sturdy design for excellent durability and network protection
- Modern unique aesthetic design

| Description | Belden Part Number |
|---|---|
| MediaFlex Single Gang Adapter Box, Standard, White | **AX102611** |
| MediaFlex Double Gang Adapter Box, Standard, White | **AX102610** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Technical Information

## Raceway Fill Capacity Chart

| Wire Type | Wire Diameter | | Wire Area | | Number of Cables per Raceway | | |
|---|---|---|---|---|---|---|---|
| | inch | mm | sq. in. | mm² | 03SR | 05SR | 09SR |
| **Building Wire THHN** | | | | | | | |
| 14 AWG | 0.108 | 2.74 | 0.0092 | 5.935 | **3** | **5** | **9** |
| 12 AWG | 0.126 | 3.20 | 0.0125 | 8.065 | **2** | **4** | **7** |
| 10 AWG | 0.170 | 4.32 | 0.0227 | 14.645 | **1** | **2** | **4** |
| **Signal Wire** UL Style 1061 • 300V 80 C°* | | | | | | | |
| 18 AWG | 0.066 | 2.74 | 0.0034 | 2.194 | **30** | **57** | **97** |
| 20 AWG | 0.066 | 1.68 | 0.0028 | 1.806 | **37** | **69** | **117** |
| 22 AWG | 0.050 | 1.27 | 0.0020 | 1.290 | **53** | **99** | **169** |
| 24 AWG | 0.045 | 1.14 | 0.0016 | 1.032 | **65** | **123** | **208** |
| **Unshielded Twisted Pair Wire (UTP)** 24 AWG* | | | | | | | |
| 2-pair | 0.140 | 3.56 | 0.0154 | 9.935 | **7** | **13** | **22** |
| 3-pair | 0.150 | 3.81 | 0.0177 | 11.419 | **6** | **11** | **19** |
| 4-pair Cat 5e, Cat 6 | 0.220 | 5.59 | 0.0380 | 24.516 | **3** | **5** | **9** |
| 25-pair | 0.510 | 12.95 | 0.2042 | 131.742 | **0** | **1** | **2** |
| **Twisted Pair Wire** (Shielding)* | | | | | | | |
| 4-pair 24 AWG | 0.250 | 6.35 | 0.0491 | 31.677 | **2** | **4** | **7** |
| 25-pair 24 AWG | 0.510 | 12.95 | 0.2042 | 131.742 | **0** | **1** | **2** |
| Type 1A 22 AWG | 0.430 | 10.92 | 0.1451 | 93.613 | **1** | **1** | **2** |
| **Coax Cable** (Max.) | | | | | | | |
| RG-58/U | 0.193 | 4.90 | 0.0292 | 18.839 | **4** | **7** | **11** |
| RG-59/U, RG-62/U | 0.242 | 6.15 | 0.0460 | 29.677 | **2** | **4** | **7** |
| RG-6/U | 0.270 | 6.86 | 0.0572 | 36.903 | **2** | **3** | **6** |
| **Fiber Optic Cable** 62.5/125/900, PVC Jacket, OFNR* | | | | | | | |
| 2-strand | 0.175 | 4.45 | 0.0240 | 15.484 | **4** | **8** | **14** |
| 4-strand | 0.185 | 4.70 | 0.0269 | 17.355 | **4** | **7** | **12** |
| 6-strand | 0.210 | 5.33 | 0.0346 | 22.323 | **3** | **6** | **10** |

* Based on 40% fill ratio

### Area of Raceway

| Modell No. | sq. in. | mm² |
|---|---|---|
| **03SR** | 0.259 | 167.10 |
| **05SR** | 0.488 | 314.84 |
| **09SR** | 0.827 | 533.55 |

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# PowerSense® PoE Products

14



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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### Release the Power

Consistent with Belden's commitment to quality and innovation, we offer PowerSense™ high-performance power distribution equipment for the efficient and reliable delivery of power over ethernet.

### What is Power over Ethernet?

Power over ethernet refers to the ability to power network devices directly over the existing data connection, eliminating the need for an external power supply for each device. With power over ethernet, devices such as IP telephones, wireless LAN access points, security cameras and other enterprise terminals can safely receive power over legacy Category 5 or better LAN cabling without modifying the existing infrastructure. Power over ethernet is also a necessity for the Voice-over-IP (VoIP) solution as this service requires an alternative power source for IP phones.

Power over ethernet consists of two essential components: the power-sourcing equipment (PSE) and the powered devices (PD).

### PowerSense – The Cutting-Edge, Modular Approach to Power over Ethernet

Midspan hubs are power-sourcing equipment. These hubs are patch panel-like devices that are installed between the existing ethernet switch and the devices to be powered (see figure). They add power to the spare pairs of a data cable without disturbing the transmission of the data.

Belden PowerSense midspan hubs provide these unprecedented features:

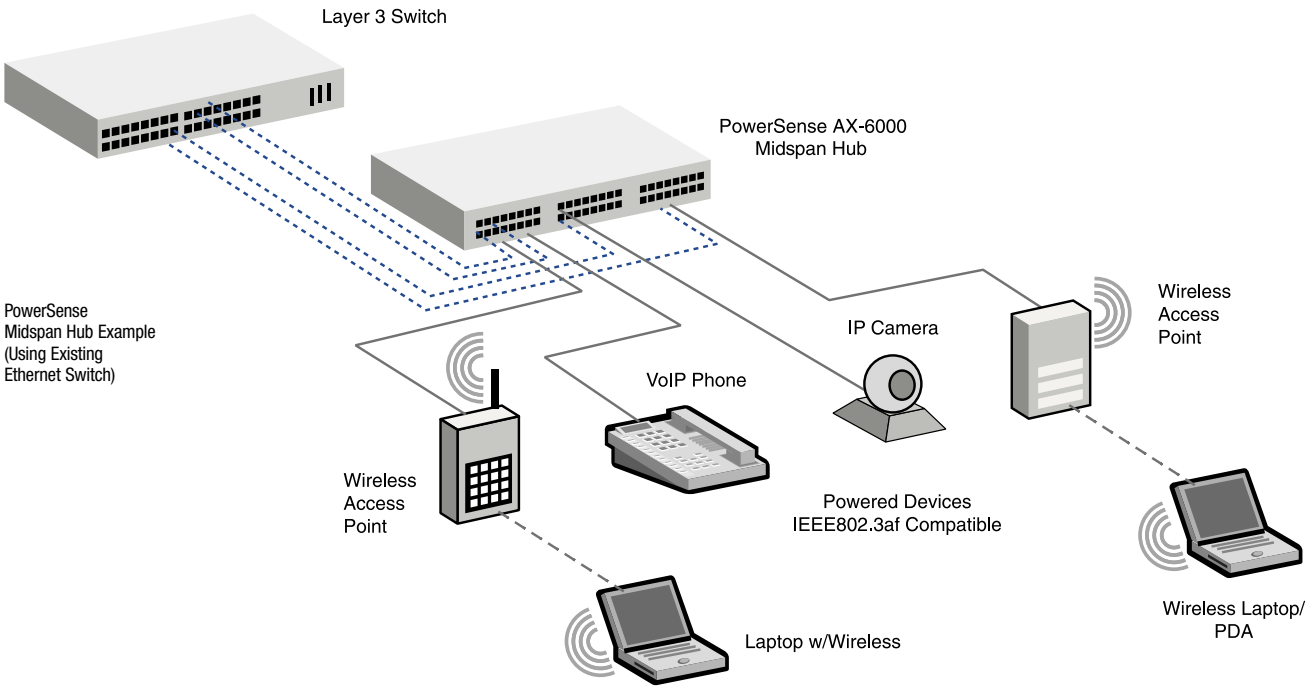
- Full compliance with IEEE 802.3af standards (PoE Protocol)
- Module options for 48V, 24V, 12V and Cisco CDP™ protocols
- FCC, CE and CB tested and approved for worldwide use
- Modular chassis: 24-, 20-, 10-, 8- and 1-port designs
- Assured safety: each module auto-detects the device's power requirements before forwarding power; modules allow for transparent 10/100 Mb and management operations
- Each module port is voltage isolated with user replaceable fuses and is "hot swappable."

Key benefits of PowerSense include:

- Work in conjunction with existing ethernet infrastructure and structured cabling, including the ethernet switches or shared media devices.
- Are the optimal solution for applications such as WLAN, VoIP, web-based security cameras and access control devices.
- Provide a scaleable solution: since PowerSense hubs are modular, new modules can be added as required.
- Allows a fast recovery from an internal power fault condition; modules may be hot swapped.
- Reduce the total cost of ownership.

### Advanced Replacement Warranty

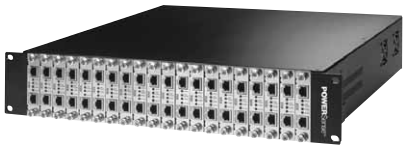
All PowerSense products have a full 2-year warranty for product quality and durability. We also offer an advanced replacement warranty which means that if a PowerSense product needs to be replaced, a new unit will be immediately shipped.



# Power Over Ethernet Midspan Hubs

## PowerSense AX-8000 Series
## Modular Multiport

PowerSense 20-port Midspan Hub
IEEE 802.3af compatible



AX-8510 PowerSense10-port Midspan Hub
IEEE 802.3af compatible



PowerSense Modules



### AX-8000 PowerSense Series

The AX-8000 modular multiport in-line power hub includes 20-slot and 10-slot modular chassis units which may be populated with any combination of PowerSense modules. The individual modules are all hot swappable and fully voltage isolated from each other. These units help reduce costs and downtime by allowing individual modules to be removed or inserted while the chassis and all other modules remain operational.

Modules can be mixed and matched to support CDP™ devices, IEEE 48-Volt, 24-Volt or 12-Volt applications within the same chassis. Power IP phones, wireless access points, security cameras and other low voltage devices safely and efficiently. A single port model is also available (see page 14.4) in any of the module styles for single device powering applications.

| Description | Belden Part Number |
|---|---|
| **AX-8000 PowerSense Series — Multiport** | |
| **Chassis Only** (without Modules) | |
| 20-slot PowerSense Chassis – 19″ (0.48 mm) Rack Mount Ready | **AX-8220** |
| 10-slot PowerSense Chassis – with Rubber Feet | **AX-8210** |
| 10-slot PowerSense Chassis – 19″ (0.48 mm) Rack Mount Kit | **AX-8210-RM** |
| 10-slot PowerSense Chassis – Wall Mount Kit | **AX-8210-WM** |
| **Chassis Complete with 20 Standard Power Chassis Modules** | |
| 20 Power and Data Modules – 12 Volt Protocol | **AX-8320** |
| 20 Power and Data Modules – 24 Volt Protocol | **AX-8420** |
| 20 Power and Data Modules – IEEE 802.3af compatible | **AX-8520** |
| 20 Power and Data Modules – Cisco CDP Protocol | **AX-8620** |
| **Chassis Complete with 10 Standard Power Chassis Modules** | |
| 10 Power and Data Modules – 12 Volt Protocol | **AX-8310** |
| 10 Power and Data Modules – 24 Volt Protocol | **AX-8410** |
| 10 Power and Data Modules – IEEE 802.3af compatible | **AX-8510** |
| 10 Power and Data Modules – Cisco CDP Protocol | **AX-8610** |
| **Standard Power Chassis Modules** (for devices up to 15.4 watts, uses 1 Slot) | |
| Power and Data Module – 12 Volt Protocol | **AX-8300** |
| Power and Data Module – 24 Volt Protocol | **AX-8400** |
| Power and Data Module – IEEE 802.3af compatible | **AX-8500** |
| Power and Data Module – Cisco CDP Protocol | **AX-8600** |
| **High Wattage Chassis Modules** (for devices up to 20 watts, uses 2 Slots) | |
| Double Wide Power and Data Module – 12 Volt Protocol | **AX-8300HW** |
| Double Wide Power and Data Module – IEEE 802.3af compatible | **AX-8500HW** |
| Double Wide Power and Data Module – Cisco CDP Protocol | **AX-8600HW** |
| **Custom Power Chassis Modules** (for specific Products) | |
| Power and Data Module, Supports AXIS 205 Camera, 12V | **AX-8300AXIS205** |
| Power and Data Module, Supports AXIS 2120 Camera, 12V | **AX-8300AXIS2120** |
| Power and Data Module, Supports IndigoVision Camera, 12V | **AX-8300IVC100** |
| Power and Data Module, Supports SONY SNCRZ30N Camera, 12V | **AX-8300SNCRZ30N** |
| Power and Data Module, Supports SAVI Products, 12V | **AX-8300SR600101** |
| Power and Data Module, Supports IQinvision IQEYE3 Camera, 24V | **AX-8400IQEYE3** |
| Power and Data Module, Supports Trango Broadband AP, 24V | **AX-8400M58305AP** |
| Power and Data Module, Supports Mobotix MX-D-03 Camera, 24V | **AX-8400MXD03** |
| Power and Data Module, Supports Smarteye Camera, 24V | **AX-8400SP400101** |
| **Chassis Cover Plates** (for unused Slots) | |
| Single-slot Cover Plate | **AX-8201** |
| Two-slot Cover Plate | **AX-8202** |
| Five-slot Cover Plate | **AX-8205** |
| Six-slot Cover Plate | **AX-8206** |

Visit www.beldenibdn.com for a product compatibility list. These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

# Power Over Ethernet Midspan Hubs

PowerSense AX-8000 Series
Single-Port

PowerSense 1-Port Midspan Hub
IEEE 802.3af compatible




### AX-8000 PowerSense Series

For single device powering applications, this single-port version of the popular AX-8000 PowerSense series of modular in-line power hubs is available in any of the same module styles as the multiport version. Modules can support CDP™ devices, IEEE 48-Volt, 24-Volt or 12-Volt applications to power IP phones, wireless access points, security cameras and other low-voltage devices safely and efficiently.

| Description | Belden Part Number |
|---|---|
| **AX-8000 PowerSense Series — Single Port Hubs** | |
| **Standard Power Modules** | |
| Single Power and Data Port – 12V Power and Data compatible | **AX-8351** |
| Single Power and Data Port – 24V Power and Data compatible | **AX-8451** |
| Single Power and Data Port – IEEE 802.3af compatible | **AX-8551** |
| Single Power and Data Port – Cisco CDP Protocol | **AX-8651** |
| **High Wattage** (for devices up to 20 watts, with power supply) | |
| Double Wide Power and Data Module – 12 Volt Protocol | **AX-8351HW** |
| Double Wide Power and Data Module – IEEE 802.3af compatible | **AX-8551HW** |
| Double Wide Power and Data Module – Cisco CDP Protocol | **AX-8651HW** |
| Custom power Modules, with power supply | **Various Part Numbers** |

Visit www.beldenibdn.com for a product compatibility list.
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# Power Over Ethernet Midspan Hubs

## PowerSense AX-6000 Series
## 24-Port, 8-Port Module

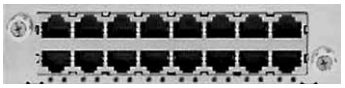
PowerSense 24-Port Midspan Hub
IEEE 802.3af compatible



PowerSense 8-Port Midspan Hub
IEEE 802.3af compatible



Individual Chassis Module



### AX-6000 PowerSense Series 24-Port

The AX-6000 modular multiport in-line power hub safely and efficiently provides power over LAN data cabling for VoIP phones, wireless networking access points, IP security cameras and other remote network devices.

The PowerSense in-line power hub provides power to LAN devices without the use of an external power supply for each device. Power is supplied over the existing LAN data cabling system. This greatly increases the flexibility of installation and possible locations for such devices, no longer requiring them to be located near a power outlet. It also adds an unprecedented level of safety and reliability for powered LAN devices.

The PowerSense hub is a **24-port rack-mount chassis** powering up to 24 devices. Each **8-port module** is hot-swappable and modules may be added to the chassis without powering down the unit. If an individual power port is damaged due to a lightning strike or power surge, the module bank may be hot swapped out without powering down the chassis or disconnecting the other devices attached to the other power ports in the chassis.

When used with an uninterruptible power supply, the PowerSense hub provides continuous power for up to 24 connected devices. PowerSense is tough and durable, made with an all metal chassis.

PowerSense operates on Category 5, 5e or 6 grade LAN data cable at standard ethernet distances. The AX-6000 series supports powered devices requiring the IEEE 802.3af PoE protocol.

| Description | Belden Part Number |
|---|---|
| **AX-6000 PowerSense Series 24-port** | |
| **Chassis Only** (without Modules) | |
| PowerSense Chassis, 3 Slots, each slot holds one Module | **AX-6224** |
| PowerSense Chassis, 1 Slot, holds one Module | **AX-6208** |
| **1-slot Chassis** (with one standard 6500 Module installed) | |
| 8 Power and Data Ports – IEEE 802.3af compatible, 10/100 Mb/s | **AX-6108** |
| Optional 19″ (0.48 m) Rack Mount Kit for one slot Chassis | **AX-6108-RM** |
| **3-slot Chassis** (with up to three standard 6500 Modules installed) | |
| 24 Power and Data Ports – IEEE 802.3af compatible, 10/100 Mb/s | **AX-6524** |
| 16 Power and Data Ports and one Cover Plate – IEEE 802.3af compatible | **AX-6516** |
| 8 Power and Data Ports and two Cover Plates – IEEE 802.3af compatible | **AX-6508** |
| **3-slot Chassis GIG** (with up to three 6500GIG Modules installed) | |
| 24 Power and Data Ports – IEEE 802.3af compatible, 10/100/1000 Mb/s | **AX-6524GIG** |
| 16 Power and Data Ports and one Cover Plate – IEEE 802.3af compatible | **AX-6516GIG** |
| 8 Power and Data Ports and two Cover Plates – IEEE 802.3af compatible | **AX-6508GIG** |
| **3-slot Chassis HW4** (with up to three 6500HW4 Modules installed) | |
| 12 Power and Data Ports – RJ-45, IEEE, High Power (36 watts per port) 10/100 Mb/s | **AX-6512HW4** |
| 8 Power and Data Ports – RJ-45, IEEE, High Power (36 watts per port) 10/100 Mb/s | **AX-6508HW4** |
| 4 Power and Data Ports – RJ-45, IEEE, High Power (36 watts per port) 10/100 Mb/s | **AX-6504HW4** |
| **Spare Chassis Modules** (individual; fits one or three Slot Chassis) | |
| 8 Power and Data Ports – RJ-45, IEEE 802.3af compatible, 10/100 Mb/s | **AX-6500** |
| 8 Power and Data Ports – RJ-45, IEEE 802.3af compatible, 10/100/1000 Mb/s | **AX-6500GIG** |
| 4 Power and Data Ports – RJ-45, IEEE, High Power (37 watts per port) 10/100 Mb/s | **AX-6500HW4** |
| **Chassis Cover Plates** (for unused Slots) | |
| Single Module Cover Plate (covers one Module slot) | **AX-6201** |

Visit www.beldenibdn.com for a product compatibility list.
These products are in the process of being assessed for RoHS compliance.
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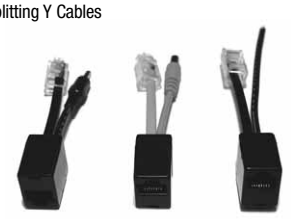
# Power Over Ethernet Accessories

## PoE Connectors, Data & Power Splitting "Y" Cables

Power over Ethernet Connector




Data Splitting Y Cables



### Power over Ethernet Connectors

Power over ethernet connectors allow Cisco 7900 Series VoIP Phones or AP350 or AP1100 to be powered with IEEE 802.3af style 48-Volt power over ethernet.

Power may come from a powered ethernet switch or midspan power hub. Connector installs near powered device. Two LEDs let user know whether power is originating from an ethernet switch or midspan power hub.

| Description | Belden Part Number |
|---|---|
| **Connectors** | |
| Input IEEE 802.3af power from any powered Switch or midspan Hub | **AX-8858-01** |
| Input IEEE 802.3af power from HP Pro Curve powered Switch | **AX-8858-02** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

### Data & Power Splitting "Y" Cables

Data & power splitting "Y" cables are for 12 Volt applications and feature a RJ-45 female/male and male power pin. They provide precise splitting of the signal for accurate performance. Various plug sizes/applications are listed below.

| Description | Belden Part Number |
|---|---|
| **Data Splitting Y Cables** | |
| 2.5 mm Plug for AXIS PTA -20, 2100, 2120 | **AX-820Y-01** |
| 2.1 mm Plug for Vivotek PTV-20 | **AX-820Y-02** |
| 1.3 mm Plug for Intellinet PTI-20 | **AX-820Y-03** |
| No plug, Bare Wire for IVC 100 | **AX-820Y-04** |
| Special Connector for Symbol AP 41XX | **AX-820Y-05** |
| 5.5 mm Barrel w/1.0 mm Center – Sony SNC-RZ30N, Sony PTS-20, AXIS 2130 | **AX-820Y-06** |
| MAXI 7-pin socket for SAVI Products | **AX-820Y-07** |
| CONXALL 6-pin for SAVI SR-600-101 | **AX-820Y-08** |
| 1.0 mm plug for AXIS 205, 210, 230, 241Q/S, 250S | **AX-820Y-09** |
| 2.1 mm plug on 8″ (2.4 m) power wire for Symbol AP 3020 series | **AX-820Y-10** |

These products are in the process of being assessed for RoHS compliance.
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BELDEN
SENDING ALL THE RIGHT SIGNALS



# 15 Commercial Networking – Copper




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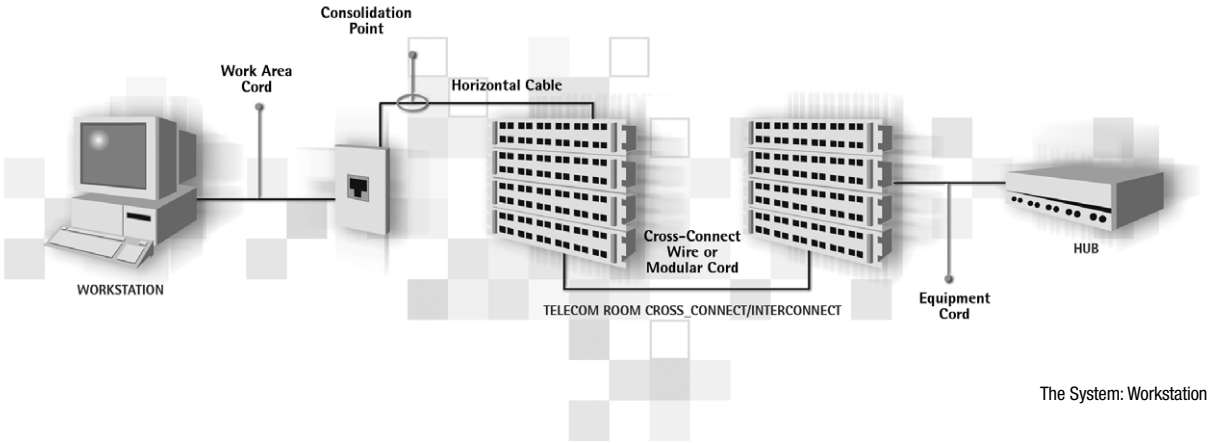

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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

## Belden IBDN Networking Components and Systems Overview




The System: Workstation through Hub

### Cables that Communicate

Each of the copper cabling components depicted on the following pages is vital to the overall performance of the network, but to achieve optimum network performance you should consider Belden IBDN end-to-end structured cabling systems. Belden IBDN copper structured cabling systems are recognized the world over for their high quality since they are the result of both Belden's exceptional design and manufacturing expertise and the system's ability to outperform the standards.

### The Revolutionary Belden IBDN System 10GX (Cat. 6a | 10 Gb/s | 625 MHz)

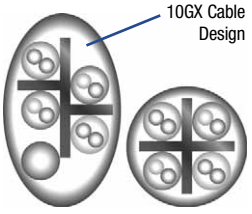
What differentiates our 10GX system from other 10 Gigabit ethernet offerings? The Belden IBDN system 10GX is not an improved or boosted category 6 system, but a revolutionary innovation designed around a series of dynamic enabling technologies. Because the 10GX system solves two major performance issues: (1) a reduction in alien crosstalk to about 15 dB, or 30 times lower than the alien NEXT for 1000BASE-T at a distance of 100 meters, and (2) the system's ability to control insertion loss, return loss, NEXT, PSNEXT, Alien PSNEXT, ELFEXT, PSELFEXT and alien PSFEXT characteristics during high frequency operation – it not only meets the high speed, high bandwidth demands of today's networks, but this advanced solution is ready to meet the challenges of the networks of tomorrow.

### System 10GX Performance-Enabling Technologies

The performance of each critical component of the 10GX solution has been optimized through use of the following performance-enabling technologies:

- The system's cable is based upon an innovative SpiralFleX™ design that serves to reduce Alien crosstalk by randomizing the distance between the cables.
- A patent pending IDC design and patch panel circuit layout called MatriX IDC™ technology is utilized to substantially eliminate the issue of Alien crosstalk between the system's modules.
- X-Bar™ technology: The X-Bar is a control device that enables the accurate positioning of each UTP pair before the pair is terminated on the 10GX module's IDC pins.
- A patent pending FleXPoint PCB (printed circuit board) is used within the module housing to position the compensation circuitry directly at the plug's point of contact. Instant compensation delivers excellent crosstalk performance up to 625 MHz!

### 10GX Cable Design Improves Alien Crosstalk




The major technical challenge for traditional UTP cables resides with the electromagnetic coupling between a cable and its neighboring cables. This coupling is typically enhanced by the fact that all the cable pairs have the same twisting lay and therefore have the same resonance frequencies. Belden's use of SpiralFleX technology introduces randomization in the cable in two ways: (1) it induces with neighboring cables – to accomplish this, a filler is twisted around the four cable pairs – and, (2) to create additional randomization along the full length of the cable, a unique internal cross-web is incorporated into the cable design.

Since these features both increase and randomize the distance between a cable and its neighboring cables, both the ANEXT coupling and RL channel characteristics of the cable are improved. In fact, 10GX Cables were tested in a worst-case scenario – a six-around-one cable environment – and still exhibited performance well over proposed standards. In addition, this unique 10GX Cable design is more flexible and installer-friendly than other 10G cables.

### Statistically Controlled Modular Cord Manufacturing

To achieve consistent high performance, Belden uses a statistical process control methodology in its modular cord manufacturing process. This assures perfect tuning between the module and the modular cord and offers improved channel performance. The design of the 10GX modular cord is also based upon a patent pending plug management design that controls dNEXT and delivers extended channel performance.

# Introduction
*(continued)*

### 10GX IDC Design Cancels Out Alien Crosstalk

Traditional Technology



The IDC is one of the most sensitive areas for alien crosstalk management. In traditional designs, all of the IDC contacts are aligned so they become perfect antennas, allowing adjacent pairs to both emit and receive noise.

Belden's patent-pending design, called MatriX IDC technology, positions each IDC at 90 degrees to its neighbor – effectively canceling out ANEXT by 15 dB as compared with traditional technology!

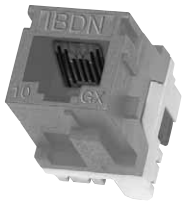


MatriX IDC technology

### 10GX Module Eliminates Signal Degradation

Traditional jack designs are performance handicapped at high frequencies because of an inherent crosstalk in the plug that cannot be fully compensated for by the jack. This crosstalk occurs because the compensation circuitry is located at some physical distance from the source of the noise, which is at the plug interface. Even a very small physical distance can have a major impact at high frequencies.

The 10GX modules feature FleXPoint PCB technology. This technology incorporates the use of a flexible PCB that allows the compensation circuitry to be located directly at the point of the plug contact. This reduces the delay between the source of the crosstalk in the plug and the crosstalk cancellation circuitry on the PCB. As a result the crosstalk noise at high frequencies is dramatically reduced for outstanding channel performance to 625 MHz!




FleXPoint PCB Technology

### Error-Free Termination Practices – Installable Performance®

Since structured cabling systems for Category 6 and beyond are extremely sensitive to installation practices, the 10GX system mitigates and simplifies installation issues to ensure overall 10G system performance. To ensure optimum termination of the cable to the module, a new patent-pending technology called the X-Bar was developed. The X-Bar is a plastic device that affixes to the module to ensure that each UTP pair is consistently positioned for termination on the 10GX module's IDC pins. The X-Bar also controls the amount of unjacketed cable, plus it maintains the conductor twist lays during installation to prevent untwisting. With this consistent termination feature, the superior NEXT and ANEXT performance achieved through use of the system's innovative component designs will be maintained and remain stable throughout the installation process. We call this after-installation assurance installable performance.



FleXPoint PCB Technology

### The 10GX Patch Panel with 10GX Modules

Alien crosstalk control within a patch panel is critical to the success of the system. The high density environment of a patch panel can be subjected to crippling amounts of alien crosstalk. The unique design of the 10GX module's IDC, and its ability to cancel the "antenna" effect between modules eliminates the Alien crosstalk issue. Because superior ANEXT performance is assured by the module-related technologies, this allows the patch panel ports to be in line. There is no need to compromise on density, and labeling and cable management features are greatly improved. In fact, the module technology is so powerful, Belden is the only manufacturer to be able to offer an ultra high-density solution with 48 ports in a 1U space!

### Belden IBDN Category 5e/Enhanced Category 6 Components and Systems

Belden IBDN Cat. 5e, Cat. 6 and beyond Cat. 6 systems can be designed and installed using either Bonded-Pair UTP cables or non-bonded-pair UTP cables. Both types of cable offer performance well beyond the standards. Bonded-Pair UTP cables – DataTwist® 350, MediaTwist® and DataTwist® 600e – feature a patented design that bonds the individual insulated conductors of each pair along the full length of the cable. This bonded construction delivers installable performance. That is, bonded-pair cables are consistent in the distance between the conductors and in the amount of twist, throughout the installation process, so they deliver the same, superior electrical performance both before and after the cable's installation.

Our non-bonded-pair family of cables include GigaFlex® 1200, 2400 and 4800LX cables. These cables incorporate a patented design which provides complete quality control during the manufacturing process. This allows us to provide high quality cables that consistently offer improved channel performance and large margins over the standards. These cables will provide the capacity and performance to maximize your overall network performance.

Belden IBDN punch-down GigaFlex modules are based on a patented encapsulated lead frame technology that ensures long-term reliability, as well as extremely stable transmission performance. Lead frame technology is inherently more reliable than traditional connector technologies as it uses a single, uninterrupted copper contact path through the connector. The design of the GigaFlex module allows signals to pass virtually unchanged through the connector, providing greater system performance.

GigaBIX® distribution connectors, featuring Belden's BIX technology, are a uniquely designed solution centered around an extremely compact connector equipped with double-sided Insulation displacement connection (IDC) clips. The benefit of this unique design is a considerable reduction in the space that would be required by conventional connecting systems of the same pair count. The density of BIX technology is second to none, allowing up to three hundred pairs to be terminated in a very small area – a real space saver, especially in today's office environment where real estate is at a premium.

### Belden IBDN System 1200 (Cat. 5e | 1.2 Gb/s | 160 MHz)

If your business is riding the current wave of growth and expansion, you may be considering new ways of doing business and a new or upgraded IT system to support these new strategies. This is the ideal time to plan and implement a new cabling system or to upgrade your existing infrastructure.

This Category 5e system was developed to support high-speed network applications such as Gigabit ethernet and provides clear bandwidth up to 160 MHz; an increase of 60% over the Category 5e standard of 100 MHz. Standards organizations such as TIA/EIA and IEEE now recommend Category 5e cabling systems for all new cabling installations.

# Introduction
*(continued)*

### Belden IBDN System 2400 (Cat. 6 | 2.4 Gb/s | 250 MHz)

If leading-edge communication systems are an element of your competitive strategy and if you consider information technology as one of the drivers of your bottom line, you should consider the speed, reliability and performance advantages of this system.

This Category 6 system meets or exceeds all requirements of the TIA/EIA Category 6 standard specifications and delivers 250 MHz bandwidth, a 25% increase over the 200 MHz bandwidth of typical Category 6 compliant channels. The Belden IBDN system 2400 provides the performance, throughput and reliability necessary to keep your critical applications operating at peak performance.

### Belden IBDN System 4800LX (Beyond Cat. 6 | 4.8 Gb/s | 300 MHz)

If every bit of information that your company processes is mission critical, you need the performance and reliability that is built into the Belden IBDN system 4800LX.

This enhanced Category 6 system was conceived to support the most demanding, ultra-high speed and multi-Gigabit protocols, providing blistering performance.

The Belden IBDN system 4800LX is the industry's first 300 MHz system, far exceeding all TIA/EIA Category 6 specifications.

| Solutions | | | Backbone Cable† | | Telecom Room |
|---|---|---|---|---|---|
| Available Channel Bandwidth | Guaranteed Data Rate | UTP Channel STD Compliance | 4-Pair Cables | Page | Cross-Connect Hardware |
| **Belden IBDN System 1200** | | | | | |
| **160 MHz PowerSum** | 1.2 Gb/s | Cat. 5e*<br>TIA/EIA<br>ISO/IEC<br>IEEE Gigabit | DataTwist® 350 1700R (CMR)<br>DataTwist® 350 1700E (PVC)<br>DataTwist® 350 1700ENH (LSNH)<br>see Plenum: 1701A and 1701LC<br>GigaFlex 1212 (CMR)<br>GigaFlex 1213 (CMP)<br>GigaFlex 1224 (LSOH) | 15.49<br>15.49<br>15.49<br><br>15.50<br>15.50<br>15.50 | GigaBIX® Cross-Connect System<br><br><br><br>PS5E BIX Patch Panel<br>PS5E HD-BIX Patch Panel<br>PS5E HD-110 Patch Panel<br>Flex Patch Panel/EZ-MDVO PS5E Module<br>Flex Patch Panel/GigaFlex PS5E Module<br><br>110 Cross-Connect System |
| **Belden IBDN System 2400** | | | | | |
| **250 MHz PowerSum** | 2.4 Gb/s | Cat. 6**<br>TIA/EIA<br>ISO/IEC<br>IEEE Gigabit | 7812E (PVC)<br>7812ENH (LSNH)<br>GigaFlex 2412 (CMR)<br>GigaFlex 2413 (CMP)<br>GigaFlex 2424 (LSOH) | 15.46<br>15.46<br>15.47<br>15.47<br>15.47 | GigaBIX Cross-Connect System<br><br><br>GigaFlex PS6+ Patch Panel<br>Flex Patch Panel/GigaFlex PS6+ Module |
| **Belden IBDN System 4800LX** | | | | | |
| **300 MHz PowerSum** | 4.8 Gb/s | Beyond Cat6®**<br>TIA/EIA<br>ISO/IEC<br>IEEE Gigabit | DataTwist® 600e 7851A (CMR)<br>DataTwist® 600e 7852A (CMP)<br>DataTwist® 600e 7851NH (LSNH)<br>GigaFlex 4812LX (CMR)<br>GigaFlex 4813LX (CMP)<br>GigaFlex 4824LX (LSOH) | 15.44<br>15.44<br>15.44<br>15.45<br>15.45<br>15.45 | GigaBIX Cross-Connect System<br><br><br><br>GigaFlex PS6+ Patch Panel<br>Flex Patch Panel/GigaFlex PS6+ Module |
| **Belden IBDN System 10GX** | | | | | |
| **625 MHz** | 10 Gb/s | Beyond 10G Proposed<br>TIA<br>ISO/IEC<br>IEEE 10 Gigabit | 10GX 10GX12 (CMR, Non-bonded-Pair)<br>10GX 10GX13 (CMP, Non-bonded-Pair)<br>10GX 10GX24 (LSZH, Non-bonded-Pair)<br>10GX 10GX16 (LC, Non-bonded-Pair)<br>10GX 10GX32 (CMR, Bonded-Pair)<br><br>10GX 10GX44 (LSZH, Bonded-Pair)<br>10GX 10GX66 (LC, Bonded-Pair) | 15.8<br>15.8<br>15.8<br>15.8<br>15.8<br><br>15.8<br>15.8 | 10GX Ultra High-Density Patch Panel (1U, 48 ports)<br>10GX Patch Panel<br>Flex Patch Panel/10GX Module |

* ANSI/TIA/EIA-568-B.1, ISO/IEC 11801 2nd Edition and IEEE 802.3ab. • ** ANSI/TIA/EIA-568-B.2, ISO/IEC 11801 2nd Edition and IEEE 802.3ab.
† Backbone can be configured with Belden IBDN Fiber*Express* Optical Fiber Cable.
Installable Performance guarantees are available on Bonded-Pair cables. Since the insulated conductors of the pairs are bonded along their longitudinal axes, Bonded-Pair cables remain intact during the installation process, so there is no separation of pair conductors and no degradation of the cables' electrical characteristics.

# Introduction
*(continued)*

### Quality Installation and Service

Belden IBDN systems are designed, installed and field-tested by full trained and certified system contractors and integrators to further assure superior systems performance. They are also backed by a strict system certification and warranty program.

### System Certification and Warranty Program

The Belden IBDN certification program is a rigorous process that ensures that your Belden IBDN 'certified' system is composed of Belden IBDN components, and that it has been designed and installed by a factory-trained certified system vendor. Belden IBDN 'certified' systems are supported by a series of warranties that surpass conventional product warranties.

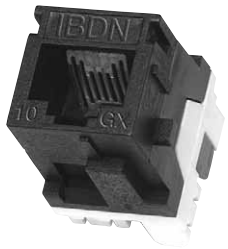
Certification adds important end-to-end system performance guarantees and ensures full compliance with cabling industry standard specifications – even after system installation (installable performance). A 25-year product warranty and a lifetime application assurance program accompany each Belden IBDN 'certified' system installation. These warranty programs include coverage for both parts and labor.

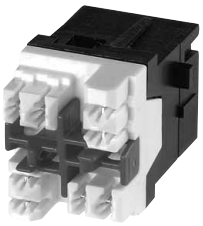
| | Horizontal Cable | | | Work Area | |
|---|---|---|---|---|---|
| Cross-Connect Patch System | 4-Pair Cables | Page | Installable Performance®†† | Outlets — Connectors, Faceplates & Adapters | Modular Cords |
| GigaBIX Cross-Connect Wire | DataTwist® 350 1700R (CMR) | 15.49 | ● | PS5E BIX DVO Outlet | GigaFlex Cords |
| | DataTwist® 350 1700E (PVC) | 15.49 | | PS5E | |
| | DataTwist® 350 1700ENH (LSNH) | 15.49 | | Modular | |
| GigaBIX Patch Cords | see Plenum: 1701A and 1701LC | | | EZ-MDVO PS5E Module | |
| GigaFlex PS5E Modular Cords | GigaFlex 1212 (CMR) | 15.50 | | GigaFlex PS5E Module | |
| | GigaFlex 1213 (CMP) | 15.50 | | MediaFlex Outlets | |
| | GigaFlex 1224 (LSOH) | 15.50 | | Interface Plates | |
| | | | | MDVO Faceplates | |
| | | | | MDVO Adapters | |
| | | | | European-style Faceplates | |
| PS5E 110 Patch Cords | | | | French-style Faceplates | |
| GigaBIX Cross-Connect Wire | 7812E (PVC) | 15.46 | ● | GigaFlex PS6+ Module | GigaFlex PS6+ Modular Cords |
| GigaBIX PS6+ Patch Cords | 7812ENH (LSNH) | 15.46 | ● | MediaFlex Outlets | |
| | GigaFlex 2412 (CMR) | 15.47 | | Interface Plates | |
| GigaFlex PS6+ Modular Cords | GigaFlex 2413 (CMP) | 15.47 | | MDVO Faceplates | |
| | GigaFlex 2424 (LSOH) | 15.47 | | MDVO Adapters | |
| | | | | European-style Faceplates | |
| | | | | French-style Faceplates | |
| GigaBIX Cross-Connect Wire | DataTwist® 600e 7851A (CMR) | 15.44 | ● | GigaFlex PS6+ Module | GigaFlex PS6+ Modular Cords |
| GigaBIX PS6+ Patch Cords | DataTwist® 600e 7852A (CMP) | 15.44 | ● | MediaFlex Outlets | |
| | DataTwist® 600e 7851NH (LSNH) | 15.44 | | | |
| | GigaFlex 4812LX (CMR) | 15.45 | | Interface Plates | |
| GigaFlex PS6+ Modular Cords | GigaFlex 4813LX (CMP) | 15.45 | | MDVO Faceplates | |
| | GigaFlex 4824LX (LSOH) | 15.45 | | MDVO Adapters | |
| | | | | European-style Faceplates | |
| | | | | French-style Faceplates | |
| 10GX Modular Cords | 10GX 10GX12 (CMR, Non-bonded-Pair) | 15.8 | | 10GX Module | 10GX Modular Cords |
| | 10GX 10GX13 (CMP, Non-bonded-Pair) | 15.8 | | MediaFlex Outlets | |
| | 10GX 10GX24 (LSZH, Non-bonded-Pair) | 15.8 | | Interface Plates | |
| | 10GX 10GX16 (LC, Non-bonded-Pair) | 15.8 | | MDVO Faceplates | |
| | 10GX 10GX32 (CMR, Bonded-Pair) | 15.8 | ● | MDVO Adapters | |
| | 10GX 10GX33 (CMP, Bonded-Pair) | 15.8 | ● | | |
| | 10GX 10GX44 (LSZH, Bonded-Pair) | 15.8 | ● | | |
| | 10GX 10GX66 (LC, Bonded-Pair) | 15.8 | ● | | |

# Belden IBDN System 10GX

## 10GX Modules and 10GX Patch Panels

AX102272 10GX Module, Black



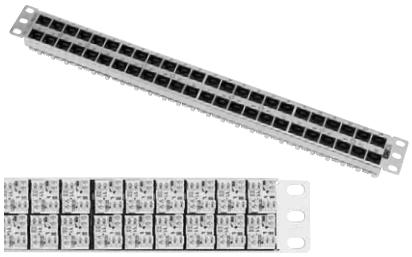
### 10GX Module

The 10GX module is a revolutionary punch down UTP connector designed to be used within the new Belden IBDN system 10GX. In order to achieve true 10G performance, Belden has designed the 10GX module based on three revolutionary module technologies making the 10GX module the most advanced 10G module available. It is designed to work in existing hardware including the Flex modular patch panel and MediaFlex outlet series. It can also be mixed and matched with a wide variety of adapters and boxes to suit practically any installation configuration for workstation outlet, consolidation point and telecommunications closet applications. The unmatched Beyond 10G™ performance exceeds all parameters specified in the proposed augmented Category 6 standard. All performance characteristics including ANEXT, NEXT, FEXT, insertion loss and return loss have been set to guarantee transmission performance up to 625 MHz.

| Description | Belden Part Number | |
|---|---|---|
| | MDVO-Style | Keystone-Style |
| **Belden IBDN System 10GX** | | |
| **10GX Module, Augmented Category 6** | | |
| MDVO-Style, T568A/B, Grey | **AX102269** | **AX102280** |
| MDVO-Style, T568A/B, White | **AX102271** | **AX102282** |
| MDVO-Style, T568A/B, Black | **AX102272** | **AX102283** |
| MDVO-Style, T568A/B, Red | **AX102274** | **AX102285** |
| MDVO-Style, T568A/B, Yellow | **AX102275** | **AX102286** |
| MDVO-Style, T568A/B, Green | **AX102276** | **AX102287** |
| MDVO-Style, T568A/B, Blue | **AX102277** | **AX102288** |
| MDVO-Style, T568A/B, Ivory | **AX102562** | **AX102281** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

AX102488 10GX Ultra High-Density Patch Panel 1U, 48-port, Titanium



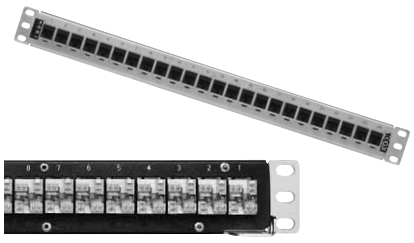
### 10GX Patch Panel

The 10GX patch panel is a fully loaded patch panel designed to be used within the Belden IBDN system 10GX. The 10GX patch panel features the revolutionary 10GX module, specifically designed to meet the difficult challenges of 10 Gb/s transmission. 10GX patch panels are available in high-density options such as 24 ports in 1U or 48 ports in 2U, but the phenomenal ANEXT performance of the 10GX module has allowed Belden to also support an ultra high-density option offering the 10GX ultra high-density patch panel supporting 48 ports in 1U. The unmatched beyond 10G™ performance exceeds all parameters specified in the proposed Augmented Category 6 standard. All performance characteristics including ANEXT, NEXT, FEXT, insertion loss and return loss have been set to guarantee transmission performance up to 625 MHz.

| Description | Belden Part Number |
|---|---|
| **Belden IBDN System 10GX** | |
| **10GX Ultra High-Density Patch Panel, Augmented Category 6** | |
| 1U, 48-port, Titanium | **AX102488** |
| **10GX Patch Panel, Augmented Category 6** | |
| 1U, 24-port, Titanium | **AX102293** |
| 2U, 48-port, Titanium | **AX102296** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

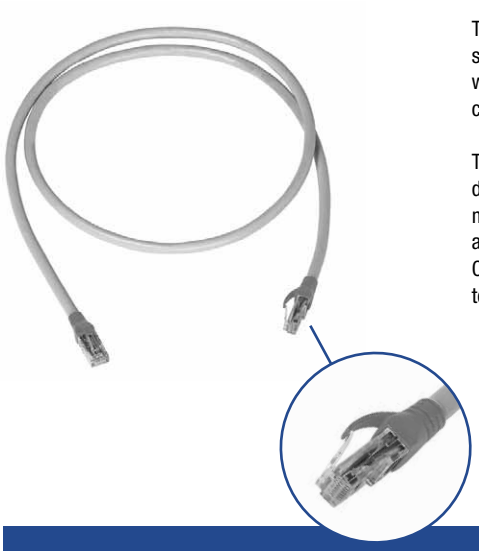
AX102293 10GX Patch Panel 1U, 24-port, Titanium



# Belden IBDN System 10GX

## 10GX Modular Cords

AX360015 10GX Modular Cord, Blue



### 10GX Modular Cords

The 10GX modular cords are 4-pair 23 AWG UTP modular cords designed to be used within the Belden IBDN system 10GX. Belden has designed the 10GX modular cord based on a patent pending management bar design which allows for very good control of the internal plug NEXT. The patch cable design offers very good Alien crosstalk performance, while maintaining the important mechanical characteristics such as flexibility.

The 10GX modular cords' design, with a very small footprint, makes them fully compatible with the highest density hubs that utilize RJ45 jack connections. The 10GX modular cords are available in pantone colors that match the colors per the TIA/EIA-606 standard and the product line encompasses CMR modular cords, as well as open-ended cords. The unmatched performance exceeds all parameters specified in the proposed Augmented Category 6 standard. All performance characteristics have been set to guarantee transmission performance up to 625 MHz.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **Belden IBDN System 10GX** | | | | | | |
| **10GX Modular Cord, 4-Pair, 23 AWG Solid, T568A/B - T568A/B, CMR** | | | | | | |
| 2.1 m (7 ft.) | AX360015 | AX360051 | AX360027 | AX360021 | AX360045 | AX360057 |
| 3.0 m (10 ft.) | AX360016 | AX360052 | AX360028 | AX360022 | AX360046 | AX360058 |
| 4.6 m (15 ft.) | AX360017 | AX360053 | AX360029 | AX360023 | AX360047 | AX360059 |
| 7.6 m (25 ft.) | AX360018 | AX360054 | AX360030 | AX360024 | AX360048 | AX360060 |
| **10GX Pigtail, 4-Pair, 23 AWG Solid, T568A - Open, CMR** | | | | | | |
| 4.6 m (15 ft.) | – | – | AX360265 | – | – | – |
| 7.6 m (25 ft.) | – | – | AX360266 | – | – | – |
| 10.6 m (35 ft.) | – | – | AX360267 | – | – | – |
| 15.0 m (50 ft.) | – | – | AX360268 | – | – | – |
| **10GX Pigtail, 4-Pair, 23 AWG Solid, T568B - Open, CMR** | | | | | | |
| 4.6 m (15 ft.) | – | – | AX360269 | – | – | – |
| 7.6 m (25 ft.) | – | – | AX360270 | – | – | – |
| 10.6 m (35 ft.) | – | – | AX360271 | – | – | – |
| 15.0 m (50 ft.) | – | – | AX360272 | – | – | – |

These products are in the process of being assessed for Gb/s compliance. Please check our website for the most current RoHS status.

# Belden IBDN System 10GX

## 10GX Cables

24826395 10GX Cable Series, White



### 10GX Cable

The 10GX cables are 4-pair 23 AWG UTP cables designed to be used within the Belden IBDN system 10GX. The GX cable incorporates the use of patent pending SpiralFleX™ technology, which improves the ANEXT coupling by increasing and randomizing the distance between a cable and the neighboring cables surrounding it. The unmatched beyond 10G™ performance exceeds all parameters specified in the proposed augmented Category 6 standard. All performance characteristics including ANEXT, NEXT, FEXT, Insertion Loss and Return Loss have been set to guarantee channel transmission performance up to 625 MHz. The 10GX cable series is very complete with cable available with bonded-pairs and non-bonded-pairs, and is available in plenum, non-plenum, and limited combustible versions.

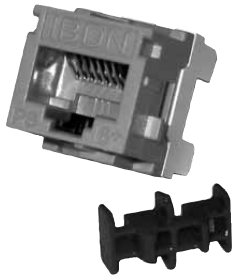
| Description | Belden Part Number |
|---|---|
| **10GX Cable, Bonded-Pairs** | |
| **10GX Cable, CMR** | |
| 10GX32 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, White | **24826395** |
| 10GX32 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, Blue | **24826995** |
| **10GX Cable, CMP** | |
| 10GX33 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, White | **24827395** |
| 10GX33 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, Blue | **24827995** |
| **10GX Cable, LSZH** | |
| 10GX44 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, Purple | **24828095** |
| **10GX Cable, Limited Combustible** | |
| 10GX66 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, White* | **24822395** |
| **10GX Cable, Non-Bonded-Pairs** | |
| **10GX Cable, CMR** | |
| 10GX12 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, White | **24816395** |
| 10GX12 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, Blue | **24816995** |
| **10GX Cable, CMP** | |
| 10GX13 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, White | **24817395** |
| 10GX13 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, Blue | **24817995** |
| **10GX Cable, LSZH** | |
| 10GX24 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, Purple | **24818095** |
| **10GX Cable, Limited Combustible** | |
| 10GX16 Cable, 4-Pair, 23 AWG UTP, 305 m (1000 ft.), Spool, White* | **24812395** |

* DuPont™ certified limited combustible cable

# Belden IBDN System 4800LX

## Beyond Category 6, 4.8 Gb/s – 300 MHz

AX101067 GigaFlex PS6+ Module



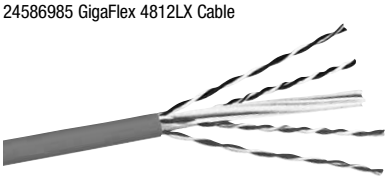
AX101613 GigaFlex PS6+ Patch Panel



AX350061 GigaFlex PS6+ Modular Cord



24586985 GigaFlex 4812LX Cable



This systems overview page is intended to give you a basic list of the main components used in the system. For a more complete listing of product options and for more detailed product information, see the individual catalog pages listed in this section.

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

### System 4800LX

The Belden IBDN system 4800LX combines the power and performance of our PS6 connectivity products with our break-through series 4800LX UTP cables to provide industry's first true end-to-end 300 MHz cabling system.

Systems components include: GigaFlex 4800LX unbonded-pair UTP Cables, DataTwist® 600e bonded-pair UTP cables, GigaBIX cross-connect systems, PS6+ patch panels (including fully loaded and modular versions) and related patch cords, outlets, modules, faceplates and adapters.

| Description | Belden Part Number | |
|---|---|---|
| | MDVO-Style | Keystone-Style |
| **Belden IBDN System 4800LX, Modules*** | | |
| **GigaFlex PS6+ Module** | | |
| T568A/B, White | **AX101065** | **AX101320** |
| T568A/B, Black | **AX101066** | **AX101321** |

* See page 15.27 for a more complete listing of products and for more detailed product information.

| Description | Belden Part Number |
|---|---|
| **Belden IBDN System 4800LX, Patch Panels*** | |
| **GigaFlex PS6+ Patch Panel** | |
| GigaFlex PS6+ Patch Panel, 1U, 24-port, Black, loaded | **AX101611** |
| GigaFlex PS6+ Patch Panel, 2U, 48-port, Black, loaded | **AX101613** |
| Flex Patch Panel, 1U, 24-port, Black, unloaded | **AX101571** |
| Flex Patch Panel, 2U, 48-port, Black, unloaded | **AX101458** |

* See page 15.25 for a more complete listing of products and for more detailed product information.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **Belden IBDN System 4800LX, Modular Cords*** | | | | | | |
| **GigaFlex PS6+ Modular Cord, LSZH 4-pair, 23 AWG solid, T568B - T568B** | | | | | | |
| 0.5 m (1.6 ft.) | **AX102356** | **AX102350** | **AX102392** | **AX102544** | **AX102550** | **AX102556** |
| 1.0 m (3.3 ft.) | **AX102357** | **AX102351** | **AX102393** | **AX102545** | **AX102551** | **AX102557** |
| 2.0 m (6.5 ft.) | **AX102358** | **AX102352** | **AX102394** | **AX102546** | **AX102552** | **AX102558** |
| 3.0 m (10 ft.) | **AX102359** | **AX102353** | **AX102395** | **AX102547** | **AX102553** | **AX102559** |
| 5.0 m (16.4 ft.) | **AX102360** | **AX102354** | **AX102396** | **AX102548** | **AX102554** | **AX102560** |
| 10.0 m (33 ft.) | **AX102361** | **AX102355** | **AX102397** | **AX102549** | **AX102555** | **AX102561** |

* See pages 15.38 – 15.39 for a more complete listing of products and for more detailed product information.

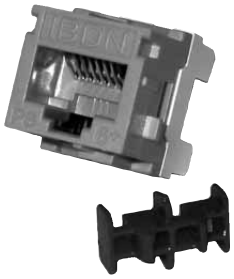
| Description | Belden Part Number | | |
|---|---|---|---|
| | Blue | White | Purple |
| **Belden IBDN System 4800LX, Cables*** | | | |
| **Beyond Category 6** | | | |
| GigaFlex 4812LX Cable, CMR, 23 AWG, 305 m Spool | **24586985** | **24586385** | **–** |
| GigaFlex 4813LX Cable, CMP, 23 AWG, 305 m Spool | **24587985** | **24587385** | **–** |
| GigaFlex 4824LX Cable, LSZH, 23 AWG, 305 m Spool | **–** | **–** | **24588085** |
| DataTwist 600e, CMR, 23 AWG, 305 m Reel | **7852A 0061000** | **7852A 0091000** | **–** |
| DataTwist 600e, CMP, 23 AWG, 305 m Reel | **7852A D151000** | **7852A 0091000** | **–** |

* See pages 15.44 – 15.45 for a more complete listing of products and for more detailed product information.

# Belden IBDN System 2400

## Category 6, 2.4 Gb/s – 250 MHz

AX101067 GigaFlex PS6+ Module



AX101613 GigaFlex PS6+ Patch Panel



AX350061 GigaFlex PS6+ Modular Cord



24568015 GigaFlex 2424 Cable



This systems overview page is intended to give you a basic list of the main components used in the system. For a more complete listing of product options and for more detailed product information, see the individual catalog pages listed in this section.

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

### System 2400

The Belden IBDN system 2400 installations provide the additional throughput and enhanced error-free performance needed to support high-traffic and high-bit-rate applications. It delivers 250 MHz of user bandwidth as well as support for data rates up to 2.4 gigabits per second.
Systems components include: GigaFlex 2400 unbonded-pair UTP cables, MediaTwist® bonded-pair UTP cables, GigaBIX cross-connect systems, PS6+ patch panels (including fully loaded and modular versions) and related patch cords, outlets, modules, faceplates and adapters.

| Description | Belden Part Number | |
|---|---|---|
| | MDVO-Style | Keystone-Style |
| **Belden IBDN System 2400, Modules*** | | |
| **GigaFlex PS6+ Module** | | |
| T568A/B, White | **AX101065** | **AX101320** |
| T568A/B, Black | **AX101066** | **AX101321** |

* See page 15.27 for a more complete listing of products and for more detailed product information.

| Description | Belden Part Number |
|---|---|
| **Belden IBDN System 2400, Patch Panels*** | |
| **GigaFlex PS6+ Patch Panel** | |
| GigaFlex PS6+ Patch Panel, 1U, 24-port, Black, loaded | **AX101611** |
| GigaFlex PS6+ Patch Panel, 2U, 48-port, Black, loaded | **AX101613** |
| Flex Patch Panel, 1U, 24-port, Black, unloaded | **AX101571** |
| Flex Patch Panel, 2U, 48-port, Black, unloaded | **AX101458** |

* See page 15.25 for a more complete listing of products and for more detailed product information.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **Belden IBDN System 2400, Modular Cords*** | | | | | | |
| **GigaFlex PS6+ Modular Cord, LSZH 4-pair, 23 AWG solid, T568B - T568B** | | | | | | |
| 0.5 m (1.6 ft.) | **AX102356** | **AX102350** | **AX102392** | **AX102544** | **AX102550** | **AX102556** |
| 1.0 m (3.3 ft.) | **AX102357** | **AX102351** | **AX102393** | **AX102545** | **AX102551** | **AX102557** |
| 2.0 m (6.5 ft.) | **AX102358** | **AX102352** | **AX102394** | **AX102546** | **AX102552** | **AX102558** |
| 3.0 m (10 ft.) | **AX102359** | **AX102353** | **AX102395** | **AX102547** | **AX102553** | **AX102559** |
| 5.0 m (16.4 ft.) | **AX102360** | **AX102354** | **AX102396** | **AX102548** | **AX102554** | **AX102560** |
| 10.0 m (33 ft.) | **AX102361** | **AX102355** | **AX102397** | **AX102549** | **AX102555** | **AX102561** |

* See pages 15.38 – 15.39 for a more complete listing of products and for more detailed product information.

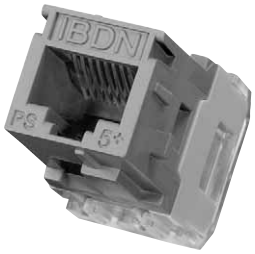
| Description | Belden Part Number | | |
|---|---|---|---|
| | Blue | White | Purple |
| **Belden IBDN System 2400, Cables*** | | | |
| **Category 6** | | | |
| GigaFlex 2412LX Cable, CMR, 24 AWG, 305 m box | **24566915** | **24566315** | – |
| GigaFlex 2413LX Cable, CMP, 24 AWG, 305 m box | **24567915** | **24567315** | – |
| GigaFlex 2424LX Cable, LSZH, 24 AWG, 305 m box | – | – | **24568015** |
| GigaFlex 2424LX Cable, LSZH, 24 AWG, 305 m reel | – | **24568315** | – |
| GigaFlex 2424LX Cable, LSZH, 24 AWG, 500 m reel | – | **24568331** | – |
| CMR, UTP Bonded-Pair, 23 AWG, 305 m box | **7812E.01U305** | – | – |
| LSNH, UTP Bonded-Pair, 23 AWG, 305 m box | **7812ENH.01U305** | – | – |

* See pages 15.46 – 15.47 for a more complete listing of products and for more detailed product information.

# Belden IBDN System 1200

## Category 5e, 1.2 Gb/s – 160 MHz

AX101046 GigaFlex PS5E Module




AX101571 Flex Patch Panel, Black



AX102344 GigaFlex PS5E Modular Cord



24570157 GigaFlex 1224 Cable



This systems overview page is intended to give you a basic list of the main components used in the system. For a more complete listing of product options and for more detailed product information, see the individual catalog pages listed in this section.

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

### System 1200

The Belden IBDN system 1200 installations provide the additional throughput and enhanced error-free performance needed to support high-traffic and high-bit-rate applications. It delivers 160 MHz of user bandwidth as well as support for data rates up to 1.2 gigabits per second.
Systems components include: GigaFlex 1200 unbonded-pair UTP cables, DataTwist® 350 bonded-pair UTP cables, GigaBIX and 110 cross-connect systems, PS5E patch panels (including high density and modular versions) and related patch cords, outlets, modules, faceplates and adapters.

| Description | Belden Part Number | |
|---|---|---|
| | MDVO-Style | Keystone-Style |
| **Belden IBDN System 1200, Modules*** | | |
| **GigaFlex PS5e Module** | | |
| T568A/B, White | **AX101046** | **AX101309** |
| T568A/B, Black | **AX101047** | **AX101310** |

* See pages 15.28 – 15.29 for a more complete listing of products and for more detailed product information.

| Description | Belden Part Number |
|---|---|
| **Belden IBDN System 1200, Patch Panels*** | |
| **GigaFlex PS5e Patch Panel** | |
| GigaFlex PS5e HD-110 Patch Panel, 1U, 24-port, Black, T568B, loaded | **AX100452** |
| GigaFlex PS5e HD-110 Patch Panel, 2U, 48-port, Black, T568B, loaded | **AX100454** |
| Flex Patch Panel, 1U, 24-port, Black, unloaded | **AX101571** |
| Flex Patch Panel, 2U, 48-port, Black, unloaded | **AX101458** |

* See page 15.26 for a more complete listing of products and for more detailed product information.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **Belden IBDN System 1200, Modular Cords*** | | | | | | |
| **GigaFlex PS5e Modular Cord, LSZH 4-pair, 24 AWG stranded, T568B - T568B** | | | | | | |
| 0.5 m (1.6 ft.) | **AX102344** | **AX102338** | **AX102386** | **AX102526** | **AX102532** | **AX102538** |
| 1.0 m (3.3 ft.) | **AX102345** | **AX102339** | **AX102387** | **AX102527** | **AX102533** | **AX102539** |
| 2.0 m (6.5 ft.) | **AX102346** | **AX102340** | **AX102388** | **AX102528** | **AX102534** | **AX102540** |
| 3.0 m (10 ft.) | **AX102347** | **AX102341** | **AX102389** | **AX102529** | **AX102535** | **AX102541** |
| 5.0 m (16.4 ft.) | **AX102348** | **AX102342** | **AX102390** | **AX102530** | **AX102536** | **AX102542** |
| 10.0 m (33 ft.) | **AX102349** | **AX102343** | **AX102391** | **AX102531** | **AX102537** | **AX102543** |

* See page 15.40 for a more complete listing of products and for more detailed product information.

| Description | Belden Part Number | | | |
|---|---|---|---|---|
| | Blue | White | Purple | Grey |
| **Belden IBDN System 1200, Cables*** | | | | |
| **Category 5e • 24 AWG • UTP, 4-pair** | | | | |
| GigaFlex 1212, CMR, 305 m Box | **24570161** | **24570166** | **–** | **–** |
| GigaFlex 1213, CMP, 305 m Box | **24570800** | **24570810** | **–** | **–** |
| GigaFlex 1224, LSZH, 305 m Box | **–** | **–** | **24570157** | **–** |
| GigaFlex 1224, LSZH, 305 m Reel | **–** | **24598301** | **–** | **–** |
| GigaFlex 1224, LSZH, 500 m Reel | **–** | **24598331** | **–** | **–** |
| DataTwist® 350, LSZH, 305 m Box | **–** | **–** | **–** | **1700ENH.004305** |

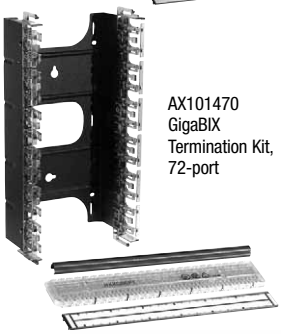
* See pages 15.49 – 15.50 for a more complete listing of products and for more detailed product information.

# GigaBIX Multi System

## Termination Kits and Basic Components

AX101985 GigaBIX Rack Mount Termination Kit, 48-port



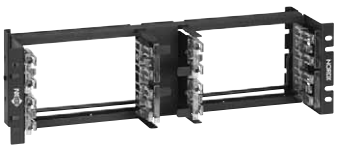


AX101470
GigaBIX
Termination Kit,
72-port

AX101447 GigaBIX Connector,
6-port



AX101986 GigaBIX Rack Mount Panel



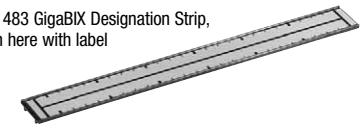
AX101472
GigaBIX Mount



AX101486 GigaBIX Wire Guard



AX101483 GigaBIX Designation Strip,
shown here with label



AX101987 GigaBIX/MediaFlex Adapter



### GigaBIX Termination Kits

The GigaBIX termination kits contains all components required to terminate cables in a GigaBIX cross-connect or interconnect system. The termination kits allow for the most cost-effective Category 6 cross-connect or interconnect installations using GigaBIX cross-connect wire or GigaBIX PS6+ patch cords. The GigaBIX mount is designed to accommodate high-performance cables. The GigaBIX connectors have color-coded edges, separation marks and a keying feature that prevents connector insertion in the wrong orientation. Each kit also contains wire guards, designation strips, designation labels, velcro ties and a detailed installation guide.

### GigaBIX Connector

The GigaBIX connector is the core component of the GigaBIX multi system. Its symmetrical construction allows termination of high-performance cables on one side and GigaBIX cross-connect wires or GigaBIX patch cords on the other. Each GigaBIX connector is equipped with 50 double-ended Insulation Displacement Connection (IDC) clips for terminating plastic insulated solid copper conductors without stripping. The connector is built with two staggered rows of IDC clips enclosed in a three-layer construction of fire-retardant plastic wafers. The GigaBIX connectors have color-coded edges, separation marks and a keying feature that prevents connector insertion in the wrong orientation. The GigaBIX connector offers exceptional performance that goes beyond Category 6 which makes it the ideal choice for gigabit cabling networks.

### GigaBIX Mount

The GigaBIX mount for wall installations holds 12 GigaBIX connectors and is designed to accommodate up to 144 high-performance cables when used in a top-to-bottom cross-connect layout.
The GigaBIX rack mount panel allows for customizing rack mount installations for data, voice or multimedia installations. This panel can accommodate up to 8 GigaBIX connectors, for a total of 48 terminations of 4-pair UTP cables, or up to 4 GigaBIX/MediaFlex adapters for a total of 48 multimedia ports.

### GigaBIX Wire Guard

The GigaBIX wire guards are plastic strips that snap behind the GigaBIX connectors after termination to provide strain relief to the twisted pairs. They come as part of the GigaBIX termination kits and can also be ordered separately as replacement components.

### GigaBIX Designation Strip

The GigaBIX designation strips are plastic strips that snap between the GigaBIX connectors to apply the designation labels. They come as part of the GigaBIX termination kits and can also be ordered separately as replacement components. (See the LabelFlex section for designation labels.)

### GigaBIX/MediaFlex Adapter

The GigaBIX/MediaFlex adapter allows for mixed media installation within the expanded GigaBIX multi-family of connectivity. The GigaBIX/MediaFlex adapter can accommodate a variety of MediaFlex inserts including UTP and multimedia inserts to customize multimedia installation in telecommunications rooms, equipment rooms, or consolidation points (see page 15.30 for the accessories).

| Description | Belden Part Number |
|---|---|
| **GigaBIX Multi System** | |
| **Termination Kits** | |
| GigaBIX Termination Kit, 72-port | **AX101470** |
| GigaBIX Termination Kit, 300-pair | **AX101471** |
| GigaBIX Rack Mount Termination Kit, 48-port | **AX101985** |
| **Basic Components** | |
| GigaBIX Connector, 6-port | **AX101447** |
| GigaBIX Connector, 25-pair | **AX101448** |
| GigaBIX Mount, 12-connector | **AX101472** |
| GigaBIX Rack Mount Panel, 48-port | **AX101986** |
| GigaBIX Wire Guard | **AX101486** |
| GigaBIX Designation Strip | **AX101483** |
| GigaBIX/MediaFlex Adapter | **AX101987** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# GigaBIX Multi System

## Patch Cords and Cross-Connect Wire

AX101945 GigaBIX PS6+ Patch Cord, BIX-BIX, 1.2 m (4 ft.)



AX101951 GigaBIX PS6+ Patch Cord, BIX-8MOD, 1.2 m (4 ft.)



### GigaBIX Patch Cords

GigaBIX patch cords allow for high-density connections, coupled with flexibility for cost-effective installation and administration. Plug-and-go installation and rearrangement of patch cords do not require any special tools or training. GigaBIX patch cords are available in two different configurations: BIX-BIX patch cord configurations for easy cross-connection between equipment and distribution fields, and BIX-8MOD patch cord configurations to easily interconnect equipment utilizing 8-position modular jacks directly into GigaBIX connectors in the distribution field.

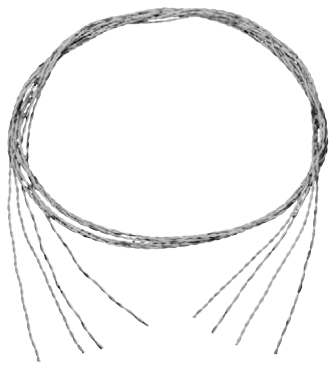
The GigaBIX PS6+ patch cords are 4-pair 23 AWG UTP cords. They are used in GigaBIX multi system as part of a Belden IBDN system 2400 and system 4800LX, providing a channel bandwidth of 250 MHz and 300 MHz respectively.

The GigaBIX PS5E patch cords are used in the GigaBIX multi system as part of a Belden IBDN system 1200, providing outstanding channel bandwidth of 160 MHz.

| Description | Belden Part Number | | |
|---|---|---|---|
| | BIX-BIX | BIX-8MOD T568A-ISDN | BIX-8MOD T568B-ALT |
| **GigaBIX Multi System** | | | |
| **PS6+ Patch Cords** | | | |
| 1.2 m (4 ft.) | **AX101945** | **AX101951** | **AX101957** |
| 1.8 m (6 ft.) | **AX101946** | **AX101952** | **AX101958** |
| 2.4 m (8 ft.) | **AX101947** | **AX101953** | **AX101959** |
| 3.0 m (10 ft.) | **AX101948** | **AX101954** | **AX101960** |
| 4.6 m (15 ft.) | **AX101949** | **AX101955** | **AX101961** |
| 7.6 m (25 ft.) | **AX101950** | **AX101956** | **AX101962** |
| **PS5E Patch Cords** | | | |
| 1.2 m (4 ft.) | **AX101963** | **AX101969** | **AX101975** |
| 1.8 m (6 ft.) | **AX101964** | **AX101970** | **AX101976** |
| 2.4 m (8 ft.) | **AX101965** | **AX101971** | **AX101977** |
| 3.0 m (10 ft.) | **AX101966** | **AX101972** | **AX101978** |
| 4.6 m (15 ft.) | **AX101967** | **AX101973** | **AX101979** |
| 7.6 m (25 ft.) | **AX101968** | **AX101974** | **AX101980** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

24570521 GigaBIX Cross-connect Wire, 4-pair



### GigaBIX Cross-Connect Wire

GigaBIX cross-connect wire is intended for use between GigaBIX cross-connect fields in a telecommunications room or in a main cross-connect frame. Using GigaBIX cross-connect wire allows for very flexible and cost-effective installations. The cut-to-length jumper eliminates need for slack management and guarantees permanent installation aesthetics. The GigaBIX cross-connect wire offers transmission performance that goes beyond Category 6 providing additional margin to support Gigabit applications.

Color Code: White/Blue, White/Orange, White/Green, White/Brown

| Description | Belden Part Number |
|---|---|
| **GigaBIX Multi System** | |
| **Cross-Connect Wire** | |
| 4-pair, 305 m (1000 ft.), Spool | **24570521** |
| 4-pair, 305 m (1000 ft.), Spool-in-Box | **24577B15** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# GigaBIX Multi System
## Cable Management Accessories

AX102154 GigaBIX Color-Coded Clip





AX101469 GigaBIX
Cable Management Module

AX101468 GigaBIX Patch Cord Organizer
and AX101521 GigaBIX Patch Cord Organizer Cover









AX101520 GigaBIX
Horizontal Channel Plate



AX101478 GigaBIX
Management Ring

### GigaBIX Colored Service Clips

The GigaBIX colored service clip is a single-pair plastic clip that snaps on the GigaBIX connectors to visually identify various services when using GigaBIX cross-connect wire.

### GigaBIX Cable Management Module

The GigaBIX cable management module is designed to be used with a wall mount solution. The accessory allows all terminated cables to be brought from the same side (top or bottom) in a high-density GigaBIX installation (4-mount stack). The modules are stackable side-to-side and top-to-bottom with alignment features to ease installation. The modules can be used horizontally to create a horizontal management channel for more flexibility in a side-to-side patching layout using GigaBIX patch cords.

### GigaBIX Patch Cord Organizer

The GigaBIX patch cord organizer is designed to be used with a wall mount solution. The patch cord organizer is a metal trough that interlocks with GigaBIX mounts to create a vertical management channel for GigaBIX patch cords. The patch cord organizer has six (6) openings per side to nicely dress the patch cords while clearing the labeling area on the GigaBIX mount. The organizer can be assembled over cable management modules in large patch cord installations. A patch cord organizer cover can be purchased separately to hide the patch cords and give a very professional and high-tech look to the installation.

### GigaBIX Horizontal Channel Plate

GigaBIX horizontal channel plates are metal plates that attach to the patch cord organizers to create a horizontal management channel for GigaBIX patch cords. The plates are used in pairs and are designed to keep patch cords inside the horizontal channel.

### GigaBIX Management Ring

The GigaBIX management ring is a plastic ring that interlocks with the GigaBIX mounts to create a high-density wall mount cross-connect system. The rings are assembled in systems when using cross-connect wire and have a capacity of 450 GigaBIX cross-connect wires (1800-pairs total).

| Description | Belden Part Number |
|---|---|
| **GigaBIX Multi System** | |
| **Cable Management Accessories** | |
| GigaBIX Color-Coded Clip, Grey | **AX102146** |
| GigaBIX Color-Coded Clip, Almond | **AX102147** |
| GigaBIX Color-Coded Clip, White | **AX102148** |
| GigaBIX Color-Coded Clip, Black | **AX102149** |
| GigaBIX Color-Coded Clip, Orange | **AX102150** |
| GigaBIX Color-Coded Clip, Red | **AX102151** |
| GigaBIX Color-Coded Clip, Yellow | **AX102152** |
| GigaBIX Color-Coded Clip, Green | **AX102153** |
| GigaBIX Color-Coded Clip, Blue | **AX102154** |
| GigaBIX Color-Coded Clip, Purple | **AX102155** |
| GigaBIX Color-Coded Clip, Brown | **AX102156** |
| GigaBIX Cable Management Module | **AX101469** |
| GigaBIX Patch Cord Organizer | **AX101468** |
| GigaBIX Patch Cord Organizer, Cover | **AX101521** |
| GigaBIX Horizontal Channel Plate | **AX101520** |
| GigaBIX Management Ring | **AX101478** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# GigaBIX Multi System
## Cable Management Accessories

### GigaBIX Distribution Frame & Accessories

GigaBIX distribution frames provide a compact mounting unit for large cross-connect installations of data or voice services.

The GigaBIX distribution frame can accommodate up to (16) 12-connector GigaBIX mounts, eight on the equipment side and eight on the distribution side. The GigaBIX distribution frame has a capacity of 1152 ports or 4800 pairs. It is backwards compatible with BIX mounts (QMBIX12E) and can be used to continue a row of BIX distribution frames (QFBIX24E).

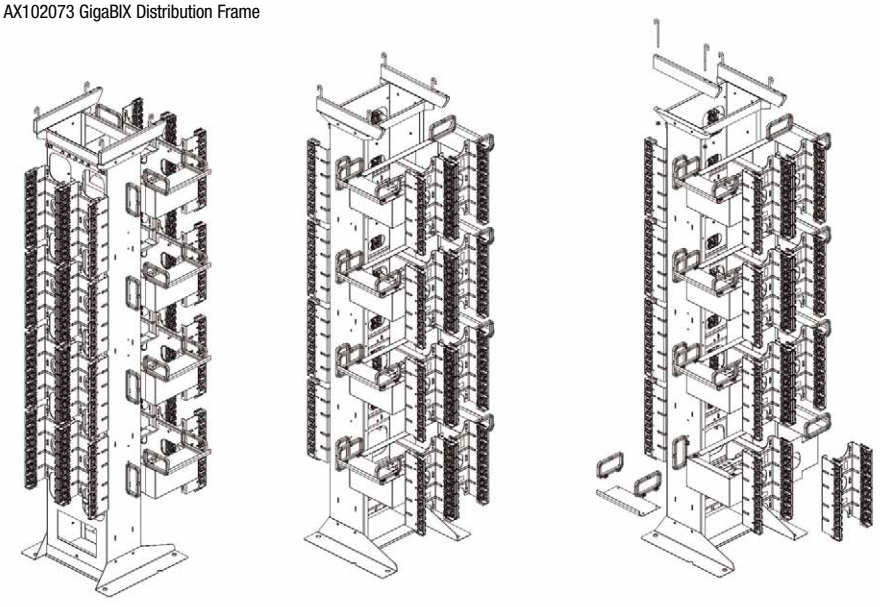
The GigaBIX frame end kit consists of eight (8) cable trays and eight (8) distribution rings plus appropriate mounting hardware. One kit is required to support GigaBIX cross-connect wires on the sides of a single-frame installation or on the end frames of a multi-frame installation.

The GigaBIX overhead kit consists of two (2) metal bars and four (4) "J" bolts plus appropriate mounting hardware to support cable ladder (not included) running over a row of GigaBIX distribution frames.

| Description | Belden Part Number |
|---|---|
| **GigaBIX Multi System** | |
| **Cable Management Accessories** | |
| Distribution Frame, 1152-ports/4800-pairs | **AX102073** |
| Frame End Kit | **AX102082** |
| Frame Overhead Kit | **AX102145** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

AX102073 GigaBIX Distribution Frame



# BIX Cross-Connect System

## Distribution Connectors, Multiplying Connectors and Modular Jack Connectors

A0393146 QCBIX1A4 Connector



### BIX Distribution Connector

The BIX distribution connector is a 25-pair connector. The connector's symmetrical construction allows termination of cables on one side and cross-connect jumper wires or BIX patch cords on the other. Each BIX connector is equipped with 50 double-ended Insulation Displacement Connection (IDC) clips for terminating plastic insulated solid copper conductors without stripping and pair splitters on each side of the connector facilitate wire insertion.

A0266827 QCBIX5A Multiplying Connector



### BIX Multiplying Connector

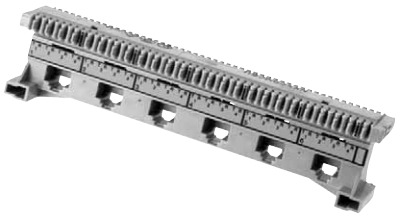
BIX multiplying connectors are used to generate multiple outputs from a single input. Construction of these connectors is identical to that of BIX distribution connectors, except for the IDC clips which are bridged. BIX multiplying connectors are typically used in voice applications.

The QCBIX2A connector is built using 24 sets of bridged clips (2 clips each). It is used to terminate various facilities where multiples of 2 are required.

The QCBIX5A connector is built using 10 sets of bridged clips (5 clips each). It is used for multiple jumper connections to the same equipment.

The QCBIX7A connector is built using 10 sets of bridged clips (four 2-clip and six 7-clip bridged arrangements). It is primarily intended for use with 1A type key telephone systems. Each connector can terminate up to three lines of key equipment providing service to as many as seven key telephone sets per line.

AX100798 BIX Modular Jack Connector



### BIX Modular Jack Connector

BIX modular jack connectors provide a fast and flexible method to manage small-to-medium cross-connect installations. These connectors are built with a BIX connector pre-wired to standard modular jacks. They allow front-access termination and patching.

The NXXCBMC6U connector is a 6-port, 8-position modular connector used for data applications. It exceeds all Category 5e channel requirements when used with PS5E modular cords in a Belden IBDN 1200 system.

QCBIX36-type connectors are used mostly for voice applications. The QCBIX36D connector is a 6-port, 8-position modular connector. It is pre-wired to USOC 8-wire wiring scheme specifications. The QCBIX36C connector is an 8-port, 6-position modular connector. It is pre-wired to USOC 6-wire wiring scheme specifications. The QCBIX36B connector is a 12-port, 6-position modular connector. It is pre-wired to USOC 4-wire wiring scheme specifications.

| Description | Belden Part Number |
|---|---|
| **BIX Cross-Connect System** | |
| **Distribution Connector** | |
| BIX Distribution Connector, 5-pair Marking | **A0266828** |
| BIX Distribution Connector, 4-pair Marking | **A0393146** |
| **Multiplying Connector** | |
| BIX Multiplying Connector, QCBIX2A, 25-pair, 12x2-pair | **A0269923** |
| BIX Multiplying Connector, QCBIX5A, 25-pair, 5x5-pair | **A0266827** |
| BIX Multiplying Connector, QCBIX7A, 25-pair, 2x2-pair & 3x7-pair | **A0269925** |
| **Modular Jack Connector** | |
| BIX Modular Jack Connector, NXXCBMC6U, 6-port, PS5E, T568A/B Coded | **AX100798** |
| BIX Modular Jack Connector, QCBIX36D, 6-port, USOC, 8-pin | **A0341173** |
| BIX Modular Jack Connector, QCBIX36C, 8-port, USOC, 6-pin | **A0330864** |
| BIX Modular Jack Connector, QCBIX36B, 12-port, USOC, 4-pin | **A0330863** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# BIX Cross-Connect System

## Mounts, Covers and Wire Management Accessories

A0340836 QMBIX12E BIX Mount, 300-pair



A0284798 QMBIX10C BIX Mount, 50-pair



A0277853 QMBIX31A 50-pair Mount with Locking Cover



A0285986 Locking Cover for 250-pair Mount



A0276396 BIX Cover, QMBIX10A, Stand-alone installation, Locking



A0270168 Distribution Ring



### BIX Mount

BIX mounts are basic components used in building a cross-connect system. They can accept BIX distribution, multiplying or modular jack connectors. The 300 and 250-pair mounts can be wall-mounted or installed on BIX frames. These mounts feature an interlocking design allowing them to be stacked for larger cross-connect installations.

The BIX 50-pair mount is typically used in small cross-connect installations. Also available is a 50-pair mount with cover that is sold as an assembly and is typically used in small cross-connect installations where security and/or dust protection is required.

### BIX Cover

BIX covers can be used to restrict access of cross-connect installations for better protection and security. Two sizes are available to suit either the QMBIX12E 300-pair mount or the QMBIX10A 250-pair mount. The two locking covers used in wall or frame-mounted installations are molded with translucent plastic allowing visual inspection. Also available are two covers used exclusively in stand-alone QMBIX10A 250-pair mount installations: one locking, the other non-locking – both have four cable entries, one at each corner.

### Distribution Ring

The distribution ring is used in wall mount installations providing a cross-connect channel for jumper wires, patch cords and cables. The distribution ring interlocks with the QMBIX12E or QMBIX10A mounts, providing proper spacing and alignment.

| Description | Belden Part Number |
|---|---|
| **BIX Cross-Connect System** | |
| **BIX Mount** | |
| BIX Mount, QMBIX12E (300-pair) | **A0340836** |
| BIX Mount, QMBIX10A (250-pair) | **A0270164** |
| BIX Mount, QMBIX10C (50-pair) | **A0284798** |
| **BIX Mount with Cover** | |
| BIX Mount with Cover, (Locking), 50-pair | **A0277853** |
| BIX Mount with Cover, (Snap-on), 50-pair | **A0277854** |
| **BIX Locking Cover** | |
| BIX Locking Cover, for QMBIX12E (300-pair) | **A0340838** |
| BIX Locking Cover, for QMBIX10A (250-pair) | **A0285986** |
| **BIX Cover** | |
| BIX Cover, QMBIX10A, Stand-alone installation, locking | **A0276396** |
| BIX Cover, QMBIX10A, Stand-alone installation, non-locking | **A0276394** |
| **Distribution Ring** | |
| Distribution Ring | **A0270168** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

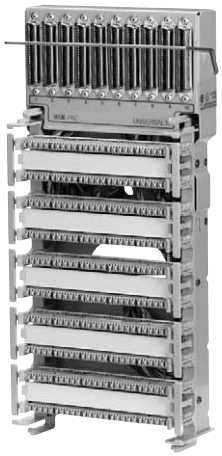
# BIX Cross-Connect System

## BIX Distribution Frames, Universal BIX-PAC and Trunk Access Blocks

A0340837 BIX Frame



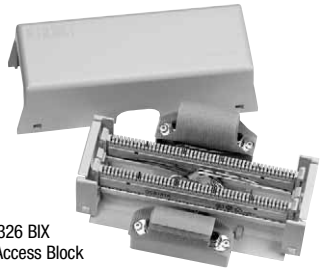
A0321776 Universal BIX-PAC Version 10-10



A0318897 BIX PAC Enclosure



A0327326 BIX Trunk Access Block



### BIX Distribution Frame

BIX distribution frames provide a compact mounting unit for large cross-connect installations. The QFBIX24E BIX Frame can accommodate up to 16 QMBIX12E 300-pair mounts, eight on the vertical side and eight on the horizontal side. The QFBIX24E BIX frame has a capacity of 4800-pair. The QFBIX24A BIX Frame can accommodate up to 16 QMBIX10A 250-pair mounts, eight on the vertical side and eight on the horizontal side. The QFBIX24A BIX Frame has a capacity of 4000-pair.

The BIX frame end kit consists of eight cable trays and eight distribution rings plus appropriate mounting hardware. One kit is required to support cross-connect wires on the sides of the shelves in a single-frame installation or on the end frames of a multi-frame installation.

The distribution rings are plastic rings used to manage cross-connect wires.

### Universal BIX-PAC

The universal BIX-PAC provides a fast, factory-wired, pre-tested and easy-to-install method of terminating wiring for the voice environment. A typical application for this product is in the main distribution terminal system or the riser terminal system, where it can provide connectivity and cross-connection for up to 250 pairs. The units come equipped with up to 10 QCBIX1A connectors and 10 fifty-pin type telco connectors for the termination of connectorized cables. Also available is a BIX-PAC enclosure, which is a fire-retardant polystyrene structural foam box that can house one BIX-PAC. The enclosure has a snap-on cover and removable panels for cable entry on top, bottom and sides.

### BIX Trunk Access Block

BIX trunk access blocks provide a fast, factory-wired, pre-tested and easy-to-install method for demarcation or testing points on customer premises. Typical applications are in the building entrance system or the main distribution terminal system, where the demarcation point between the network provider and the customer equipment usually can be found.

| Description | Belden Part Number |
|---|---|
| **BIX Cross-Connect System** | |
| **BIX Distribution Frame** | |
| BIX Distribution Frame, 4800-pair (4 Shelves for 16 Mounts, 300-pair) | **A0340837** |
| BIX Distribution Frame, 4000-pair (4 Shelves for 16 Mounts, 250-pair) | **A0275511** |
| **BIX Distribution Frame Accessories** | |
| BIX Distribution Frame Accessories, End Kit (4 Shelves) | **A0275512*** |
| BIX Distribution Frame Accessories, Distribution Ring | **P0596540*** |
| **Universal BIX-PAC** | |
| Universal BIX-PAC, 10-8, 8 RJ21X Female to 8 QCBIX1A Connectors | **A0321775** |
| Universal BIX-PAC, 10-10, 10 RJ21X Female to 10 QCBIX1A Connectors | **A0321776** |
| **BIX PAC Enclosure** | |
| BIX PAC Enclosure, Grey | **A0318897** |
| **BIX Trunk Access Block** | |
| BIX Trunk Access Block, 1 RJ21X Female to 1 QCBIX1A Connector | **A0327325** |
| BIX Trunk Access Block, 2 RJ21X Female to 2 QCBIX1A Connector | **A0327326** |

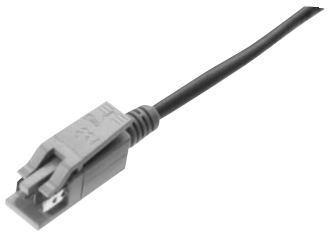
* Eight distribution rings come as part of the BIX distribution frame end kit.
Additional distribution rings can be ordered separately. Use (1) end kit per row of frames.

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# BIX Cross-Connect System

## BIX Patch Cords and B-Plus Cross-Connect Wire

A0410494 BIX Patch Cord, BIX-BIX, 2-pair



A0410469 BIX Patch Cord, BIX-BIX, 1-pair



22208260 B-Plus Cross-Connect Wire



### BIX Patch Cords

BIX patch cords allow for high-density connections, coupled with flexibility for cost-effective installation and administration. Installation and rearrangement of patch cords do not require any special tools or training. BIX patch cord plugs terminate directly into QCBIX1A/1A4 connectors.

### B-Plus Cross-Connect Wire

B-Plus cross-connect wire is intended primarily for use between incoming cables and station equipment in a telecommunications room or at a main cross-connect.

Z cross-connect wire is intended primarily for use in voice applications such as cross-connecting PBX or key telephone system equipment to backbone or horizontal distribution cables.

| Description | Belden Part Number |
|---|---|
| **BIX Cross-Connect System** | |
| **BIX Patch Cord** | |
| BIX Patch Cord, BIX-BIX, 2-pair, 1.2 m (4 ft.) | **A0410494** |
| BIX Patch Cord, BIX-BIX, 1-pair, 1.2 m (4 ft.) | **A0410469** |
| BIX Patch Cord, BIX-BIX, 2-pair, 2.1 m (7 ft.) | **A0410495** |
| BIX Patch Cord, BIX-BIX, 1-pair, 2.1 m (7 ft.) | **A0410471** |
| BIX Patch Cord, BIX-BIX, 2-pair, 3.0 m (10 ft.) | **A0410496** |
| BIX Patch Cord, BIX-BIX, 1-pair, 3.0 m (10 ft.) | **A0410473** |
| BIX Patch Cord, BIX-BIX, 2-pair, 4.6 m (15 ft.) | **A0410497** |
| BIX Patch Cord, BIX-BIX, 1-pair, 4.6 m (15 ft.) | **A0410475** |
| BIX Patch Cord, BIX-BIX, 1-pair, 7.6 m (25 ft.) | **A0410493** |

For 4-pair connections, please see the GigaBIX patch cord section.

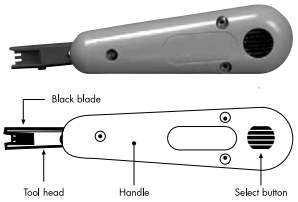
| | |
|---|---|
| **B-Plus Cross-Connect Wire** | |
| 24 AWG, 1-pair, Wh/Bl, 305 m (1000 ft.), K-Carton | **22208250** |
| 24 AWG, 1-pair, Wh/Bl, 305 m (1000 ft.), Spool (S77) | **22208253** |
| 24 AWG, 2-pair, Wh/Bl/Wh/Or, 305 m (1000 ft.), K-Carton | **22208260** |
| 24 AWG, 2-pair, Wh/Gr/Wh/Or, 305 m (1000 ft.), K-Carton | **22208231** |
| 24 AWG, 3-pair, Wh/Bl/Wh/Or/Wh/Gr, 152 m (500 ft.), K-Carton | **22208265** |
| 24 AWG, 3-pair, Wh/Bl/Wh/Or/Wh/Gr, 200 m, K-Carton | **22208235** |
| 24 AWG, 4-pair, Wh/Bl/Wh/Or/Wh/Gr/Wh/Br, 152 m (500 ft.), K-Carton | **22208270** |
| **Z Cross-Connect Wire** | |
| Z Cross-Connect Wire, 24 AWG, 1-pair, Bl/Ye, 300 m (984 ft.), Spool | **22208010** |
| Z Cross-Connect Wire, 24 AWG, 1-pair, Bl/Rd, 300 m (984 ft.), Spool | **22208067** |

These products are in the process of being assessed for RoHS compliance.
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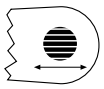
# BIX Cross-Connect System

## BIX Tools, Testing Tools, Accessories and Designation Strip

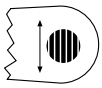
A0270165 BIX Connecting Tool




Tool in CUT position



Tool in NO CUT position



C0054642
Tool Pouch



A0270166 BIX
Test Probe



A0270172
Special Service Guard



A0325493
Bridging Clip



P0660798 BIX
Wire Retainer



C0039222 BIX
Cable Tie



19″/23″ (0.48 m/0.58 m)
Rack Bracket Kits



A0270169 BIX
Designation Strip



### BIX Connecting Tool

The BIX connecting tool is the only tool required to terminate cables, pigtails or jumper wires on all GigaBIX and BIX connection products. The BIX connecting tool is a spring-activated hand tool. A single forward movement will seat the wire into the BIX IDC clip and cut off the excess wire. The tool will terminate 22-26-AWG plastic insulated solid copper conductors. A separate leather BIX tool pouch to carry and protect the BIX tool can be ordered.

### BIX Test Probe

The BIX test probe is a single-pair probe that clips onto the termination clip of BIX distribution or BIX modular jack connectors to facilitate testing.

### BIX Accessories

The BIX special service guard is a single-pair red plastic clip used to identify a connection within a BIX distribution field that requires special attention prior to any maintenance work.

The BIX bridging clip is a single-pair clip used to bridge single-pair connections of two BIX connectors.

The BIX wire retainer is a plastic extrusion that fits over the terminated wires on a BIX connector to prevent them from being pulled out of the IDC contacts. It can be used to secure a permanent connection on either side of a BIX connector.

This 19″ (0.48 m) rack bracket kit provides the hardware for BIX mount installation into a 19″ (0.48 m) rack. This kit comes complete with two mounting bars, four screws for rack mounting, four screws for BIX mount assemblies and an installation guide.
BIX cable ties are used for securing wire bundles to the BIX connector.

### BIX Designation Strip

The BIX designation strip is designed to be used in conjunction with all BIX mounts and BIX connectors. It snaps in between two connectors and provides space for self adhesive BIX labels. The strip is made of white fire-retardant plastic, with ridges on the top and bottom for easy alignment and placement of designation labels. (See the LabelFlex section for designation labels.)

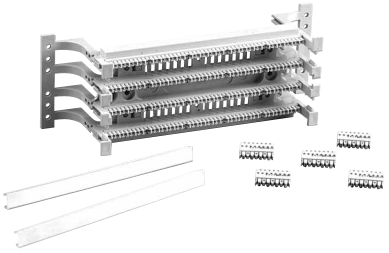
| Description | Belden Part Number |
|---|---|
| **BIX Cross-Connect System** | |
| **BIX Tools** | |
| BIX Connecting Tool | **A0270165** |
| Tool Pouch | **C0054642** |
| **BIX Test Probe** | |
| BIX Test Probe, 1-pair, 1/pack | **A0270166** |
| **BIX Accessories** | |
| BIX Special Service Guard, 1-pair, Red, 50/pack | **A0270172** |
| BIX Bridging Clip, 1-pair, Grey, 50/pack | **A0325091** |
| BIX Bridging Clip, 1-pair, White, 50/pack | **A0325493** |
| BIX Wire Retainer, 100/pack | **P0660798** |
| 19″ (0.48 m) Rack Bracket Kit, 2 bars/pack | **A0352331** |
| 23″ (0.58 m) Rack Bracket Kit, 2 bars/pack | **NN00043** |
| BIX Cable Tie, 100/pack | **C0039222** |
| **BIX Designation Strip** | |
| BIX Designation Strip, White, 50/pack | **A0270169** |

These products are in the process of being assessed for RoHS compliance.
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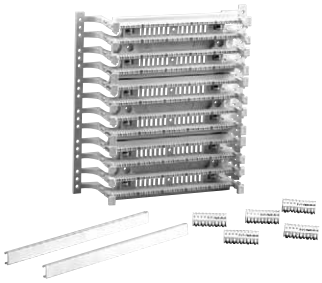
# 110 Cross-Connect System

## 110 Cross-Connect Kits, 110 Connecting Blocks, 110 Wall Mount Frame Kits and 110 Wiring Blocks

AX100694 110 Cross-Connect Kit, 100-pair



AX100696 110 Cross-Connect Kit, 300-pair



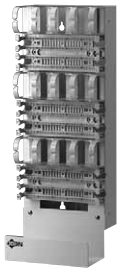
AX100707 110 Connecting Block, 4-pair



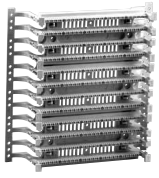
AX100708 110 Connecting Block, 5-pair



AX100697 110 Wall Mount Frame Kit, 300-pair



AX100692 Wiring Block, 300-pair



AX100691 Wiring Block, 100-pair



### 110 Cross-Connect Kit

110 cross-connect kits contain all material required to terminate distribution or equipment cables into a 110 cross-connect system. Kits consist of one wiring block (100-pair or 300-pair) with legs, connecting blocks (4-pair or 5-pair), designation strips and labels.

### 110 Connecting Block

The 110 connecting blocks are modular connectors equipped with double-sided Insulation Displacement Connection (IDC) clips that are used to terminate plastic insulated solid copper conductors in 110 wiring blocks. The color-coded connecting blocks are available in 4-pair and 5-pair configurations. These blocks are compatible with other existing 110 cross-connect systems.

### 110 Wall Mount Frame Kit

110 wall mount frame kits simplify planning, organizing and implementation of wall mounted cross-connect systems. They are available in 300-pair and 900-pair configurations making them ideal for small telecommunications room installations. Kits consist of wiring blocks and cable management troughs to be mounted on a cable channel. Kits include all components required to complete a 110 cross-connect installation with either 4-pair or 5-pair connecting blocks.

### 110 Wiring Block

110 wiring blocks are rigid plastic indexing strip assemblies designed to hold and align wires prior to terminating 110 connecting blocks. 110 wiring blocks are available in 100-pair and 300-pair configurations with legs and 100-pair without legs. 110 wiring blocks are compatible with 22 to 26 AWG wires and accept 4-pair or 5-pair connecting blocks. They are specially designed to simplify data cabling installations. A deeper channel and open slots in the base allow cable to be brought close to the termination point. These blocks are compatible with other existing 110 cross-connect systems.

| Description | Belden Part Number |
|---|---|
| **110 Cross-Connect System** | |
| **110 Cross-Connect Kit** | |
| 110 Cross-Connect Kit, 100-pair, with 4-pair Connecting Blocks | **AX100693** |
| 110 Cross-Connect Kit, 100-pair, with 5-pair Connecting Blocks | **AX100694** |
| 110 Cross-Connect Kit, 300-pair, with 4-pair Connecting Blocks | **AX100695** |
| 110 Cross-Connect Kit, 300-pair, with 5-pair Connecting Blocks | **AX100696** |
| **110 Connecting Block** | |
| 110 Connecting Block, 110C4, 4-pair | **AX100707** |
| 110 Connecting Block, 110C5, 5-pair | **AX100708** |
| **110 Wall Mount Frame Kit** | |
| 110 Wall Mount Frame Kit, 300-pair, with 4-pair Connecting Blocks | **AX100697** |
| 110 Wall Mount Frame Kit, 300-pair, with 5-pair Connecting Blocks | **AX100698** |
| 110 Wall Mount Frame Kit, 900-pair, with 4-pair Connecting Blocks | **AX100699** |
| 110 Wall Mount Frame Kit, 900-pair, with 5-pair Connecting Blocks | **AX100700** |
| **110 Wiring Block** | |
| 110 Wiring Block, 100-pair, without legs | **AX100690** |
| 110 Wiring Block, 100-pair, with legs | **AX100691** |
| 110 Wiring Block, 300-pair, with legs | **AX100692** |

The 110 cross-connect system is not available in all countries.

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

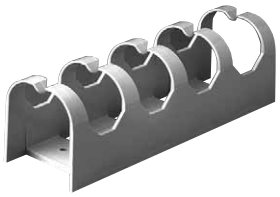
# 110 Cross-Connect System

## 110 Designation Strip and Management Accessories

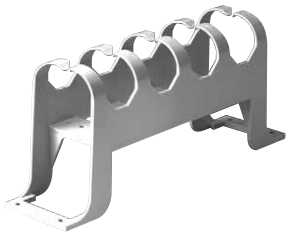
AX100721 110 Designation Strip



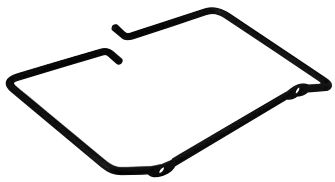
AX100705 Cable Management Trough



AX100706 Cable Management Trough with Legs



AX100703 Cable Management Ring



AX100701 Wall Mount Cable Management Frame, 300-pair



### 110 Designation Strip

The 110 designation strip is designed to be used in conjunction with all 110 wiring blocks. It snaps in between two rows of 110 connecting blocks and provides space to insert a designation label. The strip is made of clear PVC.

### 110 Management Accessories

Cable management troughs are utilized as channels positioned between wiring blocks for horizontal or vertical dressing of cross-connect wires and patch cords. They are available with and without mounting legs.

Cable management rings are used for management of cross-connect wires and cables in 110 cross-connect systems. They can be mounted directly onto a plywood backboard between columns of wiring blocks. They are available in two different sizes.

Wall mount cable management frames are pre-assembled vertical cable managers that are used between 110 wall mount frame kits for vertical management of patch cords. They simplify planning and installation of 110 cross-connect systems. They are available in two sizes to use with 300-pair and 900-pair wall mount frame kits.

| Description | Belden Part Number |
|---|---|
| **110 Cross-Connect System** | |
| **110 Designation Strip** | |
| 110 Designation Strip | **AX100721** |
| **110 Management Accessories** | |
| Cable Management Trough, without legs | **AX100705** |
| Cable Management Trough, with legs | **AX100706** |
| Cable Management Ring, Small 144.8 mm (5.7″) | **AX100703** |
| Cable Management Ring, Large 216 mm (8.5″) | **AX100704** |
| Wall Mount Cable Management Frame, 300-pair | **AX100701** |
| Wall Mount Cable Management Frame, 900-pair | **AX100702** |

The 110 cross-connect system is not available in all countries.

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# 110 Cross-Connect System

## 110 Patch Cords

AX300001 PS5E 110 Patch Cord, 110-110, 4-pair



AX300010 PS5E 110 Patch Cord, 110-8MOD, 4-pair



AX300013 110 Patch Cord, 110-110, 2-pair



### 110 Patch Cord

110 patch cords allow for high density connections in a 110 cross-connect system. 110 patch cord rearrangements do not require any special tools or training thus providing flexibility for cost-effective installation and administration. 110 patch cords are available in two different configurations. 110-110 patch cord configurations are used for easy cross-connection between equipment and distribution fields.

110-8MOD patch cord configurations are used to easily interconnect equipment utilizing 8-position modular jacks directly into 110C4/C5 connecting blocks in the distribution field. PS5E 110 patch cords offer Category 5e performance. These patch cords are compatible with other existing 110 cross-connect systems.

### 110 Patch Cord Connector

110 patch cord connectors are available in 1, 2 and 4-pair configurations for field assembly of Category 5 patch cords. They can terminate plastic insulated stranded copper conductors 24 AWG.

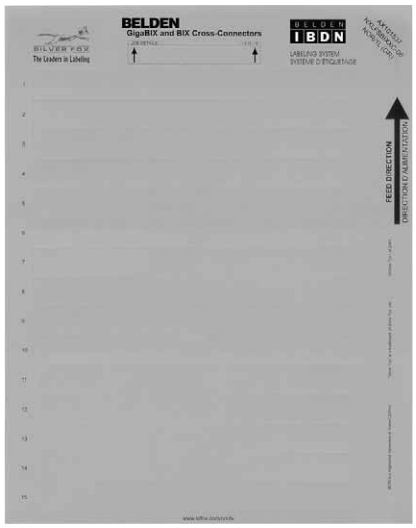
| Description | Belden Part Number |
|---|---|
| **110 Cross-Connect System** | |
| **110 Patch Cord** | |
| 110 Patch Cord, PS5E 110-110, 4-pair, 1.2 m (4 ft.) | **AX300001** |
| 110 Patch Cord, PS5E 110-110, 4-pair, 1.8 m (6 ft.) | **AX300002** |
| 110 Patch Cord, PS5E 110-110, 4-pair, 2.4 m (8 ft.) | **AX300025** |
| 110 Patch Cord, PS5E 110-110, 4-pair, 3.0 m (10 ft.) | **AX300026** |
| 110 Patch Cord, PS5E 110-110, 4-pair, 6.1 m (20 ft.) | **AX300027** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568A, 1.2 m (4 ft.) | **AX300010** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568A, 1.8 m (6 ft.) | **AX300009** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568A, 2.4 m (8 ft.) | **AX300029** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568A, 3.0 m (10 ft.) | **AX300030** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568A, 6.1 m (20 ft.) | **AX300032** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568B, 1.2 m (4 ft.) | **AX300008** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568B, 1.8 m (6 ft.) | **AX300005** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568B, 2.4 m (8 ft.) | **AX300011** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568B, 3.0 m (10 ft.) | **AX300034** |
| 110 Patch Cord, PS5E 110-8MOD, 4-pair, T568B, 6.1 m (20 ft.) | **AX300017** |
| 110 Patch Cord, 110-110, 2-pair, 1.2 m (4 ft.) | **AX300013** |
| 110 Patch Cord, 110-110, 2-pair, 1.8 m (6 ft.) | **AX300014** |
| 110 Patch Cord, 110-110, 2-pair, 2.4 m (8 ft.) | **AX300015** |
| 110 Patch Cord, 110-110, 2-pair, 3.0 m (10 ft.) | **AX300037** |
| 110 Patch Cord, 110-110, 2-pair, 6.1 m (20 ft.) | **AX300038** |
| 110 Patch Cord, 110-110, 1-pair, 0.6 m (2 ft.) | **AX300039** |
| 110 Patch Cord, 110-110, 1-pair, 1.2 m (4 ft.) | **AX300006** |
| 110 Patch Cord, 110-110, 1-pair, 1.8 m (6 ft.) | **AX300007** |
| 110 Patch Cord, 110-110, 1-pair, 2.4 m (8 ft.) | **AX300012** |
| 110 Patch Cord, 110-110, 1-pair, 3.0 m (10 ft.) | **AX300021** |
| 110 Patch Cord, 110-110, 1-pair, 6.1 m (20 ft.) | **AX300040** |
| **110 Patch Cord Connector** | |
| 110 Patch Cord Connector, 4-pair | **AX100711** |
| 110 Patch Cord Connector, 2-pair | **AX100710** |
| 110 Patch Cord Connector, 1-pair | **AX100709** |

The 110 cross-connect system is not available in all countries.
Other lengths are available, please contact customer service for further details.

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Labels
## LabelFlex

AX101537 LabelFlex Labels




### LabelFlex – Automated Labeling Solution

The LabelFlex solution is aimed at simplifying network management. Using the labeling system (software and label types), the installer can rapidly produce quality, application specific labels for most Belden IBDN products in a fraction of the time taken by traditional methods.

The range of Belden IBDN products covered by the labeling system is:

- GigaBIX & BIX cross-connect systems
- Flex patch panels
- ID tubes
- BIX Modular jack connectors
- Workstation outlets
- PS5E HD patch panels
- 110 cross-connect system
- MediaFlex faceplates series
- GigaFlex PS6+ patch panels
- Cable applications, 4-pair and 25-pair

| Description | Belden Part Number |
|---|---|
| **Labels for MediaFlex Faceplates** | |
| Almond/Silver, 30 labels/sheet, 10 sheets/pack | **AX101820** |
| White, 30 labels/sheet, 10 sheets/pack | **AX101821** |
| **Labels for BIX and GigaBIX** | |
| Grey, 15 labels/sheet, 5 sheets/pack | **AX101532** |
| White, 15 labels/sheet, 5 sheets/pack | **AX101533** |
| Orange, 15 labels/sheet, 5 sheets/pack | **AX101534** |
| Red, 15 labels/sheet, 5 sheets/pack | **AX101535** |
| Yellow, 15 labels/sheet, 5 sheets/pack | **AX101536** |
| Green, 15 labels/sheet, 5 sheets/pack | **AX101537** |
| Blue, 15 labels/sheet, 5 sheets/pack | **AX101538** |
| Purple, 15 labels/sheet, 5 sheets/pack | **AX101539** |
| Brown, 15 labels/sheet, 5 sheets/pack | **AX101540** |
| Silver, 15 labels/sheet, 5 sheets/pack | **AX101541** |
| **Labels for BIX Modular Jack Connector** | |
| Grey, 28 labels/sheet, 5 sheets/pack | **AX101542** |
| White, 28 labels/sheet, 5 sheets/pack | **AX101543** |
| Orange, 28 labels/sheet, 5 sheets/pack | **AX101544** |
| Red, 28 labels/sheet, 5 sheets/pack | **AX101545** |
| Yellow, 28 labels/sheet, 5 sheets/pack | **AX101546** |
| Green, 28 labels/sheet, 5 sheets/pack | **AX101547** |
| Blue, 28 labels/sheet, 5 sheets/pack | **AX101548** |
| Purple, 28 labels/sheet, 5 sheets/pack | **AX101549** |
| Brown, 28 labels/sheet, 5 sheets/pack | **AX101550** |
| Silver, 28 labels/sheet, 5 sheets/pack | **AX101584** |
| **Labels for Patch Panels, Outlets and Cables** | |
| Labels for Flex Patch Panels, White, 28 labels/sheet, 5 sheets/pack | **AX101551** |
| Labels for Workstation Faceplates, White, 80 labels/sheet, 25 sheets/pack | **AX101552** |
| Labels for Workstation Single Port ID, White, 450 labels/sheet, 5 sheets/pack | **AX101553** |
| Labels for HD Patch Panels, White, 18 labels/sheet, 5 sheets/pack | **AX101554** |
| Labels for GigaFlex PS6+ Patch Panels, White, 28 labels/sheet, 5 sheets/pack | **AX101626** |
| Labels for 4-pair cables, Grey, 48 labels/sheet, 25 sheets/pack | **AX101555** |
| Labels for 25-pair cables, White, 24 labels/sheet, 25 sheets/pack | **AX101556** |
| **Labels for 110 Cross-Connect** | |
| Grey, 18 labels/sheet, 5 sheets/pack | **AX101557** |
| White, 18 labels/sheet, 5 sheets/pack | **AX101558** |
| Orange, 18 labels/sheet, 5 sheets/pack | **AX101559** |
| Red, 18 labels/sheet, 5 sheets/pack | **AX101560** |
| Yellow, 18 labels/sheet, 5 sheets/pack | **AX101561** |
| Green, 18 labels/sheet, 5 sheets/pack | **AX101562** |
| Blue, 18 labels/sheet, 5 sheets/pack | **AX101563** |
| Purple, 18 labels/sheet, 5 sheets/pack | **AX101564** |
| Brown, 18 labels/sheet, 5 sheets/pack | **AX101565** |
| **Labels for ID Tubes** | |
| 3.1″ (0.08 m) long, White, 32 labels/sheet, 5 sheets/pack | **AX101566** |
| 4.4″ (0.11 m) long, White, 30 labels/sheet, 5 sheets/pack | **AX101567** |
| 7.4″ (0.19 m) long, White, 19 labels/sheet, 5 sheets/pack | **AX101568** |
| **Software** | |
| Automated LabelFlex Advanced Software, 1 CD/pack | **AX101569** |

The 110 cross-connect system is not available in all countries.
Other lengths are available, please contact customer service for further details.

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Patch Panels

## GigaFlex PS6+ Patch Panels Category 6, Telepanel

AX101613 GigaFlex PS6+ Patch Panel, 2U, 48-port



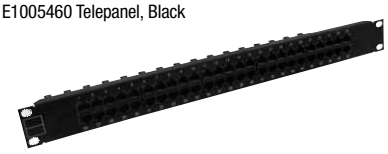
### GigaFlex PS6+ Patch Panel

The GigaFlex PS6+ patch panel is a fully loaded patch panel using black GigaFlex PS6+ modules. The unmatched performance of the GigaFlex PS6+ module exceeds all parameters specified in the Category 6 standard. All performance characteristics including NEXT, FEXT, Attenuation and Return Loss have been set to guarantee transmission performance up to 300 MHz and a data-rate of up to 4.8 Gb/s.

| Description | Belden Part Number |
|---|---|
| **Patch Panels** | |
| **GigaFlex PS6+ Patch Panel** | |
| GigaFlex PS6+ Patch Panel, 1U, 24-port, Grey | **AX101612** |
| GigaFlex PS6+ Patch Panel, 1U, 24-port, Black | **AX101611** |
| GigaFlex PS6+ Patch Panel, 2U, 48-port, Grey | **AX101614** |
| GigaFlex PS6+ Patch Panel, 2U, 48-port, Black | **AX101613** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

E1005460 Telepanel, Black



### Telepanel

The 50-ports telepanel is supplied in an easy and functional design with fixed cable guide prepared for use of Velcro tape or strips. All jacks are mounted as RJ45, enabling the use of general patch cables. The panel is available in white and black color with numbering from 1 to 50. Mounting is carried out by means of a “KRONE” tool.

| Description | Belden Part Number |
|---|---|
| **Telepanel** | |
| | |
| Telepanel, 1U, 50-ports, Black | **E1005460** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Patch Panels

## PS5E HD Patch Panels Category 5e, PS5E BIX Patch Panels Category 5e and Flex Patch Panels

AX100465 PS5E HD Patch Panel, 1U, 24-port



### PS5E HD Patch Panel

The Universal PS5E HD patch panels series includes a variety of product styles, sizes and wiring configurations. PS5E HD patch panels are robust and installer-friendly products by design, combining punch down connectors with standard modular jacks. They are available in both BIX and 110 Insulation Displacement Connection (IDC) options. A color-coded icon labeling system can be used to tag each patch panel port and simplify network management (ordered separately). PS5E HD patch panels offer Category 5e performance.

AX100473 PS5E HD Patch Panel, 2U, 48-port



### PS5E BIX Patch Panel

The PS5E BIX patch panel is a medium density panel, 24-port in 2 rack space units, for easier installation and cable management than high density panels. The PS5E BIX patch panel is a robust and installer-friendly product by design, combining BIX punch down connectors with standard modular jacks. The patch panel features built-in wire management to secure cable bundles and to control and maintain patch cord bend radius. A color-coded icon labeling system can be used to tag each patch panel port and simplify network management (ordered separately). The PS5E BIX patch panel offers Category 5e performance.

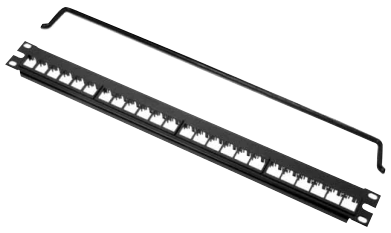
AX100506 BIX Patch Panel, 2U, 24-port



### Flex Patch Panel

Flex patch panels provide a flexible and versatile termination solution for telecommunications room rack-mounted installations. The panels can be custom configured in the field to suit practically any particular configuration. Flex patch panels are compatible with GigaFlex and EZ-MDVO modules as well as MDVO-style multimedia modules. Modules are ordered separately.

AX101456 Flex Patch Panel



| Description | Belden Part Number |
|---|---|
| **Patch Panels** | |
| **PS5E HD Patch Panel** | |
| PS5E HD-BIX Patch Panel, 1U, 24-port, Grey, T568A/B | **AX100464** |
| PS5E HD-BIX Patch Panel, 1U, 24-port, Black, T568A/B | **AX100465** |
| PS5E HD-BIX Patch Panel, 2U, 48-port, Grey, T568A/B | **AX100472** |
| PS5E HD-BIX Patch Panel, 2U, 48-port, Black, T568A/B | **AX100473** |
| PS5E HD-110 Patch Panel, 1U, 24-port, Black, T568B/A | **AX100452** |
| PS5E HD-110 Patch Panel, 2U, 48-port, Black, T568B/A | **AX100454** |

The PS5E HD-110 Patch Panel is not available in all countries.
Other configurations are available, please contact customer service for further details.

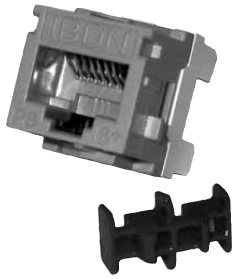
| | |
|---|---|
| **PS5E BIX Patch Panel** | |
| PS5E BIX Patch Panel, 2U, 24-port, Grey, T568A-ISDN | **AX100505** |
| PS5E BIX Patch Panel, 2U, 24-port, Black, T568A-ISDN | **AX100506** |
| **Flex Patch Panel** | |
| Flex Patch Panel, 1U, 24-port, Grey | **AX101571** |
| Flex Patch Panel, 1U, 24-port, Black | **AX101456** |
| Flex Patch Panel, 2U, 48-port, Grey | **AX101573** |
| Flex Patch Panel, 2U, 48-port, Black | **AX101458** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Workstation Outlets

## GigaFlex PS6+ Modules Category 6

AX101067 GigaFlex PS6+Module



### GigaFlex PS6+ Module

The GigaFlex PS6+ module is a punch down UTP connector based on a patented encapsulated lead frame technology ensuring excellent long-term reliability as well as extremely stable transmission performance. The unmatched Beyond Cat 6 performance exceeds all parameters specified in the Category 6 standard. All performance characteristics have been set to guarantee transmission performance up to 300 MHz and a data-rate of up to 4.8 Gb/s.

The GigaFlex PS6+ is the module of choice for terminating UTP cables into the MediaFlex and interface outlet series. It can also be mixed and matched with a wide variety of MDVO adapters, boxes and patch panels to suit practically any installation configuration for workstation outlet, consolidation point and telecommunications room applications.

A keystone-style is also available for terminating UTP cables into keystone-style mounting hardware. It can be easily snapped into simple sheet metal cut-outs (panel mounting) for installation into consolidation point or multi-user custom-built devices.

Also available is the GigaFlex PS6+ module, clipsal-style which is fully compatible with clipsal faceplates and mounting hardware.

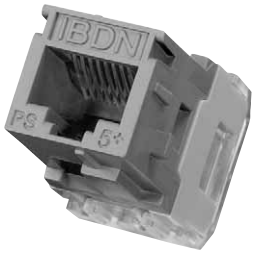
| Description | Belden Part Number | |
|---|---|---|
| | MDVO-Style | Keystone-Style |
| **Workstation Outlets** | | |
| **GigaFlex PS6+ Module** | | |
| T568A/B, Grey | **AX101063** | **AX101318** |
| T568A/B, Almond | **AX101064** | **AX101319** |
| T568A/B, White | **AX101065** | **AX101320** |
| T568A/B, Black | **AX101066** | **AX101321** |
| T568A/B, Orange | **AX101067** | **AX101322** |
| T568A/B, Red | **AX101068** | **AX101323** |
| T568A/B, Yellow | **AX101069** | **AX101324** |
| T568A/B, Green | **AX101070** | **AX101325** |
| T568A/B, Blue | **AX101071** | **AX101326** |
| T568A/B, Purple | **AX101072** | **AX101327** |
| T568A/B, Brown | **AX101073** | **AX101328** |
| T568A/B, Ivory | **AX102563** | **–** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Workstation Outlets

## GigaFlex PS5E Modules Category 5e

AX101051 GigaFlex PS5E Module




### GigaFlex PS5E Module

The GigaFlex PS5E module is a punch down UTP connector based on a patented encapsulated lead frame technology ensuring excellent long term reliability as well as extremely stable transmission performance. The PS5E-rated performance exceeds all requirements specified in the Category 5e standard. All performance parameters including NEXT, FEXT, Attenuation and Return Loss have been set to guarantee transmission performance up to 160 MHz and a data-rate of up to 1.2 Gb/s.

The GigaFlex PS5E is the module of choice for terminating UTP cables into the MediaFlex and interface outlet series. It can also be mixed and matched with a wide variety of MDVO adapters, boxes and patch panels to suit practically any installation configuration for workstation outlet, consolidation point and telecommunications room applications.

A keystone-style is also available for terminating UTP cables into keystone-style mounting hardware. It can be easily snapped into simple sheet metal cut-outs (panel mounting) for installation into consolidation point or multi-user custom-built devices.

| Description | Belden Part Number | |
|---|---|---|
| | MDVO-Style | Keystone-Style |
| **Workstation Outlets** | | |
| **GigaFlex PS5E Module** | | |
| T568A/B, Grey | **AX101044** | **AX101307** |
| T568A/B, Almond | **AX101045** | **AX101308** |
| T568A/B, White | **AX101046** | **AX101309** |
| T568A/B, Black | **AX101047** | **AX101310** |
| T568A/B, Orange | **AX101048** | **AX101311** |
| T568A/B, Red | **AX101049** | **AX101312** |
| T568A/B, Yellow | **AX101050** | **AX101313** |
| T568A/B, Green | **AX101051** | **AX101314** |
| T568A/B, Blue | **AX101052** | **AX101315** |
| T568A/B, Purple | **AX101053** | **AX101316** |
| T568A/B, Brown | **AX101054** | **AX101317** |
| T568A/B, Ivory | **AX102564** | **–** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Workstation Outlets

## EZ-MDVO PS5E Modules Category 5e

AX100654 EZ-MDVO PS5E Module




### EZ-MDVO PS5E Module

The EZ-MDVO module is built with a patented lead frame design and encapsulated insulation displacement contacts, ensuring reliable connections and performance well above Category 5e standards. The EZ-MDVO module termination cap is what is so unique about this product. It allows for a simple and fast "press-fit" installation while ensuring consistent wire termination every time it is snap-locked. The module termination cap is color-coded to facilitate wire arrangement and speed up installation time. The termination cap is printed with the T568A/B color-codes. The EZ-MDVO modules can be mixed and matched with a wide variety of MediaFlex, Interface and MDVO-style faceplates, adapters and boxes to suit practically any installation configuration for workstation outlet installations.

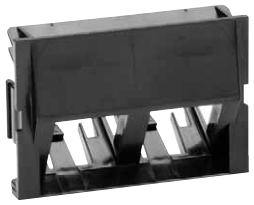
A keystone-style is also available for terminating UTP cables into keystone-style mounting hardware. It can be easily snapped into simple sheet metal cut-outs (panel mounting) for installation into consolidation point or multi-user custom-built devices. Clipsal-style EZ-MDVO modules are available for installations using commercially available clipsal faceplates and HPM-style EZ-MDVO modules are available for installations using commercially available HPM faceplates.

| Description | Belden Part Number | |
|---|---|---|
| | MDVO-Style | Keystone-Style |
| **Workstation Outlets** | | |
| **EZ-MDVO PS5E Module** | | |
| T568A/B coded, Grey | **AX100645** | **AX100577** |
| T568A/B coded, Almond | **AX100646** | **AX100578** |
| T568A/B coded, White | **AX100647** | **AX100579** |
| T568A/B coded, Black | **AX100648** | **AX100580** |
| T568A/B coded, Orange | **AX100649** | **AX100581** |
| T568A/B coded, Red | **AX100650** | **AX100582** |
| T568A/B coded, Yellow | **AX100651** | **AX100583** |
| T568A/B coded, Green | **AX100652** | **AX100584** |
| T568A/B coded, Blue | **AX100653** | **AX100585** |
| T568A/B coded, Purple | **AX100654** | **AX100586** |
| T568A/B coded, Brown | **AX100655** | **AX100587** |

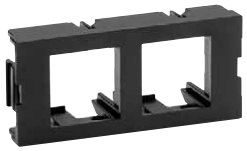
These products are in the process of being assessed for RoHS compliance.
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# Workstation Outlets
## MediaFlex Inserts

AX101756 MediaFlex MDVO (style) Insert, 2-port, Angled



AX101752 MediaFlex MDVO (style) Insert, 2-port, Flush



AX101760 MediaFlex Filler Insert, 1-unit



AX101764 MediaFlex Filler Insert, 2-unit



AX101768 PS6+ MediaFlex GigaFlex Insert, 2-port



### MediaFlex Insert

MediaFlex inserts provide optimum flexibility in configuring multimedia workstation outlets that respond to any present or future network needs. MediaFlex MDVO-style Inserts along with MediaFlex filler inserts and MediaFlex GigaFlex inserts allow for the easy configuration of outlets. All inserts are front loaded and easily snapped in and out of the MediaFlex plates for simple installation and maintenance.

MediaFlex MDVO-style inserts are available in a 2-port configuration in both flush and angled versions. They are compatible with all GigaFlex and MDVO modules (EZ-MDVO and multimedia). The inserts are two units high for the flush version and three units high for the angled version. Therefore three flush inserts or two angled inserts are required to fully populate a single gang MediaFlex plate.

MediaFlex GigaFlex Inserts are available in a 2-port configuration in both PS5E (Category 5e) and PS6+ (beyond Category 6) performance levels. The inserts are two units high, therefore three inserts can be used to fully populate a single gang MediaFlex plate making up a 6-port outlet.

MediaFlex filler inserts are used to fill the unused spaces in low density workstation outlets. They are available in one unit and two unit sizes.

| Description | Belden Part Number | |
|---|---|---|
| **Workstation Outlets** | | |
| **MediaFlex MDVO (style) Insert** | **Flush** | **Angled** |
| 2-port, Grey, bag of 10 units | **AX101749** | **AX101753** |
| 2-port, Almond, bag of 10 units | **AX101750** | **AX101754** |
| 2-port, Elec. White, bag of 10 units | **AX101751** | **AX101755** |
| 2-port, Black, bag of 10 units | **AX101752** | **AX101756** |
| 2-port, White, bag of 10 units | **AX102612** | **AX102613** |
| 2-port, Ivory, bag of 10 units | **AX102572** | **AX102573** |
| **MediaFlex GigaFlex Insert** | **PS6+** | **PS5E** |
| 2-port, Grey | **AX101765** | **AX101769** |
| 2-port, Almond | **AX101766** | **AX101770** |
| 2-port, Elec. White | **AX101767** | **AX101771** |
| 2-port, Black | **AX101768** | **AX101772** |
| 2-port, Ivory | **AX102574** | **AX102575** |
| **MediaFlex Filler Insert** | **1-Unit** | **2-Unit** |
| Grey, bag of 10 units | **AX101757** | **AX101761** |
| Almond, bag of 10 units | **AX101758** | **AX101762** |
| Elec. White, bag of 10 units | **AX101759** | **AX101763** |
| Black, bag of 10 units | **AX101760** | **AX101764** |
| White, bag of 10 units | **AX102614** | **AX102615** |
| Ivory, bag of 10 units | **AX102576** | **AX102577** |

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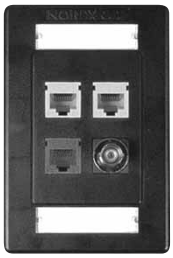
# Workstation Outlets

## Interface Plate and Surface Adapter Boxes

AX101431 Interface Plate, 2-port, shown here with modules



AX101438 Interface Plate, 4-port, shown here with modules



AX101441 Interface Plate, 6-port, shown here with modules



AX101474 Interface/MDVO Surface Adapter Box



### Interface Plate, Flush

Interface plates combine flexibility and ease of use in work area installations. They are designed to accept the EZ-MDVO and GigaFlex UTP modules as well as all the MDVO multimedia modules. The interface plates are available in Single gang and can accept up to 6 modules. They also have labeling capabilities using built-in labeling windows. The faceplates can be attached to standard electrical boxes or wall-mounting hardware for flush-mount installations. The faceplates can also fit over the interface adapter boxes for surface mount installations.

### Interface/MDVO Surface Adapter Box

The Interface/MDVO surface adapter box allows surface mounting of interface plates as well as MDVO flush and angled entry faceplates. The box can be mounted on any flat surface or can be attached to standard electrical boxes or wall-mounting hardware for additional storage space.

| Description | Belden Part Number |
|---|---|
| **Workstation Outlets** | |
| **Interface Plate** | |
| Flush, 2-port, Grey | **AX101431** |
| Flush, 2-port, Almond | **AX101432** |
| Flush, 2-port, White | **AX101433** |
| Flush, 2-port, Black | **AX101434** |
| Flush, 2-port, Ivory | **AX102582** |
| Flush, 4-port, Grey | **AX101435** |
| Flush, 4-port, Almond | **AX101436** |
| Flush, 4-port, White | **AX101437** |
| Flush, 4-port, Black | **AX101438** |
| Flush, 4-port, Ivory | **AX102583** |
| Flush, 6-port, Grey | **AX101439** |
| Flush, 6-port, Almond | **AX101440** |
| Flush, 6-port, White | **AX101441** |
| Flush, 6-port, Black | **AX101442** |
| Flush, 6-port, Ivory | **AX102584** |
| **Interface/MDVO Surface Adapter Box** | |
| Single Gang, Grey | **AX101474** |
| Single Gang, Almond | **AX101475** |
| Single Gang, White | **AX101476** |
| Single Gang, Black | **AX101477** |
| Single Gang, Ivory | **AX102589** |

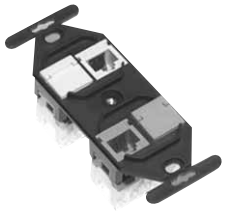
These products are in the process of being assessed for RoHS compliance.
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# Workstation Outlets
## MDVO Adapters

A0645271 MDVO Side Entry Box, shown here with modules



AX100311 MDVO 106 Adapter, 4-port, shown here with modules



A0409654 MDVO Deco Adapter, shown here with modules



AX100925 MDVO Modular Furniture Adapter, 4-port, shown here with modules



### MDVO Adapters

All MDVO adapters are compatible with GigaFlex, EZ-MDVO and MDVO multimedia modules.

The MDVO side entry box can be easily mounted directly on the wall, as well as on modular furniture panels, baseboards and utility poles. The compact size of the box allows secure installation in confined areas such as behind a desk or underneath a workstation.

The MDVO 106 adapters are designed for installations using standard NEMA electrical-style faceplates also referred to as 106-type or duplex wall plates.

The MDVO deco adapter is designed for installations using Decora style wall plates.

MDVO modular furniture adapters are the ideal outlet adapters for open office furniture applications. They can be snapped into any standard opening, in modular furniture settings.

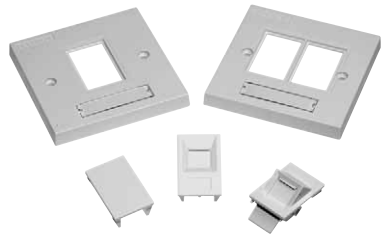
| Description | Belden Part Number |
|---|---|
| **Workstation Outlets** | |
| **MDVO Adapters** | |
| MDVO Side Entry Box, 2-port, Grey | **A0645271** |
| MDVO Side Entry Box, 2-port, Almond | **A0645272** |
| MDVO Side Entry Box, 2-port, White | **A0645273** |
| MDVO Side Entry Box, 2-port, Black | **A0645274** |
| MDVO Side Entry Box, 2-port, Ivory | **AX102590** |
| MDVO 106 Adapter, 2-port, Grey | **AX100304** |
| MDVO 106 Adapter, 2-port, Almond | **AX100305** |
| MDVO 106 Adapter, 2-port, White | **AX100306** |
| MDVO 106 Adapter, 2-port, Black | **AX100307** |
| MDVO 106 Adapter, 2-port, Ivory | **AX102591** |
| MDVO 106 Adapter, 4-port, Grey | **AX100308** |
| MDVO 106 Adapter, 4-port, Almond | **AX100309** |
| MDVO 106 Adapter, 4-port, White | **AX100310** |
| MDVO 106 Adapter, 4-port, Black | **AX100311** |
| MDVO 106 Adapter, 4-port, Ivory | **AX102592** |
| MDVO Deco Adapter, 3-port, Grey | **A0409651** |
| MDVO Deco Adapter, 3-port, Almond | **A0409652** |
| MDVO Deco Adapter, 3-port, White | **A0409653** |
| MDVO Deco Adapter, 3-port, Black | **A0409654** |
| MDVO Deco Adapter, 3-port, Ivory | **AX102593** |
| MDVO Modular Furniture Adapter, 3-port, Grey | **A0407071** |
| MDVO Modular Furniture Adapter, 3-port, Almond | **A0407072** |
| MDVO Modular Furniture Adapter, 3-port, White | **A0407073** |
| MDVO Modular Furniture Adapter, 3-port, Black | **A0407074** |
| MDVO Modular Furniture Adapter, 3-port, Ivory | **AX102648** |
| MDVO Modular Furniture Adapter, 4-port, Grey | **AX100925** |
| MDVO Modular Furniture Adapter, 4-port, Almond | **AX100926** |
| MDVO Modular Furniture Adapter, 4-port, White | **AX100927** |
| MDVO Modular Furniture Adapter, 4-port, Black | **AX100928** |
| MDVO Modular Furniture Adapter, 4-port, Ivory | **AX102594** |

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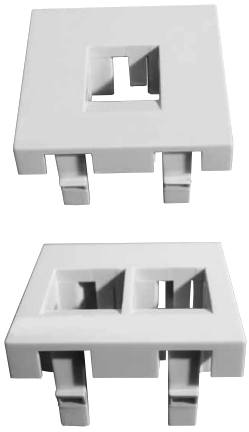
# Workstation Outlets

## European Style Faceplates and Inserts

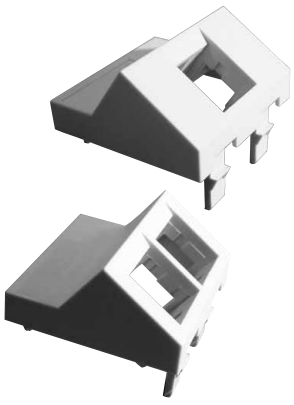
AX101372-73 European "6C" Style Faceplates and AX101377-75-76 European "6C" Inserts



AX101413-14 French Style Faceplates



AX101415-16 French Style Faceplates



### European "6C" Style Faceplate

The European "6C" style faceplates and inserts are designed to accept the GigaFlex and EZ-MDVO UTP modules. They include a shutter to protect the module against dust and other contaminants.

### French Style Faceplate

The french style faceplates are designed to accept the EZ-MDVO and GigaFlex UTP modules as well as all the MDVO multimedia modules. The faceplates can be attached to standard 45 mm x 45 mm boxes or mounting hardware for flush-mount installations.

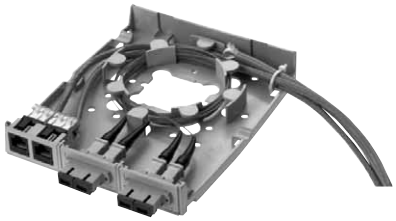
| Description | Belden Part Number |
|---|---|
| **Workstation Outlets** | |
| **European "6C" Style Faceplate** | |
| European "6C" Style Faceplate, Single Gang, Single Aperture, White | **AX101372** |
| European "6C" Style Faceplate, Single Gang, Dual Aperture, White | **AX101373** |
| European "6C" Style Faceplate, Double Gang, Quad Aperture, White | **AX101374** |
| European "6C" Shuttered Module Holder, 1-port, Flush, White | **AX101375** |
| European "6C" Shuttered Module Holder, 1-port, Angled, White | **AX101376** |
| European "6C" Blank Insert, White | **AX101377** |
| **French Style Faceplate** | |
| 1-port, Flush, White | **AX101413** |
| 2-port, Flush, White | **AX101414** |
| 1-port, Angled, White | **AX101415** |
| 2-port, Angled, White | **AX101416** |

These products are in the process of being assessed for RoHS compliance.
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# Workstation Outlets

## MDVO Multimedia Outlet Boxes, Multi-User Outlet Boxes and Multi-User Adapter Strips

A0643205 MDVO Multimedia Outlet Box, shown here as terminated





AX100222 Multi-User Outlet Box, shown here with modules



AX100223 MDVO Adapter Strip, 12-port



### MDVO Multimedia Outlet Box

The MDVO multimedia outlet box brings unique versatility for multimedia work area installations. The box design provides cable management and helps maintain cable bend radius. The outlet box's low profile design and side-entry offers better protection for patch cords. The outlet box can accept up to six EZ-MDVO, GigaFlex or MDVO multimedia modules or three SC duplex adapters.

The MDVO multimedia outlet box can be mounted directly on the wall or attached to standard electrical boxes. Included with the MDVO multimedia box are three SC duplex mounting bezels and three MDVO adapters.

### Multi-User Outlet Box

The multi-user outlet box is a versatile box that can be used in many different applications. The outlet box can accommodate up to 24 connections of any type, UTP, fiber or coax. The outlet box is ideal for use as a multi-user telecommunications assembly, or simply as a high-density multimedia telecommunications outlet. The multi-user outlet box can also be used as a wall mounted patch panel in confined areas, such as shallow rooms and cabinets.

### Multi-User Adapter Strips

The Multi-User outlet box design allows for mixed media installations with a choice of connection strips. The box can accept either one or two 12-port MDVO adapter strips, PS5E HD connector module strips (BIX or 110), or a combination of both for a maximum of 24 connections.

| Description | Belden Part Number |
|---|---|
| **Workstation Outlets** | |
| **MDVO Multimedia Outlet Box** | |
| 6-port, Grey | **A0643205** |
| 6-port, Almond | **A0643206** |
| 6-port, White | **A0643207** |
| 6-port, Black | **A0643208** |
| 6-port, Ivory | **AX102595** |
| **Multi-User Outlet Box** | |
| 24-port, Grey | **AX100219** |
| 24-port, Almond | **AX100220** |
| 24-port, White | **AX100221** |
| 24-port, Black | **AX100222** |
| **Multi-User Adapter Strips** | |
| MDVO Adapter Strip, 12-port, Empty, Black | **AX100223** |
| PS5E HD-BIX Connector Module Strip, Universal Wiring 12-port, T568A/B | **AX100224** |
| PS5E HD-110 Connector Module Strip, Universal Wiring 12-port, T568B/A | **AX100494** |

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# Workstation Outlets
## MDVO Multimedia Modules

A0407005 MDVO SC Fiber Module



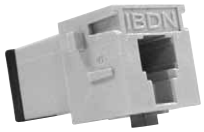
A0649254 SC Duplex Adapter



A0407010 MDVO ST Compatible Fiber Module



AX101467 MDVO MTRJ Fiber Module



A0406997 MDVO BNC Coaxial Module



A0406999 MDVO Video F Coaxial Module



### MDVO Multimedia Module

MDVO multimedia modules address audio/video and fiber applications. Fiber modules are available for LC Duplex, SC Simplex, ST compatible multimode and MT-RJ multimode & single-mode connections. The SC duplex adapter is a fiber adapter sleeve with flanges that mounts into the SC duplex mounting bezel (included in the MDVO multimedia outlet box). Audio/video modules are available for SVHS, RCA, BNC and video F connections.

| Description | Belden Part Number | | | | |
|---|---|---|---|---|---|
| | Grey | Almond | White | Black | Ivory |
| **Workstation Outlets** | | | | | |
| **MDVO Multimedia Module** | | | | | |
| LC Duplex, Multimode | **AX102209** | **AX102210** | **AX102211** | **AX102619** | **–** |
| LC Duplex, Single-mode | **AX102213** | **AX102214** | **AX102215** | **AX102216** | **–** |
| SC Simplex, Multimode | **A0407003** | **A0407004** | **A0407005** | **A0407006** | **AX102596** |
| SC Duplex Adapter, Multimode | **–** | **A0649254** | **–** | **–** | **–** |
| ST Compatible, Multimode | **A0407007** | **A0407008** | **A0407009** | **A0407010** | **AX102597** |
| MT-RJ, Multimode | **–** | **AX101467** | **–** | **–** | **–** |
| MT-RJ, Single-mode, Blue | **–** | **AX101466** | **–** | **–** | **–** |

| Description | Belden Part Number | | | | |
|---|---|---|---|---|---|
| | Grey Holder | Almond Holder | White Holder | Black Holder | Ivory Holder |
| Coaxial, BNC | **A0406995** | **A0406996** | **A0406997** | **A0406998** | **AX102598** |
| Coaxial, Video F | **A0406999** | **A0407000** | **A0407001** | **A0407002** | **AX102599** |
| RCA, feedthrough, White insert | **AX101823** | **AX101824** | **AX101825** | **AX101826** | **AX102601** |
| RCA, feedthrough, Yellow insert | **AX101827** | **AX101828** | **AX101829** | **AX101830** | **AX102602** |
| RCA, feedthrough, Red insert | **AX101831** | **AX101832** | **AX101833** | **AX101834** | **AX102603** |
| RCA, feedthrough, Black insert | **AX101835** | **AX101836** | **AX101837** | **AX101838** | **AX102604** |
| SVHS, feedthrough | **AX101839** | **AX101840** | **AX101841** | **AX101842** | **AX102605** |
| 3.5 mm Stereo | **AX102624** | **AX102625** | **AX102626** | **AX102627** | **AX102628** |

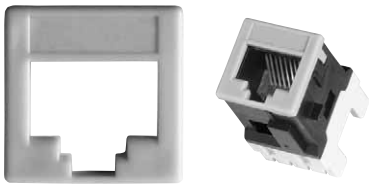
Custom multimedia connectors are also available, please contact customer service for more details.
These products are in the process of being assessed for RoHS compliance.
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# Workstation Outlets
## Outlet Accessories

A0405538 MDVO Blank Insert



AX102022 Colored Bezel



AX100196 ID Tab



### MDVO Blank Insert

MDVO blank inserts can be used in any MediaFlex outlets, interface plates, MDVO faceplates, adapters or boxes to fill in unused ports.

### Colored Bezel

The colored bezels are plastic inserts that fit over the face of GigaFlex and EZ-MDVO modules to modify their color. They are particularly useful in installations where the churn rate is high and color identification of outlets is critical (ex.: segmented network with security levels). They also contribute to simplifying the management of the cabling infrastructure by using only one color of module for Moves, Adds and Changes (MACs).

### ID Tab

ID tabs are color-coded identification caps that can be inserted over the GigaFlex and EZ-MDVO modules. The ID tabs are available as blank, data or voice coded. They are available in eleven colors to facilitate identification and to match modern office decor. The flexible identification cap also acts as a protective cover eliminating exposure to dust and other contaminants when the module is not in use.

| Description | Belden Part Number |
|---|---|
| **Workstation Outlets** | |
| **MDVO Blank Insert** | |
| Grey | **A0405536** |
| Almond | **A0405537** |
| White | **A0405538** |
| Black | **A0405539** |
| Electric White | **AX102607** |
| Ivory | **AX102600** |
| **Colored Bezel** | |
| Grey | **AX102014** |
| Almond | **AX102015** |
| White | **AX102016** |
| Black | **AX102017** |
| Orange | **AX102018** |
| Red | **AX102019** |
| Yellow | **AX102020** |
| Green | **AX102021** |
| Blue | **AX102022** |
| Purple | **AX102023** |
| Brown | **AX102024** |
| Ivory | **AX102606** |

| Description | Belden Part Number | | |
|---|---|---|---|
| | Blank | Data | Voice |
| **ID Tab** | | | |
| Grey | **AX100182** | **AX100193** | **AX100204** |
| Almond | **AX100183** | **AX100194** | **AX100205** |
| White | **AX100184** | **AX100195** | **AX100206** |
| Black | **AX100185** | **AX100196** | **AX100207** |
| Orange | **AX100186** | **AX100197** | **AX100208** |
| Red | **AX100187** | **AX100198** | **AX100209** |
| Yellow | **AX100188** | **AX100199** | **AX100210** |
| Green | **AX100189** | **AX100200** | **AX100211** |
| Blue | **AX100190** | **AX100201** | **AX100212** |
| Purple | **AX100191** | **AX100202** | **AX100213** |
| Brown | **AX100192** | **AX100203** | **AX100214** |

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# Workstation Outlets
## Tools

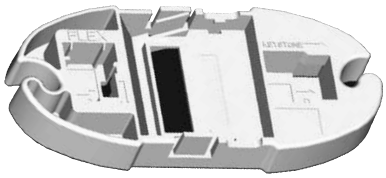
AX100749 GigaFlex Connecting Tool



1797B Cable Preparation Tool



AX101852 Termination Station



AX101185 Outlet Release Tool



### GigaFlex Connecting Tool

The GigaFlex connecting tool is a no-impact connecting tool used to terminate cables, pigtails or cross-connect wires on any GigaFlex module or 110 product. The GigaFlex tool is a spring-activated hand tool. A single forward movement will seat the wire into the IDC clip and cut off the excess wire. The tool will terminate 22, 24 and 26 AWG plastic insulated solid copper conductors.

### Bonded-Pair Cable Preparation Tool

The bonded-pair cable preparation tool makes it faster and easier to prepare cables for connector termination. This tool is ideal for use with Belden's DataTwist® 350, MediaTwist®, and DataTwist® 600e bonded-pair cables, providing special features that help separate twisted pairs. It can also be used to prepare any non-bonded-pair cable for installation.

### Termination Station

The termination station is an ergonomically designed holder that provides stability to the GigaFlex module during the termination process. The station has pockets with locking features that steadily holds either MDVO-style or Keystone-style GigaFlex modules or MediaFlex Inserts during pair placement and wire termination. Cable retainers on each end of the station will secure and hold cables during the pair placements process. The flat bottom surface will provide the required stability to safely terminate the modules. The tool is made of very durable plastic and its low profile makes it an easy tool to use and carry.

### Outlet Release Tool

The outlet release tool is a very convenient tool for servicing the MediaFlex and interface outlets. Its bent tip allows for easy front removal of MediaFlex inserts, especially when used in angled entry plates. It is also very useful to extract GigaFlex modules from miscellaneous mounting hardware and to remove the protective cap for GigaFlex module re-termination.

| Description | Belden Part Number |
|---|---|
| **Workstation Outlets** | |
| **Tools** | |
| GigaFlex Connecting Tool | **AX100749** |
| Bonded-Pair Cable Preparation Tool | **1797B** |
| Termination Station | **AX101852** |
| Outlet Release Tool | **AX101185** |

These products are in the process of being assessed for RoHS compliance.
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# Modular Cords

## Belden IBDN System 4800LX and 2400 Modular Cords
## Enhanced Category 6

AX350061 GigaFlex PS6+ Modular Cord



### GigaFlex PS6+ Modular Cord

The GigaFlex PS6+ modular cords are 4-pair 23 AWG UTP modular cords designed for use with the Belden IBDN systems 2400 and 4800LX, providing channel bandwidths of 250 MHz and 300 MHz, respectively. The GigaFlex PS6+ modular cords have been designed to provide a mated-connection performance that exceeds the Category 6 requirements.

The GigaFlex PS6+ modular cord's patented design, with a very small footprint, makes them fully compatible with any of the highest density hubs with RJ45 jack connections.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **Belden IBDN System 2400, Modular Cords*** | | | | | | |
| **GigaFlex PS6+ Modular Cord, LSZH 4-pair, 23 AWG solid, T568B - T568B** | | | | | | |
| 0.5 m (1.6 ft.) | **AX102356** | **AX102350** | **AX102392** | **AX102544** | **AX102550** | **AX102556** |
| 1.0 m (3.3 ft.) | **AX102357** | **AX102351** | **AX102393** | **AX102545** | **AX102551** | **AX102557** |
| 2.0 m (6.5 ft.) | **AX102358** | **AX102352** | **AX102394** | **AX102546** | **AX102552** | **AX102558** |
| 3.0 m (10 ft.) | **AX102359** | **AX102353** | **AX102395** | **AX102547** | **AX102553** | **AX102559** |
| 5.0 m (16.4 ft.) | **AX102360** | **AX102354** | **AX102396** | **AX102548** | **AX102554** | **AX102560** |
| 10.0 m (33 ft.) | **AX102361** | **AX102355** | **AX102397** | **AX102549** | **AX102555** | **AX102561** |

| Description | Belden Part Number | | |
|---|---|---|---|
| | Purple | White | Grey |
| **Belden IBDN System 2400, Modular Cords*** | | | |
| **GigaFlex PS6+ Modular Cord, LSZH 4-pair, 23 AWG solid, T568B - T568B** | | | |
| 6 m (20 ft.) | **AC301311** | **–** | **–** |
| 10 m (33 ft.) | **AC300656** | **–** | **–** |
| 15 m (50 ft.) | **AC301215** | **–** | **AC301325** |

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# Modular Cords

## Belden IBDN System 4800LX and 2400 Modular Cords
## Enhanced Category 6

AX350061 GigaFlex PS6+ Modular Cord



### GigaFlex PS6+ Modular Cord

The GigaFlex PS6+ modular cords are 4-pair 23 AWG UTP modular cords designed for use with the Belden IBDN systems 2400 and 4800LX, providing channel bandwidths of 250 MHz and 300 MHz, respectively. The GigaFlex PS6+ modular cords have been designed to provide a mated-connection performance that exceeds the Category 6 requirements.

The GigaFlex PS6+ modular cord's patented design, with a very small footprint, makes them fully compatible with any of the highest density hubs with RJ45 jack connections.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **Modular Cords** | | | | | | |
| **GigaFlex PS6+ Modular Cord, CMR 4-pair, 23 AWG solid, T568A - T568A** | | | | | | |
| 0.6 m (2 ft.) | **AX350037** | **AX350043** | **AX350049** | **AX350055** | **AX350061** | **AX350067** |
| 1.2 m (4 ft.) | **AX350038** | **AX350044** | **AX350050** | **AX350056** | **AX350062** | **AX350068** |
| 2.1 m (7 ft.) | **AX350039** | **AX350045** | **AX350051** | **AX350057** | **AX350063** | **AX350069** |
| 3.0 m (10 ft.) | **AX350040** | **AX350046** | **AX350052** | **AX350058** | **AX350064** | **AX350070** |
| 4.6 m (15 ft.) | **AX350041** | **AX350047** | **AX350053** | **AX350059** | **AX350065** | **AX350071** |
| 7.6 m (25 ft.) | **AX350042** | **AX350048** | **AX350054** | **AX350060** | **AX350066** | **AX350072** |
| **CMR 4-pair, 23 AWG solid, T568A/B - open** | | | | | | |
| 4.6 m (15 ft.) | – | – | **AX350160** | – | – | – |
| 7.6 m (25 ft.) | – | – | **AX350161** | – | – | – |
| 10.6 m (35 ft.) | – | – | **AX350162** | – | – | – |
| 15.0 m (50 ft.) | – | – | **AX350163** | – | – | – |

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AX380014 GigaFlex PS6+ Bonded Modular Cord



### GigaFlex PS6+ Bonded Modular Cords

The GigaFlex PS6+ bonded modular cords are 4-pair 24 AWG bonded-pair UTP modular cords designed for use with the Belden IBDN systems 2400 and 4800LX, providing channel bandwidths of 250 MHz and 300 MHz, respectively. The GigaFlex PS6+ bonded modular cords have been designed to provide a mated-connection performance that exceeds the Category 6 requirements.

The GigaFlex PS6+ bonded modular cord's patented design, with a very small footprint, makes them fully compatible with the highest density hubs, with any RJ45 jack connections. The special cord design offers increased stability in crosstalk and impedance performance to support the many moves, adds and changes performed in the lifetime of the system.

| Description | Belden Part Number | | | |
|---|---|---|---|---|
| | Blue | Grey | White | Yellow |
| **Modular Cords** | | | | |
| **GigaFlex PS6+ Bonded Mod. Cord, CMR, 4-pair, Bonded 24 AWG Solid, T568A - T568A** | | | | |
| 1.2 m (4 ft.) | **AX380014** | **AX380026** | **AX380050** | **AX380056** |
| 2.1 m (7 ft.) | **AX380015** | **AX380027** | **AX380051** | **AX380057** |
| 3.0 m (10 ft.) | **AX380016** | **AX380028** | **AX380052** | **AX380058** |
| 4.6 m (15 ft.) | **AX380017** | **AX380029** | **AX380053** | **AX380059** |
| 7.6 m (25 ft.) | **AX380018** | **AX380030** | **AX380054** | **AX380060** |

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# Modular Cords

## GigaFlex PS5e Modular Cords and GigaFlex PS5e VoIP Cords Category 5e

AX102344 GigaFlex PS5e Modular Cord



### GigaFlex PS5e Modular Cords

The GigaFlex PS5e modular cords are 4-pair 24 AWG UTP modular cords that are designed for use with the Belden IBDN Plus cabling system and the Belden IBDN system 1200 providing channel bandwidths of 100 MHz and 160 MHz, respectively.

The GigaFlex PS5e modular cord's patented design features a very small footprint, making them fully compatible with the highest density hubs which use RJ45 jack connections. The GigaFlex PS5e modular cords have been designed to provide a mated-connection performance that exceeds the Category 5e standard.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **Belden IBDN System 1200, Modular Cords** | | | | | | |
| **GigaFlex PS5e Modular Cord, LSZH 4-pair, 24 AWG stranded, T568B - T568B** | | | | | | |
| 0.5 m (1.6 ft.) | **AX102344** | **AX102338** | **AX102386** | **AX102526** | **AX102532** | **AX102538** |
| 1.0 m (3.3 ft.) | **AX102345** | **AX102339** | **AX102387** | **AX102527** | **AX102533** | **AX102539** |
| 2.0 m (6.5 ft.) | **AX102346** | **AX102340** | **AX102388** | **AX102528** | **AX102534** | **AX102540** |
| 3.0 m (10 ft.) | **AX102347** | **AX102341** | **AX102389** | **AX102529** | **AX102535** | **AX102541** |
| 5.0 m (16.4 ft.) | **AX102348** | **AX102342** | **AX102390** | **AX102530** | **AX102536** | **AX102542** |
| 10.0 m (33 ft.) | **AX102349** | **AX102343** | **AX102391** | **AX102531** | **AX102537** | **AX102543** |

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AX350013 GigaFlex PS5e Modular Cord



### GigaFlex PS5e Modular Cords

The GigaFlex PS5e modular cords are 4-pair 24 AWG UTP modular cords that are designed for use with the Belden IBDN plus cabling system and the Belden IBDN system 1200 providing channel bandwidths of 100 MHz and 160 MHz, respectively.

The GigaFlex PS5e modular cord's patented design features a very small footprint, making them fully compatible with the highest density hubs which use RJ45 jack connections. The GigaFlex PS5e modular cords have been designed to provide a mated-connection performance that exceeds the Category 5e standard.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **Modular Cords** | | | | | | |
| **GigaFlex PS5e Mod. Cord, CMR 4-pair, 24 AWG stranded, T568A - T568A** | | | | | | |
| 0.6 m (2 ft.) | **AX350001** | **AX350007** | **AX350013** | **AX350019** | **AX350025** | **AX350031** |
| 1.2 m (4 ft.) | **AX350002** | **AX350008** | **AX350014** | **AX350020** | **AX350026** | **AX350032** |
| 2.1 m (7 ft.) | **AX350003** | **AX350009** | **AX350015** | **AX350021** | **AX350027** | **AX350033** |
| 3.0 m (10 ft.) | **AX350004** | **AX350010** | **AX350016** | **AX350022** | **AX350028** | **AX350034** |
| 4.6 m (15 ft.) | **AX350005** | **AX350011** | **AX350017** | **AX350023** | **AX350029** | **AX350035** |
| 7.6 m (25 ft.) | **AX350006** | **AX350012** | **AX350018** | **AX350024** | **AX350030** | **AX350036** |
| **GigaFlex PS5e Mod. Cord, CMR 4-pair, 24 AWG solid, T568A to open** | | | | | | |
| 4.6 m (15 ft.) | – | – | **AX350149** | – | – | – |
| 7.6 m (25 ft.) | – | – | **AX350093** | – | – | – |

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# Modular Cords

## GigaFlex PS5e VoIP Cords Category 5e

AX330015 GigaFlex PS5E VoIP Modular Cord





VoIP Modular Cord features very short body RJ 45 phone connector on other end

### GigaFlex PS5E VoIP Modular Cords

The GigaFlex PS5E VoIP modular cords are 4-pair 24 AWG UTP modular cords that are designed for use with the Belden IBDN plus cabling system and the Belden IBDN system 1200 providing channel bandwidths of 100 MHz and 160 MHz, respectively. The GigaFlex PS5E VoIP modular cord is designed for use with VoIP phones that can not accommodate standard booted patch cords which would make the phone unstable or difficult to wall mount. The GigaFlex PS5E VoIP modular cord is designed with a regular booted RJ 45 plug on one end (at the wall) and a bootless very short body RJ 45 plug on the other end (at the phone). The GigaFlex PS5E VoIP modular cords meet all the enhanced Category 5 modular cord requirements as per the Category 5e standard, and are completely backward compatible with Category 5 jacks. The GigaFlex PS5E VoIP modular cords have been designed to provide a mated-connection performance that exceeds the Category 5e standard. The GigaFlex PS5E VoIP modular cord product line encompass CMR-rated cords.

### Modular Cords

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | Blue | White | Grey | Green | Red | Yellow |
| **GigaFlex PS5E VoIP Mod.Cord, CMR, 4-pair, 24 AWG stranded, T568A - T568A** | | | | | | |
| 0.6 m (2 ft.) | **AX330013** | **AX330049** | **AX330025** | **AX330019** | **AX330043** | **AX330055** |
| 1.2 m (4 ft.) | **AX330014** | **AX330050** | **AX330026** | **AX330020** | **AX330044** | **AX330056** |
| 2.1 m (7 ft.) | **AX330015** | **AX330051** | **AX330027** | **AX330021** | **AX330045** | **AX330057** |
| 3.0 m (10 ft.) | **AX330016** | **AX330052** | **AX330028** | **AX330022** | **AX330046** | **AX330058** |
| 4.6 m (15 ft.) | **AX330017** | **AX330053** | **AX330029** | **AX330023** | **AX330047** | **AX330059** |
| 7.6 m (25 ft.) | **AX330018** | **AX330054** | **AX330030** | **AX330024** | **AX330048** | **AX330060** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Network Connectivity Products

## Media Converters, Transceivers & Hubs and Network Tester

Media Converters



AX-1912 Media Converter Rack



AX050, 70 and 80 Transceivers and AX-509 Ethernet Hub



AX-110BT Realtime 10/100 Base-TX Ethernet Network Test Unit



### Media Converters for Ethernet and Fast Ethernet

Media converters enable the connection of dissimilar network cabling types, while maintaining the same network speed. A legacy Thinnet segment can be connected to a 10Base-T Hub or switch port with a AX-200 converter or, link two different 10Base-T networks together over a multimode fiber optic link with a pair of AX-270s. Connect a legacy Thinnet segment over fiber with the AX-280 converter. The AX-5270 can be used for interbuilding links or attached to a fiber backbone.

### Transceivers and Ethernet Hubs

The AX-50, 70 and 80 transceivers enable the connection of a legacy AUI port to 10Base-T, Thinnet, or fiber optic media. The transceiver is powered from the host and requires no external power supply.

The AX-509 Ethernet Hub has an AUI port which accepts UTP, Fiber Optic or BNC transceivers. Specified for use by many U.S. Government Agencies. Includes a 110v/12v power supply.

### Realtime 10/100 Base-TX Ethernet Network Test Unit

The AX-110BT Realtime 10/100 Base-TX ethernet network test unit is a cost effective way to quickly determine a network's operating condition. Plug the unit's patch cord into the tester then into any open RJ-45 jack in an office, cubicle or conference room. Immediately see if the jack is a live network node capable of either 100 Mb/s or 10 Mb/s. Next check patch cord continuity and polarity. Connect the downlink to a PC to check NIC card link, speed and full or half duplex capabilities. Connect the uplink to a hub or switch port to verify link and speed.

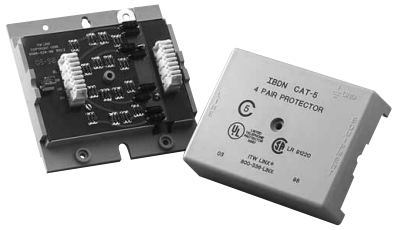
| Description | Belden Part Number |
|---|---|
| **Network Connectivity Products** | |
| **Media Converter** | |
| 10Base-T/10Base2, RJ-45 to BNC | **AX-200** |
| 10Base-T/10Base-FL, RJ-45 to ST-Compatible fiber connectors | **AX-270** |
| 10Base2/10Base-FL, BNC to ST-Compatible fiber connectors | **AX-280** |
| 100Base-TX/100Base-FX, SC-Compatible fiber connectors | **AX-5270SC** |
| 100Base-TX/100Base-FX, ST-Compatible fiber connectors | **AX-5270ST** |
| **Media Converter Rack** | |
| Holds up to 12 converters and multi lead power supplies, 19″ (0.48 m) rack-mount ready | **AX-1912-MCR** |
| Power Supply, 4-lead 110v/12v, powers up to 4 converters | **AX-270P4U** |
| Power Supply, 8-lead 110v/12v, powers up to 8 converters | **AX-270P8U** |
| **Transceivers and Ethernet Hubs** | |
| UTP Transceiver, 10Base-T, AUI to RJ-45, side port | **AX-50** |
| UTP Transceiver, 10Base-T, AUI to RJ-45, rear port | **AX-50R** |
| Fiber Transceiver, 10Base-FL, AUI to ST-Compatible | **AX-70** |
| Thinnet Transceiver, 10Base2, AUI to BNC | **AX-80** |
| Ethernet Hub with 8 RJ-45 10Base-T ports and 1 AUI port | **AX-509** |
| **Network Tester** | |
| Realtime 10/100 Base-TX Ethernet Network Test Unit | **AX-110BT** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Line Protection and Bonding & Grounding

## IDC 4-pair Protector Modules, PVCI Ground Wires, Bond Clamp and Accessories

AX100826 Cat-5e, 4-pair Protector



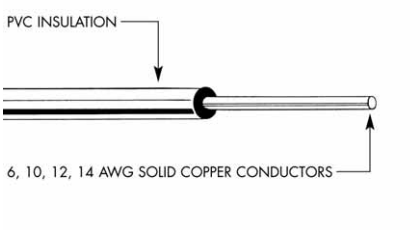

### IDC 4-pair Protector Module

The IDC 4-pair protector module is a high-performance Category 5e, solid-state protection for local area networks. Protects sensitive electronic workstations, network equipment, and cables from damage caused by transient voltage surges. Provides 100% protection with easy-to-install BIX or 110 IDC termination in a convenient 4-pair module.

| Description | Belden Part Number |
|---|---|
| **Line Protection** | |
| **IDC 4-pair Protector Module** | |
| IDC Protector Module, Category 5e, 4-pair, BIX Protector, 1/pack | **AX100826** |
| IDC Protector Module, Category 5e, 4-pair, 110 Protector, 1/pack | **AX100827** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

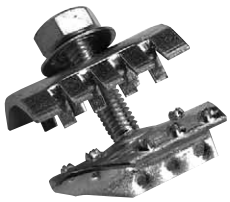
PVCI Ground Wire




### PVCI Ground Wire

PVCI ground wire consists of 6, 10, 12 and 14 AWG solid annealed copper conductors individually insulated with polyvinyl chloride compound.

X9905753 Bond Clamp



### Bond Clamp

The bond clamps are used to attach the cable shield to the ground via ground wire. They are recommended for use with riser cables and outside plant cables. The bond clamps consist of heavy plates and a securing nut with an integral spring washer. The plates are curved to conform to the contours of the cable. The upper plate has "teeth" which penetrate the polyethylene cable jacket and align with the perforations in the lower plate. The lower plate has burred perforations that penetrate into the metallic sheath of the cable.

### Accessories

A six-position ground bracket is used to terminate and ground up to 5 cable sheaths. The sixth position on the bracket is used to provide the ground return to the distribution terminal and is not available to ground a cable. Two ground wire clips on each side of the ground wire are required to ground one cable.

AX100226 Six-position Ground Bracket



X9908359 6 AWG Ground Wire Clip



| Description | Belden Part Number |
|---|---|
| **Bonding & Grounding** | |
| **PVCI Ground Wire** | |
| PVCI Ground Wire, 6 AWG, Black, 75 m (246 ft.), Coil | **22214348** |
| PVCI Ground Wire, 10 AWG, Black, 50 m (164 ft.), Coil | **22214500** |
| PVCI Ground Wire, 12 AWG, Almond, 50 m (164 ft.), Coil | **22214700** |
| PVCI Ground Wire, 14 AWG, Olive Grey, 75 m (246 ft.), Coil | **22214900** |
| **Bond Clamp** | |
| Bond Clamp, QCF1A 19 mm (0.75″) cable and above | **X9905753** |
| Bond Clamp, QCF2A 19 mm (0.75″) cable and below | **X9905754** |
| **Accessories** | |
| Bond Clamp Accessories, Six-position Ground Bracket | **AX100226** |
| Bond Clamp Accessories, 6 AWG Ground Wire Clip | **X9908359** |

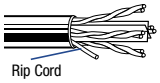
These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# DataTwist® 600e U/UTP Cables

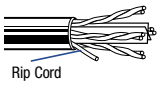
TIA/EIA-568-B.2-1, Category 6,
Enhanced Category 6 Bonded-Pair Cables

**Certified System 4800LX**

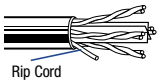
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 6 • 23 AWG • Bonded-Pair** • Solid 0.6 mm Bare Copper • Patented E-Spline Center Member • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Red, Orange, Yellow, Green, Blue, Black, White and Grey) | | | | | | | | | | | | | | | | | | | |
| | **7851A** | NEC: | 1000 | 305 | 37.9 | 17.2 | 0.57 mm | 0.044 | 1.13 | **Bonded-Pair** | 0.227 | 5.77 | 1 | 1.9 | 80.3 | 78.5 | 70.8 | 100 ± 12 | 20.0 |
| | | CMR | A-1000 | A-305 | 47.0 | 21.3 | 23 AWG | | | Unshielded | x | x | 10 | 5.7 | 65.3 | 59.6 | 50.8 | 100 ± 12 | 25.0 |
| | | CEC: | | | | | Solid BC | | | U/UTP | 0.315 | 8.00 | 31.25 | 10.2 | 57.9 | 47.7 | 40.9 | 100 ± 15 | 25.0 |
| | | CMR | | | | | | | | | | | 62.5 | 14.7 | 53.4 | 38.7 | 34.9 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 100 | 18.9 | 50.3 | 31.4 | 30.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 155 | 23.9 | 47.5 | 23.5 | 27.0 | 100 ± 15 | 22.8 |
| | | | | | | | | | | | | | 200 | 27.5 | 45.8 | 18.3 | 24.8 | 100 ± 15 | 21.7 |
| | | | | | | | | | | | | | 250 | 31.2 | 44.3 | 13.2 | 22.8 | 100 ± 20 | 20.5 |
| | | | | | | | | | | | | | 350 | 37.7 | 40.2 | 4.5 | 19.9 | 100 ± 22 | 19.8 |
| | | | | | | | | | | | | | 400 | 40.6 | 39.3 | 0.6 | 18.8 | 100 ± 22 | 19.5 |
| | | | | | | | | | | | | | 500 | 46.2 | 37.8 | > 0* | 16.8 | 100 ± 22 | 18.4 |
| | | | | | | | | | | | | | 550 | 48.8 | 37.2 | – | 16.0 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 600 | 51.4 | 36.6 | – | 15.2 | 100 ± 22 | 17.6 |
| | | Color Code: see chart below | | | | | | | | Third party verified to TIA/EIA-568-B.2-1, Category 6<br>U.S. Patents 5,606,151; 5,734,126; 5,789,711 and 6,297,454-B1<br>Jacket sequentially marked at 0.6 m intervals. Features descending length marking. | | | | | | | | | |
| **Polyolefin Insulation • Grey Haloarrest® Jacket** | | | | | | | | | | | | | | | | | | | |
| | **7851NH** | | 1000 | 305 | 39.0 | 17.7 | 0.57 mm | 0.044 | 1.13 | **Bonded-Pair** | 0.241 | 6.12 | | | | | | | see above |
| | | | A-1000 | A-305 | 48.1 | 21.8 | 23 AWG | | | Unshielded | x | x | | | | | | | |
| | | | | | | | Solid BC | | | U/UTP | 0.329 | 8.36 | | | | | | | |
| | | Color Code: see chart below | | | | | | | | Third party verified to TIA/EIA-568-B.2-1, Category 6<br>U.S. Patents 5,606,151; 5,734,126; 5,789,711 and 6,297,454-B1<br>Jacket sequentially marked at 1 m intervals. Features descending length marking. | | | | | | | | | |
| **Plenum • FEP Teflon® Insulation • Flamarrest® Jacket** (Red, Orange, Yellow, Green, Blue, Black, White and Grey) | | | | | | | | | | | | | | | | | | | |
| | **7852A** | NEC: | 1000 | 305 | 39.9 | 18.1 | 0.57 mm | 0.043 | 1.08 | **Bonded-Pair** | 0.218 | 5.54 | | | | | | | see above |
| | | CMP | A-1000 | A-305 | 48.9 | 22.2 | 23 AWG | | | Unshielded | x | x | | | | | | | |
| | | CEC: | | | | | Solid BC | | | U/UTP | 0.290 | 7.37 | | | | | | | |
| | | CMP | | | | | | | | | | | | | | | | | |
| | | Color Code: see chart below<br>A-305 m put-up not available in Red. | | | | | | | | Third party verified to TIA/EIA-568-B.2-1, Category 6<br>U.S. Patents 5,606,151; 5,734,126; 5,789,711 and 6,297,454-B1<br>Jacket sequentially marked at 0.6 m intervals. Features descending length marking. | | | | | | | | | |




4-Pair




4-Pair




4-Pair

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio •
ELFEXT = Equal Level Far-end Crosstalk •
NEXT = Near-end Crosstalk • PSUM = Power Sum •
RL = Return Loss • DCR = DC resistance
* PSUM ACR > 0 is guaranteed to 460 MHz.

Teflon® is a DuPont trademark.

Not RoHS compliant at time of printing.

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

### DataTwist 600e: Beyond Category 6

Belden DataTwist 600e data cable is a revolutionary UTP cable engineered specifically to perform well beyond Category 6 standards. While Category 6 cable is specified only to 250 MHz, DataTwist 600e is the only Cat 6 UTP cable in the industry fully characterized with guaranteed performance to 600 MHz. So users have far more headroom to compensate for unforeseen factors that can inhibit the performance of a cabling system today…and protection of their technology investment for the future.

### Handy Cable Preparation Tool Speeds Installation of Bonded-Pair Cables

You know the high-performance benefits of using data cables featuring Belden's unique Bonded-Pair technology. The Belden cable preparation tool (1797B) now makes it faster and easier than ever to prepare cables for connector termination providing special features that help separate twisted pairs. The cable preparation tool is packed with every spool of DataTwist® 600e. See page 15.37 for more information.



# GigaFlex 4800LX Cables Series

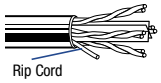
ANSI/TIA/EIA-568-B.2-1, Category 6,
Enhanced Category 6 Non-Bonded-Pair Cables

**Certified System 4800LX**

**Cat 6 • 23 AWG** • Solid 0.6 mm Bare Copper • Twisted Pair • Central Cross Web Filler • Rip Cord

**Polyolefin Insulation • PVC Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| White-Reel | **24586385** | NEC: | 1000 | 305 | 29.1 | 13.2 | 0.57 mm | 0.044 | 1.11 | Non- | 0.245 | 6.22 | 0.772 | 1.7 | 80.0 | 78.3 | 74.0 | 100 ± 12 | – |
| Blue-Reel | **24586985** | CMR | | | | | 23 AWG | | | Bonded-Pair | | | 1 | 1.8 | 78.3 | 76.5 | 71.8 | 100 ± 12 | 20.0 |
| | | CEC: | | | | | Solid BC | | | Unshielded | | | 4 | 3.4 | 69.3 | 65.9 | 59.7 | 100 ± 12 | 23.0 |
| | | CMR | | | | | | | | U/UTP | | | 8 | 4.8 | 64.8 | 60.0 | 53.7 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 10 | 5.3 | 63.3 | 58.0 | 51.8 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 16 | 6.8 | 60.3 | 53.5 | 47.7 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 20 | 7.6 | 58.8 | 51.2 | 45.7 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 25 | 8.5 | 57.3 | 48.8 | 43.8 | 100 ± 15 | 24.6 |
| | | | | | | | | | | | | | 31.25 | 9.6 | 55.9 | 46.3 | 41.9 | 100 ± 15 | 24.2 |
| | | | | | | | | | | | | | 62.5 | 13.8 | 51.4 | 37.6 | 35.8 | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 100 | 17.8 | 48.3 | 30.5 | 31.8 | 100 ± 15 | 22.1 |
| | | | | | | | | | | | | | 200 | 26.2 | 43.8 | 17.6 | 25.7 | 100 ± 15 | 20.9 |
| | | | | | | | | | | | | | 250 | 29.7 | 42.3 | 12.6 | 23.8 | 100 ± 20 | 20.5 |
| | | | | | | | | | | | | | 300 | 33.0 | 41.2 | 8.2 | 22.2 | 100 ± 20 | 20.2 |
| | | | | | | | | | | | | | 350 | 36.1 | 40.2 | 4.1 | 20.9 | 100 ± 22 | 19.9 |
| | | | | | | | | | | | | | 400 | 39.0 | 39.3 | 0.3 | 19.7 | 100 ± 22 | 19.7 |
| | | | | | | | | | | | | | 450* | 41.8 | 38.5 | - 3.3 | 18.7 | 100 ± 22 | 19.5 |
| | | | | | | | | | | | | | 500* | 44.5 | 37.8 | - 6.7 | 17.8 | 100 ± 22 | 19.3 |
| | | | | | | | | | | | | | 550* | 47.1 | 37.2 | - 9.9 | 16.9 | 100 ± 22 | 19.1 |



Rip Cord

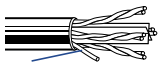
4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2-1, Category 6
Jacket sequentially market at 0.6 m intervals. Features descending length marking.

**Polyolefin Insulation • FRNC/LSNH Polymer Alloy**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Violet-Reel | **24588085** | NEC: | 1000 | 305 | 31.1 | 14.1 | 0.57 mm | 0.044 | 1.11 | Non- | 0.240 | 6.10 | see above |
| | | CMR | | | | | 23 AWG | | | Bonded-Pair | | | |
| | | CEC: | | | | | Solid BC | | | Unshielded | | | |
| | | CMR | | | | | | | | U/UTP | | | |



Rip Cord

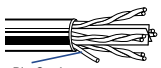
4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2-1, Category 6
Jacket sequentially market at 0.6 m intervals. Features descending length marking.

**Plenum • FEP Insulation • FRNC/LSNH Polymer Alloy**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| White-Reel | **24587385** | NEC: | 1000 | 305 | 30.6 | 13.9 | 0.57 mm | 0.043 | 1.10 | Non- | 0.229 | 5.81 | see above |
| Blue-Reel | **24587985** | CMP | | | | | 23 AWG | | | Bonded-Pair | | | |
| | | CEC: | | | | | Solid BC | | | Unshielded | | | |
| | | CMP | | | | | | | | U/UTP | | | |



Rip Cord

4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2-1, Category 6
Jacket sequentially market at 0.6 m intervals. Features descending length marking.

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* Values provided for information only.

## Color Code

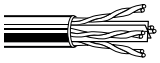
| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Category 6 U/UTP Cables

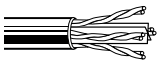
TIA/EIA-568-B.2, Category 6,
Bonded-Pair Cables

**Certified System 2400**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 6 • 23 AWG • Bonded-Pair** • Solid 0.6 mm Bare Copper • Twisted Pair | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **7812E** | B-328 | B-100 | 9.5 | 4.3 | 0.57 mm | 0.042 | 1.06 | **Bonded-Pair** | 0.256 | 6.50 | 1 | 2.1 | 72.0 | 70.2 | 65.0 | 100 ± 15 | 20.0 |
| | | U-1000 | U-305 | 28.9 | 13.1 | 23 AWG | | | Unshielded | | | 4 | 3.8 | 63.0 | 59.4 | 53.0 | 100 ± 15 | 23.0 |
| | | 1640 | 500 | 47.4 | 21.5 | Solid BC | | | U/UTP | | | 10 | 6.0 | 57.0 | 51.3 | 45.0 | 100 ± 15 | 25.0 |
| | | 3280 | 1000 | 94.8 | 43.0 | | | | | | | 16 | 7.6 | 54.0 | 46.6 | 41.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | 20 | 8.5 | 53.0 | 44.3 | 39.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | 25 | 9.6 | 51.0 | 41.8 | 37.0 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | 31.25 | 10.7 | 50.0 | 39.1 | 35.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | 62.5 | 15.5 | 45.0 | 29.9 | 29.0 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | 100 | 19.9 | 42.0 | 22.4 | 25.0 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | 155 | 25.3 | 39.0 | 14.1 | 21.0 | 100 ± 22 | 18.8 |
| | | | | | | | | | | | | 200 | 29.1 | 38.0 | 8.6 | 19.0 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | 250 | 33.0 | 36.0 | 3.3 | 17.0 | 100 ± 22 | 17.3 |
| | | Color Code: see chart below | | | | | | | | Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2 | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **7812ENH** | B-328 | B-100 | 9.5 | 4.3 | 0.57 mm | 0.042 | 1.06 | **Bonded-Pair** | 0.256 | 6.50 | | | | | | | | see above |
| | | 1000 | 305 | 28.9 | 13.1 | 23 AWG | | | Unshielded | | | | | | | | | | |
| | | 1640 | 500 | 47.4 | 21.5 | Solid BC | | | U/UTP | | | | | | | | | | |
| | | Color Code: see chart below | | | | | | | | Burning Energy: 535 kJ/m<br>Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2 | | | | | | | | | |



4-Pair



4-Pair

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

**Get the Bonded-Pairs Cable Preparation Tool**

See page 15.37 for details.
(Part No. 1797B)



# GigaFlex 2400 Cables Series

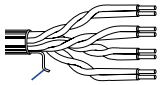
ANSI/TIA/EIA-568-B.2-1, Category 6,
Enhanced Category 6 Non-Bonded-Pair Cables

**Certified System 2400**

**Cat 6 • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Rip Cord

**Polyolefin Insulation • PVC Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| White † | **24566315** | NEC: | 1000 | 305 | 26.0 | 11.8 | 0.51 mm | 0.042 | 1.06 | Non- | 0.214 | 5.44 | 0.772 | 1.8 | 75.0 | 73.2 | 70.0 | 100 ± 15 | 19.7 |
| Blue † | **24566915** | CMR | | | | | 24 AWG | | | Bonded-Pair | | | 1 | 2.0 | 73.3 | 71.3 | 67.8 | 100 ± 15 | 20.0 |
| White | **24566345** | CEC: | | | | | Solid BC | | | Unshielded | | | 4 | 3.7 | 64.3 | 60.6 | 55.8 | 100 ± 15 | 23.0 |
| Blue | **24566945** | CMR | | | | | | | | U/UTP | | | 8 | 5.2 | 59.8 | 54.6 | 49.7 | 100 ± 15 | 24.5 |
| | | | | | | | | | | | | | 10 | 5.8 | 58.3 | 52.5 | 47.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 7.4 | 55.2 | 47.9 | 43.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 8.3 | 53.8 | 45.5 | 41.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 9.3 | 52.3 | 43.1 | 39.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 10.4 | 50.9 | 40.5 | 37.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 15.0 | 46.4 | 31.4 | 31.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 19.3 | 43.3 | 24.0 | 27.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 28.3 | 38.8 | 10.5 | 21.8 | 100 ± 15 | 18.0 |
| | | | | | | | | | | | | | 250 | 32.1 | 37.3 | 5.3 | 19.8 | 100 ± 32 | 17.3 |
| | | | | | | | | | | | | | 300* | 35.6 | 36.1 | 0.5 | 18.3 | 100 ± 32 | 16.8 |
| | | | | | | | | | | | | | 350* | 38.9 | 35.1 | - 3.7 | 16.9 | 100 ± 32 | 16.3 |
| | | | | | | | | | | | | | 400* | 42.0 | 34.3 | - 7.7 | 15.8 | 100 ± 32 | 15.9 |
| | | | | | | | | | | | | | 450* | 45.0 | 33.5 | - 11.5 | 14.7 | 100 ± 32 | 15.5 |



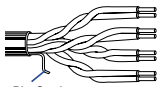

4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2-1, Category 6
Jacket sequentially marked at 0.6 m intervals. Features descending length marking.

**Polyolefin Insulation • FRNC/LSNH Polymer Alloy**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Violet-Reel | **24568005** | NEC: | 1000 | 305 | 28.0 | 12.7 | 0.51 mm | 0.043 | 1.08 | Non- | 0.214 | 5.44 | | see above |
| Violet-Box | **24568015** | CMR | 1000 | 305 | 28.0 | 12.7 | 24 AWG | | | Bonded-Pair | | | | |
| White-Box | **24568315** | CEC: | 1000 | 305 | 28.0 | 12.7 | Solid BC | | | Unshielded | | | | |
| White-Reel | **24568331** | CMR | 1640 | 500 | 45.9 | 20.8 | | | | U/UTP | | | | |



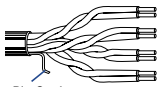

4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2-1, Category 6
Jacket sequentially marked at 0.6 m intervals. Features descending length marking.

**Plenum • FEP Insulation • Low-Smoke PVC Jacket**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| White † | **24567315** | NEC: | 1000 | 305 | 24.0 | 10.9 | 0.51 mm | 0.042 | 1.06 | Non- | 0.210 | 5.33 | | see above |
| Blue † | **24567915** | CMR | | | | | 24 AWG | | | Bonded-Pair | | | | |
| White | **24567345** | CEC: | | | | | Solid BC | | | Unshielded | | | | |
| Blue | **24567945** | CMR | | | | | | | | U/UTP | | | | |




4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2-1, Category 6
Jacket sequentially marked at 0.6 m intervals. Features descending length marking.

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* Values provided for information only.
† Reel-in-Box

## Color Code

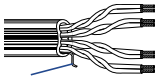
| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# MediaTwist® U/UTP Cables

## TIA/EIA-568-B.2-1, Category 6, Enhanced Category 6 Bonded-Pair Cables

**Certified System 2400**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 6 • 23 AWG** • Solid 0.6 mm Bare Copper • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Blue, Red, Yellow, Orange, Green, Gold, Violet, White, Black and Grey) | | | | | | | | | | | | | | | | | | | |
| | **1872A** | NEC: | 1000 | 305 | 37.0 | 16.8 | 0.57 mm | 0.042 | 1.06 | **Bonded-Pair** | 0.365 | 9.27 | 1 | 1.9 | 72.3 | 70.0 | 64.8 | 100 ± 12 | 20.0 |
| | | CMR | A-1000 | A-305 | 37.0 | 16.8 | 23 AWG | | | Unshielded | x | x | 4 | 3.7 | 63.3 | 59.0 | 52.8 | 100 ± 12 | 23.0 |
| | | CEC: | | | | | Solid BC | | | U/UTP | 0.165 | 4.19 | 8 | 5.3 | 58.8 | 53.0 | 46.7 | 100 ± 12 | 24.5 |
| | | CMR | | | | | | | | | | | 10 | 5.9 | 57.3 | 51.0 | 44.8 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 16 | 7.5 | 54.3 | 46.0 | 40.7 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 25 | 9.5 | 51.4 | 42.0 | 36.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 10.6 | 49.9 | 39.0 | 34.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 15.4 | 45.4 | 30.0 | 28.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 19.8 | 42.3 | 25.0 | 24.8 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 155 | 25.1 | 39.5 | 14.0 | 20.9 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 200 | 29.0 | 37.8 | 10.0 | 18.8 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 250 | 32.8 | 36.3 | 3.0 | 16.8 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 300 | 35.2 | 35.2 | > 0 | 15.2 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 350 | 39.8 | 34.2 | – | 13.9 | 100 ± 22 | 17.0 |
| | | | | | | | | | | | | | 400* | 43.0 | – | – | – | 100 ± 32 | 14.0 |
| | | | | | | | | | | | | | 500* | 49.0 | – | – | – | 100 ± 32 | 14.0 |

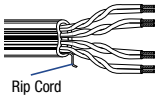



4-Pair

Color Code: see chart below
A-305 m put-up not available in Black.

Third party verified to TIA/EIA-568-B.2-1, Category 6
U.S. Patents 5,606,151; 5,734,126; 5,821,467
Jacket sequentially marked at 0.6 m intervals. Features descending length marking.

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Plenum • FEP Teflon® Insulation • Flamarrest® Jacket** (Blue, Natural, Grey, Red, Yellow, Orange, Green, Gold, Violet, White and Black) | | | | | | | | | | | | | | | | | | | |
| | **1874A** | NEC: | 1000 | 305 | 37.0 | 16.8 | 0.57 mm | 0.039 | 1.00 | **Bonded-Pair** | 0.365 | 9.27 | | | | | | | see above |
| | | CMP | A-1000 | A-305 | 37.9 | 17.2 | 23 AWG | | | Unshielded | x | x | | | | | | | |
| | | CEC: | | | | | Solid BC | | | U/UTP | 0.165 | 4.19 | | | | | | | |
| | | CMP | | | | | | | | | | | | | | | | | |




4-Pair

Color Code: see chart below
A-305 m put-up not available in Black.

Third party verified to TIA/EIA-568-B.2-1, Category 6
U.S. Patents 5,606,151; 5,734,126; 5,821,467
Jacket sequentially marked at 0.6 m intervals. Features descending length marking.

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* Values provided for information only.

Teflon® is a DuPont trademark.

Not RoHS compliant at time of printing.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

**Get the Bonded-Pairs Cable Preparation Tool**

See page 15.37 for details.
(Part No. 1797B)



# DataTwist® 350 U/UTP Cables

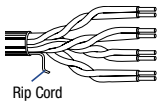
TIA/EIA-568-B.2, Category 5e,
Enhanced Category 5e Bonded-Pair Cables

**Certified System 1200**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm Bare Copper • Rip Cord

**Polyolefin Insulation • PVC Jacket** (Red, Orange, White, Black, Yellow, Green, Blue, Violet, Light Grey and Grey)




4-Pair

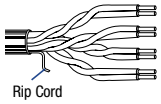
| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1700A** | NEC: | U-1000 | U-305 | 22.0 | 10.0 | 0.51 mm | 0.038 | 0.97 | **Bonded-Pair** | 0.200 | 5.08 | 1 | 2.0 | 65.3 | 63.3 | 60.8 | 100 ± 12 | 20.0 |
| | CM | 1000 | 305 | 22.0 | 10.0 | 24 AWG | | | Unshielded | | | 4 | 4.0 | 56.3 | 52.3 | 48.8 | 100 ± 12 | 23.0 |
| | CEC: | 1640 | 500 | 36.2 | 16.4 | Solid BC | | | U/UTP | | | 8 | 5.7 | 51.8 | 46.1 | 42.7 | 100 ± 12 | 24.5 |
| | CM | 3000 | 914 | 63.1 | 28.6 | | | | | | | 10 | 6.4 | 50.3 | 43.9 | 40.8 | 100 ± 12 | 25.0 |
| | | 3280 | 1000 | 72.3 | 32.8 | | | | | | | 16 | 8.1 | 47.3 | 39.1 | 36.7 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | 25 | 10.3 | 44.3 | 34.1 | 32.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | 31.25 | 11.6 | 42.9 | 31.3 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | 62.5 | 16.8 | 38.4 | 21.6 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | 100 | 21.7 | 35.3 | 17.1 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | 155 | 27.7 | 32.5 | 4.7 | 16.9 | 100 ± 18 | 19.0 |
| | | | | | | | | | | | | 200 | 32.0 | 30.8 | 3.0 | 14.7 | 100 ± 18 | 19.0 |
| | | | | | | | | | | | | 250 | 36.4 | 29.3 | > 0 | 12.8 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | 350 | 44.3 | 27.2 | > 0 | 9.9 | 100 ± 22 | 17.0 |

305 m put-up not available in Grey.
914 m put-up available in Red, Blue, White or Light Grey only.
500 m put-up available in Light Grey or Blue only.
1000 m put-up available in Light Grey only.

Third party verified to TIA/EIA-568-B.2, Category 5e
U.S. Patents 5,606,151 and 5,734,126
Jacket sequentially marked at 0.6 m intervals. Features descending length marking.

Color Code: see chart below

**Polyolefin Insulation • PVC Jacket** (Grey and Blue)



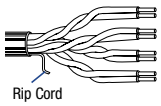

4-Pair

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1700E** | B-328 | B-100 | 6.1 | 2.8 | 0.51 mm | 0.038 | 0.97 | **Bonded-Pair** | 0.197 | 5.00 |
| | U-1000 | U-305 | 18.7 | 8.5 | 24 AWG | | | Unshielded | | |
| | 1000 | 305 | 18.7 | 8.5 | Solid BC | | | U/UTP | | |
| | 1640 | 500 | 30.9 | 14.0 | | | | | | |
| | 3280 | 1000 | 61.7 | 28.0 | | | | | | |

Color Code: see chart below

Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

**Polyolefin Insulation • FRNC/LSNH Jacket** (Grey and Blue)




4-Pair

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1700ENH** | 60332-1 | B-328 | B-100 | 6.1 | 2.8 | 0.51 mm | 0.038 | 0.97 | **Bonded-Pair** | 0.197 | 5.00 | see above |
| | CSA FT1 | U-1000 | U-305 | 18.7 | 8.5 | 24 AWG | | | Unshielded | | | |
| | UL CM | 1640 | 500 | 30.9 | 14.0 | Solid BC | | | U/UTP | | | |
| | UL ISDI (Vertical Tray) | 3280 | 1000 | 61.7 | 28.0 | | | | | | | |

Color Code: see chart below
305 m and 1000 m put-up available in Grey only.

Burning Energy: 298 kJ/m
Flame Test: IEC 60332-2, UL CM UL ISDI Vertical Tray, CAS FT1
Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

**Get the Bonded-Pairs Cable Preparation Tool**

See page 15.37 for details.
(Part No. 1797B)

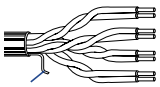


# GigaFlex 1200 Cables Series

ANSI/TIA/EIA-568-B.2, Category 5e,
Enhanced Category 5e Non-Bonded-Pair Cables

**Certified System 1200**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| White, Box | **24570166** | NEC: | 1000 | 305 | 24.0 | 10.9 | 0.51 mm | 0.035 | 0.89 | Non- | 0.186 | 4.72 | 0.772 | 1.8 | 69.0 | 67.3 | 63.0 | 100 ± 15 | – |
| Blue, Box | **24570161** | CMR | | | | | 24 AWG | | | Bonded-Pair | | | 1 | 2.0 | 67.3 | 65.3 | 60.8 | 100 ± 15 | 20.0 |
| White, Reel | **24570460** | CEC: | | | | | Solid BC | | | Unshielded | | | 4 | 4.0 | 58.3 | 54.3 | 48.7 | 100 ± 15 | 23.0 |
| Blue, Reel | **24570452** | CMR | | | | | | | | U/UTP | | | 8 | 5.7 | 53.8 | 48.1 | 42.7 | 100 ± 15 | 24.5 |
| | | | | | | | | | | | | | 10 | 6.3 | 52.3 | 46.0 | 40.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 8.1 | 49.3 | 41.2 | 36.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 9.1 | 47.8 | 38.7 | 34.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 10.2 | 46.3 | 36.1 | 32.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.5 | 44.9 | 33.4 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.7 | 40.4 | 23.7 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.6 | 37.3 | 15.7 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200* | 31.9 | 32.8 | 0.9 | 14.7 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 250* | 36.3 | 31.3 | - 4.9 | 12.8 | 100 ± 22 | 17.3 |
| | | | | | | | | | | | | | 300* | 40.3 | 30.2 | - 10.2 | 11.2 | 100 ± 22 | 16.8 |
| | | | | | | | | | | | | | 350* | 44.2 | 29.2 | - 15.0 | 9.9 | 100 ± 22 | 16.3 |



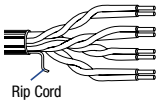
Rip Cord

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2, Category 5e
Jacket sequentially market at 0.6 m intervals. Features descending length marking.

**Polyolefin Insulation • FRNC/LSNH Polymer Alloy**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Violet, Box | **24570157** | NEC: | 1000 | 305 | 24.9 | 11.3 | 0.51 mm | 0.035 | 0.89 | Non- | 0.198 | 5.03 | | | | | | | see above |
| White, Box | **24598301** | CMR | 1000 | 305 | 24.9 | 11.3 | 24 AWG | | | Bonded-Pair | | | | | | | | | |
| White, Reel | **24598331** | CEC: | 1640 | 500 | 40.8 | 18.5 | Solid BC | | | Unshielded | | | | | | | | | |
| | | CMR | | | | | | | | U/UTP | | | | | | | | | |



Rip Cord

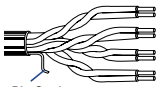
4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2, Category 5e
Jacket sequentially marked at 0.6 m intervals. Features descending length marking.

**Plenum • Polyolefin/FEP Insulation • Low-Smoke PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| White, Box | **24570810** | NEC: | 1000 | 305 | 22.0 | 9.98 | 0.51 mm | 0.035 | 0.90 | Non- | 0.188 | 4.78 | | | | | | | see above |
| Blue, Box | **24570800** | CMP | | | | | 24 AWG | | | Bonded-Pair | | | | | | | | | |
| White, Reel | **24570808** | CEC: | | | | | Solid BC | | | Unshielded | | | | | | | | | |
| Blue, Reel | **24570812** | CMP | | | | | | | | U/UTP | | | | | | | | | |



Rip Cord

4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2, Category 5e
Jacket sequentially marked at 0.6 m intervals. Features descending length marking.

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* Values provided for information only.

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# DataTwist® 6 U/UTP Cables

## TIA/EIA-568-B.2, Category 6, Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 6 • 23 AWG • Unbonded-Pair** • Solid 0.6 mm Bare Copper • Twisted Pair | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **7965E** | B-328 | B-100 | 9.5 | 4.3 | 0.57 mm | 0.040 | 1.01 | Non-Bonded-Pair Unshielded U/UTP | 0.244 | 6.20 | 1 | 2.1 | 72.0 | 70.2 | 65.0 | 100 ± 15 | 20.0 |
| | | U-1000 | U-305 | 28.9 | 13.1 | 23 AWG | | | | | | 4 | 3.8 | 63.0 | 59.4 | 53.0 | 100 ± 15 | 23.0 |
| | | 1000 | 305 | 28.9 | 13.1 | Solid BC | | | | | | 10 | 6.0 | 57.0 | 51.3 | 45.0 | 100 ± 15 | 25.0 |
| | | 1640 | 500 | 47.4 | 21.5 | | | | | | | 16 | 7.6 | 54.0 | 46.6 | 41.0 | 100 ± 15 | 25.0 |
| | | 3280 | 1000 | 94.8 | 43.0 | | | | | | | 20 | 8.5 | 53.0 | 44.3 | 39.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | 25 | 9.6 | 51.0 | 41.8 | 37.0 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | 31.25 | 10.7 | 50.0 | 39.1 | 35.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | 62.5 | 15.5 | 45.0 | 29.9 | 29.0 | 100 ± 15 | 21.5 |
| 4-Pair | | | | | | | | | | | | 100 | 19.9 | 42.0 | 22.4 | 25.0 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | 155 | 25.3 | 39.0 | 14.1 | 21.0 | 100 ± 22 | 18.8 |
| | | | | | | | | | | | | 200 | 29.1 | 38.0 | 8.6 | 19.0 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | 250 | 33.0 | 36.0 | 3.3 | 17.0 | 100 ± 22 | 17.3 |
| | | Color Code: see chart below<br>305 m, 500 m and 1000 m put-up available in Blue only. | | | | | | | | Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2 | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Grey or Blue) | | | | | | | | | | | | | | | | | | | |
| | **7965ENH** | B-328 | B-100 | 9.5 | 4.3 | 0.57 mm | 0.040 | 1.01 | Non-Bonded-Pair Unshielded U/UTP | 0.244 | 6.20 | | | | | | | see above |
| | | 1000 | 305 | 28.9 | 13.1 | 23 AWG | | | | | | | | | | | | |
| | | 1640 | 500 | 47.4 | 21.5 | Solid BC | | | | | | | | | | | | |
| | | 3280 | 1000 | 94.8 | 43.0 | | | | | | | | | | | | | |
| 4-Pair | | Color Code: see chart below | | | | | | | | Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2<br>Burning Energy: 478 kJ/m | | | | | | | | | |

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# DataTwist® 5e U/UTP Cables

## ANSI/TIA/EIA-568-B.2, Category 5e, Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (White, Black, Grey, Blue, Red, Orange, Yellow, Green and Pink) | | | | | | | | | | | | | | | | | | | |
| | **1583A** | NEC: | U-1000 | U-305 | 20.9 | 9.5 | 0.51 mm | 0.037 | 0.93 | Non- | 0.195 | 4.95 | 1 | 2.0 | 62.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | CM | 1000 | 305 | 20.9 | 9.5 | 24 AWG | | | Bonded-Pair | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.0 |
| | | CEC: | 1640 | 500 | 34.6 | 15.7 | Solid BC | | | Unshielded | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 25.0 |
| | | CM | 3000 | 914 | 63.1 | 28.6 | | | | U/UTP | | | 16 | 8.2 | 44.3 | 36.0 | 36.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 19.0 | 24.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 32.0 | 27.8 | 1.0 | 14.7 | 100 ± 25 | 15.0 |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | | Color Code: see chart below<br>500 m put-up available in Dark Grey or Blue only.<br>914 m put-up available in Dark Grey, White or Blue only. | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e<br>Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **1583E** | | B-328 | B-100 | 6.1 | 2.8 | 0.51 mm | 0.037 | 0.93 | Non- | 0.197 | 5.00 | | | | | | | see above |
| | | | U-1000 | U-305 | 18.7 | 8.5 | 24 AWG | | | Bonded-Pair | | | | | | | | | |
| | | | 1000 | 305 | 18.7 | 8.5 | Solid BC | | | Unshielded | | | | | | | | | |
| | | | 1640 | 500 | 30.9 | 14.0 | | | | U/UTP | | | | | | | | | |
| | | | 3280 | 1000 | 61.7 | 28.0 | | | | | | | | | | | | | |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | | Color Code: see chart below<br>500 m put-up available in Grey only. | | | | | | | Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2 | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **1583ENH** | CSA FT1 | B-328 | B-100 | 6.1 | 2.8 | 0.51 mm | 0.037 | 0.93 | Non- | 0.197 | 5.00 | | | | | | | see above |
| | | UL CM | U-1000 | U-305 | 18.7 | 8.5 | 24 AWG | | | Bonded-Pair | | | | | | | | | |
| | | UL ISDI | 1000 | 305 | 18.7 | 8.5 | Solid BC | | | Unshielded | | | | | | | | | |
| | | (Vertical Tray) | 1640 | 500 | 30.9 | 14.0 | | | | U/UTP | | | | | | | | | |
| | | | 3280 | 1000 | 61.7 | 28.0 | | | | | | | | | | | | | |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | | Color Code: see chart below<br>1000 m put-up available in Grey only. | | | | | | | Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2<br>Burning Energy: 310 kJ/m | | | | | | | | | |
| **Polyolefin Insulation • UV Resistant PVC Jacket** (Grey, White and Ivory) | | | | | | | | | | | | | | | | | | | |
| Indoor/ Outdoor | **1594A** | NEC: | U-1000 | U-305 | 26.0 | 11.8 | 0.51 mm | 0.034 | 0.87 | Non- | 0.220 | 5.58 | | | | | | | see above |
| | | CMR/CMX | | | | | 24 AWG | | | Bonded-Pair | | | | | | | | | |
| | | CEC: | | | | | Solid BC | | | Unshielded | | | | | | | | | |
| | | CMR/CMX | | | | | | | | U/UTP | | | | | | | | | |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | | Color Code: see chart below | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e<br>Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | |
| **Outside Plant • Polyolefin Insulation • Black Gel-Filled Polyethylene Jacket** | | | | | | | | | | | | | | | | | | | |
| Outdoor | **7997A** | | U-1000 | U-305 | 37.9 | 17.2 | 0.51 mm | 0.041 | 1.04 | Non- | 0.251 | 6.38 | 1 | 2.0 | 68.3 | 66.3 | 64.8 | 100 ± 15 | 20.0 |
| | | | | | | | 24 AWG | | | Bonded-Pair | | | 4 | 4.0 | 59.3 | 55.3 | 52.8 | 100 ± 15 | 23.0 |
| | | | | | | | Solid BC | | | Unshielded | | | 10 | 6.4 | 53.3 | 46.9 | 44.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | U/UTP | | | 16 | 8.1 | 50.2 | 42.1 | 40.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 31.25 | 11.4 | 45.9 | 34.5 | 34.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.4 | 41.4 | 25.0 | 28.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.0 | 38.3 | 17.3 | 24.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 30.5 | 33.8 | 3.3 | 18.8 | 100 ± 22 | 18.0 |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | | Color Code: see chart below | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e<br>Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | |

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

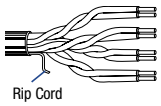
### Color Code

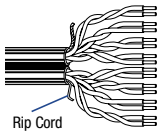
| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

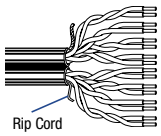
# DataTwist® 5e U/UTP Cables

TIA/EIA-568-B.2, Category 5e,
Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair | | | | | | | | | | | | | | | | | | | |
| **Plenum • FEP Teflon® Insulation • Flamarrest® Jacket** (Red, Orange, Yellow, Green, Grey, White, Black, Pink, Natural and Blue) | | | | | | | | | | | | | | | | | | | |
| | **1585A** | NEC: | U-1000 | U-305 | 23.1 | 10.5 | 0.51 mm | 0.035 | 0.88 | Non- | 0.198 | 5.03 | 1 | 2.0 | 62.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | CMP | 1000 | 305 | 24.0 | 10.9 | 24 AWG | | | Bonded-Pair | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.0 |
| | | CEC: | 3000 | 915 | 69.2 | 31.4 | Solid BC | | | Unshielded | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 25.0 |
| | | CMP FT6 | | | | | | | | U/UTP | | | 16 | 8.2 | 44.3 | 36.0 | 36.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 19.0 | 24.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 32.0 | 27.8 | 1.0 | 14.7 | 100 ± 25 | 15.0 |
| 4-Pair | | Color Code: see chart below<br>915 m put-up available in Natural or Blue only. | | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e<br>Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | |
| **Polyolefin Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1667E** | CSA FT1 | B-328 | B-100 | 12.3 | 5.6 | 0.51 mm | 0.035 | 0.89 | Non- | 0.197 | 5.00 | 1 | 2.1 | 62.0 | 60.2 | 61.0 | 100 ± 15 | 20.0 |
| | | UL CM | 1000 | 305 | 37.5 | 17.0 | 24 AWG | | | Bonded-Pair | x | x | 4 | 4.0 | 53.0 | 49.3 | 49.0 | 100 ± 15 | 23.0 |
| | | UL ISDI | 1640 | 500 | 61.7 | 28.0 | Solid BC | | | Unshielded | 0.413 | 10.50 | 8 | 5.7 | 49.0 | 43.1 | 43.0 | 100 ± 15 | 24.5 |
| | | (Vertical Tray) | | | | | | | | U/UTP | | | 10 | 6.3 | 47.0 | 41.0 | 41.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 8.0 | 44.0 | 36.2 | 37.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 9.0 | 43.0 | 33.8 | 35.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 25 | 10.1 | 41.0 | 31.2 | 33.0 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.4 | 40.0 | 28.5 | 31.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.5 | 35.0 | 18.8 | 25.0 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.3 | 32.0 | 11.0 | 41.0 | 100 ± 15 | 20.1 |
| 8-Pair, Twin | | Color Code: see chart below | | | | | | | | Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2 | | | | | | | | | |
| **Polyolefin Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1667ENH** | CSA FT1 | B-328 | B-100 | 12.3 | 5.6 | 0.51 mm | 0.035 | 0.89 | Non- | 0.197 | 5.00 | | | | | | | see above |
| | | UL CM | 1000 | 305 | 37.5 | 17.0 | 24 AWG | | | Bonded-Pair | x | x | | | | | | | |
| | | UL ISDI | 1640 | 500 | 61.7 | 28.0 | Solid BC | | | Unshielded | 0.413 | 10.50 | | | | | | | |
| | | (Vertical Tray) | 3280 | 1000 | 123.5 | 56.0 | | | | U/UTP | | | | | | | | | |
| 8-Pair, Twin | | Color Code: see chart below | | | | | | | | Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2<br>Burning Energy: 621 kJ/m | | | | | | | | | |




BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

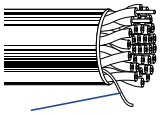
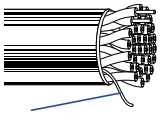
Teflon® is a DuPont trademark.

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# IBDN Plus 25-Pair Cat5e U/UTP Cables

TIA/EIA-568-B.2, Category 5e,
Enhanced Category 5e, Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| Grey, Reel | **24576125** | NEC: CMP CEC: CMR | 1000 | 305 | 119.0 | 54.0 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.03 | Non-Bonded-Pair Unshielded U/UTP | 0.490 | 12.45 | 0.772 | 1.8 | 64.0 | 63.0 | – | 100 ± 15 | 19.4 |
| | | | | | | | | | | | | | 1 | 2.0 | 62.3 | 63.8 | – | 100 ± 15 | 20.0 |
| | | | | | | | | | | | | | 4 | 4.1 | 53.3 | 48.8 | – | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 8 | 15.8 | 48.8 | 42.7 | – | 100 ± 15 | 24.5 |
| | | | | | | | | | | | | | 10 | 16.5 | 47.3 | 40.8 | – | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 8.2 | 44.2 | 36.7 | – | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 9.3 | 42.8 | 34.8 | – | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 10.4 | 41.3 | 32.8 | – | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 30.9 | – | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 24.9 | – | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 20.8 | – | 100 ± 15 | 20.1 |
|  Rip Cord | | | | | | | | | | | | | | | | | | | |
| 25-Pair | | | Color Code: see chart below | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e Jacket sequentially market at 0.6 m intervals. | | | | | | | | | |
| **Polyolefin Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| Grey, Reel | **24577125** | NEC: CMP CEC: CMP | 1000 | 305 | 127.0 | 57.6 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.03 | Non-Bonded-Pair Unshielded U/UTP | 0.429 | 10.90 | | | | | | | see above |
|  Rip Cord | | | | | | | | | | | | | | | | | | | |
| 25-Pair | | | Color Code: see chart below | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e Jacket sequentially market at 0.6 m intervals. | | | | | | | | | |

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

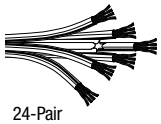
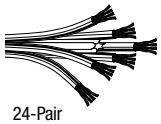
## Color Code

| Pair No. | Tip | Ring |
|---|---|---|
| **1** | White | Blue |
| **2** | White | Orange |
| **3** | White | Green |
| **4** | White | Brown |
| **5** | White | Slate |
| **6** | Red | Blue |
| **7** | Red | Orange |
| **8** | Red | Green |
| **9** | Red | Brown |
| **10** | Red | Slate |
| **11** | Black | Blue |
| **12** | Black | Orange |
| **13** | Black | Green |
| **14** | Black | Brown |
| **15** | Black | Slate |

| Pair No. | Tip | Ring |
|---|---|---|
| **16** | Yellow | Blue |
| **27** | Yellow | Orange |
| **38** | Yellow | Green |
| **49** | Yellow | Brown |
| **20** | Yellow | Slate |
| **21** | Violet | Blue |
| **22** | Violet | Orange |
| **23** | Violet | Green |
| **24** | Violet | Brown |
| **25** | Violet | Slate |

# DataTwist® 350 Composite U/UTP Cables

ANSI/TIA/EIA-568-B.2, Category 5e,
Banana Peel® Jacketless Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm Bare Copper • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Inner Jacket** (Light Blue and Grey) **• No Overall Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1700S6** | NEC: | 500 | 152 | 77.6 | 35.2 | 0.51 mm | 0.038 | 0.97 | **Bonded-Pair** | 0.204 | 5.18 | 1 | 2.0 | 65.3 | 63.3 | 60.8 | 100 ± 12 | 20.0 |
| | | CMR | 1000 | 305 | 149.1 | 67.7 | 24 AWG | | | Unshielded | | | 10 | 6.4 | 50.3 | 43.9 | 40.8 | 100 ± 12 | 25.0 |
| | | CEC: | | | | | Solid BC | | | U/UTP | | | 16 | 8.1 | 47.3 | 39.1 | 36.7 | 100 ± 12 | 25.0 |
| | | CMG | | | | | | | | | | | 31.25 | 11.6 | 42.9 | 31.3 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.8 | 38.4 | 21.6 | 24.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.7 | 35.3 | 17.1 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 32.0 | 30.8 | 3.0 | 14.7 | 100 ± 20 | 19.0 |
| | | | | | | | | | | | | | 250 | 36.4 | 29.3 | > 0 | 12.8 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 350 | 44.3 | 27.2 | – | 9.9 | 100 ± 22 | 17.0 |
|  24-Pair | | | | | | | | | | | | | | | | | | | |
| 1700R Bundled 0.60/15.24 | | | Color Code: see chart below | | | | | | | Individual leg is third party verified to ANSI/TIA/EIA 568-B.2, Category 5e U.S. Patents 5,606,151; 5,734,126; 7,049,523. | | | | | | | | |
| **Plenum • FEP Insulation • Flamarrest® Inner Jacket** (Blue and Natural) **• No Overall Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1701S6** | NEC: | 500 | 152 | 81.6 | 37.0 | 0.51 mm | 0.036 | 0.91 | **Bonded-Pair** | 0.195 | 4.95 | | | | | | | see above |
| | | CMP | 1000 | 305 | 157.1 | 71.3 | 24 AWG | | | Unshielded | | | | | | | | | |
| | | CEC: | | | | | Solid BC | | | U/UTP | | | | | | | | | |
| | | CMP | | | | | | | | | | | | | | | | | |
|  24-Pair | | | | | | | | | | | | | | | | | | | |
| 1700R Bundled 0.60/15.24 | | | Color Code: see chart below | | | | | | | Individual leg is third party verified to ANSI/TIA/EIA 568-B.2, Category 5e U.S. Patents 5,606,151; 5,734,126; 7,049,523. | | | | | | | | |

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

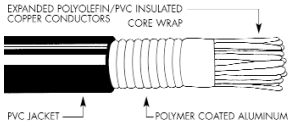
## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Data Grade Armored Riser 25-Pair U/UTP Cables

TIA/EIA-568-A, Category 5,
Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5 • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Flame Retardant Polymer Insulation • ALVYAN Sheath • PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| Grey, Reel | **25500027** | NEC: | 8200 | 2500 | 205.0 | 93.0 | 0.51 mm | 0.039 | 0.98 | Non- | 0.618 | 15.70 | 0.772 | 1.8 | 64.0 | – | – | 100 ± 15 | – |
| Grey, Reel | **25500028** | CMR | | | | | 24 AWG | | | Bonded-Pair | | | 1 | 2.1 | 62.3 | – | – | 100 ± 15 | 23.0 |
| | | CEC: | | | | | Solid BC | | | Unshielded | | | 4 | 4.3 | 53.3 | – | – | 100 ± 15 | 23.0 |
| | | CMR | | | | | | | | U/UTP | | | 8 | 5.9 | 48.8 | – | – | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 10 | 6.6 | 47.3 | – | – | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 16 | 8.2 | 44.3 | – | – | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 20 | 9.2 | 42.8 | – | – | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 25 | 10.5 | 41.3 | – | – | 100 ± 15 | 22.0 |
| | | | | | | | | | | | | | 31.25 | 11.8 | 40.9 | – | – | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 62.5 | 17.1 | 35.4 | – | – | 100 ± 15 | 18.0 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | – | – | 100 ± 15 | 16.0 |




25-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-A, Category 5
Jacket sequentially market at 0.6 m intervals. Featuring descending length marking.

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

## Color Code

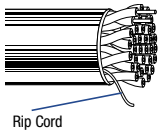
| Pair No. | Tip | Ring |
|---|---|---|
| **1** | White | Blue |
| **2** | White | Orange |
| **3** | White | Green |
| **4** | White | Brown |
| **5** | White | Slate |
| **6** | Red | Blue |
| **7** | Red | Orange |
| **8** | Red | Green |
| **9** | Red | Brown |
| **10** | Red | Slate |
| **11** | Black | Blue |
| **12** | Black | Orange |
| **13** | Black | Green |
| **14** | Black | Brown |
| **15** | Black | Slate |

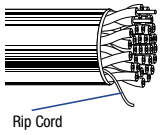
| Pair No. | Tip | Ring |
|---|---|---|
| **16** | Yellow | Blue |
| **27** | Yellow | Orange |
| **38** | Yellow | Green |
| **49** | Yellow | Brown |
| **20** | Yellow | Slate |
| **21** | Violet | Blue |
| **22** | Violet | Orange |
| **23** | Violet | Green |
| **24** | Violet | Brown |
| **25** | Violet | Slate |

# DataTwist® 5 U/UTP Cables

TIA/EIA-568-A, Category 5,
Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5 • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Light Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **1864A** | NEC: CMR CEC: CMR FT4 | 1000 | 305 | 144.2 | 65.4 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.03 | Non-Bonded-Pair Unshielded U/UTP | 0.526 | 13.36 | 1 | 2.0 | 62.3 | – | – | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 10 | 6.5 | 47.3 | – | – | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 16 | 8.2 | 44.3 | – | – | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | – | – | 100 ± 15 | 21.1 |
| | | | | | | | | | | | | | 62.5 | 17.1 | 35.4 | – | – | 100 ± 15 | 18.0 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | – | – | 100 ± 15 | 16.0 |
| 25-Pair | | | Color Code: see chart below | | | | | | | Third party verified to TIA/EIA-568-A, Category 5 Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | |
| **Plenum • FEP Teflon® Insulation • FEP Jacket** (Blue Tint and White Tint) | | | | | | | | | | | | | | | | | | | |
| | **1871A** | NEC: CMP CEC: CMP | 1000 | 305 | 131.2 | 59.5 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.03 | Non-Bonded-Pair Unshielded U/UTP | 0.430 | 10.92 | | | | | | | see above |
| 25-Pair | | | Color Code: see chart below | | | | | | | Third party verified to TIA/EIA-568-A, Category 5 Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | |




BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
Teflon® is a DuPont trademark.

### Color Code 1864A

| Pair No. | Color |
|---|---|
| 1 | White & Blue |
| 2 | White & Orange |
| 3 | White & Green |
| 4 | White & Brown |
| 5 | White & Grey |
| 6 | Red & Blue |
| 7 | Red & Orange |
| 8 | Red & Green |
| 9 | Red & Brown |
| 10 | Red & Grey |
| 11 | Black & Blue |
| 12 | Black & Orange |
| 13 | Black & Green |
| 14 | Black & Brown |
| 15 | Black & Grey |
| 16 | Yellow & Blue |
| 17 | Yellow & Orange |
| 18 | Yellow & Green |
| 19 | Yellow & Brown |
| 20 | Yellow & Grey |
| 21 | Purple & Blue |
| 22 | Purple & Orange |
| 23 | Purple & Green |
| 24 | Purple & Brown |
| 25 | Purple & Grey |

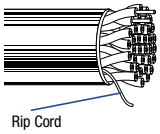
### Color Code 1871A

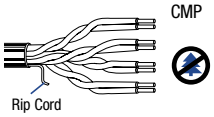
| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |
| 5 | White/Grey Stripe, Grey |
| 6 | Red/Blue Stripe, Blue |
| 7 | Red/Orange Stripe, Orange |
| 8 | Red/Green Stripe, Green |
| 9 | Red/Brown Stripe, Brown |
| 10 | Red/Grey Stripe, Grey |
| 11 | Black/Blue Stripe, Blue |
| 12 | Black/Orange Stripe, Orange |
| 13 | Black/Green Stripe, Green |
| 14 | Black/Brown Stripe, Brown |
| 15 | Black/Grey Stripe, Grey |
| 16 | Yellow/Blue Stripe, Blue |
| 17 | Yellow/Orange Stripe, Orange |
| 18 | Yellow/Green Stripe, Green |
| 19 | Yellow/Brown Stripe, Brown |
| 20 | Yellow/Grey Stripe, Grey |
| 21 | Purple/Blue Stripe, Blue |
| 22 | Purple/Orange Stripe, Orange |
| 23 | Purple/Green Stripe, Green |
| 24 | Purple/Brown Stripe, Brown |
| 25 | Purple/Grey Stripe, Grey |

# DataTwist® 3 U/UTP Cables

TIA/EIA-568-A, Category 3,
Non-Bonded-Pair Cables

| Description | Part No. | No. of Pairs | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 3 • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | | NEC:<br>CMR<br>CEC:<br>CMR | | | | | 0.51 mm<br>24 AWG<br>Solid BC | 0.035 | 0.90 | Non-<br>Bonded-Pair<br>Unshielded<br>U/UTP | | | 100 | 70% | 19.0 | 62.3 | 1<br>4<br>10<br>16 | 7.8<br>17.0<br>30.0<br>40.0 | 2.6<br>5.6<br>9.7<br>13.1 |
| | **1227A1** | 2-Pair | U-1000 | U-305 | 13.2 | 6.0 | | | | | 0.173 | 4,39 | | | | | | | |
| | **1229A1** | 4-Pair | U-1000 | U-305 | 22.0 | 10.0 | | | | | 0.197 | 5.00 | | | | | | | |
| | **1232A1** | 25-Pair | † 1000 | 305 | 104.1 | 47.2 | | | | | 0.399 | 10.14 | | | | | | | |
| | | Color Code: see chart below<br>Third party verified to TIA/EIA-568-A, Category 3 • Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | | | | | | | | | |
| **Plenum • Low-Smoke PVC Insulation • White Low-Smoke PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | | NEC:<br>CMP<br>CEC:<br>CMP | | | | | 0.51mm<br>24 AWG<br>Solid BC | 0.038 | 0.96 | Non-<br>Bonded-Pair<br>Unshielded<br>U/UTP | | | 100 | 61% | 19.0 | 62.3 | | | see above |
| | **1243A2** | 2-Pair | U-1000 | U-305 | 14.1 | 6.4 | | | | | 0.170 | 4.32 | | | | | | | |
| | **1245A2** | 4-Pair | U-1000 | U-305 | 22.9 | 10.4 | | | | | 0.200 | 5.08 | | | | | | | |
| | | Color Code: see chart below<br>Third party verified to TIA/EIA-568-A, Category 3 • Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | | | | | | | | | |




BC = Bare Copper • DCR = DC resistance
† 25-pair NEXT is Power Sum tested.

Not RoHS compliant at time of printing.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe & Blue/White Stripe |
| 2 | White/Orange Stripe & Orange/White Stripe |
| 3 | White/Green Stripe & Green/White Stripe |
| 4 | White/Brown Stripe & Brown/White Stripe |
| 5 | White/Grey Stripe & Grey/White Stripe |
| 6 | Red/Blue Stripe & Blue/Red Stripe |
| 7 | Red/Orange Stripe & Orange/Red Stripe |
| 8 | Red/Green Stripe & Green/Red Stripe |
| 9 | Red/Brown Stripe & Brown/Red Stripe |
| 10 | Red/Grey Stripe & Grey/Red Stripe |

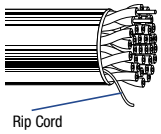
### Color Code

| Pair No. | Color |
|---|---|
| 11 | Black/Blue Stripe & Blue/Black Stripe |
| 12 | Black/Orange Stripe & Orange/Black Stripe |
| 13 | Black/Green Stripe & Green/Black Stripe |
| 14 | Black/Brown Stripe & Brown/Black Stripe |
| 15 | Black/Grey Stripe & Grey/Black Stripe |
| 16 | Yellow/Blue Stripe & Blue/Yellow Stripe |
| 17 | Yellow/Orange Stripe & Orange/Yellow Stripe |
| 18 | Yellow/Green Stripe & Green/Yellow Stripe |
| 19 | Yellow/Brown Stripe & Brown/Yellow Stripe |
| 20 | Yellow/Grey Stripe & Grey/Yellow Stripe |
| 21 | Purple/Blue Stripe & Blue/Purple Stripe |
| 22 | Purple/Orange Stripe & Orange/Purple Stripe |
| 23 | Purple/Green Stripe & Green/Purple Stripe |
| 24 | Purple/Brown Stripe & Brown/Purple Stripe |
| 25 | Purple/Grey Stripe & Grey/Purple Stripe |

# D-Series Multipair U/UTP Cables

## TIA/EIA-568-A, Category 3, Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 3 • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • LSNH Jacket** (Grey or Blue) | | | | | | | | | | | | | | | | | | | |
| Olive Grey, Reel | | | | | | | 0.51 mm<br>24 AWG<br>Solid BC | 0.031 | 0.80 | Non-<br>Bonded-Pair<br>Unshielded<br>U/UTP | | | 1<br>4<br>8<br>10<br>16 | 2.6<br>5.6<br>8.5<br>9.7<br>13.1 | 41.0<br>32.0<br>28.0<br>26.0<br>23.0 | –<br>–<br>–<br>–<br>– | –<br>–<br>–<br>–<br>– | 100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15 | 12.0<br>12.0<br>12.0<br>12.0<br>10.0 |
| **NN00097** | 25-Pair | 1000<br>3280 | 305<br>1000 | 107.4<br>352.0 | 48.8<br>160.0 | | | | | | 0.417 | 10.60 | | | | | | | |
| **NN00099** | 50-Pair | 1000<br>3280 | 305<br>1000 | 199.3<br>653.4 | 90.6<br>297.0 | | | | | | 0.630 | 16.00 | | | | | | | |
| **NN00101** | 100-Pair | 1575<br>3280 | 480<br>1000 | 370.4<br>1214.4 | 168.4<br>552.0 | | | | | | 0.827 | 21.00 | | | | | | | |




Color Code: see chart below
Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA-568-A

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

### Color Code

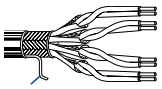
| Pair No. | Tip | Ring |
|---|---|---|
| 1 | White/Blue | Blue/White |
| 2 | White/Orange | Orange/White |
| 3 | White/Green | Green/White |
| 4 | White/Brown | Brown/White |
| 5 | White/Slate | Slate/White |
| 6 | Red/Blue | Blue/Red |
| 7 | Red/Orange | Orange/Red |
| 8 | Red/Green | Green/Red |
| 9 | Red/Brown | Brown/Red |
| 10 | Red/Slate | Slate/Red |
| 11 | Black/Blue | Blue/Black |
| 12 | Black/Orange | Orange/Black |
| 13 | Black/Green | Green/Black |
| 14 | Black/Brown | Brown/Black |
| 15 | Black/Slate | Slate/Black |

| Pair No. | Tip | Ring |
|---|---|---|
| 16 | Yellow/Blue | Blue/Yellow |
| 27 | Yellow/Orange | Orange/Yellow |
| 38 | Yellow/Green | Green/Yellow |
| 49 | Yellow/Brown | Brown/Yellow |
| 20 | Yellow/Slate | Slate/Yellow |
| 21 | Violet/Blue | Blue/Violet |
| 22 | Violet/Orange | Orange/Violet |
| 23 | Violet/Green | Green/Violet |
| 24 | Violet/Brown | Brown/Violet |
| 25 | Violet/Slate | Slate/Violet |

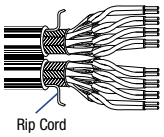
# Category 7 S/FTP Cables

EN 50173, ISO/IEC 11801, TIA/EIA-568-TSB 36, Class F, Category 7, Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 7 • 23 AWG** • Solid 0.6 mm Bare Copper • Twisted Pair • Individual **Beldfoil®** + Overall Tinned Copper Braid • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Foam Skin Polyolefin Insulation • PVC Jacket** (Grey, Blue and Yellow) | | | | | | | | | | | | | | | | | | | |
| | **1885ENH** | | B-328 | B-100 | 13.2 | 6.0 | 0.57 mm | 0.057 | 1.45 | Non-Bonded-Pair Individual Beldfoil® + Overall TC Braid S/FTP | 0.315 | 8.00 | 1 | 2.0 | 75.0 | 73.0 | 75.0 | 100 ± 15 | 20.0 |
| | | | 1640 | 500 | 66.1 | 30.0 | 23 AWG | | | | | | 4 | 3.7 | 75.0 | 71.3 | 75.0 | 100 ± 15 | 23.0 |
| | | | 3280 | 1000 | 132.3 | 60.0 | Solid BC | | | | | | 10 | 5.9 | 75.0 | 69.1 | 71.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 7.4 | 75.0 | 67.6 | 67.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 8.3 | 75.0 | 66.7 | 65.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 31.25 | 10.4 | 75.0 | 64.6 | 61.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 14.9 | 72.0 | 57.6 | 55.0 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 19.0 | 69.0 | 50.4 | 51.0 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 155 | 24.0 | 67.0 | 42.6 | 47.0 | 100 ± 22 | 18.8 |
| | | | | | | | | | | | | | 200 | 27.5 | 65.0 | 37.4 | 45.0 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 300 | 34.2 | 62.0 | 28.1 | 41.0 | 100 ± 25 | 16.8 |
| | | | | | | | | | | | | | 600 | 50.1 | 58.0 | 7.6 | 35.0 | 100 ± 25 | 14.7 |
| | | | | | | | | | | | | | 1000 | 66.9 | 54.0 | – | 31.0 | 100 ± 25 | 13.1 |
| | | | Color Code: see chart below<br>500 m put-up not available in Grey. | | | | | | | Burning Energy: 500 kJ/m | | | | | | | | | |
| **Foam Skin Polyolefin Insulation • PVC Jacket** (Grey, Blue and Yellow) | | | | | | | | | | | | | | | | | | | |
| | **1887ENH** | | 328 | 100 | 26.5 | 12.0 | 0.57 mm | 0.057 | 1.45 | Non-Bonded-Pair Individual Beldfoil® + Overall TC Braid S/FTP | 0.650 | 16.50 | | | | | | | see above |
| | | | 1640 | 500 | 132.3 | 60.0 | 23 AWG Solid BC | | | | | | | | | | | | |
| | | | Color Code: see chart below<br>100 m put-up available in Grey only. | | | | | | | Burning Energy: 1000 kJ/m | | | | | | | | | |




4-Pair




8-Pair, Twin

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

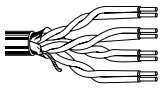
### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Category 6 F/UTP Cables

EN 50173, ISO/IEC 11801, Class E, Category 6,
Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 6 • 23 AWG** • Solid 0.6 mm Bare Copper • Twisted Pair • Overall **Beldfoil®** Shield • 26 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **7860ENH** | | B-328 | B-100 | 11.0 | 5.0 | 0.57 mm | 0.046 | 1.17 | **Bonded-Pair** | 0.287 | 7.30 | 1 | 2.1 | 72.0 | 70.2 | 65.0 | 100 ± 15 | 20.0 |
| | | | 1640 | 500 | 54.9 | 24.9 | 23 AWG | | | Overall | | | 4 | 3.8 | 63.0 | 59.4 | 53.0 | 100 ± 15 | 23.0 |
| | | | 3280 | 1000 | 110.2 | 50.0 | Solid BC | | | Beldfoil® | | | 10 | 6.0 | 57.0 | 51.3 | 45.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | + Drain Wire | | | 16 | 7.6 | 54.0 | 46.6 | 41.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | (26 AWG TC) | | | 20 | 8.5 | 53.0 | 44.3 | 39.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | F/UTP | | | 25 | 9.6 | 51.0 | 41.8 | 37.0 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 10.7 | 50.0 | 39.1 | 35.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 15.5 | 45.0 | 29.9 | 29.0 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 19.9 | 42.0 | 22.4 | 25.0 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 155 | 25.3 | 39.0 | 14.1 | 21.0 | 100 ± 22 | 18.8 |
| | | | | | | | | | | | | | 200 | 29.1 | 38.0 | 8.6 | 19.0 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 250 | 33.0 | 36.0 | 3.3 | 17.0 | 100 ± 22 | 17.3 |
| | | | Color Code: see chart below | | | | | | | Burning Energy: 560 kJ/m | | | | | | | | | |

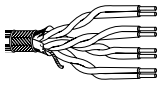


4-Pair

# Category 6 SF/UTP Cables

EN 50173, ISO/IEC 11801, Class E, Category 6,
Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 6 • 23 AWG** • Solid 0.6 mm Bare Copper • Twisted Pair • Overall **Beldfoil®** Shield • 26 AWG TC Drain Wire • Overall TC Braid | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **7860ENS** | | B-328 | B-100 | 12.5 | 5.7 | 0.57 mm | 0.046 | 1.17 | **Bonded-Pair** | 0.295 | 7.50 | 1 | 2.1 | 72.0 | 70.2 | 65.0 | 100 ± 15 | 20.0 |
| | | | 1640 | 500 | 62.8 | 28.5 | 23 AWG | | | Overall | | | 4 | 3.8 | 63.0 | 59.4 | 53.0 | 100 ± 15 | 23.0 |
| | | | 3280 | 1000 | 125.4 | 56.9 | Solid BC | | | Beldfoil® | | | 10 | 6.0 | 57.0 | 51.3 | 45.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | + Drain Wire | | | 16 | 7.6 | 54.0 | 46.6 | 41.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | (26 AWG TC) | | | 20 | 8.5 | 53.0 | 44.3 | 39.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | + TC Braid | | | 25 | 9.6 | 51.0 | 41.8 | 37.0 | 100 ± 15 | 24.3 |
| | | | | | | | | | | SF/UTP | | | 31.25 | 10.7 | 50.0 | 39.1 | 35.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 15.5 | 45.0 | 29.9 | 29.0 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 19.9 | 42.0 | 22.4 | 25.0 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 155 | 25.3 | 39.0 | 14.1 | 21.0 | 100 ± 22 | 18.8 |
| | | | | | | | | | | | | | 200 | 29.1 | 38.0 | 8.6 | 19.0 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 250 | 33.0 | 36.0 | 3.3 | 17.0 | 100 ± 22 | 17.3 |
| | | | Color Code: see chart below | | | | | | | Burning Energy: 560 kJ/m | | | | | | | | | |



4-Pair
Braided 7860E

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

**Get the Bonded-Pairs Cable Preparation Tool**

See page 15.37 for details.
(Part No. 1797B)



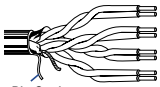
# DataTwist® 5e F/UTP Cables

EN 50173, ISO/IEC 11801, Class D, Category 5e,
Non-Bonded-Pair Cables

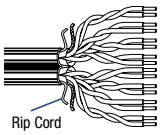
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **1633E** | | B-328 | B-100 | 9.5 | 4.3 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) F/UTP | 0.236 | 6.00 | 1 | 2.1 | 62.0 | 60.2 | 61.0 | 100 ± 15 | 20.0 |
| | | | 1000 | 305 | 28.7 | 13.0 | | | | | | | 4 | 4.0 | 53.0 | 49.3 | 49.0 | 100 ± 15 | 23.0 |
| | | | 1640 | 500 | 47.4 | 21.5 | | | | | | | 8 | 5.7 | 49.0 | 43.1 | 43.0 | 100 ± 15 | 24.5 |
| | | | 3280 | 1000 | 94.8 | 43.0 | | | | | | | 10 | 6.3 | 47.0 | 41.0 | 41.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 8.0 | 44.0 | 36.2 | 37.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 9.0 | 43.0 | 33.8 | 35.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 10.1 | 41.0 | 31.2 | 33.0 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.4 | 40.0 | 28.5 | 31.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.5 | 35.0 | 18.8 | 25.0 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.3 | 32.0 | 11.0 | 21.0 | 100 ± 15 | 20.1 |
| | | | Color Code: see chart below | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **1633ENH** | | B-328 | B-100 | 9.5 | 4.3 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) F/UTP | 0.236 | 6.00 | | | | | | | see above |
| | | | 1000 | 305 | 28.7 | 13.0 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 47.4 | 21.5 | | | | | | | | | | | | | |
| | | | 3280 | 1000 | 94.8 | 43.0 | | | | | | | | | | | | | |
| | | | Color Code: see chart below<br>500 m put-up available in Blue only. | | | | | | | Burning Energy: 464 kJ/m | | | | | | | | | |
| **Polyolefin Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1668E** | | B-164 | B-50 | 18.9 | 8.6 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) F/UTP | 0.236 x 0.531 | 6.00 x 13.50 | | | | | | | see above |
| | | | 1000 | 305 | 57.3 | 26.0 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 94.8 | 43.0 | | | | | | | | | | | | | |
| | | | Color Code: see chart below | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Grey Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1668ENH** | | 1640 | 500 | 94.8 | 43.0 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) F/UTP | 0.236 x 0.531 | 6.00 x 13.50 | | | | | | | see above |
| | | | Color Code: see chart below | | | | | | | Burning Energy: 929 kJ/m | | | | | | | | | |



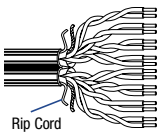

4-Pair




4-Pair




8-Pair, Twin




8-Pair, Twin

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

**Get the Bonded-Pairs Cable Preparation Tool**

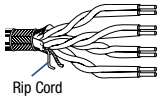
See page 15.37 for details.
(Part No. 1797B)

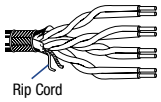


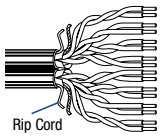
# DataTwist® 5e SF/UTP Cables

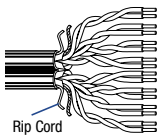
EN 50173, ISO/IEC 11801, Class D, Category 5e,
Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG TC Drain Wire • Overall TC Braid • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1633ES** | | B-328 | B-100 | 10.6 | 4.8 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) + Overall TC Braid SF/UTP | 0.248 | 6.30 | 1 | 2.1 | 62.0 | 60.2 | 61.0 | 100 ± 15 | 20.0 |
| | | | 1000 | 305 | 32.2 | 14.6 | | | | | | | 4 | 4.0 | 53.0 | 49.3 | 49.0 | 100 ± 15 | 23.0 |
| | | | 1640 | 500 | 52.9 | 24.0 | | | | | | | 8 | 5.7 | 49.0 | 43.1 | 43.0 | 100 ± 15 | 24.5 |
| | | | 3280 | 1000 | 105.8 | 48.0 | | | | | | | 10 | 6.3 | 47.0 | 41.0 | 41.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 8.0 | 44.0 | 36.2 | 37.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 9.0 | 43.0 | 33.8 | 35.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 10.1 | 41.0 | 31.2 | 33.0 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.4 | 40.0 | 28.5 | 31.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.5 | 35.0 | 18.8 | 25.0 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.3 | 32.0 | 11.0 | 21.0 | 100 ± 15 | 20.1 |
| | 4-Pair Braided 1633E | | Color Code: see chart below | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1633ENS** | | 1640 | 500 | 52.9 | 24.0 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) + Overall TC Braid SF/UTP | 0.248 | 6.30 | | | | | | | see above |
| | 4-Pair Braided 1633ENH | | Color Code: see chart below | | | | | | | Burning Energy: 505 kJ/m | | | | | | | | | |
| **Polyolefin Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1668ES** | | B-164 | B-50 | 10.6 | 4.8 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) + Overall TC Braid SF/UTP | 0.543 | 13.80 | | | | | | | see above |
| | | | 1000 | 305 | 64.4 | 29.2 | | | | | | | | | | | | | |
| | | | 1640 | 500 | 105.8 | 48.0 | | | | | | | | | | | | | |
| | 8-Pair, Twin | | Color Code: see chart below | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **1668ENS** | | 1640 | 500 | 105.8 | 48.0 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) + Overall TC Braid SF/UTP | 0.543 | 13.80 | | | | | | | see above |
| | 8-Pair, Twin | | Color Code: see chart below | | | | | | | Burning Energy: 1010 kJ/m | | | | | | | | | |




TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

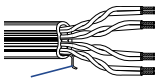
# MediaTwist® and DataTwist® 6 U/UTP Patch Cables

TIA/EIA-568-B.2-1, Category 6,
Enhanced Category 6, Bonded-Pair Cables

**Cat 6 • 24 AWG • Bonded-Pair** • Stranded (7x32) 0.6 mm Tinned Copper • RJ-45 Compatible

**Polyolefin Insulation • PVC Jacket** (Yellow, Green, Blue, Violet, Light Grey, Grey, White and Black)

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MediaTwist® | **1875GB** | NEC: | 1000 | 305 | 31.1 | 14.1 | 0.61 mm | 0.041 | 1.05 | **Bonded-Pair** | 0.365 | 9.27 | 1 | 1.9 | 72.3 | 70.0 | 64.8 | 100 ± 12 | 20.0 |
| | | CMR | A-1000 | A-305 | 32.0 | 14.5 | 24 AWG | | | Unshielded | x | x | 4 | 3.7 | 63.3 | 59.0 | 52.8 | 100 ± 12 | 23.0 |
| | | CEC: | | | | | (7x32) TC | | | U/UTP | 0.165 | 4.19 | 8 | 5.3 | 58.8 | 53.0 | 46.7 | 100 ± 12 | 24.5 |
| | | CMR | | | | | | | | | | | 10 | 5.9 | 57.3 | 51.0 | 44.8 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 16 | 7.5 | 54.3 | 46.0 | 40.7 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 25 | 9.5 | 51.4 | 42.0 | 36.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 10.6 | 49.9 | 39.0 | 34.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 15.4 | 45.4 | 30.0 | 28.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 19.8 | 42.3 | 25.0 | 24.8 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 155 | 25.1 | 39.5 | 14.0 | 20.9 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 200 | 29.0 | 37.8 | 10.0 | 18.8 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 250 | 32.8 | 36.3 | 3.0 | 16.8 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 300 | 35.2 | 35.2 | > 0 | 15.2 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 350 | 39.8 | 34.2 | – | 13.9 | 100 ± 22 | 17.0 |
| | | | | | | | | | | | | | 400 | 43.0 | – | – | – | 100 ± 32 | 14.0 |
| | | | | | | | | | | | | | 500 | 49.0 | – | – | – | 100 ± 32 | 14.0 |



Rip Cord

4-Pair

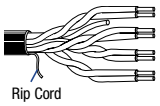
Color Code: see chart below*
305 m put-up not available in Purple.
A-305 m put-up not available in Black.

Third party verified to TIA/EIA-568-B.2-1, Category 6 Patch
U.S. Patents 5,606,151; 5,734,126; 5,763,823 and 5,821,467
Jacket sequentially marked at 0.6 m intervals.

**Cat 6 • 24 AWG** • Solid 0.5 mm Bare Copper • Twisted Pair • Central Slit-Film Filler • RJ-45 Compatible

**Polyolefin Insulation • PVC Jacket** (Red, Orange, Yellow, Green, Blue, Violet, White and Black)

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DataTwist® | **7883A** | NEC: | 1000 | 305 | 24.0 | 10.9 | 0.51 mm | 0.038 | 0.97 | **Bonded-Pair** | 0.205 | 5.21 | 1 | 2.4 | 72.3 | 69.9 | 64.8 | 100 ± 15 | 20.0 |
| | | CM | | | | | 24 AWG | | | Unshielded | | | 10 | 7.1 | 57.3 | 50.2 | 44.8 | 100 ± 15 | 25.0 |
| | | CEC: | | | | | Solid BC | | | U/UTP | | | 20 | 10.2 | 52.8 | 42.6 | 38.8 | 100 ± 15 | 25.0 |
| | | CM | | | | | | | | | | | 31.25 | 12.8 | 49.9 | 37.1 | 34.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 18.5 | 45.4 | 26.9 | 28.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 23.8 | 42.3 | 18.5 | 24.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 34.8 | 37.8 | 3.0 | 18.8 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 250 | 39.4 | 36.3 | – | 16.8 | 100 ± 32 | 17.3 |



Rip Cord

4-Pair

Color Code: see chart below*

Third party verified to TIA/EIA-568-B.2-1, Category 6 Patch
Jacket sequentially marked at 0.6 m intervals.

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* Color rotation available for T568-A or T568-B wiring schemes.

### Color Code 1875GB

| Pair No. | Color |
|---|---|
| 1 | White/Brown Stripe, Brown |
| 2 | White/Blue Stripe, Blue |
| 3 | White/Green Stripe, Green |
| 4 | White/Orange Stripe, Orange |

### Color Code 7883A

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

**Get the Bonded-Pairs Cable Preparation Tool**

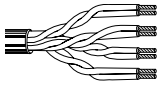
See page 15.37 for details.
(Part No. 1797B)



# DataTwist® 350 U/UTP Patch Cables

TIA/EIA-568-B.2, Category 5e,
Enhanced Category 5e, Bonded-Pair Cables

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG • Bonded-Pair** • Stranded (7x32) 0.6 mm Tinned Copper • RJ-45 Compatible | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Yellow, Green, Blue, Violet, Light Grey, Grey, White and Black) | | | | | | | | | | | | | | | | | | | |
| | **1752A** | NEC: | U-1000 | U-305 | 24.0 | 10.9 | 0.61 mm | 0.038 | 1.00 | **Bonded-Pair** | 0.220 | 5.59 | 1 | 2.4 | 65.3 | 62.9 | 60.8 | 100 ± 12 | 20.0 |
| | | CM | 1000 | 305 | 26.0 | 11.8 | 24 AWG | | | Unshielded | | | 4 | 4.8 | 56.3 | 51.5 | 48.7 | 100 ± 12 | 23.0 |
| | | CEC: | | | | | (7x32) TC | | | U/UTP | | | 8 | 6.8 | 51.8 | 45.0 | 42.7 | 100 ± 12 | 24.5 |
| | | CM | | | | | | | | | | | 10 | 7.7 | 50.3 | 42.6 | 40.8 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 16 | 9.7 | 47.3 | 37.5 | 36.7 | 100 ± 12 | 25.0 |
| | | | | | | | | | | | | | 25 | 12.4 | 44.3 | 31.9 | 32.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 13.9 | 42.9 | 29.0 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 20.2 | 38.4 | 18.3 | 24.9 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 26.0 | 35.3 | 9.2 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 155 | 33.2 | 32.5 | – | 16.9 | 100 ± 18 | 19.0 |
| | | | | | | | | | | | | | 200 | 38.4 | 30.8 | – | 14.7 | 100 ± 20 | 19.0 |
| | | | | | | | | | | | | | 250 | 43.7 | 29.3 | – | 12.8 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 350 | 53.2 | 27.2 | – | 9.9 | 100 ± 22 | 17.0 |



4-Pair

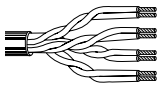
Color Code: see chart below

Third party verified to TIA/EIA-568-B.2, Category 5e Patch
U.S. Patents 5,606,151; 5,734,126 and 5,763,823
Jacket sequentially marked at 0.6 m intervals.

# DataTwist® 5e U/UTP Patch Cables

TIA/EIA-568-B.2, Category 5e,
Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG** • Stranded (7x32) 0.6 mm Bare Copper • Twisted Pair • RJ-45 Compatible* | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Red, Orange, Yellow, Green, Blue, Violet, Light Grey, White and Black) | | | | | | | | | | | | | | | | | | | |
| | **1592A** | NEC: | U-1000 | U-305 | 22.0 | 10.0 | 0.61 mm | 0.040 | 1.02 | Non- | 0.213 | 5.41 | 1 | 2.5 | 62.3 | – | 60.8 | 100 ± 15 | 20.0 |
| | | CM | 1000 | 305 | 23.1 | 10.5 | 24 AWG | | | Bonded-Pair | | | 4 | 4.9 | 53.3 | – | 48.7 | 100 ± 15 | 23.0 |
| | | CEC: | | | | | (7x32) BC | | | Unshielded | | | 10 | 7.8 | 47.3 | – | 40.8 | 100 ± 15 | 25.0 |
| | | CM FT1 | | | | | | | | U/UTP | | | 16 | 9.9 | 44.3 | – | 36.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 31.25 | 14.1 | 39.9 | – | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 20.4 | 35.4 | – | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 26.4 | 32.3 | – | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 38.9 | 27.8 | – | 14.7 | 100 ± 25 | 15.0 |



4-Pair

Color Code: see chart below

Third party verified to TIA/EIA-568-B.2, Category 5e Patch
Jacket sequentially marked at 0.6 m intervals.

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk •
NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* RJ-45 compatible for either T568-A or T568-B configurations.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

**Get the Bonded-Pairs Cable Preparation Tool**

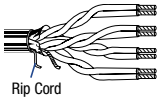
See page 15.37 for details.
(Part No. 1797B)

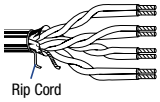


# DataTwist® 5e F/UTP Patch Cables

EN 50173, ISO/IEC 11801, Category 5e,
Non-Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 26 AWG** • Stranded (7x34) 0.5 mm Bare Copper • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG TC Drain Wire • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| | **1868E** | | 1640 | 500 | 29.8 | 13.5 | 0.51 mm 26 AWG (7x34) BC | 0.037 | 0.95 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) F/UTP | 0.205 | 5.20 | 1 | 3.2 | 62.0 | 59.1 | 61.0 | 100 ± 15 | 20.0 |
| | | | 3280 | 1000 | 59.5 | 27.0 | | | | | | | 4 | 6.0 | 53.0 | 47.3 | 49.0 | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 8 | 8.5 | 49.0 | 40.3 | 43.0 | 100 ± 15 | 24.5 |
| | | | | | | | | | | | | | 10 | 9.5 | 47.0 | 37.8 | 41.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 12.1 | 44.0 | 32.2 | 37.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 13.6 | 43.0 | 29.2 | 35.0 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 15.2 | 41.0 | 26.1 | 33.0 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 17.1 | 40.0 | 22.8 | 31.0 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 24.8 | 35.0 | 10.6 | 25.0 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 32.0 | 32.0 | 0.3 | 21.0 | 100 ± 15 | 20.1 |
| | 4-Pair | | Color Code: see chart below | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1868ENH** | | 1640 | 500 | 29.8 | 13.5 | 0.51 mm 26 AWG (7x34) BC | 0.037 | 0.95 | Non-Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) F/UTP | 0.205 | 5.20 | | | | | | | see above |
| | | | 3280 | 1000 | 59.5 | 27.0 | | | | | | | | | | | | | |
| | 4-Pair | | Color Code: see chart below | | | | | | | Burning Energy: 355 kJ/m | | | | | | | | | |




TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# VideoTwist® 6 U/UTP Cables for RGB Video

TIA/EIA-568-B.2-1, Category 6,
Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NanoSkew™ • Category 6 • 23 AWG Bonded-Pairs** • Solid 0.6 mm Bare Copper • **Skew 10.0 ns/100 m** Nominal • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Blue PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V RMS | **7989R** | NEC | 1000 | 305 | 32.0 | 14.5 | 0.57 mm | 0.042 | 1.06 | Bonded-Pair | 0.365 | 9.27 | 1 | 2.0 | 72.3 | 70.3 | 64.8 | 100 ± 15 | 20.0 |
| | | CMR | 1640 | 500 | 52.5 | 23.8 | 23 AWG | | | Unshielded | x | x | 4 | 3.8 | 63.3 | 59.5 | 52.7 | 100 ± 15 | 23.0 |
| | | CEC | | | | | Solid BC | | | U/UTP | 0.165 | 4.19 | 8 | 5.3 | 58.8 | 53.4 | 46.7 | 100 ± 15 | 24.5 |
| | | CMR FT4 | | | | | | | | | | | 10 | 6.0 | 57.3 | 51.3 | 44.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 7.6 | 54.3 | 46.7 | 40.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 8.5 | 52.8 | 44.3 | 38.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 9.5 | 51.4 | 41.8 | 36.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 10.7 | 49.9 | 39.2 | 34.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 15.4 | 45.4 | 30.0 | 28.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 19.8 | 42.3 | 22.5 | 24.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 155 | 25.2 | 39.5 | 14.3 | 20.9 | 100 ± 22 | 18.8 |
| | | | | | | | | | | | | | 200 | 29.0 | 37.8 | 8.8 | 18.7 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 250 | 32.8 | 36.3 | 3.5 | 16.8 | 100 ± 32 | 17.3 |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair MediaTwist™ Construction | | | | | | | | | | | | | | | | | | | |
| | | | Color Code: see chart below | | | | | | | | | | | | | | | | |
| **Plenum • Polyolefin Insulation • Blue PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V RMS | **7989P** | NEC | 1000 | 305 | 32.0 | 14.5 | 0.57 mm | 0.039 | 1.00 | Bonded-Pair | 0.365 | 9.27 | | | | | | | see above |
| | | CMR | 1640 | 500 | 52.5 | 23.8 | 23 AWG | | | Unshielded | x | x | | | | | | | |
| | | CEC | | | | | Solid BC | | | U/UTP | 0.165 | 4.19 | | | | | | | |
| | | CMR FT4 | | | | | | | | | | | | | | | | | |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair MediaTwist™ Construction | | | | | | | | | | | | | | | | | | | |
| | | | Color Code: see chart below | | | | | | | | | | | | | | | | |

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

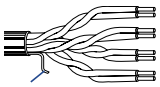
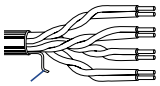
**Get the Bonded-Pairs Cable Preparation Tool**



See page 15.37 for details.
(Part No. 1797B)

# VideoTwist® 5e U/UTP Cables for RGB Video

TIA/EIA-568-B.2, Category 5e,
Bonded-Pair Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm Bare Copper • Twisted Pair • Skew 9.0 ns/100 nom. • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Green PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | **7988R** | NEC: | 1000 | 305 | 22.0 | 10.0 | 0.51 mm | 0.038 | 0.97 | **Bonded-Pair** | 0.204 | 5.18 | 1 | 2.0 | 65.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | CMR | 1640 | 500 | 36.2 | 16.4 | 24 AWG | | | Unshielded | | | 4 | 4.1 | 53.3 | 49.3 | 48.7 | 100 ± 15 | 23.0 |
| | | CEC: | | | | | Solid BC | | | U/UTP | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 25.0 |
| | | CMG | | | | | | | | | | | 16 | 8.2 | 44.3 | 36.0 | 36.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 18.4 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 32.4 | 27.8 | 1.0 | 14.7 | 100 ± 15 | 15.0 |
|  Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | | Color Code: see chart below | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | |
| **Plenum • FEP Insulation • Green Flamarrest® Jacket** | | | | | | | | | | | | | | | | | | | |
| | **7988P** | NEC: | 1000 | 305 | 22.9 | 10.4 | 0.51 mm | 0.036 | 0.91 | **Bonded-Pair** | 0.193 | 4.90 | | | | | | | see above |
| | | CMP | 1640 | 500 | 37.7 | 17.1 | 24 AWG | | | Unshielded | | | | | | | | | |
| | | CEC: | | | | | Solid BC | | | U/UTP | | | | | | | | | |
| | | CMP | | | | | | | | | | | | | | | | | |
|  Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | | Color Code: see chart below | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e Jacket sequentially marked at 0.6 m intervals. | | | | | | | | | |

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

**Get the Bonded-Pairs Cable Preparation Tool**

See page 15.37 for details.
(Part No. 1797B)



# IEEE 802.3, ISO/IEC 8802.3 10Base2 and 10Base5

## Trunk Cables – Thinnet and Thicknet

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Thinnet 10Base2 • 20 AWG** • Stranded (19x32) 0.9 mm Tinned Copper • **Duobond® II** • 93% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Ethernet • Foam HDPE Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 60°C<br>UL AWM Style 1354 | **9907** | NEC:<br>CL2, CM<br>CEC:<br>CM | 500<br>U-1000<br>1000<br>1640<br>2500<br>3280 | 152<br>U-305<br>305<br>500<br>762<br>1000 | 12.6<br>25.1<br>25.1<br>41.0<br>62.6<br>82.2 | 5.7<br>11.4<br>11.4<br>18.6<br>28.4<br>37.3 | 0.94 mm<br>20 AWG<br>(19x32) TC<br>47.9 Ω/km*<br>28.9 Ω/km** | 0.102 | 2.59 | Duobond® II<br>+ 93% TC<br>19.0 Ω/km*** | 0.185 | 4.70 | 50 | 80% | 25.4 | 83.3 | 1<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.4<br>1.3<br>2.9<br>4.2<br>6.1<br>8.9<br>12.1<br>13.9<br>14.8 | 1.4<br>4.3<br>9.5<br>13.8<br>20.0<br>29.2<br>39.7<br>45.6<br>48.6 |
| DEC Part No. 17-01248-00<br>For Plenum version of 9907, see 89907 or 82907. | | | | | | | | | | | | | | | | | | | |
| **Plenum • Ethernet • Foam FEP Insulation • Natural Flamarrest® Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 75°C | **82907** | NEC:<br>CL2P<br>CMP<br>CEC:<br>CMP | † 500<br>U-1000<br>† 1000<br>† 2500 | 152<br>U-305<br>305<br>762 | 12.6<br>23.1<br>24.0<br>57.5 | 5.7<br>10.5<br>10.9<br>26.1 | 0.94 mm<br>20 AWG<br>(19x32) TC<br>47.9 Ω/km*<br>28.9 Ω/km** | 0.095 | 2.41 | Duobond® II<br>+ 93% TC<br>19.0 Ω/km*** | 0.160 | 4.06 | 50 | 80% | 25.4 | 83.3 | 1<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.4<br>1.3<br>2.9<br>4.2<br>6.1<br>9.2<br>12.9<br>15.0<br>16.0 | 1.4<br>4.3<br>9.5<br>13.8<br>20.0<br>30.2<br>42.3<br>49.2<br>52.5 |
| **Plenum • Ethernet • Foam FEP Insulation • Grey Fluorocopolymer Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 150°C | **89907** | NEC:<br>CL2, CM<br>CEC:<br>CM | † 500<br>† 1000<br>† 2500 | 152<br>305<br>762 | 12.6<br>24.0<br>60.2 | 5.7<br>10.9<br>27.3 | 0.94 mm<br>20 AWG<br>(19x32) TC<br>47.9 Ω/km*<br>28.9 Ω/km** | 0.095 | 2.41 | Duobond® II<br>+ 93% TC<br>19.0 Ω/km*** | 0.160 | 4.06 | 50 | 80% | 25.4 | 83.3 | | | see above |
| DEC Part No. 17-01246-00<br>Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | | | | | | |
| **Thinnet 10Base2 • 12 AWG** • Solid 2.05 mm Bare Copper • **Duobond® IV** Quad Shield | | | | | | | | | | | | | | | | | | | |
| **Ethernet • Foam Polyethylene Insulation • Yellow PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 60°C<br>UL AWM Style 1478 | **9880** | NEC:<br>CL2, CM<br>CEC:<br>CM | 500<br>1000<br>1640 | 152<br>305<br>500 | 66.1<br>131.2<br>220.2 | 30.0<br>59.5<br>99.9 | 2.05 mm<br>12 AWG<br>Solid BC<br>9.66 Ω/km*<br>4.66 Ω/km** | 0.243 | 6.17 | Duobond® IV<br>Quad Shield<br>5.0 Ω/km*** | 0.405 | 10.29 | 50 | 78% | 25.9 | 85.0 | 1<br>5<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.2<br>0.4<br>0.5<br>1.2<br>1.7<br>2.6<br>3.9<br>5.5<br>6.5<br>6.9 | 0.6<br>1.2<br>1.7<br>3.9<br>5.6<br>8.4<br>12.8<br>18.1<br>21.3<br>22.6 |
| DEC Part No. 17-00451-00 5.0 Ω/km<br>For Plenum version of 9880, see 89880. | | | | | | | | | | | | | | | | | | | |
| Ring-band stripes marked every 2.5 meters to aid users in tap placement. | | | | | | | | | | | | | | | | | | | |
| **Plenum • Ethernet • Foam FEP Insulation • Orange Fluorocopolymer Jacket** | | | | | | | | | | | | | | | | | | | |
| 150°C | **89880** | NEC:<br>CL2P<br>CMP<br>CEC:<br>CMP | † 1000<br>† 1640 | 305<br>500 | 134.3<br>225.1 | 60.9<br>102.1 | 2.05 mm<br>12 AWG<br>Solid BC<br>9.66 Ω/km*<br>4.66 Ω/km** | 0.245 | 6.22 | Duobond® IV*<br>Quad Shield<br>5.0 Ω/km*** | 0.375 | 9.53 | 50 | 78% | 25.9 | 85.0 | 1<br>5<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.2<br>0.4<br>0.5<br>1.1<br>1.6<br>2.5<br>3.8<br>5.6<br>6.8<br>7.2 | 0.6<br>1.2<br>1.7<br>3.8<br>5.4<br>8.0<br>12.5<br>18.4<br>22.3<br>23.6 |
| DEC Part No. 17-00324-00<br>Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | | | | | | |
| Ring-band stripes marked every 2.5 meters to aid users in tap placement. | | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance
† Spools and/or UnReel® cartons are one piece, but length may vary ±10% from length shown.

Duobond® II and Duobond® IV see technical information page 23.13.

Not RoHS compliant at time of printing.

# IEEE 802.3, ISO/IEC 8802.3 10Base5

## Transceiver Cables

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **28 and 24 AWG** • Stranded (7x36) 0.4 mm and (7x32) 0.6 mm Tinned Copper • **Beldfoil®** • Twisted Pair • **Overall Polyester Isolation Tape + Duofoil® + 92% Tinned Copper Braid** • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Light Grey PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | **9903** | NEC:<br>CMG<br>CEC:<br>CMG | 500<br>1000 | 152<br>305 | 21.6<br>43.0 | 9.8<br>19.5 | 3-Pair:<br>0.38 mm<br>28 AWG<br>(7x36) TC | 0.033 | 0.84 | Individual Beldfoil® + Drain Wire (24 AWG TC) + Overall Duofoil® + 92% TC Braid | 0.250 | 6.35 | 78* | 66% | CDR/CDR | 19.7<br>34.8 | 64.6<br>114.2 | Grey/White,<br>Yellow/Orange |
| | | | | | | | 1-Pair:<br>0.61 mm<br>24 AWG<br>(7x32) TC | 0.044 | 1.12 | | | | | | | | | Blue/Green,<br>Black/Red |
| 4-Pair<br>* 3-Pair | | | | | | | | | | | | | | | | | | |
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • **Beldfoil®** • Twisted Pair • **Overall Polyester Isolation Tape + Duofoil® + 95% Tinned Copper Braid** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Light Grey PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | **9901** | NEC:<br>CL2, CM<br>CEC:<br>CM | 500<br>1000 | 152<br>305 | 53.6<br>106.3 | 24.3<br>48.2 | 1.0 mm<br>20 AWG<br>(7x28) TC | 0.077 | 1.96 | Individual Beldfoil® + Drain Wire (22 AWG TC) + Overall Duofoil® + 95% TC Braid | 0.415 | 10.54 | 78 | 78% | CDR/CDR | 16.7<br>29.5 | 54.8<br>96.8 | Grey/White<br>Yellow/Orange,<br>Blue/Green,<br>Black/Red |
| 4-Pair | | DEC Part No. 17-01320-00 | | | | | | | | | | | | | | | | |
| **Plenum • FEP Teflon® Insulation** ** **• Light Grey Fluorocopolymer (PVDF) Jacket** | | | | | | | | | | | | | | | | | | |
| 150°C | **89901** | NEC:<br>CMP<br>CEC:<br>CMP | ** 500<br>** 1000 | 152<br>305 | 51.6<br>104.3 | 23.4<br>47.3 | 1.0 mm<br>20 AWG<br>(7x28) TC | 0.060 | 1.52 | Individual Beldfoil® + Drain Wire (22 AWG TC) + Overall Duofoil® + 95% TC Braid | 0.370 | 9.40 | 78 | 78% | CDR/CDR | 16.7<br>29.5 | 54.8<br>96.8 | Grey/White<br>Yellow/Orange,<br>Blue/Green,<br>Black/Red |
| 4-Pair | | DEC Part No. 17-01319-00<br>Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | | | |
| **20 and 22 AWG** • Stranded (7x30) 0.8 mm and (7x28) 1.0 mm Tinned Copper • **Beldfoil®** • Twisted Pair • **Overall Duofoil® + 95%Tinned Copper Braid** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Ethernet • Foam HDPE (22 AWG) and PVC (20 AWG) Insulation • Light Blue PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | **9891** | NEC:<br>CM<br>CEC:<br>CM | 100<br>500<br>1000 | 30<br>152<br>305 | 8.2<br>35.9<br>70.1 | 3.7<br>16.3<br>31.8 | 3-Pair:<br>0.76 mm<br>22 AWG<br>(7x30) TC | 0.063 | 1.59 | Individual Beldfoil® + Drain Wire (22 AWG TC) + Overall Duofoil® + 95% TC Braid | 0.315 | 8.00 | 78* | 78% | CDR/CDR | 16.7<br>29.5 | 54.8<br>96.8 | Black/White<br>Yellow/Orange,<br>Blue/Green,<br>Black/Red |
| | | | | | | | 1-Pair:<br>0.96 mm<br>20 AWG<br>(7x28) TC | 0.062 | 1.57 | | | | | | | | | Blue/Green,<br>Grey/Violet |
| 4-Pair<br>* 3-Pair | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance • ** Foam FEP (data pairs) and solid FEP (power pair).
Duofoil® see technical information page 23.13. Teflon® is a DuPont trademark.

Not RoHS compliant at time of printing

# IEEE 802.4, MAP & Mini-MAP, IEEE 802.7
## Broadband Coaxial Cables

**14 AWG** • Solid 1.6 mm Copper-Covered Steel • **Duobond® IV** Quad Shield

**Gas-Injected Foam Polyethylene Insulation • Grey PVC Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **3094A** | NEC: | 500 | 152 | 31.1 | 14.1 | 1.63 mm | 0.280 | 7.11 | Duobond® IV | 0.407 | 10.34 | 75 | 82% | 16.2 | 53.1 | 1 | 0.2 | 0.5 |
| | | CL2R | 1000 | 305 | 62.2 | 28.2 | 14 AWG | | | Quad Shield | | | | | | | 2 | 0.2 | 0.6 |
| | | CMR | † 2000 | 610 | 121.9 | 55.3 | Solid CCS | | | 4.9 Ω/km*** | | | | | | | 5 | 0.3 | 0.9 |
| | | CEC: | | | | | 20.0 Ω/km* | | | 7.9 mm | | | | | | | 10 | 0.4 | 1.2 |
| | | CMG | | | | | 36.1 Ω/km** | | | | | | | | | | 20 | 0.5 | 1.8 |
| | | | | | | | | | | | | | | | | | 50 | 0.8 | 2.7 |
| | | | | | | | | | | | | | | | | | 100 | 1.2 | 3.8 |
| | | | | | | | | | | | | | | | | | 200 | 1.6 | 5.3 |
| RG-11/U Type | | | Tap marks every 2.6 meters to aid users in installation. 152 m and 305 m exact 1 pc. | | | | | | | Sweep tested 5 MHz to 400 MHz. CPE jacket optional. | | | | | | | 300 | 2.0 | 6.6 |
| | | | | | | | | | | | | | | | | | 400 | 2.3 | 7.6 |

# IEEE 802.5, ISO/IEC 8802.5
## IBM Cabling System
## Types 1A and 1

**IBM Type 1a • 22 AWG** • Solid 0.6 mm Bare Copper • Each Pair Individually **Beldfoil®** Shielded • 65% Overall Tinned Copper Braid • Rip Cord

**Flame-Retardant Foam Polyethylene Insulation • Black PVC Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **IBM Part No. 9688** | NEC: | † 500 | 152 | 26.5 | 12.0 | 0.64 mm | 0.099 | 2.51 | Individual | 0.296 | 7.52 | 150 | – | 8.5 | 27.9 | 4 | 0.7 | 2.2 |
| | 4716748 | CMG | † 1000 | 305 | 50.0 | 22.7 | 22 AWG | | | Beldfoil® | x | x | | | | | 16 | 1.3 | 4.4 |
| | 33G2772 | CEC: | † 2000 | 610 | 102.1 | 46.3 | Solid BC | | | + Overall | 0.431 | 10.95 | | | | | 100 | 3.8 | 12.3 |
| | | CMG | † 3600 | 1098 | 190.7 | 86.5 | | | | 65% TC Braid | | | | | | | 300 | 6.5 | 21.4 |
| | | | | | | | | | | | | | | | | | 100 †† | 4.1 | 13.4 |
| | | | | | | | | | | | | | | | | | 300 †† | 7.1 | 23.3 |
| | | | | | | | | | | | | | | | | | 600 †† | 10.0 | 32.9 |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 2-Pair | | | Meets IEEE 802.5 and TIA/EIA-568-A specifications, ETL verified. For token ring (4/16 Mbps), FDDI over copper, and video applications. IBM qualified type 1A media cable for use in IBM cabling systems. For non-suffix "A" type IBM product, see 1634A below. | | | | | | | | | | | | | | | | |

**BM Type 1 • 22 AWG** • Solid 0.6 mm Bare Copper • Each Pair Individually **Beldfoil®** Shielded • 65% Overall Tinned Copper Braid • Rip Cord

**Flame-retardant Foam Polyethylene Insulation • Black PVC Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **IBM Part No. 1634A** | NEC: | † 1000 | 305 | 50.0 | 22.7 | 0.64 mm | 0.099 | 2.51 | Individual | 0.296 | 7.52 | 150 | – | 8.5 | 27.9 | 4 | 0.7 | 2.2 |
| | 4716748 | CMG | † 2000 | 610 | 102.3 | 46.4 | 22 AWG | | | Beldfoil® | x | x | | | | | 16 | 1.3 | 4.4 |
| | | CEC: | † 3600 | 1098 | 191.1 | 86.7 | Solid BC | | | + Overall | 0.431 | 10.95 | | | | | | | |
| | | CMG | | | | | | | | 65% TC Braid | | | | | | | | | |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 2-Pair | | | Meets IEEE 802.5 and TIA/EIA-568-A specifications, ETL verified. IBM qualified type 1A media cable for use in IBM cabling systems. For token ring (4/16 Mbps), FDDI over copper, and video applications. | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • CCS = Copper-Covered Steel • TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance
† Spools are one piece, but length may vary ±10% from length shown.
†† Common mode

Duobond® IV see technical information page 23.13.

Not RoHS compliant at time of printing

# IEEE 802.5, ISO/IEC 8802.5

## IBM Cabling System
## Types 2A and 6A

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Core OD (Dielectric) inch | Nominal Core OD (Dielectric) mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **IBM Type 6a • 26 AWG** • Stranded (7x34) 0.5 mm Bare Copper • Twisted Pair • Individual **Beldfoil®** • 65% Overall Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Striated Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| **IBM Part No. 1215A**<br>4716743<br>33G2775 | NEC:<br>CL2, CM<br>CEC:<br>CM | † 998 | 304 | 46.1 | 20.9 | 0.48 mm<br>26 AWG<br>(7x34) BC | 0.078 | 1.98 | Individual<br>Beldfoil®<br>+ 65% TC<br>Braid | 0.325 | 8.26 | 150 | – | 8.5 | 27.9 | 4<br>16<br>100<br>300 | 1.0<br>2.0<br>5.7<br>9.8 | 3.3<br>6.6<br>18.7<br>32.3 |
| 2-Pair | | IBM qualified type 6A office cable for use in IBM cabling systems. | | | | | | | | | | | | | | | | | |
| **IBM Type 2a • 22 AWG** • Solid 0.6 mm Bare Copper • Twisted Pair • Individual **Beldfoil®** • 65% Overall Tinned Copper Braid • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Flame-Retardant Foam Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| **IBM Part No. 9689**<br>4716739<br>33G2773 | NEC:<br>CMG<br>CEC:<br>CMG | † 1000<br>† 3600 | 305<br>1098 | 80.2<br>299.4 | 36.4<br>135.8 | 2-Pair*<br>0.64 mm<br>22 AWG<br>Solid BC | 0.099 | 2.51 | Beldfoil®<br>Each Pair<br>+ 65% TC<br>Braid | 0.324<br>x<br>0.466 | 8.32<br>x<br>11.84 | 150@<br>1 MHz<br>(data)<br><br>600@<br>1 KHz<br>(voice) | – | 8.5<br>(data) | 27.9<br>(data) | 0.1k**<br>4<br>16<br>100<br>300<br>100 ††<br>300 ††<br>600 †† | 0.04<br>0.7<br>1.3<br>3.8<br>6.5<br>4.1<br>7.1<br>10.0 | 0.1<br>2.2<br>4.4<br>12.3<br>21.4<br>13.4<br>23.3<br>32.9 |
| | | 4-Pair*<br>0.64 mm<br>22 AWG<br>Solid BC | 0.045 | 1.14 | | | | | | | | | | | | | | | |
| | | IBM qualified type 2A media cable for use in IBM cabling systems. | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance
† Spools are one piece, but length may vary ±10% from length shown.
†† Common mode
* (2) shielded Data-grade pair; (4) unshielded voice-grade media pair.
** Voice pairs (1 kHz); Data pairs (4-600 MHz)

Not RoHS compliant at time of printing

BELDEN
SENDING ALL THE RIGHT SIGNALS



# Commercial Networking – Optical Fiber

16



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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### Fiber Solutions for Even Faster Performance

Belden IBDN Fiber*Express* systems offer many benefits: high bandwidth and transmission speed, the potential for network growth, extended reach, fault tolerance, greater data security and support for Gigabit and multi-Gigabit protocols and networked applications. Beyond these traditional benefits, however, Belden offers the Fiber*Express* solution, a complete end-to-end cabling system supporting both centralized and fiber-to-the-desk topologies, as well as backbone and campus cabling configurations. Our Fiber*Express* solutions meet or exceed all applicable TIA/EIA, ISO/IEC and IEEE standards and offer:

- Reduced design complexities
- Greater deployment facility
- Quick installation
- Increased flexibility
- Cost effective pricing

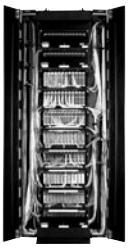
### Primary Fiber*Express* System Components

Key components of the Fiber*Express* systems are summarized below and are found on the catalog pages that follow.

- **Optimax® Connectors**
  Optimax® connectors are a revolutionary field-installable optical fiber connector. The unique design of the patented mechanical splice body of Optimax® incorporates a factory mounted fiber stub and a pre-polished ceramic ferrule. This technology consistently provides a fast, secure and reliable LC, SC or ST compatible optical fiber termination for multimode or single-mode cable. All critical steps are performed in the factory, ensuring a superior quality connection every time.



- **The Fiber*Express* Manager**
  The Fiber*Express* manager makes fiber management easier than ever before. Designed to streamline termination, connection and maintenance activities, the Fiber*Express* manager uses a scalable, modular approach to adapt to a wide variety of situations. The total system provides extra high connection density while facilitating cable routing and patch cord management. The Fiber*Express* manager is adaptable for almost all situations, traditional field termination or pre-terminated modules, which reduces design complexity and increases deployment efficiency.



- **Extended Reach Optical Fiber Cables**
  Extended Reach Optical Fiber Cables propel your network into the future of cable technology with our multimode Fiber*Express* FX300, FX600 or FX2000 series. These series were developed to meet the existing needs of networks at 1 Gb/s (ethernet, 1000Base-SX and 1000Base-LX) and new networks at 10 Gb/s (ethernet, 10GBase-S and 10GBase-LX4). These series offer better reach for laser-based systems. For 1 Gb/s Ethernet at 850 nm (VCSEL), the FX300 and FX600 series provide a range of 984 ft. (300 m) and 1968 ft. (600 m), respectively. For 10 Gb/s ethernet at 850 nm (VCSEL), the FX2000 series provide a range of 984 ft. (300 m) for 10GBase-S where all of multimode series can offer a 984 ft. (300 m) range at 1300 nm (laser) for 10GBase-LX4. All of this while assuring total compatibility with LED systems and FDDI fiber installation cables. Our single-mode cable offering enhances the options for longer distance support up to 40 km – for any of the Gigabit ethernet applications.



- **The Fiber*Express* Bar**
  The Fiber*Express* bar is an extremely compact, modular and resilient linking panel. Resembling a power bar, it offers 6 or 12 fibers, pre-terminated with an SC, SC duplex, ST-compatible, LC, MT-RJ or FC connectors and a cord terminated with a multi-fiber MPO connector – all of which are factory verified. The Fiber*Express* bar can adapt to all kinds of properties or developments, and can serve as a consolidation or linking point. It's available in both single-mode and multimode media.



For the ultimate in quick, easy and reliable optical networking we also offer the Fiber*Express* pre-connectorized system. Based on the concept of building blocks, the complete range of pre-terminated Fiber*Express* components bring flexibility to the design stage. The in-factory fabrication and verification of pre-terminated connections ensures the high-performance and high-quality of the product. These products are "plug and go" and their deployment requires no specialized tools – you can deploy 12 fibers in the same amount of time it takes to connect a power cord to a standard electrical plug. This pre-terminated technology will help to preserve the initial investment by its ability to be re-deployed while always ensuring quality results.

### Quality Installation and Service

All Belden IBDN systems are designed, installed and field-tested by fully-trained and certified system contractors and integrators to further assure superior systems performance. They are also backed by a strict system certification and warranty program.

### System Certification and Warranty Program

The Belden IBDN Certification Program is a rigorous process that ensures that your Belden IBDN 'Certified' System is composed of Belden IBDN components, designed and installed by a factory-trained Certified System Vendor. Belden IBDN 'certified' systems are supported by a series of warranties that surpass conventional product warranties. Certification adds important end-to-end system performance guarantees and ensures full compliance with cabling industry standard specifications – even after system installation (Installable Performance®). A 25-year product warranty and a lifetime application assurance program accompany each Belden IBDN 'certified' system installation. These warranty programs include coverage for both parts and labor.

# Introduction
## Fiber Channel Topology

| FiberExpress System Matrix | Page No. | Fiber-to-the-Desk (FTTD) and Centralized Fiber | Fiber Backbone (In-Building) | Fiber Backbone (Campus) | FiberExpress Pre-Terminated Solutions* |
|---|---|---|---|---|---|
| **FiberExpress Cables** | | | | | |
| Distribution & Breakout Cable Series<br>Multimode and Single-mode | 16.28 – 16.32 | ● | | | ● |
| Interconnect Cable Series<br>Multimode and Single-mode | 16.25 – 16.27 | ● | | | |
| Loose Tube (Campus) Cable Series<br>MM, SM, Composite MM/SM | 16.33 – 16.58 | | | ● | ● |
| **Cross-Connect Hardware in the Telecom Room** | | | | | |
| FiberExpress Manager with FiberExpress Manager Connector Modules<br>Multimode and Single-mode | 16.11 | ● | ● | ● | ● |
| FiberExpress Rack Mount Patch Panel with Universal Adapter Strips<br>Multimode and Single-mode | 16.12 | ● | | ● | ● |
| FiberExpress Wall Mount Patch Panel with Universal Adapter Strips<br>Multimode and Single-mode | 16.13 | ● | | ● | ● |
| FiberExpress Bar:<br>Multimode and Single-mode | 16.8 | ● | ● | ● | ● |
| **Patch Cords in the Telecom Room and at the Work Area** | | | | | |
| FiberExpress Patch Cords:<br>Multimode and Single-mode | 16.6 | ● | ● | ● | ● |
| **Outlets at the Work Area** | | | | | |
| MDVO® Multimedia Outlets with MDVO Multimedia Modules | 16.16 | ● | | | |
| MediaFlex® Outlets with MediaFlex Multimedia Inserts | 16.15 | ● | | | |
| FiberExpress Bar<br>Multimode and Single-mode (as MUTOA) | 16.8 | ● | ● | | |
| **Fiber Connectivity** | | | | | |
| Optimax® Connectors<br>Multimode and Single-mode | 16.4 | ● | | ● | ● |
| Epoxy Field Mountable Connectors<br>Multimode and Single-mode | 16.5 | ● | | ● | ● |
| Fiber Pigtails<br>Multimode and Single-mode | 16.9 | ● | | ● | ● |

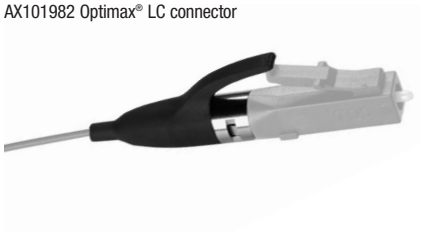
MM = Multimode • SM = Single-mode

* FiberExpress pre-terminated solutions provide simple-to-install, high-performance fiber channels through custom length, high precision factory terminated cables and matching optical connectivity components.

# Fiber*Express* Connectors

## Optimax® Field Installable Connectors and Installation Tool Kits

AX101982 Optimax® LC connector



AX100029 with AX101794 Optimax® SC connector



A0408835 with AX101793 Optimax® ST compatible connector



AX100947 Optimax® tool kit



These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

* For 900 µm buffered fiber only. For Optimax® single-mode termination on jacketed fiber, please use the appropriate Accessory Kit.

### Optimax® Field Installable Connector

The Optimax® connectors are reliable field installable optical fiber connectors that are easy to install. They do not require epoxy, curing or polishing. Their unique design incorporates a factory polished fiber stub in a splice mechanism which provides a fast, secure, and reliable termination on optical fiber cables. All critical steps are performed in the factory, ensuring a superior-quality connection every time. Only simple tools are required for installation, making Optimax® a cost effective field termination.

Optimax® connectors are high-quality LC, SC and ST compatible connectors that use a ceramic ferrule with a physical contact (PC) polish for multimode and super physical contact (SPC) polish for single-mode that ensures the best possible mating of optical fibers. Connectors are available for 62.5 or 50/125 µm multimode fiber and single-mode fiber installations.

### Optimax® Installation Tool Kit

The Optimax® installation tool kit is packaged in a small convenient carrying case and includes an Optimax® LC, SC and ST compatible installation and training video, installation instructions and all the tools required to terminate 900 µm buffered optical fiber and jacketed optical fiber.

The Optimax® installation tool kit has all the tools and supplies required to install both the Optimax® LC, SC or ST compatible multimode and single-mode connectors. Certain tool kit items can be purchased separately to accommodate installers already possessing basic optical fiber installation tools.

| Description | Belden Part Number |
|---|---|
| **Fiber*Express* Connectors** | |
| **Optimax® Field Installable Connector** | |
| LC 62.5 µm, Multimode* | **AX101981** |
| LC 50 µm, Multimode* | **AX101982** |
| LC Single-mode* | **AX101983** |
| SC 62.5 µm, Multimode* | **AX100029** |
| SC 50 µm, Multimode* | **AX101077** |
| SC Single-mode* | **AX101792** |
| ST Compatible 62.5 µm, Multimode* | **A0408835** |
| ST Compatible 50 µm, Multimode* | **AX101075** |
| ST Compatible Single-mode* | **AX101791** |
| LC Accessory Kit for jacketed fiber (2 mm boot and a crimp sleeve) | **AX101984** |
| SC Accessory Kit for jacketed fiber (3 mm boot, crimp sleeves, cord adapter) | **AX101794** |
| ST Accessory Kit for jacketed fiber (3 mm boot, crimp sleeves) | **AX101793** |
| **Optimax® Installation Tool Kit** | |
| LC/SC/ST Compatible (includes installation tools, fiber cleaver, crimping tool, instruction manual, microscope, tweezers, alcohol wipes, marker, scissors, waste bottle, fiber stripper, cable stripper and training video) | **AX100947** |
| Basic (excludes fiber stripper & cleaver) | **AX100949** |
| Optimax® LC Tool Kit Upgrade (includes LC installation tool, instructions manual, foam for the case) | **AX102061** |
| **Optimax® Individual Components** | |
| Fiber Cleaver | **A0408829** |
| Installation Tool LC (does not include tool-clamp) | **AX102062** |
| Installation Tools ST Compatible and SC (includes tool-clamp) | **A0403634** |
| Microscope | **AX100910** |
| Refurbishing Materials (80 alcohol wipes and a black felt tip marker) | **AX100951** |
| Installation Instruction Manual, LC | **AX102063** |
| Installation Instruction Manual, SC | **PX101318** |
| Installation Instruction Manual, ST Compatible | **PX101317** |
| Installation & Training Video, CD (see literature ordering form on the web) | **NOT0651** |
| Crimp Tool complete with die | **A0403641** |

# Fiber*Express* Connectors
## Epoxy Field Installable Connectors

A0390851 Optical Fiber Field Installable Epoxy connector, ST compatible



### Epoxy Field Installable Connector

Epoxy field installable connectors are available as multimode and single-mode ST compatible and SC field installable connectors. They require heat-cured epoxy and polishing.
Both types have a ceramic ferrule. Each connector comes complete with all the parts necessary for termination of tight-buffered fibers as well as jacketed fibers. Parts include crimp sleeves, boots, cord adapter and dust cap.

| Description | Belden Part Number | |
|---|---|---|
| | Multimode | Single-Mode |
| **Fiber*Express* Connectors** | | |
| **Epoxy Field Installable Connector** | | |
| ST Compatible | **A0390851** | **AX101412** |
| SC Simplex | **AX100919** | **AX101411** |
| SC Duplex | **AX100929** | **–** |

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

# Pre-Connectorized Assemblies

## Fiber*Express* Patch Cords

AX200057 Patch Cord Multimode SC Duplex (568SC)



### Fiber*Express* Patch Cords

Fiber*Express* duplex patch cord assemblies are of the highest quality available. They are assembled and 100% optically tested in our factory prior to shipment. All patch cords are built with high-quality connectors and cables which guarantees superior performance and excellent reliability.

| Description | Belden Part Number | | | |
|---|---|---|---|---|
| | Multimode, FX300, 62.5 µm | Multimode, FX600, 50.0 µm | Multimode, FX2000, 50.0 µm | Single-Mode SPC |
| **Fiber*Express* Pre-Connectorized Assemblies** | | | | |
| **Duplex Patch Cord** | | | | |
| ST-ST, 2 m (6 ft.) | **70102419** | **AX200341** | **AX200799** | **AX200090** |
| ST-ST, 3 m (10 ft.) | **70102420** | **AX200459** | **AX200795** | **AX200091** |
| ST-ST, 5 m (16 ft.) | **70102447** | **AX200413** | **AX200800** | **AX200092** |
| 568SC-568SC, 2 m (6 ft.) | **AX200056** | **AX200084** | **AX200603** | **AX200094** |
| 568SC-568SC, 3 m (10 ft.) | **AX200057** | **AX200082** | **AX200589** | **AX200095** |
| 568SC-568SC, 5 m (16 ft.) | **AX200058** | **AX200280** | **AX200624** | **AX200096** |
| LC duplex-LC duplex, 2 m (6 ft.) | **AX200517** | **AX200527** | **AX200664** | **AX200507** |
| LC duplex-LC duplex, 3 m (10 ft.) | **AX200518** | **AX200528** | **AX200665** | **AX200508** |
| LC duplex-LC duplex, 5 m (16 ft.) | **AX200519** | **AX200529** | **AX200666** | **AX200509** |
| MTRJ-MTRJ, 2 m (6 ft.) | **AX101122** | **AX101139** | **AX200801** | **AX101157** |
| MTRJ-MTRJ, 3 m (10 ft.) | **AX101123** | **AX101138** | **AX200802** | **AX101156** |
| MTRJ-MTRJ, 5 m (16 ft.) | **AX101125** | **AX101137** | **AX200803** | **AX101155** |
| **Hybrid Patch Cord** | | | | |
| 568SC-ST, 3 m (10 ft.) | **AX200060** | **AX200196** | **AX200900** | **AX200421** |
| LC duplex-ST, 3 m (10 ft.) | **AX200699** | **AX200695** | **AX200809** | **AX200698** |
| LC duplex-568SC, 3 m (10 ft.) | **AX200580** | **AX200581** | **AX200668** | **AX200667** |
| MTRJ-ST, 3 m (10 ft.) | **AX101133** | **AX101151** | **AX200810** | **AX101166** |
| MTRJ-568SC, 3 m (10 ft.) | **AX101128** | **AX101143** | **AX200797** | **AX101161** |
| **Single-Ended (pigtails)** | | | | |
| ST-open, 2 m (6 ft.) | **70100390** | **AX200458** | **AX200811** | **AX200097** |
| SC-open, 2 m (6 ft.) | **70101714** | **AX200192** | **AX200653** | **AX200098** |
| LC-open, 2 m (6 ft.) | **AX200657** | **AX200658** | **AX200660** | **AX200659** |
| MTRJ (m)-open, 3 m (10 ft.) | **AX101366** | **AX101367** | **AX200812** | **AX101368** |

Also available as Simplex Patch Cords or custom assemblies, please contact customer service for more details.
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

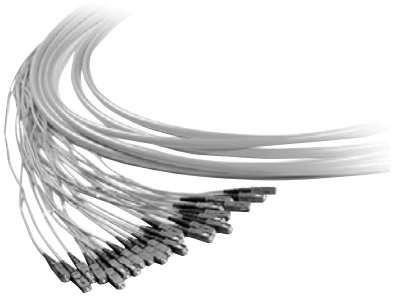
# Fiber*Express* Pre-Connectorized Assemblies

## Cable Assemblies

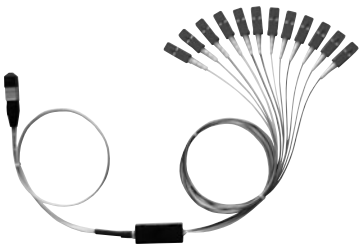
AX250105 MPO Cable Assembly



Multi-fiber Cable Assembly



900 µm Fan-out Assembly



These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

### MPO Cable Assembly

MPO cable assemblies are multi-fiber cables using single MPO connectors 6, 8 and 12-fiber that are used to interconnect pre-terminated devices such as Fiber*Express* pre-terminated modules and Fiber*Express* bars. Depending on the application, MPO cable assemblies can use ribbon cables or loose tube cables. MPO cables are available in lengths of up to 500 meters with a pulling-eye for ease of deployment.

### Multi-Fiber Cable Assembly

Multi-fiber cable assemblies are factory-terminated fiber cables of various constructions (distribution, breakout or ribbon) using simplex, duplex or multi-fiber connectors. They are available in configurations from 2-fiber up to 144-fiber with various kinds of fan-out constructions, lengths and geometry to suit virtually any application.

| Description | Belden Part Number | |
|---|---|---|
| | Multimode | Single-Mode |
| **Fiber*Express* Pre-Connectorized Assemblies** | | |
| **MPO Cable Assembly, FOMC, MPO(f)-MPO(f)** | | |
| 1 pulling eye, OFNP, 12 fibers, 10 m (33 ft.) | **AX250021** | **AX250345** |
| 1 pulling eye, OFNP, 12 fibers, 20 m (66 ft.) | **AX250105** | **AX250376** |
| 1 pulling eye, OFNP, 12 fibers, 50 m (164 ft.) | **AX250349** | **AX250065** |
| 1 pulling eye, OFNP, 12 fibers, 75 m (246 ft.) | **AX250060** | **AX250066** |
| 1 pulling eye, OFNP, 12 fibers, 100 m (328 ft.) | **AX250061** | **AX250067** |
| | **Multimode** | **Single-Mode** |
| 1 pulling eye, OFNP, 12 fibers, 10 m (33 ft.) | **AX250457** | **AX250224** |
| 1 pulling eye, OFNP, 12 fibers, 20 m (66 ft.) | **AX250412** | **AX250106** |
| 1 pulling eye, OFNP, 12 fibers, 50 m (164 ft.) | **AX250387** | **AX250071** |
| 1 pulling eye, OFNP, 12 fibers, 75 m (246 ft.) | **AX250413** | **AX250072** |
| 1 pulling eye, OFNP, 12 fibers, 100 m (328 ft.) | **AX250458** | **AX250073** |

Also available in 6 or 8-fiber MPO Cable Assemblies, please contact customer service for more details.

| Description | Belden Part Number |
|---|---|
| **Multi-Fiber Cable Assembly, MPO(m)-ST** | |
| Multimode FX300, 62.5 µm, 12 fibers | **NXC-RPML-PGPNNN-STPFBN-N-01.5** |
| Multimode FX600, 50 µm, 12 fibers | **NXC-RPNL-PGPNNN-STPFBN-N-01.5** |
| Multimode FX2000, 50 µm, 12 fibers | **NXC-RPFL-PGPNNN-STPFBN-N-01.5** |
| Single-mode, 12 fibers | **NXC-RPSL-PGANNN-STSFBN-N-01.5** |
| **Multi-Fiber Cable Assembly, MPO(m)-SC** | |
| Multimode FX300, 62.5 µm, 12 fibers | **NXC-RPML-PGPNNN-SCPFBN-N-01.5** |
| Multimode FX600, 50 µm, 12 fibers | **NXC-RPNL-PGPNNN-SCPFBN-N-01.5** |
| Multimode FX2000, 50 µm, 12 fibers | **NXC-RPFL-PGPNNN-SCPFBN-N-01.5** |
| Single-mode, 12 fibers | **NXC-RPSL-PGANNN-SCSFBN-N-01.5** |
| **Multi-Fiber Cable Assembly, MPO(m)-LC** | |
| Multimode, FX300, 62.5 µm, 12 fibers | **NXC-RPML-PGPNNN-LCPFBN-N-01.5** |
| Multimode FX600, 50 µm, 12 fibers | **NXC-RPNL-PGPNNN-LCPFBN-N-01.5** |
| Multimode FX2000, 50 µm, 12 fibers | **NXC-RPFL-PGPNNN-LCPFBN-N-01.5** |
| Single-mode, 12 fibers | **NXC-RPSL-PGANNN-LCSFBN-N-01.5** |
| **Multi-Fiber Cable Assembly, MPO(m)-MTRJ(m)** | |
| Multimode FX300, 62.5 µm, 12 fibers | **NXC-RPML-PGPNNN-JBPFBN-N-01.5** |
| Multimode FX600, 50 µm, 12 fibers | **NXC-RPNL-PGPNNN-JBPFBN-N-01.5** |
| Multimode FX2000, 50 µm, 12 fibers | **NXC-RPFL-PGPNNN-JBPFBN-N-01.5** |
| Single-mode, 12 fibers | **NXC-RPSL-PGANNN-JBSFBN-N-01.5** |

# Fiber*Express* Pre-Connectorized Assemblies

## Fiber*Express* Bar

AX250001 Fiber*Express* Bar 12ST



MX100154 Fiber*Express* MPO Adapter



### Fiber*Express* Bar

The Fiber*Express* bar consists of a custom length fiber cable with, at one end, a factory pre-terminated rugged mini patch panel and, at the other end, a factory installed multi-fiber MPO connector. The very compact fiber patch panel contains 6 or 12 factory-terminated and tested connectors in a variety of styles. The ruggedness of the Fiber*Express* bar makes it an ideal candidate for disaster recovery, industrial applications and other fiber deployment in harsh environment.

### Fiber*Express* Bar Accessories

The MPO adapter is the sleeve that provides primary alignment and locking when connecting the two MPO connectors (male to female). It has a flange and a metal clip for panel mounting and it is included with each Fiber*Express* bar (1m with male connector).

The 19″ (0.48 m) rack mount housing is a 1U metal panel that holds one Fiber*Express* bar. It has a live hinge on the left-hand side and swings out giving access to the MPO connection and facilitate cable management and slack storage when used with the slack storage tray.

The front cover is a smoked plexiglas cover that protects the fiber cords connected to the Fiber*Express* bar. It has 2 push rivets for positive locking and easy handling.

The slack storage tray attaches to the back of the 19″ (0.48 m) rack mount housing to facilitate cable management and slack storage. It has a storage capacity of 5 meters of 12-fiber ribbon cable. The wall mount enclosure can contain one Fiber*Express* bar. It is made of heavy gage steel and has a locking cover.

| Description | Belden Part Number | |
|---|---|---|
| | Multimode, FX300, 62.5 µm | Multimode, FX600, 50.0 µm |
| **Fiber*Express* Pre-Connectorized Assemblies** | | |
| **Fiber*Express* Bar** | | |
| 12 ST type, MPO (m), 1 m | **AX250001** | **AX250052** |
| 6 SC duplex, MPO (m), 12 fibers, 1 m | **AX250005** | **AX250054** |
| 6 MT-RJ, MPO (m), 12 fibers, 1 m | **AX250178** | **AX250179** |
| 12 LC, MPO (m), 1 m | **AX250539** | **AX250540** |
| | Multimode, FX2000, 50.0 µm | Single-Mode |
| 12 ST type, MPO (m), 1 m | **AX250459** | **AX250009** |
| 6 SC duplex , MPO (m), 12 fibers, 1 m | **AX250460** | **AX250011** |
| 6 MT-RJ, MPO (m), 12 fibers, 1 m | **AX250461** | **AX250180** |
| 12 LC, MPO (m), 1 m | **AX250541** | **AX250542** |

Also available for 6 fibers, please contact customer service for more details.

| Description | Belden Part Number |
|---|---|
| **Fiber*Express* Bar Accessories** | |
| MPO Adapter (6 or 12 fibers) included with each Fiber*Express* Bar (1 m - male) | **MX100154** |
| 19″ (0.48 m) Rack Mount Housing for Fiber*Express* Bar, Grey | **AX100331** |
| 19″ (0.48 m) Rack Mount Housing for Fiber*Express* Bar, Black | **AX100330** |
| Front Cover for Fiber*Express* Rack Mount Housing | **AX100332** |
| Slack Storage Tray for Fiber*Express* Bar, (capacity: 5 meters) including top cover, Grey | **AX100329** |
| Slack Storage Tray for Fiber*Express* Bar, (capacity: 5 meters) including top cover, Black | **AX100328** |
| Wall Mount Enclosure, can contain one bar, Black | **AC200004** |

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

# Fiber*Express* Secure/Keyed LC System

## Optimax® Field Installable Connectors and Patch Cords & Pigtails

AX102197 Secure/keyed LC Optimax®



Secure/keyed LC System



### Fiber*Express* Secure/Keyed LC System

The Fiber*Express* secure/keyed LC system allows for physical segregation of network segments in secure fiber cabling infrastructures. All secure/keyed LC products are available with 6 different keying options each carrying a different color to facilitate network administration. The keying detail inside the connector is totally tamper-resistant and cannot be re-produced inside a standard LC connector to violate the network security. All products comply with the FOCIS 10 standard and optical performance exceeds all industry standards for SFF connectors.

The secure/keyed LC Optimax® field installable connectors are available in multimode 50 µm laser-optimized and 62.5 µm fiber versions. They are high-quality connectors that use a ceramic ferrule with a physical contact (PC) polish for multimode connectors.

The secure/keyed LC patch cords and pigtails are offered in multimode 62.5 µm (FX300), 50/125 µm (FX600) and laser-optimized 50/125 µm (FX2000) for the most demanding network performance.

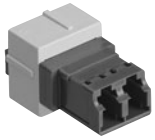
| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | K1, Red | K2, Green | K3, Yellow | K4, Black | K5, Orange | K6, Blue |
| **Fiber*Express* Secure/Keyed LC System** | | | | | | |
| **Secure/Keyed LC Optimax®*** | | | | | | |
| Multimode 62.5 µm** | AX102203 | AX102204 | AX102205 | AX102206 | AX102207 | AX102208 |
| Multimode 50 µm** | AX102197 | AX102198 | AX102199 | AX102200 | AX102201 | AX102202 |
| **Secure/Keyed LC Duplex Patch Cord, KEYx-KEYx*** | | | | | | |
| 2 m (6 ft.), Multimode FX300, 62.5 µm | AX201365 | AX201366 | AX201367 | AX201368 | AX201369 | AX201370 |
| 2 m (6 ft.), Multimode FX600, 50 µm | AX201383 | AX201384 | AX201385 | AX201386 | AX201387 | AX201388 |
| 2 m (6 ft.), Multimode FX2000, 50 µm | AX201401 | AX201402 | AX201403 | AX201404 | AX201405 | AX201406 |
| 3 m (10 ft.), Multimode FX300, 62.5 µm | AX201371 | AX201372 | AX201373 | AX201374 | AX201375 | AX201376 |
| 3 m (10 ft.), Multimode FX600, 50 µm | AX201389 | AX201390 | AX201391 | AX201392 | AX201393 | AX201394 |
| 3 m (10 ft.), Multimode FX2000, 50 µm | AX201407 | AX201408 | AX201409 | AX201410 | AX201411 | AX201412 |
| 5 m (16 ft.), Multimode FX300, 62.5 µm | AX201377 | AX201378 | AX201379 | AX201380 | AX201381 | AX201382 |
| 5 m (16 ft.), Multimode FX600, 50 µm | AX201395 | AX201396 | AX201397 | AX201398 | AX201399 | AX201400 |
| 5 m (16 ft.), Multimode FX2000, 50 µm | AX201413 | AX201414 | AX201415 | AX201416 | AX201417 | AX201418 |
| **Secure/Keyed LC Duplex Hybrid Patch Cord, KEYx-LCD*** | | | | | | |
| 2 m (6 ft.), Multimode FX300, 62.5 µm | AX201419 | AX201420 | AX201421 | AX201422 | AX201423 | AX201424 |
| 2 m (6 ft.), Multimode FX600, 50 µm | AX201437 | AX201438 | AX201439 | AX201440 | AX201441 | AX201442 |
| 2 m (6 ft.), Multimode FX2000, 50 µm | AX201455 | AX201456 | AX201457 | AX201458 | AX201459 | AX201460 |
| 3 m (10 ft.), Multimode FX300, 62.5 µm | AX201425 | AX201426 | AX201427 | AX201428 | AX201429 | AX201430 |
| 3 m (10 ft.), Multimode FX600, 50 µm | AX201443 | AX201444 | AX201445 | AX201446 | AX201447 | AX201448 |
| 3 m (10 ft.), Multimode FX2000, 50 µm | AX201461 | AX201462 | AX201463 | AX201464 | AX201465 | AX201466 |
| 5 m (16 ft.), Multimode FX300, 62.5 µm | AX201431 | AX201432 | AX201433 | AX201434 | AX201435 | AX201436 |
| 5 m (16 ft.), Multimode FX600, 50 µm | AX201449 | AX201450 | AX201451 | AX201452 | AX201453 | AX201454 |
| 5 m (16 ft.), Multimode FX2000, 50 µm | AX201467 | AX201468 | AX201469 | AX201470 | AX201471 | AX201472 |
| **Secure/Keyed LC Duplex Hybrid Patch Cord, KEYx-SCD*** | | | | | | |
| 2 m (6 ft.), Multimode FX300, 62.5 µm | AX201473 | AX201474 | AX201475 | AX201476 | AX201477 | AX201478 |
| 2 m (6 ft.), Multimode FX600, 50 µm | AX201491 | AX201492 | AX201493 | AX201494 | AX201495 | AX201496 |
| 2 m (6 ft.), Multimode FX2000, 50 µm | AX201509 | AX201510 | AX201511 | AX201512 | AX201513 | AX201514 |
| 3 m (10 ft.), Multimode FX300, 62.5 µm | AX201479 | AX201480 | AX201481 | AX201482 | AX201483 | AX201484 |
| 3 m (10 ft.), Multimode FX600, 50 µm | AX201497 | AX201498 | AX201499 | AX201500 | AX201501 | AX201502 |
| 3 m (10 ft.), Multimode FX2000, 50 µm | AX201515 | AX201516 | AX201517 | AX201518 | AX201519 | AX201520 |
| 5 m (16 ft.), Multimode FX300, 62.5 µm | AX201485 | AX201486 | AX201487 | AX201488 | AX201489 | AX201490 |
| 5 m (16 ft.), Multimode FX600, 50 µm | AX201503 | AX201504 | AX201505 | AX201506 | AX201507 | AX201508 |
| 5 m (16 ft.), Multimode FX2000, 50 µm | AX201521 | AX201522 | AX201523 | AX201524 | AX201525 | AX201526 |
| **Secure/Keyed LC Pigtail, KEYx-open*** | | | | | | |
| 2 m (6 ft.), Multimode FX300, 62.5 µm | AX201527 | AX201528 | AX201529 | AX201530 | AX201531 | AX201532 |
| 2 m (6 ft.), Multimode FX600, 50 µm | AX201533 | AX201534 | AX201535 | AX201536 | AX201537 | AX201538 |
| 2 m (6 ft.), Multimode FX2000, 50 µm | AX201539 | AX201540 | AX201541 | AX201542 | AX201543 | AX201544 |

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.
* Patent pending. • ** For 900 µm buffered fiber only. The same accessory kit (AX101984) is used for 2 mm jacketed cable connector termination as for our regular Optimax® LC offering.

# Fiber*Express* Secure/Keyed LC System

## Adapter Modules, Adapter Strips and Fiber*Express* Manager Modules

AX102098 Secure/keyed LC Adapter Module



AX102124 Secure/keyed LC Adapter Strip



AX102114 Secure/keyed LC
Fiber*Express* Manager Module



### Fiber*Express* Secure/Keyed LC System

The Fiber*Express* secure/keyed LC System allows for physical segregation of network segments in secure fiber cabling infrastructures. All secure/keyed LC products are available with 6 different keying options each carrying a different color to facilitate network administration. The keying detail inside the connector is totally tamper-resistant and cannot be re-produced inside a standard LC connector to violate the network security. All products comply with the FOCIS 10 standard and optical performance exceeds all industry standards for SFF connectors.

The secure/keyed LC adapter modules and adapter strips can be used in all mounting hardware for workstation area, consolidation point or Telecom room applications.

The secure/keyed LC Fiber*Express* manager modules can be used in 19″ (0.48 m) and 23″ (0.58 m) Fiber*Express* manager shelves to provide a high-density management system of up to 1920 terminated fibers per rack.

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | K1, Red | K2, Green | K3, Yellow | K4, Black | K5, Orange | K6, Blue |
| **Fiber*Express* Secure/Keyed LC System** | | | | | | |
| **Secure/Keyed LC Adapter Module*** | | | | | | |
| Grey holder | AX102089 | AX102090 | AX102091 | AX102092 | AX102093 | AX102094 |
| Almond holder | AX102095 | AX102096 | AX102097 | AX102098 | AX102099 | AX102100 |
| White holder | AX102101 | AX102102 | AX102103 | AX102104 | AX102105 | AX102106 |
| Black holder | AX102107 | AX102108 | AX102109 | AX102110 | AX102111 | AX102112 |
| **Secure/Keyed LC Fiber*Express* Adapter Strip*** | | | | | | |
| 12 fibers | AX102119 | AX102120 | AX102121 | AX102122 | AX102123 | AX102124 |
| 24 fibers | AX102125 | AX102126 | AX102127 | AX102128 | AX102129 | AX102130 |
| **Secure/Keyed LC Fiber*Express* Manager Module*** | | | | | | |
| 12 fibers | AX102113 | AX102114 | AX102115 | AX102116 | AX102117 | AX102118 |
| 24 fibers | AX102310 | AX102311 | AX102312 | AX102313 | AX102314 | AX102315 |

* Patent pending.
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

# Fiber*Express* Manager
## Rack Components and Modules

AX100934
Fiber*Express*
Manager Shelf



### Fiber*Express* Manager Shelf

Fiber*Express* modules are rack-mounted using Fiber*Express* manager shelves. The shelves provide the total system with extra high connection density while facilitating cable routing and patch cord management. For 19″ (0.48 m) or 23″ (0.58 m) h rack: 19″ (0.48 m) shelf holds up to 12 modules; 23″ (0.58 m) shelf holds up to 16 modules.

AX101943 Fiber*Express*
Manager 1U Rack Mount
Patch Panel



### Fiber*Express* Manager 1U

The Fiber*Express* manager 1U rack mount patch panel is a low-cost, compact assembly designed for interconnection or splicing of optical fiber cables, using up to three Fiber*Express* manager modules. The low-profile design minimizes rack space to only 45 mm (1.75″). An optional Fiber*Express* manager 1U cable management accessory is also available.

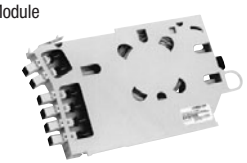
AX102032 Fiber*Express*
Manager 1U Cable
Management
Accessory



### Fiber*Express* Manager Connector Module

The connector module is the basic building block of the Fiber*Express* manager. It is designed with a unique release mechanism that allows it to slide from the shelf like a PC card, easing management of patch cords.

AX101525 Connector Module
Pre-terminated
MPO-MT-RJ



| Description | Belden Part Number | |
|---|---|---|
| | Grey | Black |
| **Fiber*Express* Manager** | | |
| **Fiber*Express* Manager** | | |
| Shelf, 23″ (0.58 m), 10.9 kg (24 lbs.) | **AX100934** | **AX100935** |
| Shelf, 19″ (0.48 m), 8.2 kg (18 lbs.) | **AX101084** | **AX101085** |
| 1U, Rack Mount Patch Panel, 19″ (0.48 m), 5 kg (11 lbs.) | **AX101944** | **AX101943** |
| 1U, Cable Management Accessory, 19″ (0.48 m), 1 kg (2 lbs.) | **AX102033** | **AX102032** |

| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | ST Type | SC Simplex | SC Duplex | SC Duplex (ST in) | LC | FC |
| **Fiber*Express* Manager** | | | | | | |
| **Fiber*Express* Manager Connector Module** | | | | | | |
| Metal Sleeve, Multimode, 6 fibers | **AX101089** | – | **AX101092** | – | – | – |
| Zirconia Ceramic, Single-mode, 6 fibers | **AX100936** | **AX100943** | **AX100944** | – | – | – |
| Metal Sleeve, Multimode, 12 fibers | **AX101187** | – | **AX101714** | **AX101120** | **AX101528** | – |
| Zirconia Ceramic, Single-mode, 12 fibers | **AX101186** | – | **AX101713** | **AX101119** | **AX101527** | – |
| Zirconia Ceramic, Single-mode, 12 UPC pigtails | – | – | **AX101715** | – | – | – |
| Metal Sleeve, Multimode, 24 fibers | – | – | – | – | **AX102306** | – |
| Zirconia Ceramic, Single-mode, 24 fibers | – | – | – | – | **AX102305** | – |
| Zirconia Ceramic, Single-mode/Multimode, 6 fibers | – | – | – | – | – | **AX100937** |

| Description | Belden Part Number | | | |
|---|---|---|---|---|
| | Multimode 62.5 µm | Multimode 50.0 µm | Single-Mode | – |
| MPO(m)-ST type, 12 pre-terminated | **AX101189** | **AX101190** | **AX101188** | – |
| MPO(m)-SC Duplex, 12 pre-terminated | **AX101091** | **AX101114** | **AX101090** | – |
| MPO(m)-MT-RJ(m), 12 pre-terminated | **AX101525** | **AX101526** | **AX101524** | – |
| MPO(m)-LC, 12 pre-terminated | **AX101530** | **AX101531** | **AX101529** | – |
| MPO(m)-LC, 24 pre-terminated | **AX102309** | **AX102308** | **AX102307** | – |
| MT-RJ, Beige, Multimode, 12 fibers | – | – | – | **AX101096** |
| MT-RJ, Blue, Single-mode, 12 fibers | – | – | – | **AX101581** |

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

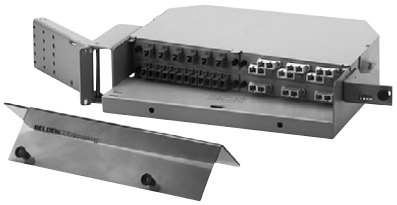
# Fiber*Express* Patch Panels

## Rack Mount Patch Panels

AX100041 Fiber*Express*, 12/24 Port (1U) Rack Mount Patch Panel



AX100069 Fiber*Express*, 24/48 Port (2U) Rack Mount Patch Panel



AX100078 Fiber*Express* (3U) Rack Mount Patch Panel



AX100115 Fiber*Express*, 48/96 Port (4U) Rack Mount Patch Panel



If single-ended patch cords are to be spliced to the fiber cable, don't forget to order splice organizer trays or kits. Both these, and the universal adapter strips can be ordered in the Fiber*Express* accessories section.

* IMPORTANT: The Fiber*Express* 1U accepts two (2) 203 mm (8″) splice trays. The 2U accepts four (4) 203 mm (8″) splice trays.

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

### Fiber*Express* Rack Mount Patch Panel 1U and 2U

The Fiber*Express* 1U and 2U rack mount patch panels are equipped with a special hinge that allows easy access to the rear of the patch panel without disturbing the optical fiber cable. A specially designed front panel allows connector protection and easy routing of optical fiber patch cords. The Fiber*Express* rack mount patch panels are also compatible with our 203 mm (8″) splice organizer trays. This allows the optical fiber cable to be either terminated with fiber single-ended patch cords or field-installable connectors. The patch panels can be used with ST Compatible, SC, 568SC, FC, LC or MT-RJ adapters strips (ordered separately).

The Fiber*Express* 1U rack mount patch panel is a low-cost, compact assembly designed for interconnection or splicing of optical fiber cables, from 12 up to 48 fibers if MT-RJ or LC double density adapter strips are used. The low-profile design minimizes rack space to only 45 mm (1.75″). An optional smoked plexiglass front cover is also available.

The Fiber*Express* 2U rack mount patch panel offers a high fiber capacity, 96 fibers if using double density MT-RJ or LC adapter strips. The Fiber*Express* 2U comes equipped with a smoked plexiglass front cover that protects fiber connections while allowing for quick visual inspection.

### Fiber*Express* Rack Mount Patch Panel 3U

The Fiber*Express* 3U rack mount patch panel can accommodate up to 96 optical fiber connections using MT-RJ or LC connectors. The connector panel is mounted on a sliding drawer for easy access to the back side (cable side) of the panel. The Fiber*Express* 3U rack mount patch panel can be used with either optical fiber single-ended patch cords or field-installable connectors. If optical single-ended patch cords are to be used, organizer trays are easily accessible via the removable front access pull-out drawer. (Trays must be ordered separately.)

The Fiber*Express* 3U rack mount patch panel is a compact cross-connect assembly for the termination of optical fiber cables. The low-profile design minimizes required rack space to 127 mm (5″). It is compatible with ST compatible, SC, 568SC, MT-RJ, LC and FC adapters strips (ordered separately).

### Fiber*Express* Rack Mount Patch Panel 4U

The Fiber*Express* 4U rack mount patch panel is an economical solution for the protection of optical fiber terminations and splices, up to 192 optical fibers if using MT-RJ or LC connectors. The connector panel, accepting the universal adapter strips, is located inside the enclosure and swings out (left or right) to give easy access to the cable and splices.

The Fiber*Express* 4U rack mount patch panel is a compact cross-connect enclosure for the cross-connection, interconnection or splicing of optical fiber cables. The low-profile design minimizes required rack space to 178 mm (7″). It can be used with ST Compatible, SC, 568SC, MT-RJ, LC and FC adapters strips (ordered separately).

| Description | Belden Part Number |
|---|---|
| **Fiber*Express* Patch Panels** | |
| **Fiber*Express* Rack Mount Patch Panel 1U*** | |
| Grey | **AX100042** |
| Black | **AX100041** |
| **Fiber*Express* Rack Mount Patch Panel 2U*** | |
| Grey | **AX100069** |
| Black | **AX100068** |
| **Fiber*Express* Rack Mount Patch Panel 3U** | |
| Grey | **AX100078** |
| Black | **AX100077** |
| **Fiber*Express* Rack Mount Patch Panel 4U** | |
| Grey | **AX100115** |
| Black | **AX100116** |

# Fiber*Express* Patch Panels

## Rack Mount Accessories and Wall Mount Patch Panels

AX101800 127 mm (5″) Universal Offset Bracket Kit, for 19″ (0.48 m) and 23″ (0.58 m) Racks 1U



AX101802 23″ (0.58 m) Rack Universal Extension Bracket for 1U and 2U



AX100047 Right Side Cable Entry Bracket for 1U



AX100045 Front Cover for 1U



AX100543 Large Wall Mount



### Fiber*Express* Rack Mount Patch Panels 1U and 2U Accessories

The accessories provide additional panel mounting flexibility for racks, cabinets and cable entry.

| Description | Belden Part Number |
|---|---|
| **Fiber*Express* Patch Panels** | |
| **Rack Mount Accessories (1U and 2U)** | |
| 127 mm (5″) Universal Offset Bracket Kit: | |
| for 19″ (0.48 m) and 23″ (0.58 m) racks (1U), Black | **AX101799** |
| for 19″ (0.48 m) and 23″ (0.58 m) racks (1U), Grey | **AX101800** |
| for 19″ (0.48 m) and 23″ (0.58 m) racks (2U), Black | **AX101797** |
| for 19″ (0.48 m) and 23″ (0.58 m) racks (2U), Grey | **AX101798** |
| 23″ (0.58 m) Universal extension bracket, Black | **AX101801** |
| 23″ (0.58 m) Universal extension bracket, Grey | **AX101802** |
| Right side cable entry bracket (1U), Black | **AX100046** |
| Right side cable entry bracket (1U), Grey | **AX100047** |
| Right side cable entry bracket (2U), Black | **AX100073** |
| Right side cable entry bracket (2U), Grey | **AX100074** |
| Front Cover (1U), Smoked Plexiglass | **AX100045** |

### Fiber*Express* Wall Mount Patch Panel

The Fiber*Express* wall mount patch panel series is an economical solution for the protection of optical fiber terminations and splices in hostile environments. Using the Fiber*Express* universal adapter strips (ordered separately), the wall mount patch panels allow for flexible and customized patch panel design. They are compatible with most industry standard connections: ST compatible, SC, 568SC, MT-RJ, LC and FC.
Available in grey and black, the Fiber*Express* wall mount patch panels have an ergonomic design, rugged construction and compact assemblies to effectively protect your optical fiber terminations and splices.

| Description | Belden Part Number |
|---|---|
| **Fiber*Express* Patch Panels** | |
| **Wall Mount** | |
| Small, Grey | **AX100496** |
| Small, Black | **AX100495** |
| Medium, Grey | **AX100541** |
| Medium, Black | **AX100540** |
| Large, Grey | **AX100543** |
| Large, Black | **AX100542** |

If optical single-ended patch cords are to be spliced to the fiber cable, don't forget to order splice organizer trays or kits in Fiber*Express* accessories section. Universal adapter strips can be ordered in Fiber*Express* patch panels section.
These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

AX100541 Medium Wall Mount



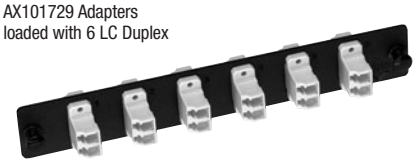
AX100495 Small Wall Mount



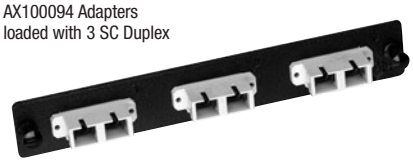
# Fiber*Express* Patch Panels Accessories

## Universal Optical Fiber Adapter Strips and Accessories

AX101729 Adapters
loaded with 6 LC Duplex



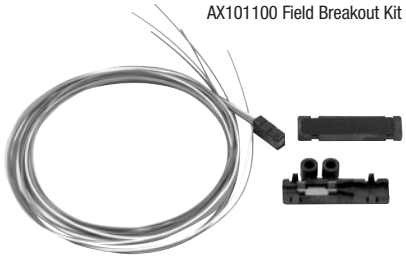
AX100094 Adapters
loaded with 3 SC Duplex



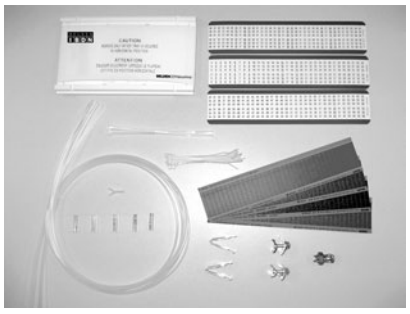
AX100066 Blank Strip



AX101100 Field Breakout Kit



A0649869 Optical Fiber Splice Organizer Kits and Trays

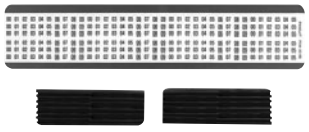




AX100945 Flex Kit



AX101098 Splice Holder Kit



### Optical Fiber Adapter Strips

Universal optical fiber adapter strips are pre-loaded with six (single density) or 12 (double density) adapter sleeves. Two types of adapter sleeves are available: phosphor bronze and zirconia ceramic. Adapter sleeves are used as the connecting interface between two optical fiber connectors. A blank adapter strip is also available and can be used with any Fiber*Express* patch panel to fill in unused adapter strip openings.

### Optical Fiber Accessories

The field breakout kit is designed to attach to one tube of a loose-tube cable. Each kit has either six or twelve 900 µm tubes that hold each of the coated fibers. For each end of the cable, one kit is needed for every tube. For example, a 12-fiber 62.5 µm cable contains two 6-fiber tubes. This cable would require four kits, two for each end. Optical fiber splice organizer kits provide the accessories necessary for installing the Fiber*Express* fiber patch panels, as well as other fiber terminals that accommodate the standard Belden organizer tray. The Flex Kit contains tubes and manifolds designed to split cables into individual fiber strands, and is suitable for 6 fibers up to 12 fibers. It is necessary for use with loose tube cables or when the fiber cable count does not match the number of connections in the Fiber*Express* manager connector module. The Flex Kit tubes help to maintain proper fiber bend radius. One kit is required per 12 modules (one 19″/0.48 m shelf). A splice holder kit can be used to hold fusion or mechanical splices. Each splice holder can handle up to 6 splices.

| Description | Belden Part Number | |
|---|---|---|
| | Phosphor Bronze, Multimode | Zirconia Ceramic, Single-Mode |
| **Fiber*Express* Optical Fiber Adapter Strips** | | |
| **Single Density, Black** | | |
| Loaded with 6 ST Compatible Adapters | **AX100088** | **AX100534** |
| Loaded with 3 SC Duplex Adapters | **AX100094** | **AX101407** |
| Loaded with 6 SC Simplex Adapters | **AX100092** | **AX100538** |
| Loaded with 6 FC Adapters | **AX100090** | **AX100536** |
| Loaded with 6 LC Duplex Adapters | **AX101729** | **AX101731** |
| MT-RJ, loaded with 6 MT-RJ, Multimode/Single-mode | **AX101115** | |
| **Double Density, Black** | | |
| Loaded with 12 ST Compatible Adapters | **AX100080** | **AX100528** |
| Loaded with 6 SC Duplex Adapters | **AX100098** | **AX101409** |
| Loaded with 12 SC Simplex Adapters | **AX100084** | **AX100532** |
| Loaded with 12 FC Adapters | **AX100082** | **AX100530** |
| Loaded with 12 LC Duplex Adapters | **AX101741** | **AX101743** |
| MT-RJ, loaded with 12 MT-RJ, Multimode/Single-mode | **AX101117** | |
| **Blank Strip** | | |
| Black | **AX100066** | |
| **Fiber*Express* Accessories** | | |
| **Optical Fiber Field Breakout Kit** | | |
| 6 fibers, 1/pack | **AX101100** | |
| 12 fibers, 1/pack | **AX101101** | |
| **Optical Fiber Splice Organizer Kit** | | |
| Splice kit, tray, 203 mm (8″) | **A0649869** | |
| Splice kit, tray, 305 mm (12″) | **A0318904** | |
| **Optical Fiber Splice Tray** | | |
| Fusion, 203 mm (8″) | **A0335015** | |
| Fusion, 305 mm (12″) | **A0316446** | |
| Universal (mechanical or fusion), 203 mm (8″) | **AX100079** | |
| Universal (mechanical or fusion), 305 mm (12″) | **A0394328** | |
| Tray cover, 203 mm (8″) | **A0394331** | |
| Tray cover, 305 mm (12″) | **A0394330** | |
| Flex Kit | **AX100945** | |
| Splice Holder Kit | **AX101098** | |

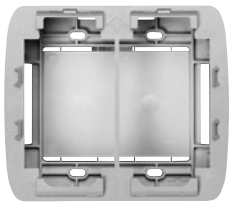
These products are in the process of being assessed for RoHS compliance.
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# Fiber*Express* Outlets
## MediaFlex Plates and Inserts

AX101869 MediaFlex Plate, Double Gang



AX101874 MediaFlex Adapter Box, Double Gang



AX101756 MediaFlex MDVO (style) Insert, 2-port, Angled



AX101937 MediaFlex SC Duplex Insert, Angled



### MediaFlex Plate

MediaFlex plates are one part of the comprehensive line of plates and inserts that snap together to create a full line of modular workstation outlets. MediaFlex plates can be mounted over standard NEMA type outlet boxes and rings to provide support for a variety of MediaFlex adapters and inserts. The fully modular construction combined with the front access design provides extensive configuration flexibility for current and future network needs. MediaFlex plates are available in single gang and double gang configurations.

The double gang faceplate comes with a stand-off ring included in the package. This ring allows for easy mounting with virtually any industry electrical box or mud/adapter rings, therefore providing added installation flexibility. Each plate has the capacity of up to 6 ports per single gang and 12 ports per double gang.

### MediaFlex Adapter Box

MediaFlex surface adapter boxes are one part of the comprehensive line of plates and inserts that snap together to create a full line of modular workstation outlets.
MediaFlex surface adapter boxes can be mounted over standard NEMA type outlet boxes and rings to provide support for the MediaFlex plates. The MediaFlex surface adapter boxes are available as a double gang configuration. The double gang box allows more room for cable management and bend radius control.

### MediaFlex MDVO (style) Insert

MediaFlex MDVO-style Inserts are available in a 2-port configuration in both Flush and Angled versions. They are compatible with all GigaFlex and MDVO modules (EZ-MDVO and multimedia). The inserts are two units high for the flush version and three units high for the angled version. Therefore three flush inserts or two angled inserts are required to fully populate a single gang MediaFlex plate.

### MediaFlex Multimedia Insert

MediaFlex multimedia inserts provide optimum flexibility in configuring multimedia workstation outlets that respond to any present or future network needs. MediaFlex multimedia inserts along with other MediaFlex inserts allow for easy configuration of outlets. All inserts are front loaded and easily snapped in and out of the MediaFlex plates for easy installation and maintenance.

MediaFlex multimedia Inserts are available in angled versions only in order to allow for proper management of cable bend radius. The inserts are three units high, therefore two inserts are required to fully populate a single gang faceplate and four inserts will fully populate a double gang faceplate.

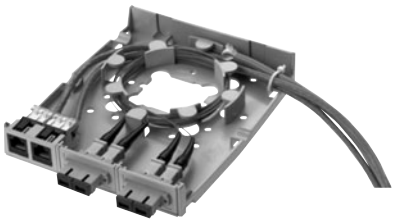
| Description | Belden Part Number | | | | | |
|---|---|---|---|---|---|---|
| | K1, Red | K2, Green | K3, Yellow | K4, Black | K5, Orange | K6, Blue |
| **Fiber*Express* Outlets** | | | | | | |
| **MediaFlex Plate** | | | | | | |
| Single Gang | AX101745 | AX101746 | AX101747 | AX101748 | AX102608 | AX102569 |
| Double Gang | AX101869 | AX101870 | AX101871 | AX101872 | AX102609 | AX102570 |
| **MediaFlex Adapter Box** | | | | | | |
| Single Gang | AX102480 | AX102481 | AX102482 | AX102483 | AX102484 | AX102485 |
| Double Gang | AX101873 | AX101874 | AX101875 | AX101876 | AX102610 | AX102571 |
| **MediaFlex MDVO (style) Insert** | | | | | | |
| 2-port, Flush, bag of 10 units | AX101749 | AX101750 | AX101751 | AX101752 | AX102612 | AX102572 |
| 2-port, Angled, bag of 10 units | AX101753 | AX101754 | AX101755 | AX101756 | AX102613 | AX102573 |
| **MediaFlex SC Duplex** | | | | | | |
| SC Duplex Single-mode | AX101935 | AX101936 | AX101937 | AX101938 | AX102619 | AX102649 |
| SC Duplex Multimode | AX101939 | AX101940 | AX101941 | AX101942 | AX102620 | AX102650 |

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

# Fiber*Express* Outlets

## MDVO Multimedia Outlet Boxes & Modules and Multi-User Outlet Boxes

A0643205 MDVO Multimedia Outlet Box, shown here as terminated





A0407005 MDVO SC Fiber Module



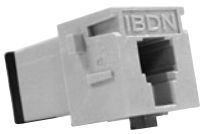
A0649254 SC Duplex Adapter



A0407010 MDVO ST Compatible Fiber Module



AX101467 MDVO MT-RJ Fiber Module



AX100222 Multi-User Outlet Box, shown here with modules



### MDVO Multimedia Outlet Box

The MDVO multimedia outlet box brings unique versatility for multimedia work area installations. The box design provides cable management and helps maintain cable bend radius. The low-profile design and side-entry of the outlet box offer better protection for patch cords. The outlet box can accept up to six EZ-MDVO, GigaFlex or MDVO multimedia modules or three SC duplex adapters.

The MDVO multimedia outlet box can be mounted directly on the wall or attached to standard electrical boxes. Included with the MDVO multimedia box are three SC duplex mounting bezels and three MDVO adapters.

### MDVO Multimedia Modules

MDVO multimedia modules address audio/video and fiber applications. Fiber modules are available for LC duplex, SC simplex, ST compatible multimode and MT-RJ multimode & single-mode connections. The SC duplex adapter is a fiber adapter sleeve with flanges that mounts into the SC duplex mounting bezel (included in the MDVO multimedia outlet box). Audio/video modules are available for SVHS, RCA, BNC and Video F connections.

### Multi-User Outlet Box

The multi-user outlet box is a versatile box that can be used in many different applications. The outlet box can accommodate up to 24 connections of any type, UTP, fiber or coax. The outlet box is ideal for use as a multi-user telecommunications assembly, or simply as a high-density multimedia telecommunications outlet. The multi-user outlet box can also be used as a wall mounted patch panel in confined areas, such as shallow rooms and cabinets.

| Description | Belden Part Number | | | |
|---|---|---|---|---|
| | MOVO-Style | MOVO-Style | MOVO-Style | Keystone-Style |
| **Fiber*Express* Outlets** | | | | |
| **MDVO Multimedia Outlet Box** | | | | |
| 6-port | **A0643205** | **A0643206** | **A0643207** | **A0643208** |

Please note that SC Duplex adapters must be ordered separately (A0649254).

| **MDVO Multimedia Module** | | | | |
|---|---|---|---|---|
| LC Duplex Multimode | **AX102209** | **AX102210** | **AX102211** | **AX102212** |
| LC Duplex Single-mode | **AX102213** | **AX102214** | **AX102215** | **AX102216** |
| SC Simplex, Multimode, Blue insert | **A0407003** | **A0407004** | **A0407005** | **A0407006** |
| SC Duplex Adapter, Multimode | – | **A0649254** | – | – |
| ST Compatible, Multimode | **A0407007** | **A0407008** | **A0407009** | **A0407010** |
| MT-RJ, Multimode | – | **AX101467** | – | – |
| MT-RJ, Single-mode, Blue | – | **AX101466** | – | – |

Custom multimedia connectors are also available, please contact customer service for more details.

| **Multi-User Outlet Box** | | | | |
|---|---|---|---|---|
| 24-port | **AX100219** | **AX100220** | **AX100221** | **AX100222** |

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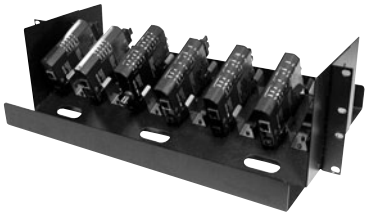
# Network Connectivity Products

## Media Converters, Transceivers & Hubs and Network Tester

Media Converters



AX-1912 Media Converter Rack



AX050, 70 and 80 Transceivers and AX-509 Ethernet Hub



AX-110BT Realtime 10/100 Base-TX Ethernet Network Test Unit



### Media Converters for Ethernet and Fast Ethernet

Media converters enable the connection of dissimilar network cabling types, while maintaining the same network speed. A legacy thinnet segment can be connected to a 10Base-T Hub or switch port with an AX-200 Converter or, link two different 10Base-T networks together over a multimode fiber optic link with a pair of AX-270s. Connect a legacy thinnet segment over fiber with the AX-280 converter. The AX-5270 can be used for interbuilding links or attached to a fiber backbone.

### Transceivers and Ethernet Hubs

The AX-50, 70 and 80 transceivers enable the connection of a legacy AUI port to 10Base-T, Thinnet, or Fiber Optic media. The transceiver is powered from the host and requires no external power supply. The AX-509 Ethernet Hub has an AUI port which accepts UTP, Fiber Optic or BNC transceivers. Specified for use by many U.S. Government Agencies. Includes a 110v/12v power supply.

### Realtime 10/100 Base-TX Ethernet Network Test Unit

The AX-110BT realtime 10/100 Base-TX ethernet network test unit is a cost effective way to quickly determine a network's operating condition. Plug the unit's patch cord into the tester, then into any open RJ-45 jack in an office, cubicle or conference room. Immediately see if the jack is a live network node capable of either 100 Mb/s or 10 Mb/s. Next check patch cord continuity and polarity. Connect the downlink to a PC to check NIC card link, speed and full or half duplex capabilities. Connect the uplink to a hub or switch port to verify link and speed.

| Description | Belden Part Number |
|---|---|
| **Network Connectivity Products** | |
| **Media Converter** | |
| 10Base-T/10Base2, RJ-45 to BNC | **AX-200** |
| 10Base-T/10Base-FL, RJ-45 to ST-Compatible fiber connectors | **AX-270** |
| 10Base2/10Base-FL, BNC to ST-Compatible fiber connectors | **AX-280** |
| 100Base-TX/100Base-FX, SC-Compatible fiber connectors | **AX-5270SC** |
| 100Base-TX/100Base-FX, ST-Compatible fiber connectors | **AX-5270ST** |
| **Media Converter Rack** | |
| Holds up to 12 converters and multi lead power supplies, 19″ (0.48 m) rack-mount ready | **AX-1912-MCR** |
| Power Supply, 4-lead 110v/12v, powers up to 4 converters | **AX-270P4U** |
| Power Supply, 8-lead 110v/12v, powers up to 8 converters | **AX-270P8U** |
| **Transceivers and Ethernet Hubs** | |
| UTP Transceiver, 10Base-T, AUI to RJ-45, side port | **AX-50** |
| UTP Transceiver, 10Base-T, AUI to RJ-45, rear port | **AX-50R** |
| Fiber Transceiver, 10Base-FL, AUI to ST-Compatible | **AX-70** |
| Thinnet Transceiver, 10Base2, AUI to BNC | **AX-80** |
| Ethernet Hub with 8 RJ-45 10Base-T ports and 1 AUI port | **AX-509** |
| **Network Tester** | |
| Realtime 10/100 Base-TX Ethernet Network Test Unit | **AX-110BT** |

These products are in the process of being assessed for RoHS compliance.
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# Introduction Cables

### Advanced Networks Need Advanced Technology

Today's advanced networks are diverse and very varied and almost always complex. The right way ahead is to future-proof these networks and take precautions to protect them against anything that will create problems, damage or disrupt. That means matching the right hardware with the right cabling to guarantee performance – and that means choosing fiber optic cable. This type of cable has become essential for bringing light-speed communication to hospitals, corporate campuses, educational facilities and other projects.

### Key Applications

- Closed circuit television
- Network circuitry
- Factory automation
- Major commercial networks
- Video conferencing
- Medical imaging
- CAD/CAM

### Special Features

- **Interconnect Cables**
  Featuring semi-tight buffer and tight buffer technology for easy cable preparation during termination.
  - Semi-tight buffered fiber cables are available in dry or jelly-filled constructions; both have excellent strippablility properties (≤ 100 cm).
  - Tight-buffered fiber cables are dry constructions and designed for easy stripping in cable preparation (≤ 10 cm).

- **Breakout Cables (BO)**
  Breakout cables are the preferred choice for direct termination methods. Each numbered fiber subunit is protected by a layer of aramid yarn and encased in a FRNC/LSNH jacket. The individual subunits are cabled and then jacketed with a flame resistant FRNC/LSNH compound. Each fiber uses either the tight buffer technology or semi-tight buffer technology for excellent fiber stripping.

- **Belden's Mini-Breakout**
  This cables offer dry constructions with semi-tight or tight buffer technology for easier fiber stripping during cable preparation. They are perfect for both indoor and indoor/outdoor use.

- **Mobile Fiber Cables**
  Mobile fiber cable is a special cable in the range is Belden's mobile fiber cable. The semi-tight buffer technology is designed for rugged field applications and will withstand temperature extremes and vehicle traffic. Repeating bending is > 500000 times according to IEC 60794-1-2-E6. For indoor use, it has flame retardancy acc. IEC 60332-2.

- **Central Loose Tube Cables (CLT)**
  Central loose tube cables are designed either for indoor/outdoor application or outdoor use only as direct burial, duct and outside tray. For better performance, Belden only uses (non-dripping and silicone-free) jelly-filled loose tubes. The central loose tube series has a polyethylene or halogen-free jacket. These cables have been updated with a longitudinal watertightness swellable yarn for weather-resistance.
  - Standard and improved rodent protection designs are available with up to 24 fiber counts.
  - Central loose tube cables are also available with Corrugated Steel Tape (CST), Steel Wire Armor (SWA) or Fiber Reinforced Plastic armor (FRP) to protect the whole cable from mechanical damage and rodents.

- **Multi Loose Tube Cables (MLT)**
  Multi loose tube cables, with no aquagel between the tubes (dry core) or with jelly-filled cable core, are designed for direct burial, duct, outside tray and aerial applications. For better performance, Belden only uses (non dripping and silicone-free) jelly-filled loose tubes. Tubes and (when necessary) blind elements are S-Z stranded around the central element. The multi loose tube series has a High-Density-Polyethylene (HDPE) or halogen-free jacket. These cables have been updated with water-blocking aramid or glass yarn. Standard and improved rodent protection designs are available with high fiber counts up to 432 fibers.
  - The multi loose tube cables are also available either with Corrugated Steel Tape armor (CST) or with galvanized Steel Wire Armor (SWA) for total protection.
  - Longitudinal watertightness: to guarantee longitudinal watertightness acc. to IEC 60793-1-2-F5, Belden uses swellable yarns and/or tapes or filling compound.

  Options:
  - All loose tube cables with additional PA (nylon) jacket for termite/rodent protection, improved chemical resistance and reduced friction.
  - Replace PE jacket by Orgalloy to improve chemical resistance.

# Introduction Cables

- **Belden's Universal Cables**
  Belden's universal cables provide a unique combination of construction and performance characteristics that make them ideal for both outdoor and indoor use. The advantage is that splicing is not necessary when running cable from outside to inside.
  - Because all fibers show surface imperfections, Belden exclusively uses fibers with proof test-level ≥ 8.8 N/≥ 1% (≥ 100 kpsi). This means the expected life of the optical fiber cable is > 30 years.

- **Belden Halogen-Free Optical Fiber Cables**
  This cables meet the most important international standards. The jacketing material is suitable for outdoor use, such as direct burial. Compared with other products containing halogens (such as PVC), Belden halogen-free materials offer considerable advantages in the event of a fire:
  - Better vision
  - Minimal poisonous gases
  - No release of highly caustic acids
  - Greater safety for people, materials and the environment

  Belden's halogen-free optical fiber cables are both FRNC (Flame-Retardant, Non-Corrosive) and LSNH (Low-Smoke, Non-Halogen) according to recognized standards.

- **Direct Burial Cables**
  In general loose tube cables are suitable for direct burial. However, in case of rocky soil armored cables are recommended.

- **Belden Optical Fiber Cables**
  All cable constructions are in accordance with IEC 60793, and have been tested according to IEC 60794.

**Rodent Protection**

The Belden fiber optic cable line offers two different kind of rodent protection:

- Standard Rodent Protection
  Optical fiber cables with glass reinforced yarns for strength also provide normal protection against rodents.

- Improved Rodent Protection
  Belden offers cables with improved rodent protection. These have extra glass reinforced yarns or an extra layer of nylon (polyamide). The idea behind this is that rodents will look for the easiest route. Rodents will bite anything in order to keep their teeth in proper shape but will only continue if they feel comfortable. With the nylon layer or "glass" yarns they will normally stop and move elsewhere.

It is important to note that non-armored cable never guarantees a 100% protection against rodents.

Armored cables (CST, SWA, FRP) are heavy rodent protected.

# Introduction Cables
## Guide to Installation and Handling

### General

When laying and installing optical fiber cables it is vitally important not to exceed the specified values set for pulling tension, bending radii and temperature. The installation methods have to be in accordance with the common standards.

If a cable needs to be fastened, constrictions ≥ 1 mm (multi-tube cable) or ≥ 0.3 mm (central-tube cable, distribution cable) must be prevented.

### Outdoor / Universal Cables

It is advisable to cap the cable-ends during outdoor storage.

- **Outdoor / Universal Loose Tube Cables**
  - To ease insertion into tubes by means of compressed air or pulling wire, certified lubricants (e.g. paraffin) may be used. The use of soap or similar substances as lubricants is strictly prohibited.
  - The jelly-filling inside the tubes can be removed using a tissue soaked in turpentine.

### Indoor Cables

Indoor optical fiber cables have been designed for use inside buildings. Consequently they are not longitudinally watertight.

- **Indoor Interconnection (Simplex, Duplex) Cables**
  - In cable with jelly-filled semi-tight buffered optical fibers the primary and secondary coating are separated by means of a very thin layer of jelly. Consequently the strippability is very good. If necessary the jelly can be removed using a tissue soaked in turpentine, for example.
  - Interconnection optical fiber cables have been designed for short distance applications (tens of meters) inside buildings.
- **Pigtails**
  (Semi-) Tight-buffered optical fibers have been designed for short distance (≤ 10 m) applications

# Introduction Cables

### Part Number Coding (exept Plenum Optical Fiber)

| 1 | 2 | Product | 3 | Type | 4 | Construction | 5 | Quality | 6 | Fiber Count (mm) | 7 | Fiber Count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | A | Messenger figure 8 | A | Aramid | A | CLT T12 [1x12] | 1 | 62.5/125-OM1 | A | Simplex Duplex 1.6 mm | | |
| | B | Outdoor Dry MLT | B | Breakout | B | CLT T24 [1x24] | 2 | 50/125-OM2 | B | Simplex Duplex 1.8 mm | | |
| | C | Universal Dry MLT | C | CST Single sheath | C | MLT T48 [6x8] (helical) | 3 | 50/125-OM3 | C | Simplex Duplex 2.0 mm | | |
| | D | Outdoor Filled MLT | D | CST Double Sheath | D | MLT T72 [6x12] | 4 | 50/125-OM2e | D | Simplex Duplex 2.4 mm | | |
| | E | Universal Filled MLT | F | FRP | E | MLT T96 [8x12] | 5 | 50/125-OM2 | E | Simplex Duplex 2.8 mm | | |
| | I | Indoor | L | AL/PE Sheath | F | MLT T144 [12x12] | 6 | 50/125-OM3+ | F | Simplex Duplex 3.0 mm | | |
| | M | Mobile | M | Mini-Breakout | G | MLT T36 [6x6] | 7 | 9/125-G655 | 0-9 | Part of Fibercount | 0-9 | Part of Fibercount |
| | O | Outdoor Dry | O | Pigtail | H | MLT T24 [6x4] | 8 | 9/125-G652D | | | | |
| | U | Universal Dry | P | Patchcord | I | MLT T192 [8x24] | 9 | 9/125-G652B | | | | |
| | | | R | Improved RP | J | MLT T288 [12x24] | 0 | No Fiber, APF | | | | |
| | | | S | Standard RP | K | Semi-Tight (dry) | | | | | | |
| | | | X | Mini-BO+RP | L | MLT T432 [18x24] | | | | | | |
| | | | W | SWA | M | MLT T216 [18x12] | | | | | | |
| | | | | | S | Semi-Tight (Jelly-Filled) | | | | | | |
| | | | | | T | Tight | | | | | | |

RP = Rodent Protection • SWA = Galvanised Steel Wire Armor • CST = Corrugated Steel Tape • FRP = Fiber Reinforced Plastic Armor

To specify Part Number

1. Example: GIBT412

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| G | I | B | T | 4 | 1 | 2 |
| Fiber | Indoor | Breakout | Tight Buffer | 50/125-OM2e | 12 | |

2. Example: GDDF744

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| G | D | D | F | 7 | 4 | 4 |
| Fiber | MLT Outdoor Filled SZ | CST Double Sheat | MLT144 (12x12) | 9/125-G655 | 144 | |

### Optical Characteristics

| European Part Number Coding (position 5) | Fiber-Type | Mode-Field Diameter/Cladding Diameter (µm) | Wavelength (nm) | Dispersion (ps/(nm•km)) | PMD (ps/√km) | Cable Cut-off Wavelength (nm) | Refractive Index | Attenuation | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Loose Tube Cables average/max. (dB/km) | (Semi-) Tight average/max. (dB/km) |
| **Characteristics (Cabled) Single-Mode – Matched-Cladded Optical Fibers according to ITU-G.652** | | | | | | | | | |
| **9** | 9/125-OS1<br>ITU-G.652B | 9.2 ± 0.4<br>125 ± 1 | 1310<br>1550 | ≤ 3.5<br>≤ 18 | ≤ 0.2 | ≤ 1260 | 1.467<br>1.467 | 0.32/0.4<br>0.21/0.3 | 0.35/0.5<br>0.21/0.3 |
| **8** | 9/125-OS1<br>ITU-G.652D | 9.2 ± 0.4<br>125 ± 0.7 | 1310<br>1550 | ≤ 3.5<br>≤ 18 | ≤ 0.2 | ≤ 1260 | 1.467<br>1.467 | 0.32/0.4<br>0.21/0.3 | 0.35/0.5<br>0.21/0.3 |
| **Characteristics (Cabled) Single-Mode – Matched-Cladded Optical Fibers According to ITU-G.655** | | | | | | | | | |
| **7** | 9/125 | 8.4 ± 0.6/125 ± 1 | 1550 | 3.5 - 8.5 | ≤ 0.1[A] | ≤ 1260 | 1.470 | 0.25/0.3 | 0.25/0.28 |

Note A: Link design value

| European Part Number Coding (position 5) | Fiber-Type | Core/Cladding Diameter (µm) | Wavelength (nm) | Bandwidth (MHz•km) | Ethernet Performance (m) | | Numerical Aperture (µm) | Refractive Index | Attenuation | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1GbE | 10GbE | | | Loose Tube Cables average/max. (dB/km) | (Semi-) Tight average/max. (dB/km) |
| **Characteristics (Cabled) Multimode – Graded-Index Optical Fibers According to IEC 60793** | | | | | | | | | | |
| **1** | 62.5/125<br>OM1 | 62.5 ± 2.5<br>125 ± 1 | 850<br>1300 | ≤ 200<br>≤ 600 | 275<br>550 | 33<br>N.A. | 0.275 ± 0.015 | 1.495<br>1.490 | 2.7/3.2<br>0.6/1.1 | 3.0/3.2<br>0.7/0.9 |
| **5** | 50.0/125<br>OM2 | 50.0 ± 2.5<br>125 ± 1 | 850<br>1300 | ≤ 500<br>≤ 500 | 600<br>600 | 82<br>N.A. | 0.200 ± 0.015 | 1.481<br>1.476 | 2.4/3.0<br>0.7/1.0 | 2.6/2.8<br>0.6/0.9 |
| **2** | 50.0/125<br>OM2 | 50.0 ± 2.5<br>125 ± 1 | 850<br>1300 | ≤ 600<br>≤ 1200 | 600<br>600 | 82<br>N.A. | 0.200 ± 0.015 | 1.481<br>1.476 | 2.3/2.8<br>0.6/0.9 | 2.6/2.8<br>0.6/0.9 |
| **4** | 50.0/125<br>OM2e | 50.0 ± 2.5<br>125 ± 1 | 850<br>1300 | ≤ 600<br>≤ 1200 | 750<br>2000 | 110<br>N.A. | 0.200 ± 0.015 | 1.481<br>1.476 | 2.3/2.8<br>0.6/0.9 | 2.6/2.8<br>0.6/0.9 |
| **3** | 50.0/125<br>OM3 | 50.0 ± 2.5<br>125 ± 1 | 850<br>1300 | ≤ 1500<br>≤ 500 | 900<br>550 | 300<br>N.A. | 0.200 ± 0.015 | 1.482<br>1.477 | 2.5/3.0<br>0.5/1.0 | 2.6/2.8<br>0.6/0.9 |
| **6** | 50.0/125<br>OM3+ | 50.0 ± 2.5<br>125 ± 1 | 850<br>1300 | ≤ 3500<br>≤ 500 | 900<br>550 | 550<br>N.A. | 0.200 ± 0.015 | 1.482<br>1.477 | 2.5/3.0<br>0.5/1.0 | 2.6/2.8<br>0.6/0.9 |

# Introduction Cables

## Cable Finder Guide Optical Fibers

| Part No. | Description | Buffer | Con-struction | Remarks | Fiber Size µm | Application | VDE | Page |
|---|---|---|---|---|---|---|---|---|
| **Intex, Indoor and Mobile Cables with (Semi-) Tight-Buffered Optical Fibers** | | | | | | | | |
| **Interconnect Cables** | | | | | | | | |
| GIOK | Pigtails | Semi-Tight | Dry | Excellent Strippability, LSNH | 245 | Indoor | I-K | 16.25 |
| GIPS | Simplex | Semi-Tight | Jelly-Filled | Excellent Strippability, FRNC/LSNH | 245 | Indoor | I-W(ZN)H | 16.25 |
| GIPS | Simplex, furcation tube | – | Dry | Empty Tube, PUR | – | Indoor | – | 16.32 |
| GIPS | Duplex | Semi-Tight | Jelly-Filled | Excellent Strippability, FRNC/LSNH, Figure 8 | 245 | Indoor | I-W(ZN)H | 16.26 |
| GIPK | Heavy Duplex | Semi-Tight | Dry | Excellent Strippability, FRNC/LSNH, flat | 245 | Indoor | I-K(ZN)HH | 16.26 |
| GIPT | Mini-Zip | Tight | Dry | FRNC/LSNH, Figure 8 | 280 | Indoor | I-V(ZN)H | 16.27 |
| **Breakout Cables** | | | | | | | | |
| GIBT | 2-24 Fibers | Tight | Dry | FRNC/LSNH | 280 | Indoor | I-V(ZN)HH | 16.28 |
| GIBK | 2-12 Fibers | Semi-Tight | Dry | FRNC/LSNH | 245 | Indoor | I-K(ZN)HH | 16.28 |
| **Mini-Breakout Cables (Distribution)** | | | | | | | | |
| GIMT | 2-24 Fibers | Tight | Dry | FRNC/LSNH | 280 | Indoor | I-V(ZN)H | 16.29 |
| GIMK | 2-8 Fibers | Semi-Tight | Dry | FRNC/LSNH | 245 | Indoor | I-K(ZN)H | 16.29 |
| GUMT | 4-24 Fibers | Tight | Dry | FRNC/LSNH | 280 | In/Outdoor | A/I-VQ(ZN)H | 16.30 |
| GUXT | 4-24 Fibers | Tight | Dry | FRNC/LSNH, Improved Rodent Protection | 280 | In/Outdoor | A/I-VQ(ZN)BH | 16.31 |
| GMMT | 4-8 Fibers | Tight | Dry | Intex Mobile, PUR | 280 | In/Outdoor | A/I-VQ(ZN)11Y | 16.32 |
| **Universal and Outdoor Cables with Loose Tubes** | | | | | | | | |
| **Central Loose Tube Cables (CLT)** | | | | | | | | |
| GOSA | 2-12 Fibers | – | Dry | PE, Standard Rodent Protection | 250 | Outdoor | A-DQ(ZN)2Y | 16.33 |
| GOSB | 2-24 Fibers | – | Dry | PE, Standard Rodent Protection | 250 | Outdoor | A-DQ(ZN)2Y | 16.33 |
| GORA | 2-12 Fibers | – | Dry | PE, Improved Rodent Protection | 250 | Outdoor | A-DQ(ZN)B2Y | 16.34 |
| GORB | 2-24 Fibers | – | Dry | PE, Improved Rodent Protection | 250 | Outdoor | A-DQ(ZN)B2Y | 16.34 |
| GOFB | 2-24 Fibers | – | Dry | PE, Full Rodent Protection, Armored (FRP) | 250 | Outdoor | A-DQB2Y (FRP1.0) | 16.35 |
| GOWB | 2-24 Fibers | – | Dry | Double PE, Full Rodent Protection, Armored (SWA) | 250 | Outdoor | A-DQ(ZN)2YB2Y (R0.63vzk) | 16.35 |
| GOCB | 2-24 Fibers | – | Dry | PE, Full Rodent Protection, Armored (CST) | 250 | Outdoor | A-DQ(ZN)(SR)2Y | 16.36 |
| GODA | 2-12 Fibers | – | Dry | Double PE, Full Rodent Protection, Armored (CST) | 250 | Outdoor | A-DQ(ZN)2Y(SR)2Y | 16.36 |
| GODB | 2-24 Fibers | – | Dry | Double PE, Full Rodent Protection, Armored (CST) | 250 | Outdoor | A-DQ(ZN)2Y(SR)2Y | 16.36 |
| GUSA | 2-12 Fibers | – | Dry | FRNC/LSNH, Standard Rodent Protection | 250 | In/Outdoor | A/I-DQ(ZN)H | 16.37 |
| GUSB | 2-24 Fibers | – | Dry | FRNC/LSNH, Standard Rodent Protection | 250 | In/Outdoor | A/I-DQ(ZN)H | 16.37 |
| GURA | 2-12 Fibers | – | Dry | FRNC/LSNH, Improved Rodent Protection | 250 | In/Outdoor | A/I-DQ(ZN)BH | 16.38 |
| GURB | 2-24 Fibers | – | Dry | FRNC/LSNH, Improved Rodent Protection | 250 | In/Outdoor | A/I-DQ(ZN)BH | 16.38 |
| GUCB | 2-24 Fibers | – | Dry | FRNC/LSNH, Full Rodent Protection, Armored (CST) | 250 | In/Outdoor | A/I-DQ(ZN)(SR)H | 16.39 |
| GUWB | 2-24 Fibers | – | Dry | Double FRNC/LSNH, Full RP, Armored (SWA) | 250 | In/Outdoor | A/I-DQ(ZN)HBH (R0.63vzk) | 16.40 |
| GUDA | 2-12 Fibers | – | Dry | Double FRNC/LSNH, Full RP, Armored (CST) | 250 | In/Outdoor | A/I-DQ(ZN)H(SR)H | 16.39 |
| GUDB | 2-24 Fibers | – | Dry | Double FRNC/LSNH, Full RP, Armored (CST) | 250 | In/Outdoor | A/I-DQ(ZN)H(SR)H | 16.39 |
| **Multi Loose Tube Cables (MLT)** | | | | | | | | |
| GBA | 4-432 Fibers | – | Dry | HDPE | 250 | Outdoor | A-DQ(ZN)2Y | 16.41 |
| GDA | 4-432 Fibers | – | Filled | HDPE | 250 | Outdoor | A-DF(ZN)2Y | 16.42 |
| GBR | 4-432 Fibers | – | Dry | HDPE, Improved Rodent Protection | 250 | Outdoor | A-DQ(ZN)B2Y | 16.43 |
| GDR | 4-432 Fibers | – | Filled | HDPE, Improved Rodent Protection | 250 | Outdoor | A-DF(ZN)B2Y | 16.44 |
| GBD | 4-432 Fibers | – | Dry | HDPE, Full Rodent Protection, Armored (CST) | 250 | Outdoor | A-DQ(ZN)2Y(SR)2Y | 16.45 |
| GDD | 4-432 Fibers | – | Filled | HDPE, Full Rodent Protection, Armored (CST) | 250 | Outdoor | A-DF(ZN)2Y(SR)2Y | 16.46 |
| GBW | 4-432 Fibers | – | Dry | HDPE, Full Rodent Protection, Armored (SWA) | 250 | Outdoor | A-DQ2YB2Y (R1.0vzk) | 16.47 |
| GDW | 4-432 Fibers | – | Filled | HDPE, Full Rodent Protection, Armored (SWA) | 250 | Outdoor | A-DF2YB2Y (R1.0vzk) | 16.48 |
| GALH | 4-24 Fibers | – | Filled | PE, Steel Wire Messenger, Figure 8 | 250 | Aerial-Outdoor | A-DSF(L)2YT | 16.49 |
| GALD | 12-72 Fibers | – | Filled | PE, Steel Wire Messenger, Figure 8 | 250 | Aerial-Outdoor | A-DSF(L)2YT | 16.49 |
| GAAD | 12-72 Fibers | – | Filled | PE, Dielectric Messenger, Figure 8 | 250 | Aerial-Outdoor | A-DF(ZN)2YT | 16.50 |
| GCA | 4-432 Fibers | – | Dry | LSZH | 250 | In/Outdoor | A/I-DQ(ZN)H | 16.51 |
| GEA | 4-432 Fibers | – | Filled | LSZH | 250 | In/Outdoor | A/I-DF(ZN)H | 16.52 |
| GCR | 4-432 Fibers | – | Dry | LSZH, Improved Rodent Protection | 250 | In/Outdoor | A/I-DQ(ZN)BH | 16.53 |
| GER | 4-432 Fibers | – | Filled | LSZH, Improved Rodent Protection | 250 | In/Outdoor | A/I-DF(ZN)BH | 16.54 |
| GCD | 4-432 Fibers | – | Dry | LSZH, Full Rodent Protection, Armored (CST) | 250 | In/Outdoor | A/I-DQ(ZN)H(SR)H | 16.55 |
| GED | 4-432 Fibers | – | Filled | LSZH, Full Rodent Protection, Armored (CST) | 250 | In/Outdoor | A/I-DF(ZN)H(SR)H | 16.56 |
| GCW | 4-432 Fibers | – | Dry | LSZH, Full Rodent Protection, Armored (SWA) | 250 | In/Outdoor | A/I-DQHBH (R1.0vzk) | 16.57 |
| GEW | 4-432 Fibers | – | Filled | LSZH, Full Rodent Protection, Armored (SWA) | 250 | In/Outdoor | A/I-DFHBH (R1.0vzk) | 16.58 |

# Introduction Cables

## Color Codes

### Interconnect Cables

| Fiber No. | Color (Sec. Coating) |
|---|---|
| SM 9/125 | Yellow |
| MM 50/125 | Green |
| MM 62.5/125 | Blue |

### Breakout Cables

| Fiber No. | Color (Sub-unit Jacket) |
|---|---|
| 1-24 (MM) | Orange |
| 1-24 (SM) | Yellow |

### Mini-Breakout Cables

| Fiber No. | Color (Sec. Coating) |
|---|---|
| 1 | White |
| 2 | Red |
| 3 | Blue |
| 4 | Yellow |
| 5 | Green |
| 6 | Violet |
| 7 | Brown |
| 8 | Black |
| 9 | Orange |
| 10 | Turquoise |
| 11 | Pink |
| 12 | Grey |

| Fiber No. | Color (Prim. Coating*) |
|---|---|
| 13 | White |
| 14 | Red |
| 15 | Blue |
| 16 | Yellow |
| 17 | Green |
| 18 | Violet |
| 19 | Brown |
| 20 | Black |
| 21 | Orange |
| 22 | Turquoise |
| 23 | Pink |
| 24 | Grey |

* secondary coating is transparent

### Central Loose Tube Cables*

| Fiber No. | Color |
|---|---|
| 1 | Red |
| 2 | Green |
| 3 | Blue |
| 4 | Yellow |
| 5 | White |
| 6 | Grey |
| 7 | Brown |
| 8 | Violet |
| 9 | Turquoise |
| 10 | Black |
| 11 | Orange |
| 12 | Pink |

| Fiber No. | Color |
|---|---|
| 13 | Red/Black |
| 14 | Green/Black |
| 15 | Blue/Black |
| 16 | Yellow/Black |
| 17 | White/Black |
| 18 | Grey/Black |
| 19 | Brown/Black |
| 20 | Violet/Black |
| 21 | Turquoise/Black |
| 22 | Natural/Black |
| 23 | Orange/Black |
| 24 | Pink/Black |

* fiber color code according to IEC 60304; different color coding available on request

### Multi Loose Tube Cables*

| Fiber No. | Color |
|---|---|
| 1 | Red |
| 2 | Green |
| 3 | Blue |
| 4 | Yellow |
| 5 | White |
| 6 | Grey |
| 7 | Brown |
| 8 | Violet |
| 9 | Turquoise |
| 10 | Black |
| 11 | Orange |
| 12 | Pink |

| Fiber No. | Color |
|---|---|
| 13 | Red/Black |
| 14 | Green/Black |
| 15 | Blue/Black |
| 16 | Yellow/Black |
| 17 | White/Black |
| 18 | Grey/Black |
| 19 | Brown/Black |
| 20 | Violet/Black |
| 21 | Turquoise/Black |
| 22 | Natural/Black |
| 23 | Orange/Black |
| 24 | Pink/Black |

* fiber color code according to IEC 60304; different color coding available on request

### Color Code Tubes

| Tube No. | Color |
|---|---|
| 1 | Red |
| 2 | Green |
| Rest | White |

# Introduction Cables
## Cable Selection Guide Plenum

### Optical Fiber Selection

| Type | Grade | Fiber Size (µ) | Standards Compliance | Link Length (m) | Data Rate (Gb) |
|---|---|---|---|---|---|
| **Multimode** | 6 | 50/125 | exceeds TIA/EIA-568-B.3-1 ISO 11801 OM3 | 500 | 10 |
| | 5 | 50/125 | TIA/EIA-568-B.3-1 ISO 11801 OM3 | 300 | 10 |
| | 4 | 50/125 | TIA/EIA-568-B.3 | 600 | 1 |
| | 3 | 62.5/125 | TIA/EIA-568-B.3 | 1000 | 1 |
| | 2 | 62.5/125 | TIA/EIA-568-B.3 | 550 | 1 |
| | 1* | 62.5/125 | FDDI grade † | – | – |
| **Single-mode** | – | – | ITU G.652.c/d †† | – | – |

* Grade 1 fibers are available upon request.
† Used in most current cable plants, but not recommended for future installations, except as patch cordage.
†† Low water peak fiber with advantages for CWDM applications.

### Color Code Charts

#### Jacket Color Chart

| Cable Type | Jacket Color |
|---|---|
| **Loose Tube & Outside Plant Cables** | Black |
| **Industrial Tray Cables** | Orange |
| **Tight-Buffered Cables** | |
| Grades 2, 3, 4 | Orange |
| Grades 5, 6 | Aqua |
| Single-mode | Yellow |

Nonstandard jacket colors are available upon request.

#### Fiber Sub-Unit Color Code Chart*

| Fiber/Tube No. | Color | Fiber/Tube No. | Color |
|---|---|---|---|
| **1** | Blue | **7** | Red |
| **2** | Orange | **8** | Black |
| **3** | Green | **9** | Yellow |
| **4** | Brown | **10** | Violet |
| **5** | Slate | **11** | Rose |
| **6** | White | **12** | Aqua |

* Per EIA/TIA 598-A

### Optical Specifications

| Grade: | 2 | 3 | 4 | 5 | 6 | Single-Mode Enhanced[6] |
|---|---|---|---|---|---|---|
| Glass Type: | 62.5/125 µ | 62.5/125 µ | 50/125 µ | 50/125 µ | 50/125µ | |
| Operating Wavelength (nm) | 850/1300 | 850/1300 | 850/1300 | 850/1300 | 850/1300 | 1310/1550 |
| Min. OFL[1] Bandwidth (MHz-km) | 200/500 | 200/500 | 500/500 | 1500/500 | 3000/500 | – |
| Min. Laser[2] Bandwidth (MHz-km) | 220/500 | 385/500 | 510/500 | 2000/500 | 4000/500 | – |
| Max. Attenuation Loose Tube (dB/km) | 3.25/1.0 | 3.25/1.0 | 3.0/1.0 | 3.0/1.0 | 3.0/1.0 | 0.40/0.30 |
| Max. Attenuation Tight-Buffered[3] (dB/km) | 3.50/1.25 | 3.50/1.25 | 3.50/1.25 | 3.50/1.25 | 3.50/1.25 | 0.80/0.50 |
| 100 Mb Fast Ethernet Min. Link Length (meters S/L[4]) | 300/2000 | 300/2000 | 300/2000 | 300/2000 | 300/2000 | –/5000 |
| 1 Gb Ethernet Min. Link Length (meters S/L[4]) | 300/550 | 500/1000 | 600/600 | 1000[5]/600 | 1000[5]/600 | –/5000 |
| 10 Gb Ethernet Min. Link Length (meters S/L[4]) | 35/300 | 35/300 | 85/300 | 300/300 | 500/300 | –/10000 |

[1] OFL = Overfilled launch
[2] Effective modal bandwidth, determined by RML or DMD performance specifications
[3] Max. attenuation for tight-buffered, ribbon, micro-loose tube and loose tube plenum cables
[4] S/L = Short wavelength (850 nm)/Long wavelength (1310 nm)
[5] > 2000 meters for engineered links
[6] Low water peak single-mode suitable for CWDM use complies with ITU G.652.c/d

### Availability

Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a fiber cable in this catalog section that meets your technical requirements contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

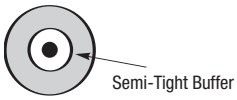
# Interconnect Cables

## Indoor

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer / Tube OD inch | Nom. Buffer / Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending radii cable (mm) static | Bending radii cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIOK • Pigtails** • Semi-Tight Buffer • Excellent Strippability • **I-K** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Halogen-Free Jacket** (Blue, Green, Green with Black Rings or Yellow) | | | | | | | | | | | | | | | | | | |
| -30/70°C | IEC 60332-2 | | 6888 | 2100 | 3.1 | 1.4 | Ø 245 ± 10 | | | – | | | no | 3 | 4 | 19 | | |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **GIOK**101 | 1 | 62.5/125 OM1 in Blue | 0.04 | 0.9 | | | 25 | 35 |
| **GIOK**201 | 1 | 50/125 OM2 in Green | 0.04 | 0.9 | | | 25 | 35 |
| **GIOK**301 | 1 | 50/125 OM3 in Green with Black rings | 0.04 | 0.9 | | | 25 | 35 |
| **GIOK**401 | 1 | 50/125 OM2e in Green | 0.04 | 0.9 | | | 25 | 35 |
| **GIOK**901 | 1 | 9/125 OS1 in Yellow | 0.04 | 0.9 | | | 25 | 35 |



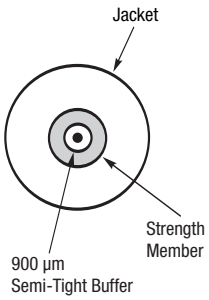

Strippability secondary coating = 100 cm

**GIPS • Simplex** • Semi-Tight Buffer • Excellent Strippability • **I-W(ZN)H**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Jelly-Filled Construction • Orange FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -5/55°C | IEC 60332-1 | | 6888 | 2100 | 32.9 | 14.9 | Ø 245 ± 10 | | | Reinforced Aramid Yarn | | | no | 200 | 10 | 128 | | |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **GIPS**xA1 | | | 0.06 | 1.6 | | | 24 | 32 |
| **GIPS**xB1 | | | 0.07 | 1.8 | | | 27 | 36 |
| **GIPS**xC1 | | | 0.08 | 2.0 | | | 30 | 40 |
| **GIPS**xD1 | | | 0.09 | 2.4 | | | 36 | 48 |
| **GIPS**xE1 | | | 0.11 | 2.8 | | | 42 | 56 |
| **GIPS**xF1 | | | 0.12 | 3.0 | | | 45 | 60 |




Strippability secondary coating = 100 cm
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

# Interconnect Cables

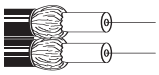
## Indoor

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |

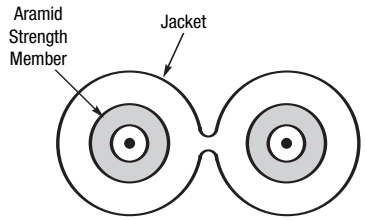
**GIPS • Duplex • Figure 8** • Semi-Tight Buffer • Excellent Strippability • **I-W(ZN)H**

**Jelly-Filled Construction • Orange FRNC/LSNH Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -5/55°C | IEC 60332-1 | 6888 | 2100 | 65.3 | 29.6 | Ø 245 ± 10 | | | Reinforced Aramid Yarn | | | no | 400 | 20 | 256 | | |



| | | | | | |
|---|---|---|---|---|---|
| **GIPS**xA2 | | | | 33 | 50 |
| **GIPS**xB2 | | | | 37 | 56 |
| **GIPS**xC2 | | | | 41 | 62 |
| **GIPS**xD2 | | | | 49 | 74 |
| **GIPS**xE2 | | | | 57 | 86 |
| **GIPS**xF2 | | | | 61 | 92 |

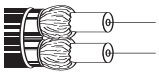



Strippability secondary coating = 100 cm
Color Code: see chart page 16.23

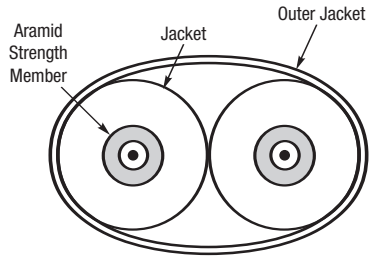
**GIPK • Heavy Duplex** • Semi-Tight Buffer • Excellent Strippability • **I-K(ZN)HH**

**Dry Construction • Orange FRNC/LSNH Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -5/55°C | IEC 60332-1 | 6888 | 2100 | 115.3 | 52.3 | Ø 245 ± 10 | | | Reinforced Aramid Yarn | | | no | 400 | 20 | 256 | | |



| | | | | | |
|---|---|---|---|---|---|
| **GIPK**xA2 | | | | 43 | 65 |
| **GIPK**xB2 | | | | 47 | 71 |
| **GIPK**xC2 | | | | 51 | 77 |
| **GIPK**xD2 | | | | 59 | 89 |
| **GIPK**xE2 | | | | 67 | 101 |
| **GIPK**xF2 | | | | 71 | 107 |



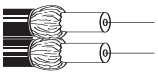

Strippability secondary coating = 100 cm
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

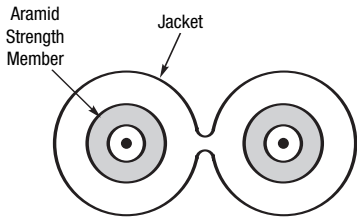
# Interconnect Cables

## Indoor

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer / Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GIPT • Mini-Zip • Figure 8** • Tight Buffer • **I-V(ZN)H** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Orange FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | IEC 60332-1 | 6888 | 2100 | 26.4 | 12.0 | Ø 280 ± 15 | | | Reinforced Aramid Yarn | | | | no | 400 | 20 | 19 | | |



| | | | | | | |
|---|---|---|---|---|---|---|
| **GIPT**xA2 | | | 0.13 | 3.4 | 34 | 51 |
| **GIPT**xB2 | | | 0.15 | 3.9 | 39 | 58 |




Color Code: see chart page 16.23

Optical characteristics see page 16.21.

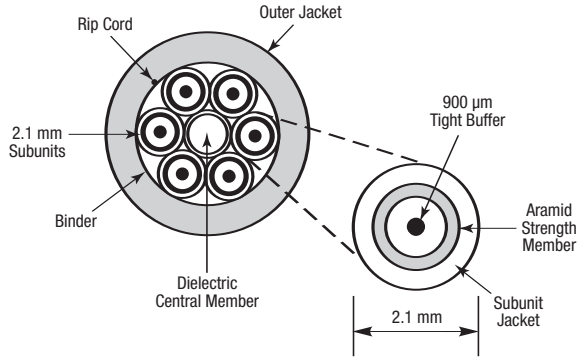
# Breakout Cables

## Indoor

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIBT** • Tight Buffer • With Rip Cord • **I-V(ZN)HH** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Orange FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -5/55°C | IEC 60332-1 | 6888 | 2100 | | | Ø 280 ± 15 | | | Reinforced Aramid Yarn | 0.08 | 2.1 | Filler | | | | | |




| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIBT**x02 | 2 | 115.7 | 52.5 | 2 + 2 BE | 0.21 | 5.3 | 400 | 7.5 | 379 | 53 | 80 |
| **GIBT**x04 | 4 | 143.5 | 65.1 | CE + 4 | 0.24 | 6.2 | 400 | 7.5 | 507 | 62 | 93 |
| **GIBT**x06 | 6 | 273.1 | 123.9 | CE + 6 | 0.31 | 8.0 | 600 | 7.5 | 928 | 80 | 120 |
| **GIBT**x08 | 8 | 356.5 | 161.7 | CE + 8 | 0.37 | 9.4 | 800 | 7.5 | 1235 | 94 | 141 |
| **GIBT**x12 | 12 | 402.8 | 182.7 | 3 + 9 | 0.41 | 10.5 | 1200 | 7.5 | 1424 | 105 | 158 |
| **GIBT**x24 | 24 | 810.2 | 367.5 | 2 + 8 + 14 | 0.56 | 14.3 | 2400 | 7.5 | 2677 | 143 | 215 |



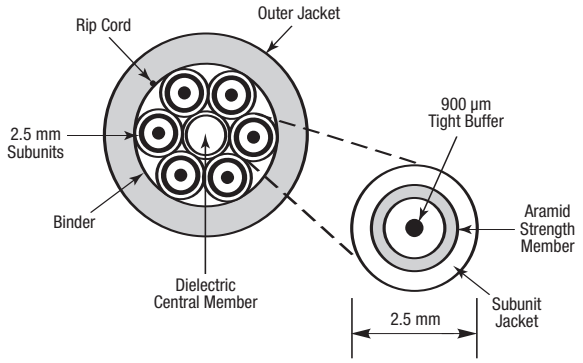

Color Code: see chart page 16.23

**GIBK** • Semi-Tight Buffer • With Rip Cord • Excellent Strippability • **I-K(ZN)HH**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dry Construction • Orange FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -5/55°C | IEC 60332-1 | 6888 | 2100 | 115.3 | 52.3 | Ø 245 ± 10 | | | Reinforced Aramid Yarn | 0.10 | 2.5 | Filler | | | | | |




| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIBK**x02 | 2 | 120.4 | 54.6 | Flat | 6.30 x 3.8 | | 400 | 7.5 | 382 | – | – |
| **GIBK**x04 | 4 | 185.2 | 84.0 | CE + 4 | 0.28 | 7.2 | 400 | 7.5 | 607 | 72 | 108 |
| **GIBK**x06 | 6 | 338.0 | 153.3 | CE + 6 | 0.37 | 9.4 | 600 | 7.5 | 1124 | 94 | 141 |
| **GIBK**x08 | 8 | 430.6 | 195.3 | CE + 8 | 0.43 | 10.9 | 800 | 7.5 | 1450 | 109 | 164 |
| **GIBK**x12 | 12 | 513.9 | 233.1 | 3 + 9 | 0.46 | 11.8 | 1200 | 7.5 | 1675 | 118 | 177 |




Color Code: see chart page 16.23

Optical characteristics see page 16.21.

# Mini-Breakout Cables (Distribution)

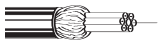
Indoor

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer / Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |

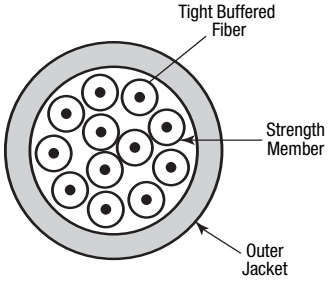
**GIMT** • Tight Buffer • **I-V(ZN)H**

**Dry Construction • Orange FRNC/LSNH Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -5/55°C | IEC 60332-2 | | 6888 | 2100 | | | Ø 280 ± 15 | | | Reinforced Aramid Yarn | | | no | | 4 | | | |



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIMT**x02 | 2 | | | 74.1 | 33.5 | | | | 0.16 | 4.0 | | 400 | | 227 | | 40 | 60 | |
| **GIMT**x04 | 4 | | | 88.0 | 39.9 | | | | 0.19 | 4.8 | | 400 | | 294 | | 48 | 72 | |
| **GIMT**x06 | 6 | | | 106.5 | 48.3 | | | | 0.21 | 5.3 | | 450 | | 339 | | 53 | 80 | |
| **GIMT**x08 | 8 | | | 115.7 | 52.5 | | | | 0.21 | 5.3 | | 450 | | 351 | | 53 | 80 | |
| **GIMT**x12 | 12 | | | 185.2 | 84.0 | | | | 0.28 | 7.0 | | 500 | | 619 | | 70 | 105 | |
| **GIMT**x16 | 16 | | | 226.9 | 102.9 | | | | 0.31 | 8.0 | | 500 | | 886 | | 80 | 120 | |
| **GIMT**x24 | 24 | | | 263.9 | 119.7 | | | | 0.35 | 9.0 | | 600 | | 1044 | | 90 | 135 | |

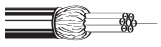



Available in multimode only.
Color Code: see chart page 16.23

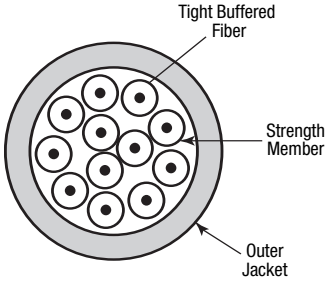
**GIMK** • Semi-Tight Buffer • **I-K(ZN)H**

**Dry Construction • Orange FRNC/LSNH Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -5/55°C | IEC 60332-2 | | 6888 | 2100 | | | Ø 245 ± 10 | | | Reinforced Aramid Yarn | | | no | | 4 | | | |



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIMK**x02 | 2 | | | 88.0 | 39.9 | | | | 0.16 | 4.0 | | 400 | | 235 | | 40 | 60 | |
| **GIMK**x04 | 4 | | | 92.6 | 42.0 | | | | 0.19 | 4.8 | | 400 | | 310 | | 48 | 72 | |
| **GIMK**x06 | 6 | | | 106.5 | 48.3 | | | | 0.21 | 5.3 | | 450 | | 339 | | 53 | 80 | |
| **GIMK**x08 | 8 | | | 120.4 | 54.6 | | | | 0.21 | 5.3 | | 450 | | 381 | | 53 | 80 | |



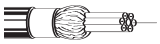

Available in multimode only.
Color Code: see chart page 16.23

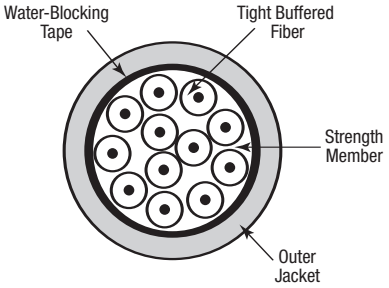
Optical characteristics see page 16.21.

# Mini-Breakout Cables (Distribution)

## Universal – Indoor/Outdoor, Standard Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GUMT** • Tight Buffer • **A/I-VQ(ZN)H** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Orange FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C IEC 60332-2 | | 6888 | | 2100 | | | Ø 280 ± 15 | | | Longitudinal watertightness Swellable Glass Yarn (6) | | | no | | 4 | | | |
| **GUMT**x04 | 4 | | | 120.4 | | 54.6 | | | | | 0.21 | 5.4 | | 400 | | 296 | 54 | 81 |
| **GUMT**x06 | 6 | | | 138.0 | | 63.0 | | | | | 0.23 | 5.9 | | 450 | | 347 | 59 | 89 |
| **GUMT**x08 | 8 | | | 148.1 | | 67.2 | | | | | 0.23 | 5.9 | | 450 | | 371 | 59 | 89 |
| **GUMT**x12 | 12 | | | 208.3 | | 94.5 | | | | | 0.30 | 7.6 | | 500 | | 622 | 76 | 114 |
| **GUMT**x16 | 16 | | | 245.4 | | 111.3 | | | | | 0.34 | 8.6 | | 500 | | 845 | 86 | 129 |
| **GUMT**x24 | 24 | | | 300.9 | | 136.5 | | | | | 0.38 | 9.6 | | 600 | | 1082 | 96 | 144 |



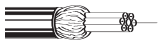


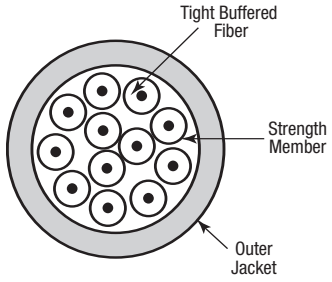

Color Code: see chart page 16.23

Optical characteristics see page 16.21.

# Mini-Breakout Cables (Distribution)

## Universal – Indoor/Outdoor, Improved Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GUXT** • Tight Buffer • **A/I-VQ(ZN)BH** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Orange FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C IEC 60332-2 | | | 6888 | 2100 | | | Ø 280 ± 15 | | | Longitudinal watertightness Swellable Glass Yarn | | | no | | 4 | | | |
|  | | | | | | | | | | | | | | | | | | |
| **GUXT**x04 | | 4 | | | 203.7 | 92.4 | | | | | 0.28 | 7.0 | | 2000 | | 375 | 70 | 105 |
| **GUXT**x06 | | 6 | | | 236.1 | 107.1 | | | | | 0.29 | 7.3 | | 2000 | | 445 | 73 | 110 |
| **GUXT**x08 | | 8 | | | 259.3 | 117.6 | | | | | 0.29 | 7.3 | | 2000 | | 472 | 73 | 110 |
| **GUXT**x12 | | 12 | | | 351.9 | 159.6 | | | | | 0.37 | 9.4 | | 3000 | | 801 | 94 | 141 |
| **GUXT**x24 | | 24 | | | 560.2 | 254.1 | | | | | 0.42 | 10.6 | | 4000 | | 1243 | 106 | 159 |



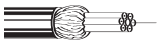

Color Code: see chart page 16.23

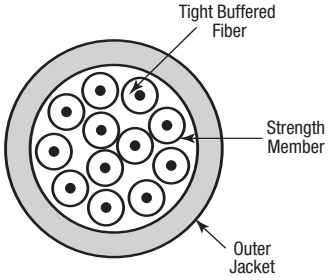
Optical characteristics see page 16.21.

# Mini-Breakout Cables (Distribution)

## Special – Indoor/Outdoor

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GMMT • Intex Mobile** • Tight Buffer • Designed for Despooling and Respooling • **A/I-VQ(ZN)11Y** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • PUR Jacket** (Orange or Black) | | | | | | | | | | | | | | | | | | |
| -30/70°C IEC 60332-1 | | 6888 | 2100 | | | Ø 280 ± 15 | | | Longitudinal watertightness Swellable Glass Yarn | | | no | | | | | |
| **GMMT**x04 | 4 | | | 143.5 | 65.1 | | | | | 0.23 | 5.8 | | 800 | 4 | 580 | 58 | 87 | |
| **GMMT**x06 | 6 | | | 175.9 | 79.8 | | | | | 0.25 | 6.3 | | 950 | 4 | 725 | 63 | 95 | |
| **GMMT**x08 | 8 | | | 217.6 | 98.7 | | | | | 0.28 | 7.0 | | 1100 | 4 | 890 | 70 | 105 | |






Color Code: see chart page 16.23

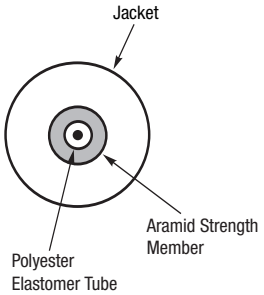
Optical characteristics see page 16.21.

# Breakout Kit Cables

## Universal – Indoor/Outdoor

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending radii cable (mm) static | Bending radii cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GIPS** • Simplex • With Furcation Tube (no Fiber) | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Orange PUR Jacket** | | | | | | | | | | | | | | | | | | |
| -5/55°C IEC 60332-2 | | 6888 | 2100 | 42.5 | 19.3 | | | | | Reinforced Aramid Yarn | 0.11 | 2.8 | no | 110 | – | 128 | 28 | 42 |






Color Code: see chart page 16.23

# Central Loose Tube Cables

## Outdoor – Standard Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer / Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GOSA** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A-DQ(ZN)2Y** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Black PE (UV-resistant) Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | 13448 | 4100 | 334.4 | 151.7 | Ø 250 ± 15 | 0.13 | 3.2 | Longitudinal watertightness Swellable Glass Yarn (6) | 0.23 | 5.8 | no | 700 | 10 | – | 58 | 87 |



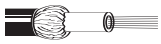
| | |
|---|---|
| **GOSA**x02 | 2 |
| **GOSA**x04 | 4 |
| **GOSA**x06 | 6 |
| **GOSA**x08 | 8 |
| **GOSA**x12 | 12 |

Color Code: see chart page 16.23

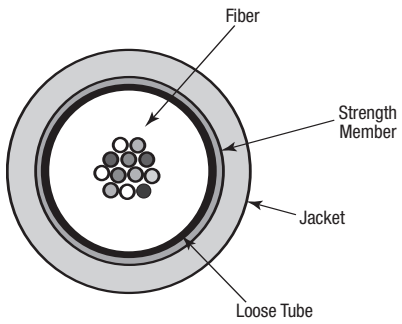
**GOSB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A-DQ(ZN)2Y**

**Dry Construction • Black PE (UV-resistant) Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | | 6888 | 2100 | 305.6 | 138.6 | Ø 250 ± 15 | 0.17 | 4.2 | Longitudinal watertightness Swellable Glass Yarn (6) | 0.34 | 8.7 | no | 1400 | 15 | – | 87 | 131 |



| | |
|---|---|
| **GOSB**x02 | 2 |
| **GOSB**x04 | 4 |
| **GOSB**x06 | 6 |
| **GOSB**x08 | 8 |
| **GOSB**x12 | 12 |
| **GOSB**x16 | 16 |
| **GOSB**x24 | 24 |




Color Code: see chart page 16.23

Optical characteristics see page 16.21.

# Central Loose Tube Cables

## Outdoor – Improved Rodent Protection

**GORA** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A-DQ(ZN)B2Y**

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dry Construction • Black PE (UV-resistant) Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | 13448 | 4100 | 497.1 | 225.5 | Ø 250 ± 15 | 0.13 | 3.2 | Longitudinal watertightness Swellable Glass Yarn (14) | 0.28 | 7.1 | no | 1400 | 10 | 755 | 71 | 107 | |

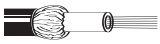


**GORA**x02 2
**GORA**x04 4
**GORA**x06 6
**GORA**x08 8
**GORA**x12 12

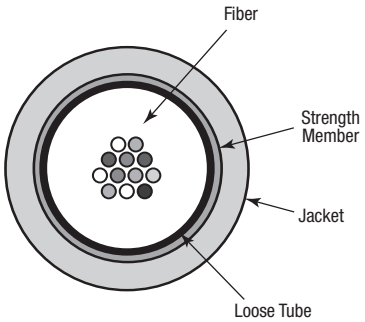
Color Code: see chart page 16.23

**GORB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A-DQ(ZN)B2Y**

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dry Construction • Black PE (UV-resistant) Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | 6888 | 2100 | 444.4 | 201.6 | Ø 250 ± 15 | 0.17 | 4.2 | Longitudinal watertightness Swellable Glass Yarn (14) | 0.40 | 10.2 | no | 4000 | 15 | 2200 | 102 | 153 | |



**GORB**x02 2
**GORB**x04 4
**GORB**x06 6
**GORB**x08 8
**GORB**x12 12
**GORB**x16 16
**GORB**x24 24



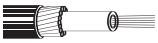

Color Code: see chart page 16.23

Optical characteristics see page 16.21.

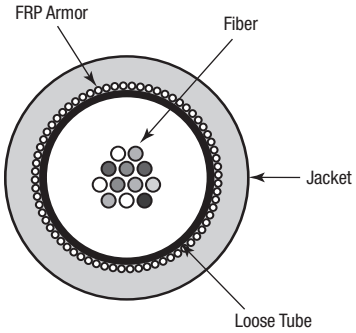
# Central Loose Tube Cables

## Outdoor – Fiber Reinforced Plastic Armor (FRP), Full Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer / Tube OD inch | Nom. Buffer / Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GOFB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Water-Blocked • FRP • **A-DQB2Y (FRP1.0)** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Single Black PE Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | 6888 | 2100 | 352.7 | 160.0 | Ø 250 ± 15 | 0.16 | 4.0 | FRP Rods | 0.354 | 9.0 | no | 4000 | 40 | – | 90 | 180 |



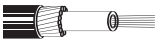
**GOFB**x02 2
**GOFB**x04 4
**GOFB**x06 6
**GOFB**x08 8
**GOFB**x12 12
**GOFB**x16 16
**GOFB**x24 24



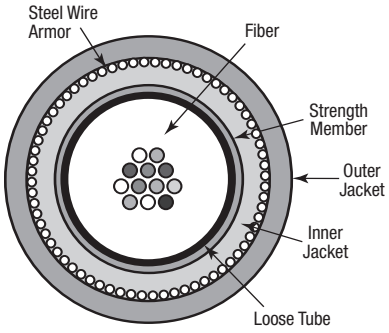

Color Code: see chart page 16.23

## Outdoor – Steel Wire Armor (SWA), Full Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer / Tube OD inch | Nom. Buffer / Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending radii cable (mm) static | Bending radii cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GOWB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • SWA • **A-DQ(ZN)2YB2Y (R0.63vzk)** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Double Black PE Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | 6888 | 2100 | 1029.7 | 467.0 | Ø 250 ± 15 | 0.16 | 4.0 | Longitudinal watertightness Swellable Glass Yarn | 0.512 | 13.0 | no | 6500 | 50 | – | 130 | 260 |



**GOWB**x02 2
**GOWB**x04 4
**GOWB**x06 6
**GOWB**x08 8
**GOWB**x12 12
**GOWB**x16 16
**GOWB**x24 24




Color Code: see chart page 16.23

Optical characteristics see page 16.21.

# Central Loose Tube Cables

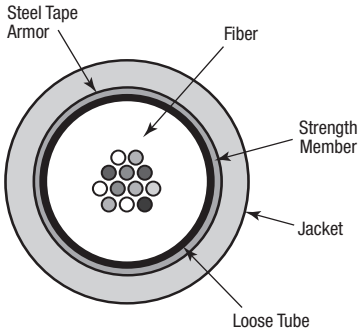
## Outdoor – Corrugated Steel Tape Armor (CST), Full Rodent Protection

**GOCB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • CST • **A-DQ(ZN)(SR)2Y**

**Dry Construction • Single Black PE Jacket**

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | | | 6888 | 2100 | 518.5 | 235.2 | Ø 250 ± 15 | 0.16 | 4.0 | Longitudinal watertightness Swellable Glass Yarn | 0.42 | 10.6 | no | 2000 | 40 | – | 106 | 212 |
| | **GOCB**x02 | 2 | | | | | | | | | | | | | | | | |
| | **GOCB**x04 | 4 | | | | | | | | | | | | | | | | |
| | **GOCB**x06 | 6 | | | | | | | | | | | | | | | | |
| | **GOCB**x08 | 8 | | | | | | | | | | | | | | | | |
| | **GOCB**x12 | 12 | | | | | | | | | | | | | | | | |
| | **GOCB**x16 | 16 | | | | | | | | | | | | | | | | |
| | **GOCB**x24 | 24 | | | | | | | | | | | | | | | | |



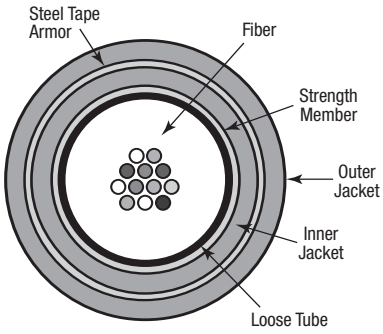



Color Code: see chart page 16.23

**GOD** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • CST • **A-DQ(ZN)2Y(SR)2Y**

**Dry Construction • Double Black PE Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | | | 6888 | 2100 | | | Ø 250 ± 15 | | | Longitudinal watertightness Swellable Glass Yarn | | | | | | | | |
| | **GODA**x02 | 2 | | | 666.7 | 302.4 | | 0.11 | 2.8 | | 0.43 | 11.0 | no | 2000 | 40 | – | 110 | 220 |
| | **GODA**x04 | 4 | | | | | | | | | | | | | | | | |
| | **GODA**x06 | 6 | | | | | | | | | | | | | | | | |
| | **GODA**x08 | 8 | | | | | | | | | | | | | | | | |
| | **GODA**x12 | 12 | | | | | | | | | | | | | | | | |
| | **GODB**x16 | 16 | | | 822.3 | 373.0 | | 0.16 | 4.0 | | 0.496 | 12.6 | no | 2000 | 40 | – | 126 | 232 |
| | **GODB**x24 | 24 | | | | | | | | | | | | | | | | |




Color Code: see chart page 16.23

Optical characteristics see page 16.21.

# Central Loose Tube Cables

## Universal – Indoor/Outdoor, Standard Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GUSA** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A/I-DQ(ZN)H** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Orange FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | IEC 60332-3C | | 13448 | 4100 | 334.4 | 151.7 | Ø 250 ± 15 | 0.13 | 3.2 | Longitudinal watertightness Swellable Glass Yarn (6) | 0.23 | 5.8 | no | 700 | 10 | 550 | 58 | 87 |

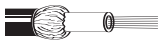


**GUSA**x02 2
**GUSA**x04 4
**GUSA**x06 6
**GUSA**x08 8
**GUSA**x12 12

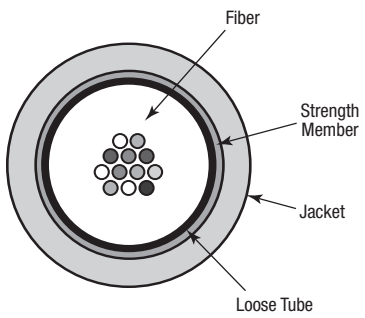
Color Code: see chart page 16.23

**GUSB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A/I-DQ(ZN)H**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dry Construction • Orange FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | IEC 60332-3C | | 6888 | 2100 | 333.3 | 151.2 | Ø 250 ± 15 | 0.17 | 4.2 | Longitudinal watertightness Swellable Glass Yarn (6) | 0.34 | 8.7 | no | 1400 | 15 | 1370 | 87 | 131 |



**GUSB**x02 2
**GUSB**x04 4
**GUSB**x06 6
**GUSB**x08 8
**GUSB**x12 12
**GUSB**x16 16
**GUSB**x24 24




Color Code: see chart page 16.23

Optical characteristics see page 16.21.

# Central Loose Tube Cables

## Universal – Indoor/Outdoor, Improved Rodent Protection

**GURA** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A/I-DQ(ZN)BH**

**Dry Construction • Orange FRNC/LSNH Jacket**

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | IEC 60332-3C | 13448 | 4100 | 497.1 | 225.5 | Ø 250 ± 15 | 0.13 | 3.2 | Longitudinal watertightness Swellable Glass Yarn (14) | 0.28 | 7.1 | no | 1400 | 10 | 755 | 71 | 107 | |



| | |
|---|---|
| **GURA**x02 | 2 |
| **GURA**x04 | 4 |
| **GURA**x06 | 6 |
| **GURA**x08 | 8 |
| **GURA**x12 | 12 |

Color Code: see chart page 16.23

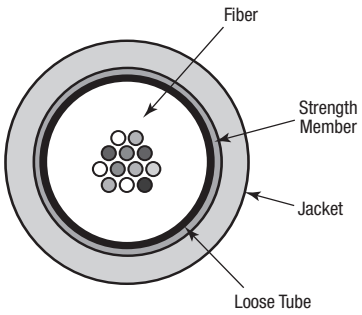
**GURB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A/I-DQ(ZN)BH**

**Dry Construction • Orange FRNC/LSNH Jacket**

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | IEC 60332-3C | 6888 | 2100 | 481.5 | 218.4 | Ø 250 ± 15 | 0.17 | 4.2 | Longitudinal watertightness Swellable Glass Yarn (14) | 0.40 | 10.2 | no | 4000 | 15 | 1680 | 102 | 153 | |



| | |
|---|---|
| **GURB**x04 | 4 |
| **GURB**x06 | 6 |
| **GURB**x08 | 8 |
| **GURB**x12 | 12 |
| **GURB**x16 | 16 |
| **GURB**x24 | 24 |




Color Code: see chart page 16.23

Optical characteristics see page 16.21.

# Central Loose Tube Cables

## Universal – Indoor/Outdoor, Corrugated Steel Tape Armor (CST), Full Rodent Protection

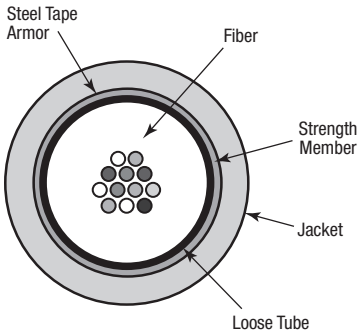
**GUCB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • CST • **A/I-DQ(ZN)(SR)H**

**Dry Construction • Single Black FRNC/LSNH Jacket**

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending radii cable (mm) static | Bending radii cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | EN 50266-2-2<br>EN 50267-2-2<br>EN 50268-2, EN 60331-25 | 6888 | 2100 | 685.2 | 310.8 | Ø 250 ± 15 | 0.16 | 4.0 | Longitudinal watertightness<br>Swellable<br>Glass Yarn | 0.42 | 10.6 | no | 2000 | 40 | – | 106 | 212 |



| | |
|---|---|
| **GUCB**x02 | 2 |
| **GUCB**x04 | 4 |
| **GUCB**x06 | 6 |
| **GUCB**x08 | 8 |
| **GUCB**x12 | 12 |
| **GUCB**x16 | 16 |
| **GUCB**x24 | 24 |

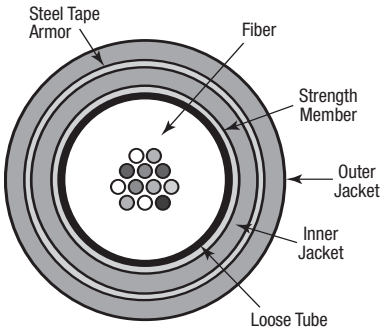



Color Code: see chart page 16.23

**GUD** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • CST • **A/I-DQ(ZN)H(SR)H**

**Dry Construction • Double Black FRNC/LSNH Jacket**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | EN 50266-2-2<br>EN 50267-2-2<br>EN 50268-2 | 6888 | 2100 | | | Ø 250 ± 15 | | | Longitudinal watertightness<br>Swellable<br>Glass Yarn | | | | | | | | | |
| **GUDA**x02 | 2 | | | 833.3 | 378.0 | | 0.11 | 2.8 | | 0.43 | 11.0 | no | 2000 | 40 | – | 110 | 220 |
| **GUDA**x04 | 4 | | | | | | | | | | | | | | | | | |
| **GUDA**x06 | 6 | | | | | | | | | | | | | | | | | |
| **GUDA**x08 | 8 | | | | | | | | | | | | | | | | | |
| **GUDA**x10 | 10 | | | | | | | | | | | | | | | | | |
| **GUDA**x12 | 12 | | | | | | | | | | | | | | | | | |
| **GUDB**x16 | 16 | | | 1078.7 | 489.3 | | 0.16 | 4.0 | | 0.51 | 13.0 | no | 2000 | 40 | – | 130 | 260 |
| **GUDB**x24 | 24 | | | | | | | | | | | | | | | | | |



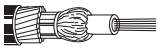

Color Code: see chart page 16.23

Optical characteristics see page 16.21.

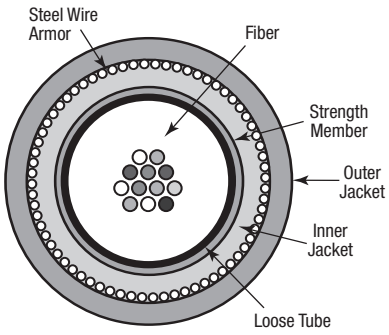
# Central Loose Tube Cables

## Universal – Indoor/Outdoor, Steel Wire Armor (SWA), Full Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GUWB** • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • SWA • **A/I-DQ(ZN)HBH (R0.63vzk)** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Double Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | 6888 | 2100 | 1263.8 | 561.0 | Ø 250 ± 15 | 0.16 | 4.0 | Longitudinal watertightness Swellable Glass Yarn | 0.51 | 13.0 | no | 6500 | 50 | – | 130 | 260 |



**GUWB**x02 2
**GUWB**x04 4
**GUWB**x06 6
**GUWB**x08 8
**GUWB**x12 12
**GUWB**x16 16
**GUWB**x24 24




Color Code: see chart page 16.23

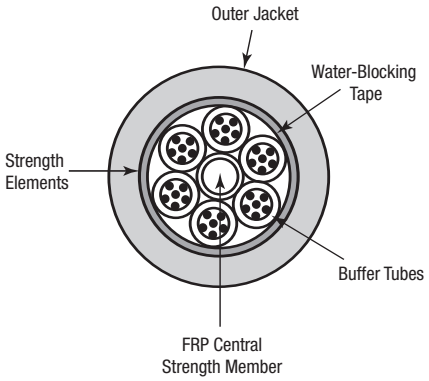
Optical characteristics see page 16.21.

# Multi Loose Tube Cables

## Outdoor

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer / Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dyna-mic |
| **GBA** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DQ(ZN)2Y** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Black PE (HDPE) Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | | | | | | | | | | | | | | | | | |
| **GBA**Gx04<br>**GBA**Gx06<br>**GBA**Gx08<br>**GBA**Gx12<br>**GBA**Gx18<br>**GBA**Gx24<br>**GBA**Gx30<br>**GBA**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 333.3<br>650.8 | 151.2<br>295.2 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Aramid Yarn | 0.41 | 10.3 | 2.0 | 3000 | 20 | – | 155 | 206 |
| **GBA**Dx24<br>**GBA**Dx36<br>**GBA**Dx48<br>**GBA**Dx60<br>**GBA**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 458.3<br>894.8 | 207.9<br>405.9 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.48 | 12.2 | 2.7 | 3500 | 20 | – | 183 | 244 |
| **GBA**Ex84<br>**GBA**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 588.0<br>1147.9 | 266.7<br>520.7 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.54 | 13.8 | 3.0/4.3 | 4000 | 20 | – | 207 | 276 |
| **GBA**Fx08<br>**GBA**Fx20<br>**GBA**Fx32<br>**GBA**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 888.9<br>1735.5 | 403.2<br>787.2 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.67 | 17.0 | 3.0/7.5 | 4000 | 20 | – | 255 | 340 |
| **GBA**Mx16 | 216 (18x12) | 6888<br>13448 | 2100<br>4100 | 1041.7<br>2033.7 | 472.5<br>922.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.72 | 18.2 | 2.7 | 4000 | 20 | – | 273 | 364 |
| **GBA**Ix92 | 192 (8x24) | 6888<br>13448 | 2100<br>4100 | 1064.8<br>2078.9 | 483.0<br>943.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.71 | 18.0 | 3.0/6.0 | 4000 | 20 | – | 270 | 360 |
| **GBA**Jx88 | 288 (12x24) | 6888 | 2100 | 1643.5 | 745.5 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.88 | 22.4 | 3.0/10.5 | 4000 | 20 | – | 336 | 448 |
| **GBA**Lx32 | 432 (18x24) | 6888 | 2100 | 1643.5 | 745.5 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.91 | 23.2 | 2.7/3.7 | 4000 | 20 | – | 348 | 464 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Outdoor

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |

**GDA** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DF(ZN)2Y**

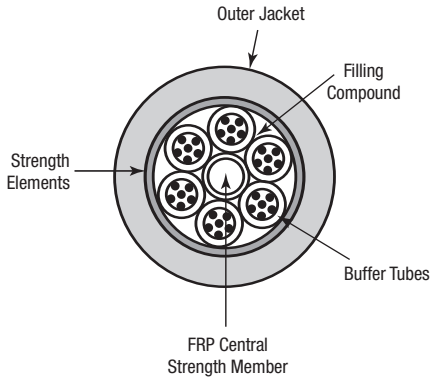
**Filled Construction • Black PE (HDPE) Jacket**

-30/70°C



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GDA**Gx04<br>**GDA**Gx06<br>**GDA**Gx08<br>**GDA**Gx12<br>**GDA**Gx18<br>**GDA**Gx24<br>**GDA**Gx30<br>**GDA**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 342.6<br>668.9 | 155.4<br>303.4 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Aramid Yarn | 0.39 | 10.0 | 2.0 | 3000 | 20 | – | 150 | 200 |
| **GDA**Dx24<br>**GDA**Dx36<br>**GDA**Dx48<br>**GDA**Dx60<br>**GDA**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 490.7<br>958.1 | 222.6<br>434.6 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.47 | 12.0 | 2.7 | 3500 | 20 | – | 180 | 240 |
| **GDA**Ex84<br>**GDA**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 629.6<br>1229.3 | 285.6<br>557.6 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.54 | 13.6 | 3.0/4.3 | 4000 | 20 | – | 204 | 272 |
| **GDA**Fx08<br>**GDA**Fx20<br>**GDA**Fx32<br>**GDA**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 949.1<br>1853.0 | 430.5<br>840.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.66 | 16.8 | 3.0/7.5 | 4000 | 20 | – | 252 | 336 |
| **GDA**Mx16 | 216 (18x12) | 6888<br>13448 | 2100<br>4100 | 1134.3<br>2214.5 | 514.5<br>1004.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.69 | 17.5 | 2.7 | 4000 | 20 | – | 263 | 350 |
| **GDA**Ix92 | 192 (8x24) | 6888<br>13448 | 2100<br>4100 | 1041.7<br>2033.7 | 472.5<br>922.5 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.69 | 17.6 | 3.0/6.0 | 4000 | 20 | – | 264 | 352 |
| **GDA**Jx88 | 288 (12x24) | 6888 | 2100 | 1736.1 | 787.5 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.87 | 22.1 | 3.0/10.5 | 4000 | 20 | – | 332 | 442 |
| **GDA**Lx32 | 432 (18x24) | 6888 | 2100 | 1851.9 | 840.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.89 | 22.5 | 2.7/3.7 | 4000 | 20 | – | 338 | 450 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Outdoor – Improved Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer / Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dyna-mic |

**GBR** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DQ(ZN)B2Y**

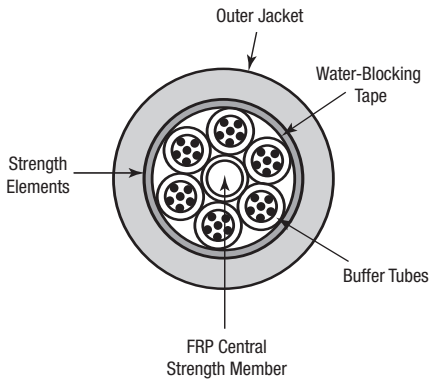
**Dry Construction • Black PE (HDPE) Jacket**

-30/70°C



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GBR**Gx04<br>**GBR**Gx06<br>**GBR**Gx08<br>**GBR**Gx12<br>**GBR**Gx18<br>**GBR**Gx24<br>**GBR**Gx30<br>**GBR**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 486.1<br>949.1 | 220.5<br>430.5 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Glass Yarn | 0.46 | 11.8 | 2.0 | 3000 | 20 | – | 177 | 236 |
| **GBR**Dx24<br>**GBR**Dx36<br>**GBR**Dx48<br>**GBR**Dx60<br>**GBR**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 625.0<br>1220.2 | 283.5<br>553.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.54 | 13.7 | 2.7 | 3500 | 20 | – | 206 | 274 |
| **GBR**Ex84<br>**GBR**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 787.0<br>1536.6 | 357.0<br>697.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.60 | 15.3 | 3.0/4.3 | 4000 | 20 | – | 230 | 306 |
| **GBR**Fx08<br>**GBR**Fx20<br>**GBR**Fx32<br>**GBR**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 1088.0<br>2124.1 | 493.5<br>963.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.73 | 18.5 | 3.0/7.5 | 4000 | 20 | – | 278 | 370 |
| **GBR**Mx16 | 216 (18x12) | 6888<br>13448 | 2100<br>4100 | 1250.0<br>2440.5 | 567.0<br>1107.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.78 | 19.7 | 2.7 | 4000 | 20 | – | 296 | 394 |
| **GBR**Ix92 | 192 (8x24) | 6888<br>13448 | 2100<br>4100 | 1296.3<br>2530.9 | 588.0<br>1148.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.77 | 19.5 | 3.0/6.0 | 4000 | 20 | – | 293 | 390 |
| **GBR**Jx88 | 288 (12x24) | 6888 | 2100 | 1898.2 | 861.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.94 | 23.9 | 3.0/10.5 | 4000 | 20 | – | 359 | 478 |
| **GBR**Lx32 | 432 (18x24) | 6888 | 2100 | 1898.2 | 861.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.97 | 24.7 | 2.7/3.7 | 4000 | 20 | – | 371 | 494 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



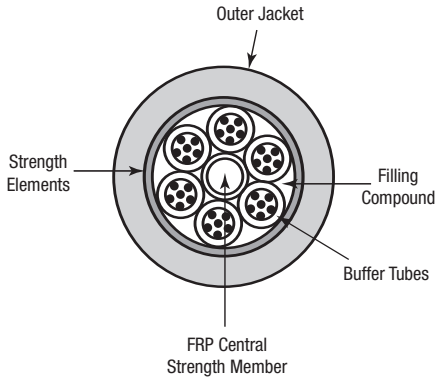

Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Outdoor – Improved Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GDR** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DF(ZN)B2Y** | | | | | | | | | | | | | | | | | | |
| **Filled Construction • Black PE (HDPE) Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | | | | | | | | | | | | | | | | | |
| **GDR**Gx04<br>**GDR**Gx06<br>**GDR**Gx08<br>**GDR**Gx12<br>**GDR**Gx18<br>**GDR**Gx24<br>**GDR**Gx30<br>**GDR**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 476.9<br>931.0 | 216.3<br>422.3 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Glass Yarn | 0.45 | 11.5 | 2.0 | 3000 | 20 | – | 173 | 230 |
| **GDR**Dx24<br>**GDR**Dx36<br>**GDR**Dx48<br>**GDR**Dx60<br>**GDR**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 629.6<br>1229.3 | 285.6<br>557.6 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.53 | 13.4 | 2.7 | 3500 | 20 | – | 201 | 268 |
| **GDR**Ex84<br>**GDR**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 805.6<br>1572.8 | 365.4<br>713.4 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.59 | 15.0 | 3.0/4.3 | 4000 | 20 | – | 225 | 300 |
| **GDR**Fx08<br>**GDR**Fx20<br>**GDR**Fx32<br>**GDR**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 1134.3<br>2214.5 | 514.5<br>1004.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.72 | 18.2 | 3.0/7.5 | 4000 | 20 | – | 273 | 364 |
| **GDR**Mx16 | 216 (18x12) | 6888<br>13448 | 2100<br>4100 | 1319.5<br>2576.1 | 598.5<br>1168.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.75 | 19.0 | 2.7 | 4000 | 20 | – | 285 | 380 |
| **GDR**Ix92 | 192 (8x24) | 6888<br>13448 | 2100<br>4100 | 1226.9<br>2395.3 | 556.5<br>1086.5 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.75 | 19.0 | 3.0/6.0 | 4000 | 20 | – | 285 | 380 |
| **GDR**Jx88 | 288 (12x24) | 6888<br>13448 | 2100<br>4100 | 1944.5<br>3796.3 | 882.0<br>1722.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.93 | 23.5 | 3.0/10.5 | 4000 | 20 | – | 353 | 470 |
| **GDR**Lx32 | 432 (18x24) | 6888<br>13448 | 2100<br>4100 | 2037.1<br>3977.1 | 924.0<br>1804.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.94 | 24.0 | 2.7/3.7 | 4000 | 20 | – | 360 | 480 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear

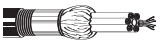



Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

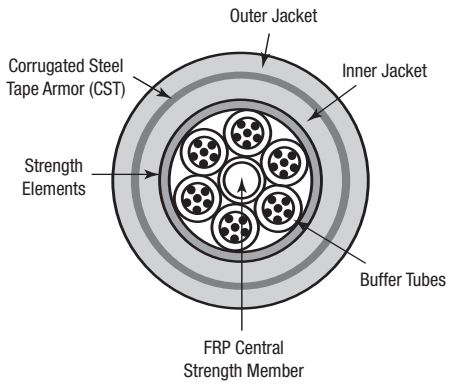
# Multi Loose Tube Cables

## Outdoor – Full Rodent Protection, Corrugated Steel Tape Armor (CST)

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer / Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GBD** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • CST • **A-DQ(ZN)2Y(SR)2Y** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Double Black PE (HDPE) Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | | | | | | | | | | | | | | | | | |
| **GBD**Gx04<br>**GBD**Gx06<br>**GBD**Gx08<br>**GBD**Gx12<br>**GBD**Gx18<br>**GBD**Gx24<br>**GBD**Gx30<br>**GBD**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 838.0<br>1636.0 | 380.1<br>742.1 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Aramid Yarn | 0.52 | 13.2 | 2.0 | 3000 | 50 | – | 198 | 264 |
| **GBD**Dx24<br>**GBD**Dx36<br>**GBD**Dx48<br>**GBD**Dx60<br>**GBD**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888 | 2100 | 1046.3 | 474.6 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.60 | 15.2 | 2.7 | 3500 | 50 | – | 228 | 304 |
| **GBD**Ex84<br>**GBD**Ex96 | 84 (7x12)<br>96 (8x12) | 6888 | 2100 | 1273.2 | 577.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.69 | 17.4 | 3.0/4.3 | 4000 | 50 | – | 261 | 348 |
| **GBD**Fx08<br>**GBD**Fx20<br>**GBD**Fx32<br>**GBD**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888 | 2100 | 1555.6 | 705.6 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.81 | 20.5 | 3.0/7.5 | 4000 | 50 | – | 308 | 410 |
| **GBD**Mx16 | 216 (18x12) | 6888 | 2100 | 1759.3 | 798.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.85 | 21.5 | 2.7 | 4000 | 50 | – | 323 | 430 |
| **GBD**Ix92 | 192 (8x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.85 | 21.5 | 3.0/6.0 | 4000 | 50 | – | 323 | 430 |
| **GBD**Jx88 | 288 (12x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 1.02 | 26.0 | 3.0/10.5 | 4000 | 50 | – | 390 | 520 |
| **GBD**Lx32 | 432 (18x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 1.04 | 26.5 | 2.7/3.7 | 4000 | 50 | – | 398 | 530 |



Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

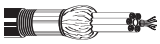
## Outdoor – Full Rodent Protection, Corrugated Steel Tape Armor (CST)

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |

**GDD** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • CST • **A-DF(ZN)2Y(SR)2Y**

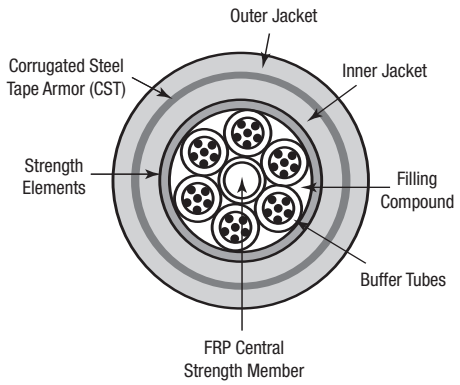
**Filled Construction • Double Black PE (HDPE) Jacket**

-30/70°C



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GDD**Gx04<br>**GDD**Gx06<br>**GDD**Gx08<br>**GDD**Gx12<br>**GDD**Gx18<br>**GDD**Gx24<br>**GDD**Gx30<br>**GDD**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 851.9<br>1663.2 | 386.4<br>754.4 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Aramid Yarn | 0.51 | 13.0 | 2.0 | 3000 | 50 | – | 195 | 260 |
| **GDD**Dx24<br>**GDD**Dx36<br>**GDD**Dx48<br>**GDD**Dx60<br>**GDD**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888 | 2100 | 1083.3 | 491.4 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.59 | 15.0 | 2.7 | 3500 | 50 | – | 225 | 300 |
| **GDD**Ex84<br>**GDD**Ex96 | 84 (7x12)<br>96 (8x12) | 6888 | 2100 | 1319.5 | 598.5 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.67 | 17.1 | 3.0/4.3 | 4000 | 50 | – | 257 | 342 |
| **GDD**Fx08<br>**GDD**Fx20<br>**GDD**Fx32<br>**GDD**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888 | 2100 | 1745.4 | 791.7 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.81 | 20.5 | 3.0/7.5 | 4000 | 50 | – | 308 | 410 |
| **GDD**Mx16 | 216 (18x12) | 6888 | 2100 | 1990.8 | 903.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.83 | 21.0 | 2.7 | 4000 | 50 | – | 315 | 420 |
| **GDD**Ix92 | 192 (8x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.83 | 21.0 | 3.0/6.0 | 4000 | 50 | – | 315 | 420 |
| **GDD**Jx88 | 288 (12x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 1.00 | 25.5 | 3.0/10.5 | 4000 | 50 | – | 383 | 510 |
| **GDD**Lx32 | 432 (18x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 1.02 | 26.0 | 2.7/3.7 | 4000 | 50 | – | 390 | 520 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



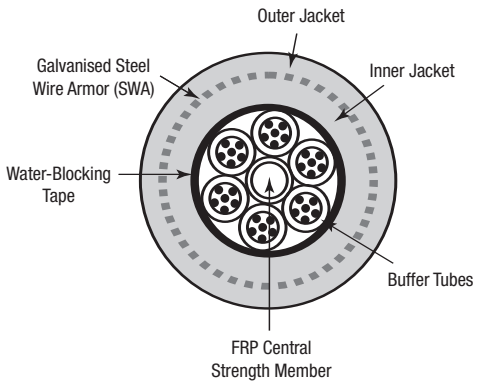

Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Outdoor – Full Rodent Protection, Galvanised Steel Wire Armor (SWA)

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer / Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dyna-mic |
| **GBW** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • SWA • **A-DQ2YB2Y (R1.0vzk)** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Double Black PE Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | | | | | | | | | | | | | | | | | |
| **GBW**Gx04<br>**GBW**Gx06<br>**GBW**Gx08<br>**GBW**Gx12<br>**GBW**Gx18<br>**GBW**Gx24<br>**GBW**Gx30<br>**GBW**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 1342.6<br>2621.3 | 609.0<br>1189.0 | Ø 250 ± 15 | 0.07 | 1.9 | – | 0.53 | 13.5 | 2.0 | 8000 | 50 | – | 203 | 270 |
| **GBW**Dx24<br>**GBW**Dx36<br>**GBW**Dx48<br>**GBW**Dx60<br>**GBW**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 1666.7<br>3254.0 | 756.0<br>1476.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.61 | 15.5 | 2.7 | 8000 | 50 | – | 233 | 310 |
| **GBW**Ex84<br>**GBW**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 1875.0<br>3660.7 | 850.5<br>1660.5 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.67 | 17.0 | 3.0/4.3 | 8000 | 50 | – | 255 | 340 |
| **GBW**Fx08<br>**GBW**Fx20<br>**GBW**Fx32<br>**GBW**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 2592.6<br>5061.8 | 1176.0<br>2296.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.80 | 20.2 | 3.0/7.5 | 8000 | 50 | – | 303 | 404 |
| **GBW**Mx16 | 216 (18x12) | 6888 | 2100 | 2777.8 | 1260.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.83 | 21.0 | 2.7 | 8000 | 50 | – | 315 | 420 |
| **GBW**Ix92 | 192 (8x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 0.83 | 21.0 | 3.0/6.0 | 8000 | 50 | – | 315 | 420 |
| **GBW**Jx88 | 288 (12x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 1.00 | 25.5 | 3.0/10.5 | 8000 | 50 | – | 383 | 510 |
| **GBW**Lx32 | 432 (18x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 1.02 | 26.0 | 2.7/3.7 | 8000 | 50 | – | 390 | 520 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



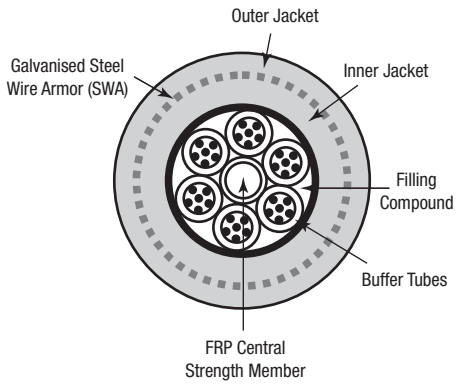

Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Outdoor – Full Rodent Protection, Galvanised Steel Wire Armor (SWA)

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GDW** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • SWA • **A-DF2YB2Y (R1.0vzk)** | | | | | | | | | | | | | | | | | | |
| **Filled Construction • Double Black PE Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | | | | | | | | | | | | | | | | | |
| **GDW**Gx04 | 4 (1x4) | | 6888 | 2100 | 1388.9 | 630.0 | Ø 250 ± 15 | 0.07 | 1.9 | – | 0.53 | 13.5 | 2.0 | 8000 | 50 | – | 203 | 270 |
| **GDW**Gx06 | 6 (1x6) | | 13448 | 4100 | 2711.7 | 1230.0 | | | | | | | | | | | | |
| **GDW**Gx08 | 8 (2x4) | | | | | | | | | | | | | | | | | |
| **GDW**Gx12 | 12 (2x6) | | | | | | | | | | | | | | | | | |
| **GDW**Gx18 | 18 (3x6) | | | | | | | | | | | | | | | | | |
| **GDW**Gx24 | 24 (4x6) | | | | | | | | | | | | | | | | | |
| **GDW**Gx30 | 30 (5x6) | | | | | | | | | | | | | | | | | |
| **GDW**Gx36 | 36 (6x6) | | | | | | | | | | | | | | | | | |
| **GDW**Dx24 | 24 (2x12) | | 6888 | 2100 | 1713.0 | 777.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.61 | 15.5 | 2.7 | 8000 | 50 | – | 233 | 310 |
| **GDW**Dx36 | 36 (3x12) | | 13448 | 4100 | 3344.4 | 1517.0 | | | | | | | | | | | | |
| **GDW**Dx48 | 48 (4x12) | | | | | | | | | | | | | | | | | |
| **GDW**Dx60 | 60 (5x12) | | | | | | | | | | | | | | | | | |
| **GDW**Dx72 | 72 (6x12) | | | | | | | | | | | | | | | | | |
| **GDW**Ex84 | 84 (7x12) | | 6888 | 2100 | 1921.3 | 871.5 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.66 | 16.8 | 3.0/4.3 | 8000 | 50 | – | 252 | 336 |
| **GDW**Ex96 | 96 (8x12) | | 13448 | 4100 | 3751.1 | 1701.5 | | | | | | | | | | | | |
| **GDW**Fx08 | 108 (9x12) | | 6888 | 2100 | 2638.9 | 1197.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.80 | 20.2 | 3.0/7.5 | 8000 | 50 | – | 303 | 404 |
| **GDW**Fx20 | 120 (10x12) | | 13448 | 4100 | 5152.2 | 2337.0 | | | | | | | | | | | | |
| **GDW**Fx32 | 132 (11x12) | | | | | | | | | | | | | | | | | |
| **GDW**Fx44 | 144 (12x12) | | | | | | | | | | | | | | | | | |
| **GDW**Mx16 | 216 (18x12) | | 6888 | 2100 | 2824.1 | 1281.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.81 | 20.5 | 2.7 | 8000 | 50 | – | 308 | 410 |
| **GDW**Ix92 | 192 (8x24) | | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 0.81 | 20.5 | 3.0/6.0 | 8000 | 50 | – | 308 | 410 |
| **GDW**Jx88 | 288 (12x24) | | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 0.98 | 25.0 | 3.0/10.5 | 8000 | 50 | – | 375 | 500 |
| **GDW**Lx32 | 432 (18x24) | | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 1.00 | 25.5 | 2.7/3.7 | 8000 | 50 | – | 383 | 510 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

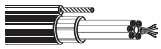
## Aerial – Outdoor

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer / Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dyna-mic |

**GALH** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DSF(L)2YT (Span = 50 m)**

**Filled Construction • Black PE (HDPE) Jacket • Figure 8, Steel Messenger**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | | 6888 | 2100 | 793.7 | 360.0 | Ø 250 ± 15 | 0.059 | 1.5 | Steel Messenger | 0.380<br>0.790 | 9.8<br>20.0 | 1.7 | 4000 | 20 | – | 147 | 196 |



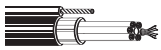
**GALH**x04 4 (1x4)
**GALH**x08 8 (2x4)
**GALH**x12 12 (3x4)
**GALH**x16 16 (4x4)
**GALH**x20 20 (5x4)
**GALH**x24 24 (6x4)

Color Code: see chart page 16.23
Optional: higher pulling tension available upon request.

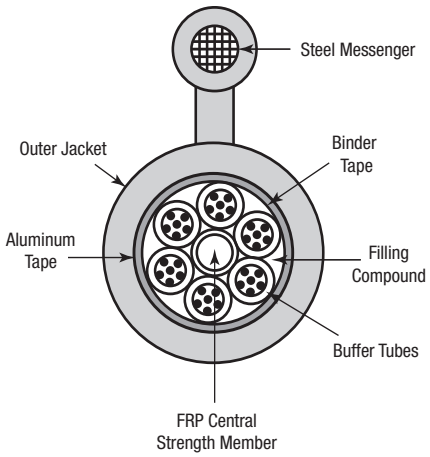
**GALD** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DSF(L)2YT (Span = 50 m)**

**Filled Construction • Black PE (HDPE) Jacket • Figure 8, Steel Messenger**

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30/70°C | | 6888 | 2100 | 1091.3 | 495.0 | Ø 250 ± 15 | 0.098 | 2.5 | Steel Messenger | 0.500<br>0.914 | 12.8<br>23.0 | 2.7 | 4000 | 20 | – | 192 | 256 |



**GALD**x12 12 (1x12)
**GALD**x24 24 (2x12)
**GALD**x36 36 (3x12)
**GALD**x48 48 (4x12)
**GALD**x60 60 (5x12)
**GALD**x72 72 (6x12)



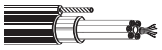

Color Code: see chart page 16.23
Optional: higher pulling tension available upon request.

Optical characteristics see page 16.21.

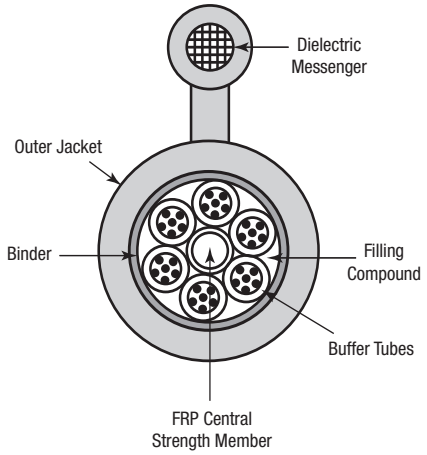
# Multi Loose Tube Cables

## Aerial – Outdoor, All Dielectric

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GAAD** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DF(ZN)2YT (Span = 50 m)** | | | | | | | | | | | | | | | | | | |
| **Filled Construction • Black PE (HDPE) Jacket • Figure 8, Dielectric Messenger** | | | | | | | | | | | | | | | | | | |
| -30/70°C | | 6888 | 2100 | 910.5 | 413.0 | Ø 250 ± 15 | 0.098 | 2.5 | FRP Rod Messenger | 0.50<br>0.95 | 12.7<br>24.0 | 2.7 | 4000 | 20 | – | 192 | 256 |



**GAAD**x12 12 (1x12)
**GAAD**x24 24 (2x12)
**GAAD**x36 36 (3x12)
**GAAD**x48 48 (4x12)
**GAAD**x60 60 (5x12)
**GAAD**x72 72 (6x12)




Color Code: see chart page 16.23
Optional: higher pulling tension available upon request.

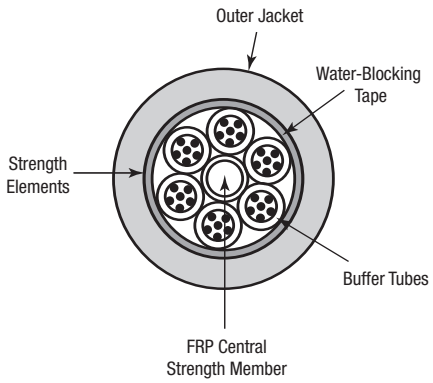
Optical characteristics see page 16.21.

# Multi Loose Tube Cables

## Universal – Indoor/Outdoor

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dyna-mic |
| **GCA** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A/I-DQ(ZN)H** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • Black LSZH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C EN 50266-2-2<br>EN 50267-2-2<br>EN 50628-2 | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **GCA**Gx04 | 4 (1x4) | 6888 | 2100 | 439.8 | 199.5 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Aramid Yarn | 0.41 | 10.3 | 2.0 | 3000 | 20 | – | 155 | 206 |
| **GCA**Gx06 | 6 (1x6) | 13448 | 4100 | 858.7 | 389.5 | | | | | | | | | | | | |
| **GCA**Gx08 | 8 (2x4) | | | | | | | | | | | | | | | | |
| **GCA**Gx12 | 12 (2x6) | | | | | | | | | | | | | | | | |
| **GCA**Gx18 | 18 (3x6) | | | | | | | | | | | | | | | | |
| **GCA**Gx24 | 24 (4x6) | | | | | | | | | | | | | | | | |
| **GCA**Gx30 | 30 (5x6) | | | | | | | | | | | | | | | | |
| **GCA**Gx36 | 36 (6x6) | | | | | | | | | | | | | | | | |
| **GCA**Dx24 | 24 (2x12) | 6888 | 2100 | 588.0 | 266.7 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.48 | 12.2 | 2.7 | 3500 | 20 | – | 183 | 244 |
| **GCA**Dx36 | 36 (3x12) | 13448 | 4100 | 1147.9 | 520.7 | | | | | | | | | | | | |
| **GCA**Dx48 | 48 (4x12) | | | | | | | | | | | | | | | | |
| **GCA**Dx60 | 60 (5x12) | | | | | | | | | | | | | | | | |
| **GCA**Dx72 | 72 (6x12) | | | | | | | | | | | | | | | | |
| **GCA**Ex84 | 84 (7x12) | 6888 | 2100 | 736.1 | 333.9 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.54 | 13.8 | 3.0/4.3 | 4000 | 20 | – | 207 | 276 |
| **GCA**Ex96 | 96 (8x12) | 13448 | 4100 | 1437.2 | 651.9 | | | | | | | | | | | | |
| **GCA**Fx08 | 108 (9x12) | 6888 | 2100 | 1074.1 | 487.2 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.67 | 17.0 | 3.0/7.5 | 4000 | 20 | – | 255 | 340 |
| **GCA**Fx20 | 120 (10x12) | 13448 | 4100 | 2097.0 | 951.2 | | | | | | | | | | | | |
| **GCA**Fx32 | 132 (11x12) | | | | | | | | | | | | | | | | |
| **GCA**Fx44 | 144 (12x12) | | | | | | | | | | | | | | | | |
| **GCA**Mx16 | 216 (18x12) | 6888 | 2100 | 1250.0 | 567.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.72 | 18.2 | 2.7 | 4000 | 20 | – | 273 | 364 |
| | | 13448 | 4100 | 2440.5 | 1107.0 | | | | | | | | | | | | |
| **GCA**Ix92 | 192 (8x24) | 6888 | 2100 | 1273.2 | 577.5 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.71 | 18.0 | 3.0/6.0 | 4000 | 20 | – | 270 | 360 |
| | | 13448 | 4100 | 2485.7 | 1127.5 | | | | | | | | | | | | |
| **GCA**Jx88 | 288 (12x24) | 6888 | 2100 | 1921.3 | 871.5 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.88 | 22.4 | 3.0/10.5 | 4000 | 20 | – | 336 | 448 |
| **GCA**Lx32 | 432 (18x24) | 6888 | 2100 | 1944.5 | 882.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.91 | 23.2 | 2.7/3.7 | 4000 | 20 | – | 348 | 464 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



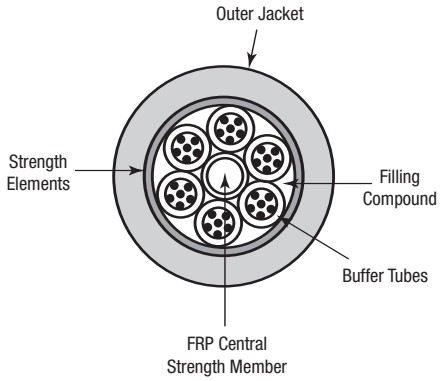

Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Universal – Indoor/Outdoor

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GEA** • Loose Tubes*/PE Blind Elements are S-Z stranded Around the Central Element • Water-Blocked • **A/I-DF(ZN)H** | | | | | | | | | | | | | | | | | | |
| **Filled Construction • Black LSZH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C EN 50266-2-2<br>EN 50267-2-2<br>EN 50628-2 | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **GEA**Gx04 | 4 (1x4) | | 6888 | 2100 | 449.1 | 203.7 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Aramid Yarn | 0.39 | 10.0 | 2.0 | 3000 | 20 | – | 150 | 200 |
| **GEA**Gx06 | 6 (1x6) | | 13448 | 4100 | 876.8 | 397.7 | | | | | | | | | | | | |
| **GEA**Gx08 | 8 (2x4) | | | | | | | | | | | | | | | | | |
| **GEA**Gx12 | 12 (2x6) | | | | | | | | | | | | | | | | | |
| **GEA**Gx18 | 18 (3x6) | | | | | | | | | | | | | | | | | |
| **GEA**Gx24 | 24 (4x6) | | | | | | | | | | | | | | | | | |
| **GEA**Gx30 | 30 (5x6) | | | | | | | | | | | | | | | | | |
| **GEA**Gx36 | 36 (6x6) | | | | | | | | | | | | | | | | | |
| **GEA**Dx24 | 24 (2x12) | | 6888 | 2100 | 620.4 | 281.4 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.47 | 12.0 | 2.7 | 3500 | 20 | – | 180 | 240 |
| **GEA**Dx36 | 36 (3x12) | | 13448 | 4100 | 1211.2 | 549.4 | | | | | | | | | | | | |
| **GEA**Dx48 | 48 (4x12) | | | | | | | | | | | | | | | | | |
| **GEA**Dx60 | 60 (5x12) | | | | | | | | | | | | | | | | | |
| **GEA**Dx72 | 72 (6x12) | | | | | | | | | | | | | | | | | |
| **GEA**Ex84 | 84 (7x12) | | 6888 | 2100 | 787.0 | 357.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.54 | 13.6 | 3.0/4.3 | 4000 | 20 | – | 204 | 272 |
| **GEA**Ex96 | 96 (8x12) | | 13448 | 4100 | 1536.6 | 697.0 | | | | | | | | | | | | |
| **GEA**Fx08 | 108 (9x12) | | 6888 | 2100 | 1157.4 | 525.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.66 | 16.8 | 3.0/7.5 | 4000 | 20 | – | 252 | 336 |
| **GEA**Fx20 | 120 (10x12) | | 13448 | 4100 | 2259.7 | 1025.0 | | | | | | | | | | | | |
| **GEA**Fx32 | 132 (11x12) | | | | | | | | | | | | | | | | | |
| **GEA**Fx44 | 144 (12x12) | | | | | | | | | | | | | | | | | |
| **GEA**Mx16 | 216 (18x12) | | 6888 | 2100 | 1342.6 | 609.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.69 | 17.5 | 2.7 | 4000 | 20 | – | 263 | 350 |
| | | | 13448 | 4100 | 2621.3 | 1189.0 | | | | | | | | | | | | |
| **GEA**Ix92 | 192 (8x24) | | 6888 | 2100 | 1250.0 | 567.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.69 | 17.6 | 3.0/6.0 | 4000 | 20 | – | 264 | 352 |
| | | | 13448 | 4100 | 2440.5 | 1107.0 | | | | | | | | | | | | |
| **GEA**Jx88 | 288 (12x24) | | 6888 | 2100 | 2013.9 | 913.5 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.87 | 22.1 | 3.0/10.5 | 4000 | 20 | – | 332 | 442 |
| **GEA**Lx32 | 432 (18x24) | | 6888 | 2100 | 2129.6 | 966.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.89 | 22.5 | 2.7/3.7 | 4000 | 20 | – | 338 | 450 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Universal – Indoor/Outdoor, Improved Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dyna-mic |

**GCR** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A/I-DQ(ZN)BH**

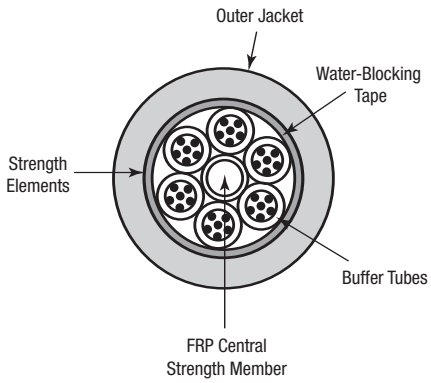
**Dry Construction • Black LSZH Jacket**

-30/70°C EN 50266-2-2
EN 50267-2-2
EN 50268-2



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GCR**Gx04<br>**GCR**Gx06<br>**GCR**Gx08<br>**GCR**Gx12<br>**GCR**Gx18<br>**GCR**Gx24<br>**GCR**Gx30<br>**GCR**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 597.2<br>1166.0 | 270.9<br>528.9 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Glass Yarn | 0.46 | 11.8 | 2.0 | 3000 | 20 | – | 177 | 236 |
| **GCR**Dx24<br>**GCR**Dx36<br>**GCR**Dx48<br>**GCR**Dx60<br>**GCR**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 750.0<br>1464.3 | 340.2<br>664.2 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.54 | 13.7 | 2.7 | 3500 | 20 | – | 206 | 274 |
| **GCR**Ex84<br>**GCR**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 930.6<br>1816.8 | 422.1<br>824.1 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.60 | 15.3 | 3.0/4.3 | 4000 | 20 | – | 230 | 306 |
| **GCR**Fx08<br>**GCR**Fx20<br>**GCR**Fx32<br>**GCR**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 1277.8<br>2494.7 | 579.6<br>1131.6 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.73 | 18.5 | 3.0/7.5 | 4000 | 20 | – | 278 | 370 |
| **GCR**Mx16 | 216 (18x12) | 6888<br>13448 | 2100<br>4100 | 1481.5<br>2892.4 | 672.0<br>1312.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.78 | 19.7 | 2.7 | 4000 | 20 | – | 296 | 394 |
| **GCR**Ix92 | 192 (8x24) | 6888<br>13448 | 2100<br>4100 | 1481.5<br>2892.4 | 672.0<br>1312.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.77 | 19.5 | 3.0/6.0 | 4000 | 20 | – | 293 | 390 |
| **GCR**Jx88 | 288 (12x24) | 6888 | 2100 | 2129.6 | 966.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.94 | 23.9 | 3.0/10.5 | 4000 | 20 | – | 359 | 478 |
| **GCR**Lx32 | 432 (18x24) | 6888 | 2100 | 2129.6 | 966.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.97 | 24.7 | 2.7/3.7 | 4000 | 20 | – | 371 | 494 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Universal – Indoor/Outdoor, Improved Rodent Protection

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |

**GER** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A/I-DF(ZN)BH**

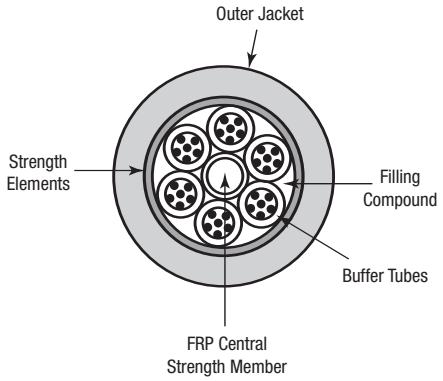
**Filled Construction • Black LSZH Jacket**

-30/70°C EN 50266-2-2
EN 50267-2-2
EN 50268-2



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GER**Gx04<br>**GER**Gx06<br>**GER**Gx08<br>**GER**Gx12<br>**GER**Gx18<br>**GER**Gx24<br>**GER**Gx30<br>**GER**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 601.9<br>1175.1 | 273.0<br>533.0 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Glass Yarn | 0.45 | 11.5 | 2.0 | 3000 | 20 | – | 173 | 230 |
| **GER**Dx24<br>**GER**Dx36<br>**GER**Dx48<br>**GER**Dx60<br>**GER**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 777.8<br>1518.5 | 352.8<br>688.8 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.53 | 13.4 | 2.7 | 3500 | 20 | – | 201 | 268 |
| **GER**Ex84<br>**GER**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 967.6<br>1889.1 | 438.9<br>856.9 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.59 | 15.0 | 3.0/4.3 | 4000 | 20 | – | 225 | 300 |
| **GER**Fx08<br>**GER**Fx20<br>**GER**Fx32<br>**GER**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 1333.3<br>2603.2 | 604.8<br>1180.8 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.72 | 18.2 | 3.0/7.5 | 4000 | 20 | – | 273 | 364 |
| **GER**Mx16 | 216 (18x12) | 6888<br>13448 | 2100<br>4100 | 1527.8<br>2982.8 | 693.0<br>1353.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Glass Yarn | 0.75 | 19.0 | 2.7 | 4000 | 20 | – | 285 | 380 |
| **GER**Ix92 | 192 (8x24) | 6888<br>13448 | 2100<br>4100 | 1435.2<br>2802.0 | 651.0<br>1271.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.75 | 19.0 | 3.0/6.0 | 4000 | 20 | – | 285 | 380 |
| **GER**Jx88 | 288 (12x24) | 6888 | 2100 | 2222.2 | 1008.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.93 | 23.5 | 3.0/10.5 | 4000 | 20 | – | 353 | 470 |
| **GER**Lx32 | 432 (18x24) | 6888 | 2100 | 2314.8 | 1050.0 | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Glass Yarn | 0.94 | 24.0 | 2.7/3.7 | 4000 | 20 | – | 360 | 480 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

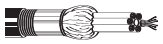
## Universal – Indoor/Outdoor, Full Rodent Protection, Corrugated Steel Tape Armor (CST)

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |

**GCD** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • CST • **A/I-DQ(ZN)H(SR)H**

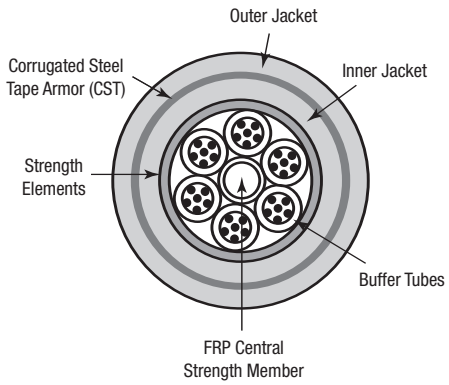
**Dry Construction • Double Black LSZH Jacket**

-30/70°C EN 50266-2-2
EN 50267-2-2
EN 50268-2



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GCD**Gx04<br>**GCD**Gx06<br>**GCD**Gx08<br>**GCD**Gx12<br>**GCD**Gx18<br>**GCD**Gx24<br>**GCD**Gx30<br>**GCD**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 1041.7<br>2033.7 | 472.5<br>922.5 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Aramid Yarn | 0.52 | 13.2 | 2.0 | 3000 | 50 | – | 198 | 264 |
| **GCD**Dx24<br>**GCD**Dx36<br>**GCD**Dx48<br>**GCD**Dx60<br>**GCD**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888 | 2100 | 1296.3 | 588.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.60 | 15.2 | 2.7 | 3500 | 50 | – | 228 | 304 |
| **GCD**Ex84<br>**GCD**Ex96 | 84 (7x12)<br>96 (8x12) | 6888 | 2100 | 1574.1 | 714.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.69 | 17.4 | 3.0/4.3 | 4000 | 50 | – | 261 | 348 |
| **GCD**Fx08<br>**GCD**Fx20<br>**GCD**Fx32<br>**GCD**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888 | 2100 | 2055.6 | 932.4 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.81 | 20.5 | 3.0/7.5 | 4000 | 50 | – | 308 | 410 |
| **GCD**Mx16 | 216 (18x12) | 6888 | 2100 | 2268.5 | 1029.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.85 | 21.5 | 2.7 | 4000 | 50 | – | 323 | 430 |
| **GCD**Ix92 | 192 (8x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.85 | 21.5 | 3.0/6.0 | 4000 | 50 | – | 323 | 430 |
| **GCD**Jx88 | 288 (12x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 1.02 | 26.0 | 3.0/10.5 | 4000 | 50 | – | 390 | 520 |
| **GCD**Lx32 | 432 (18x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 1.04 | 26.5 | 2.7/3.7 | 4000 | 50 | – | 398 | 530 |

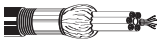
Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



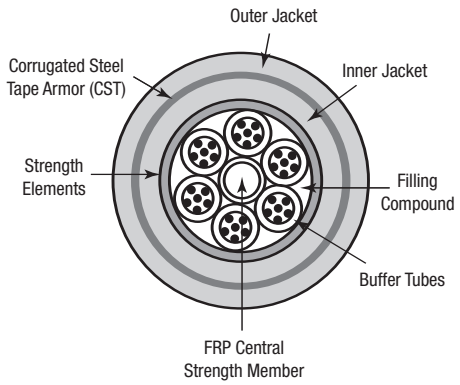

Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Universal – Indoor/Outdoor, Full Rodent Protection, Corrugated Steel Tape Armor (CST)

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GED** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • CST • **A/I-DF(ZN)H(SR)H** | | | | | | | | | | | | | | | | | | |
| **Filled Construction • Double Black LSZH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C EN 50266-2-2<br>EN 50267-2-2<br>EN 50268-2 | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **GED**Gx04<br>**GED**Gx06<br>**GED**Gx08<br>**GED**Gx12<br>**GED**Gx18<br>**GED**Gx24<br>**GED**Gx30<br>**GED**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 1050.9<br>2051.8 | 476.7<br>930.7 | Ø 250 ± 15 | 0.07 | 1.9 | Water-blocking Aramid Yarn | 0.51 | 13.0 | 2.0 | 3000 | 50 | – | 195 | 260 |
| **GED**Dx24<br>**GED**Dx36<br>**GED**Dx48<br>**GED**Dx60<br>**GED**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888 | 2100 | 1324.1 | 600.6 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.59 | 15.0 | 2.7 | 3500 | 50 | – | 225 | 300 |
| **GED**Ex84<br>**GED**Ex96 | 84 (7x12)<br>96 (8x12) | 6888 | 2100 | 1606.5 | 728.7 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.67 | 17.1 | 3.0/4.3 | 4000 | 50 | – | 257 | 342 |
| **GED**Fx08<br>**GED**Fx20<br>**GED**Fx32<br>**GED**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888 | 2100 | 2101.9 | 953.4 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.81 | 20.5 | 3.0/7.5 | 4000 | 50 | – | 308 | 410 |
| **GED**Mx16 | 216 (18x12) | 6888 | 2100 | 2361.1 | 1071.0 | Ø 250 ± 15 | 0.10 | 2.5 | Water-blocking Aramid Yarn | 0.83 | 21.0 | 2.7 | 4000 | 50 | – | 315 | 420 |
| **GED**Ix92 | 192 (8x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 0.83 | 21.0 | 3.0/6.0 | 4000 | 50 | – | 315 | 420 |
| **GED**Jx88 | 288 (12x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 1.00 | 25.5 | 3.0/10.5 | 4000 | 50 | – | 383 | 510 |
| **GED**Lx32 | 432 (18x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | Water-blocking Aramid Yarn | 1.02 | 26.0 | 2.7/3.7 | 4000 | 50 | – | 390 | 520 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

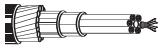
## Universal – Indoor/Outdoor, Full Rodent Protection, Galvanised Steel Wire Armor (SWA)

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dyna-mic |

**GCW** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • SWA • **A/I-DQHBH (R1.0vzk)**

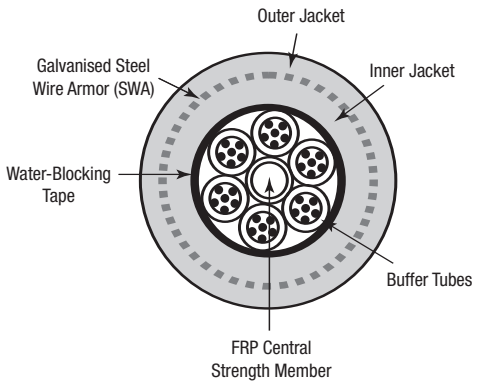
**Dry Construction • Double Black LSZH Jacket**

-30/70°C EN 50266-2-2
EN 50267-2-2
EN 50268-2



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GCW**Gx04<br>**GCW**Gx06<br>**GCW**Gx08<br>**GCW**Gx12<br>**GCW**Gx18<br>**GCW**Gx24<br>**GCW**Gx30<br>**GCW**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 1574.1<br>3073.2 | 714.0<br>1394.0 | Ø 250 ± 15 | 0.07 | 1.9 | – | 0.54 | 13.6 | 2.0 | 8000 | 50 | – | 204 | 272 |
| **GCW**Dx24<br>**GCW**Dx36<br>**GCW**Dx48<br>**GCW**Dx60<br>**GCW**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 1912.0<br>3733.0 | 867.3<br>1693.3 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.61 | 15.5 | 2.7 | 8000 | 50 | – | 233 | 310 |
| **GCW**Ex84<br>**GCW**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 2152.8<br>4203.1 | 976.5<br>1906.5 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.67 | 17.0 | 3.0/4.3 | 8000 | 50 | – | 255 | 340 |
| **GCW**Fx08<br>**GCW**Fx20<br>**GCW**Fx32<br>**GCW**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 2916.7<br>5694.5 | 1323.0<br>2583.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.80 | 20.2 | 3.0/7.5 | 8000 | 50 | – | 303 | 404 |
| **GCW**Mx16 | 216 (18x12) | 6888 | 2100 | 3101.9 | 1407.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.83 | 21.0 | 2.7 | 8000 | 50 | – | 315 | 420 |
| **GCW**Ix92 | 192 (8x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 0.83 | 21.0 | 3.0/6.0 | 8000 | 50 | – | 315 | 420 |
| **GCW**Jx88 | 288 (12x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 1.00 | 25.5 | 3.0/10.5 | 8000 | 50 | – | 383 | 510 |
| **GCW**Lx32 | 432 (18x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 1.02 | 26.0 | 2.7/3.7 | 8000 | 50 | – | 390 | 520 |

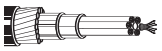
Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



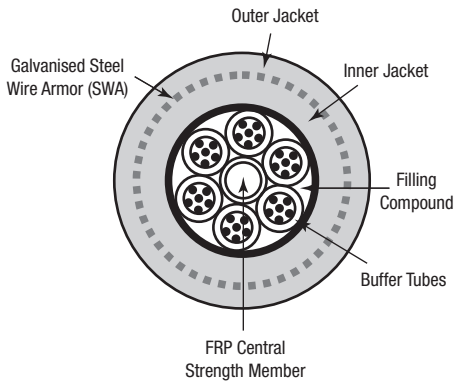

Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Multi Loose Tube Cables

## Universal – Indoor/Outdoor, Full Rodent Protection, Galvanised Steel Wire Armor (SWA)

| Description | Part No. | No. of Fibers | Standard Lengths | | Standard Unit Weight | | Fiber Size µm | Nom. Buffer/Tube OD | | Strength Members | Nominal OD | | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | | static | dynamic |
| **GEW** • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • SWA • **A/I-DFHBH (R1.0vzk)** | | | | | | | | | | | | | | | | | | |
| **Filled Construction • Double Black LSZH Jacket** | | | | | | | | | | | | | | | | | | |
| -30/70°C EN 50266-2-2<br>EN 50267-2-2<br>EN 50268-2 | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **GEW**Gx04<br>**GEW**Gx06<br>**GEW**Gx08<br>**GEW**Gx12<br>**GEW**Gx18<br>**GEW**Gx24<br>**GEW**Gx30<br>**GEW**Gx36 | 4 (1x4)<br>6 (1x6)<br>8 (2x4)<br>12 (2x6)<br>18 (3x6)<br>24 (4x6)<br>30 (5x6)<br>36 (6x6) | 6888<br>13448 | 2100<br>4100 | 1574.1<br>3073.2 | 714.0<br>1394.0 | Ø 250 ± 15 | 0.07 | 1.9 | – | 0.53 | 13.5 | 2.0 | 8000 | 50 | – | 203 | 270 |
| **GEW**Dx24<br>**GEW**Dx36<br>**GEW**Dx48<br>**GEW**Dx60<br>**GEW**Dx72 | 24 (2x12)<br>36 (3x12)<br>48 (4x12)<br>60 (5x12)<br>72 (6x12) | 6888<br>13448 | 2100<br>4100 | 1944.5<br>3796.3 | 882.0<br>1722.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.61 | 15.5 | 2.7 | 8000 | 50 | – | 233 | 310 |
| **GEW**Ex84<br>**GEW**Ex96 | 84 (7x12)<br>96 (8x12) | 6888<br>13448 | 2100<br>4100 | 2199.1<br>4293.5 | 997.5<br>1947.5 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.66 | 16.8 | 3.0/4.3 | 8000 | 50 | – | 252 | 336 |
| **GEW**Fx08<br>**GEW**Fx20<br>**GEW**Fx32<br>**GEW**Fx44 | 108 (9x12)<br>120 (10x12)<br>132 (11x12)<br>144 (12x12) | 6888<br>13448 | 2100<br>4100 | 2963.0<br>5784.9 | 1344.0<br>2624.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.80 | 20.2 | 3.0/7.5 | 8000 | 50 | – | 303 | 404 |
| **GEW**Mx16 | 216 (18x12) | 6888 | 2100 | 3101.9 | 1407.0 | Ø 250 ± 15 | 0.10 | 2.5 | – | 0.81 | 20.6 | 2.7 | 8000 | 50 | – | 309 | 412 |
| **GEW**Ix92 | 192 (8x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 0.81 | 20.5 | 3.0/6.0 | 8000 | 50 | – | 308 | 410 |
| **GEW**Jx88 | 288 (12x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 0.98 | 25.0 | 3.0/10.5 | 8000 | 50 | – | 375 | 500 |
| **GEW**Lx32 | 432 (18x24) | 6888 | 2100 | – | – | Ø 250 ± 15 | 0.14 | 3.5 | – | 1.00 | 25.5 | 2.7/3.7 | 8000 | 50 | – | 383 | 510 |

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear




Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

# Interconnect Cables – Simplex and Duplex

## Tight Buffer – Plenum Rated

### Applications

- Patch panels
- Workstation equipment connections
- Horizontal distribution in open office environments

### Product Description

Interconnect cables are designed for low fiber-count premises environments. They are small and very flexible, making them ideal for confined spaces. Their aesthetic appearance makes these cables suitable for use in open office environments. Available in 1 or 2 fibers. One sub-unit is marked to permit easy identification of transmit and receive fibers. Length markings to facilitate installation.

| | |
|---|---|
| **Jacket Material** | PVC |
| **Tight Buffer** | PVC |
| **Strength Member** | Aramid Yarn |
| **Color Code** (Tight Buffer) | Per EIA/TIA 598-A, see page 16.24 |
| **Jacket Color** | |
| Single-mode | Yellow |
| 62.5/125 µm | Orange |
| 50/125 µm/1 Gbe | Orange |
| 50/125 µm/10 Gbe | Aqua |

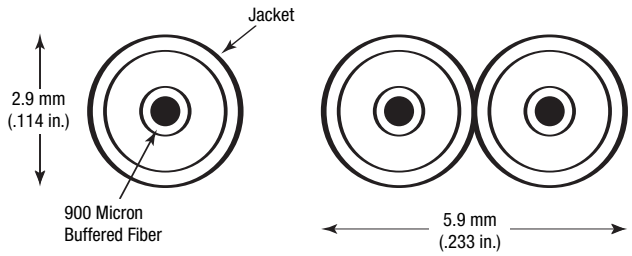
### Ratings

| | |
|---|---|
| **Plenum** | |
| UL Type | OFNP |
| cUL Type | OFN FT6 |
| Flame resistance | NFPA 262 |

### Specifications

| | |
|---|---|
| **Temperature Range** | |
| Storage | -40 to +70°C |
| Operating | -20 to +70°C |
| **Crush Resistance** (EIA-455-41) | 200 N/cm |
| **Impact Resistance** (EIA-455-25) | 20 Impacts @ 1.0 N-m |
| **Cyclic Flexing** (EIA-455-104) | 2000 cycles, min. |
| **Min. Bend Radius** | |
| Installation | 15xOD |
| Long term | 10xOD |
| **Optical Specifications** | see page 16.24 |

### Fiber Bundle Detail




| No. of Fibers | Belden Part Number | | | | Outside Diameter | | Weight | | Max. Install Load | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 62.5/125 µm Std./1 Gbe | 50.0/125 µm Std./1 Gbe | 50.0/125 µm 10 Gbe - 300M | Single-Mode Enhanced | inch | mm | lbs./1000′ | kg/km | lbs. | N |
| **Interconnect Cable Series** | | | | | | | | | | |
| **Plenum** (NEC/CEC OFNP/OFN FT6) | | | | | | | | | | |
| 1 | **M98086** | **M9A003** | **M9C003** | **M9W003** | 0.114 | 2.9 | 6 | 9 | 90 | 400 |
| 2 | **M96919** | **M9A004** | **M9C004** | **M9W004** | 0.11 x 0.23 | 2.9 x 5.9 | 13 | 19 | 180 | 801 |

# Distribution Cables

## Tight Buffer – Indoor Plenum Rated

### Applications

- Low to high fiber count requirements
- In-building backbone
- Fiber-to-the-desk applications
- Computer room

### Product Description

Flexible thermoplastic jacket provides excellent handling characteristics. Fibers and cable sub-units are color coded for easy identification. Length markings in meters for easy determination of cable length. Full dielectric construction, no grounding required. For Riser offering, MSHA approved cables are available.

| | |
|---|---|
| **Jacket Material** | |
| Non-unitized Plenum | PVC |
| Unitized Plenum | PVDF |
| **Tight Buffer** | |
| Plenum | PVC |
| **Strength Member** | Aramid Yarn |
| **Color Code** (Tight Buffer) | Per EIA/TIA 598-A, see page 16.24 |
| **Jacket Color** | |
| Single-mode | Yellow |
| 62.5/125 µm | Orange (Green for LSZH only) |
| 50/125 µm/1 Gbe | Orange |
| 50/125 µm/10 Gbe | Aqua |

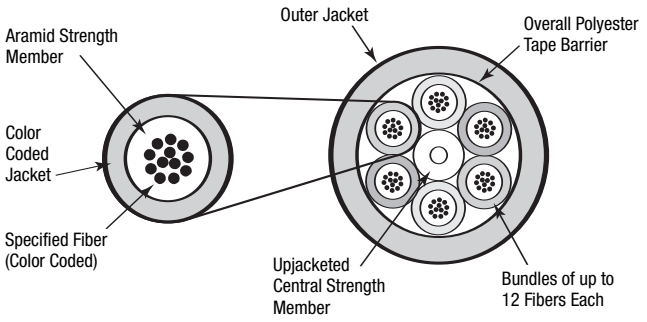
### Ratings

| | |
|---|---|
| **Plenum** | |
| UL Type | OFNP |
| cUL Type | OFN FT6 |
| Flame resistance | NFPA 262 |

### Specifications

| | |
|---|---|
| **Temperature Range** | |
| Storage | -40 to +80°C |
| Operating | -20 to +70°C |
| **Crush Resistance** (EIA-455-41) | 2000 N/cm |
| **Impact Resistance** (EIA-455-25) | 2000 Impacts @ 1.6 N-m |
| **Cyclic Flexing** (EIA-455-104) | 2000 cycles, min. |
| **Min. Bend Radius** | |
| Installation | 15xOD |
| Long term | 10xOD |
| **Optical Specifications** | see page 16.24 |

### Fiber Bundle Detail




**2 – 12 FIBERS** **>12 – 144 FIBERS**

# Distribution Cables

## Tight Buffer – Indoor Plenum Rated *(continued)*

| No. of Fibers | Belden Part Number | | | | Outside Diameter | | Weight | | Max. Install Load | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 62.5/125 µm Std./1 Gbe | 50.0/125 µm Std./1 Gbe | 50.0/125 µm 10 Gbe - 300M | Single-Mode Enhanced | inch | mm | lbs./1000′ | kg/km | lbs. | N |
| **Distribution Cable Series** | | | | | | | | | | |
| **Plenum** (NEC/CEC OFNP/OFN FT6) | | | | | | | | | | |
| 2 | **M9B043** | **M9A043** | **M9C043** | **M9W043** | 0.184 | 4.67 | 14 | 21 | 180 | 801 |
| 4 | **M9B044** | **M9A044** | **M9C044** | **M9W044** | 0.174 | 4.42 | 13 | 19 | 195 | 867 |
| 6 | **M9B045** | **M9A045** | **M9C045** | **M9W045** | 0.190 | 4.83 | 16 | 24 | 270 | 1201 |
| 8 | **M9B046** | **M9A046** | **M9C046** | **M9W046** | 0.222 | 5.64 | 19 | 28 | 270 | 1201 |
| 12 | **M9B048** | **M9A048** | **M9C048** | **M9W048** | 0.225 | 5.72 | 22 | 33 | 300 | 1334 |
| 24 | **M9B611*** | **M9A611*** | **M9C611*** | **M9W611*** | 0.330 | 8.38 | 40 | 60 | 390 | 1735 |
| 24 | **M9B612** | **M9A612** | **M9C612** | **M9W612** | 0.493 | 12.52 | 89 | 132 | 1263 | 5618 |
| 36 | **M9B614** | **M9A614** | **M9C614** | **M9W614** | 0.594 | 15.09 | 134 | 199 | 1913 | 8509 |
| 48 | **M9B616** | **M9A616** | **M9C616** | **M9W616** | 0.599 | 15.21 | 131 | 195 | 1245 | 5538 |
| 72 | **M9B620** | **M9A620** | **M9C620** | **M9W620** | 0.754 | 19.15 | 197 | 293 | 2093 | 9310 |
| 96 | **M9B623** | **M9A623** | **M9C623** | **M9W623** | 0.904 | 22.96 | 268 | 399 | 2160 | 9608 |
| 144 | **M9B621** | **M9A621** | **M9C621** | **M9W621** | 1.047 | 26.59 | 365 | 543 | 3645 | 16213 |
| **Composite Plenum Cables** | | | | | | | | | | |
| 6xSM/ 6x62.5 | **M97174** | | | | | | | | | |
| 6xSM/ 12x62.5 | **M97041** | | | | | | | | | |
| 12xSM/ 12x62.5 | **M97219** | | | | | | | | | |
| 6xSM/ 6x50 | **M97412** | | | | | | | | | |
| 6xSM/ 12x50 | **M97411** | | | | | | | | | |
| 12xSM/ 12x50 | **M96780** | | | | | | | | | |

Construction for LSZH cables differs from the drawing. Alternative fiber counts are available.
* Single jacket design.

# Breakout Style Cables

## Tight Buffer — Indoor Plenum Rated

### Applications

- Low to medium fiber count requirements
- In-building backbone or horizontal deployment
- Office wiring
- Factory floor automation and harsh environment installations

### Product Description

Full dielectric construction, no grounding required. Available with 2 to 36 fibers. Fiber subunits are color coded for easy identification. Length markings in meters for easy determination of cable length. For riser offering, MSHA approved cables are available.

| | |
|---|---|
| **Outer Jacket Material** | |
| Riser & Plenum | PVC |
| Plenum | PVDF |
| **Sub-unit Jacket Material** | |
| Riser & Plenum | PVC |
| **Tight Buffer** | |
| Riser & Plenum | PVC |
| **Strength Member** | Aramid Yarn |
| **Color Code** (Tight Buffer) | Per EIA/TIA 598-A, see page 16.24 |
| **Jacket Color** | |
| Single-mode | Yellow |
| 62.5/125 µm | Orange (Green for LSZH only) |
| 50/125 µm/1 Gbe | Orange |
| 50/125 µm/10 Gbe | Aqua |

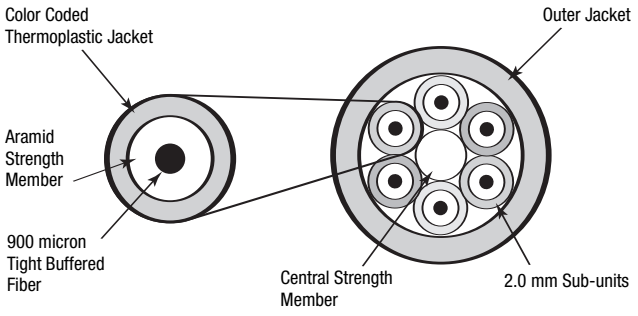
### Ratings

| | |
|---|---|
| **Plenum** | |
| UL Type | OFNP |
| cUL Type | OFN FT6 |
| Flame resistance | NFPA 262 |

### Specifications

| | |
|---|---|
| **Temperature Range** | |
| Storage | -40 to +80°C |
| Operating | -20 to +70°C |
| **Crush Resistance** (EIA-455-41) | 2000 N/cm |
| **Impact Resistance** (EIA-455-25) | 2000 Impacts @ 1.6 N-m |
| **Cyclic Flexing** (EIA-455-104) | 2000 cycles, min. |
| **Min. Bend Radius** | |
| Installation | 15xOD |
| Long term | 10xOD |
| **Optical Specifications** | see page 16.24 |

### Fiber Bundle Detail




| No. of Fibers | Belden Part Number | | | | Outside Diameter | | Weight | | Max. Install Load | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 62.5/125 µm Std./1 Gbe | 50.0/125 µm Std./1 Gbe | 50.0/125 µm 10 Gbe - 300M | Single-Mode Enhanced | inch | mm | lbs./1000′ | kg/km | lbs. | N |
| **Breakout Cable Series** | | | | | | | | | | |
| **Plenum** (NEC/CEC OFNP/OFN FT6) | | | | | | | | | | |
| 2 | **M9B013** | **M9A013** | **M9C013** | **M9W013** | 0.230 | 5.84 | 20 | 30 | 180 | 801 |
| 4 | **M9B014** | **M9A014** | **M9C014** | **M9W014** | 0.263 | 6.68 | 30 | 45 | 345 | 1535 |
| 6 | **M9B015** | **M9A015** | **M9C015** | **M9W015** | 0.309 | 7.85 | 41 | 61 | 465 | 2068 |
| 8 | **M9B016** | **M9A016** | **M9C016** | **M9W016** | 0.336 | 8.53 | 55 | 82 | 600 | 2700 |
| 10 | **M9B017** | **M9A017** | **M9C017** | **M9W017** | 0.385 | 9.78 | 73 | 109 | 600 | 2700 |
| 12 | **M9B018** | **M9A018** | **M9C018** | **M9W018** | 0.391 | 9.93 | 65 | 97 | 600 | 2700 |
| 18 | **M9B019** | **M9A019** | **M9C019** | **M9W019** | 0.456 | 11.58 | 89 | 132 | 600 | 2700 |
| 24 | **M9B020** | **M9A020** | **M9C020** | **M9W020** | 0.544 | 13.82 | 117 | 174 | 600 | 2700 |
| 36 | **M9B082** | **M9A082** | **M9C082** | **M9W082** | 0.612 | 15.54 | 154 | 229 | 600 | 2700 |

2.5 mm Breakout Cables are also available.

# Industrial Armored Cables

## Tight Buffer — Indoor Plenum Rated *(continued)*

### Applications

- Industrial environments
- Rugged installations
- Manufacturing plants
- Mining operations
- Telecommunications and data trunk
- Inter- and intra-building installations

### Product Description

Heavy duty construction with interlocking aluminum armor (steel available on request) provides excellent mechanical protection from cutting or crushing and eliminates need for innerduct. Rodent resistant. Also available for outside plant. Loose tube design available on request.

| | |
|---|---|
| **Jacket Material** | |
| Plenum | PVC |
| **Buffer Tube** | PVC |
| **Strength Member** | Aramid Yarn |
| **Central Strength Member** | E-Glass |
| **Armor** | Aluminum |
| **Color Code** (Buffer) | Per EIA/TIA 598-A, see page 16.24 |
| **Jacket Color** | |
| Single-mode | Yellow |
| 62.5/125 µm | Orange |
| 50/125 µm/1 Gbe | Orange |
| 50/125 µm/10 Gbe | Aqua |

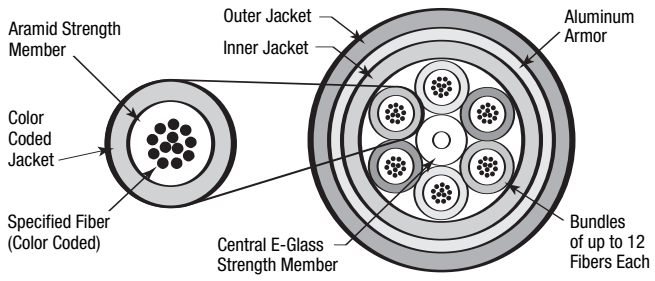
### Ratings

| | |
|---|---|
| **Plenum** | |
| UL Type | OFCP |
| cUL Type | OFC FT6 |
| Flame resistance | NFPA 262 |

### Specifications

| | |
|---|---|
| **Temperature Range** | |
| Storage | -40 to +70°C |
| Operating | -20 to +70°C |
| **Crush Resistance** (EIA-455-41) | 2000 N/cm |
| **Impact Resistance** (EIA-455-25) | 2000 Impacts @ 3.0 N-m |
| **Min. Bend Radius** | |
| Installation | 20xOD |
| Long term | 15xOD |
| **Optical Specifications** | see page 16.24 |

### Fiber Bundle Detail




| No. of Fibers | Belden Part Number | | | | Outside Diameter | | Weight | | Max. Install Load | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 62.5/125 µm Std./1 Gbe | 50.0/125 µm Std./1 Gbe | 50.0/125 µm 10 Gbe - 300M | Single-Mode Enhanced | inch | mm | lbs./1000′ | kg/km | lbs. | N |
| **Industrial Armored Series** | | | | | | | | | | |
| **Plenum** (NEC/CEC OFCP/OFC FT6) | | | | | | | | | | |
| 6 | **M9B240** | **M9A240** | **M9C240** | **M9W240** | 0.471 | 12.00 | 87 | 129 | 270 | 1201 |
| 12 | **M9B241** | **M9A241** | **M9C241** | **M9W241** | 0.506 | 12.90 | 103 | 153 | 300 | 1334 |
| 24 | **M9B242*** | **M9A242*** | **M9C242*** | **M9W242*** | 0.631 | 16.00 | 151 | 225 | 390 | 1735 |
| 24 | **M9B243** | **M9A243** | **M9C243** | **M9W243** | 0.781 | 19.84 | 289 | 430 | 600 | 2700 |
| 36 | **M9B244** | **M9A244** | **M9C244** | **M9W244** | 0.881 | 22.38 | 309 | 460 | 600 | 2700 |
| 48 | **M9B245** | **M9A245** | **M9C245** | **M9W245** | 0.906 | 23.01 | 320 | 476 | 600 | 2700 |
| 72 | **M9B246** | **M9A246** | **M9C246** | **M9W246** | 1.056 | 26.82 | 451 | 671 | 600 | 2700 |
| 96 | **M9B247** | **M9A247** | **M9C247** | **M9W247** | 1.256 | 31.90 | 608 | 905 | 600 | 2700 |
| 144 | **M9B248** | **M9A248** | **M9C248** | **M9W248** | 1.331 | 33.81 | 687 | 1022 | 600 | 2700 |

All optical fiber products can be supplied in compliance with RoHS regulations.
*Single jacket design.

# Single Jacket, All Dielectric Cable

## Loose Tube – Indoor/Outdoor Plenum Rated

### Applications

- Medium to high fiber count requirements
- Inter-building duct installations
- Lashed aerial
- Indoor/outdoor
- Campus backbones
- Data centers
- High-density cable trays

### Product Description

Dry water-blocking technology used within tubes and under jacket. Available as plenum rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Small diameter and bend radius facilitate installation in tight spaces. Full dielectric construction, no grounding required. Available with up to 144 fibers. Fibers grouped into sets of 12 for maximum density. Length markings in meters for easy determination of cable length.

| | |
|---|---|
| **Jacket Material** | |
| Non-unitized | PVC |
| Unitized | PVDF |
| **Buffer Tube** | PVC |
| **Strength Member** | E-Glass and Aramid Yarn |
| **Central Strength Member** | Upjacketed |
| **Color Code** (Buffer) | Per EIA/TIA 598-A, see page 16.24 |
| **Jacket Color** | Black |

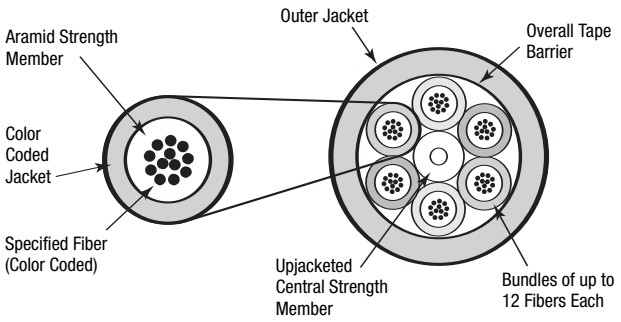
### Ratings

| | |
|---|---|
| **Plenum** | |
| UL Type | OFNP |
| cUL Type | OFN FT6 |
| Flame resistance | NFPA 262 |

### Specifications

| | |
|---|---|
| **Temperature Range** | |
| Storage | -40 to +80°C |
| Operating | -40 to +70°C |
| Installation | 0 to +60°C |
| **Crush Resistance** (EIA-455-41) | 2000 N/cm |
| **Impact Resistance** (EIA-455-25) | 2000 Impacts @ 1.6 N-m |
| **Cyclic Flexing** (EIA-455-104) | 2000 cycles, min. |
| **Min. Bend Radius** | |
| Installation | 20xOD |
| Long term | 15xOD |
| **Optical Specifications** | see page 16.24 |

### Fiber Bundle Detail




**2 – 12 FIBERS** **>12 – 144 FIBERS**

| No. of Fibers | Fibers per tube | Belden Part Number | | | | Outside Diameter | | Weight | | Max. Install Load | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 62.5/125 µm Std./1 Gbe | 50.0/125 µm Std./1 Gbe | 50.0/125 µm 10 Gbe - 300M | Single-Mode Enhanced | inch | mm | lbs./1000′ | kg/km | lbs. | N |
| **Loose Tube Series** | | | | | | | | | | | |
| **Plenum** (NEC/CEC OFNP/OFN FT6) | | | | | | | | | | | |
| 6 | 6 | **M9B202** | **M9A202** | **M9C202** | **M9W202** | 0.265 | 6.70 | 33 | 49 | 320 | 1423 |
| 12 | 12 | **M9B204** | **M9A204** | **M9C204** | **M9W204** | 0.265 | 6.70 | 33 | 49 | 320 | 1423 |
| 24 | 12 | **M9B205** | **M9A205** | **M9C205** | **M9W205** | 0.359 | 9.12 | 47 | 70 | 405 | 1801 |
| 36 | 12 | **M9B206** | **M9A206** | **M9C206** | **M9W206** | 0.359 | 9.12 | 47 | 70 | 405 | 1801 |
| 48 | 12 | **M9B207** | **M9A207** | **M9C207** | **M9W207** | 0.359 | 9.12 | 48 | 71 | 405 | 1801 |
| 72 | 12 | **M9B209** | **M9A209** | **M9C209** | **M9W209** | 0.429 | 10.90 | 71 | 106 | 585 | 2602 |
| 96 | 12 | **M9B211** | **M9A211** | **M9C211** | **M9W211** | 0.501 | 12.73 | 105 | 156 | 903 | 4017 |
| 144 | 12 | **M9B215** | **M9A215** | **M9C215** | **M9W215** | 0.665 | 16.89 | 189 | 281 | 1263 | 5618 |

Alternative fiber counts and hybrid constructions are available.

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# 17 Commercial Networking – Training




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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Belden IBDN Training
Overview



### Ensuring Competency Worldwide

The Belden IBDN training center has been an integral part of the structured cabling industry landscape for over 14 years, having earned an international reputation for delivering the industry's most comprehensive and effective structured cabling training.

This reputation is forged on the experiences of more than 65000 students trained worldwide since 1991. Today, the Belden IBDN training center serves the needs of more than 5000 students each year. Our goal is to provide our students with the skills and knowledge necessary to ensure the highest quality and optimal performance in every Belden IBDN system that they design and install.

Ensuring competency and understanding of new technologies, techniques and industry standards is a key goal in our course development. Each Belden IBDN training course is regularly updated to include the most current information on Belden IBDN products and practices, as well as new developments in cabling industry standards.

### Learn from the Experts

Belden IBDN instructors have combined experience of well over 100 years in the planning, design and installation of structured cabling systems. In addition to real life experiences, most are BICSI™ accredited RCDD and RCDD/LAN specialists, and many have additional technical credentials from industry leaders such as Microsoft™ and Cisco Systems™. Many of them have taught Belden IBDN courses all around the world, and all have the industry knowledge and professional teaching style that maximizes the learning experience.

### The Purpose of the Belden IBDN Training Center

To ensure solid and optimal network performance, a cabling system supplier should be evaluated on the following criteria:

- Credibility and industry standing
- System offerings
- Customer care
- Business partners
- Warranty program

Through the Belden IBDN training center, Belden ensures that our students and business partners consistently and accurately represent Belden IBDN systems, products, and installation standards, with the goal of optimizing network performance.

### For More Information and Registration

For information on course dates, locations and fees, please refer to: www.beldenibdn.com.
Or contact your nearest Belden office. Please look at the back cover of this catalog for this.

# Belden IBDN Training
Course Descriptions



## General Course Information

- Our courses are recognized by BICSI and earn BICSI Continuing Education Credits (CECs).
- Our courses qualify students by giving them a professional recognition that may accelerate their career advancement.
- In addition to the cabling contractor community, our courses are recognized and valued by end-customers, architects, engineers and consultants as well. If you need to increase your knowledge of structured cabling systems, the Belden IBDN training center is an excellent training investment.
- Our course content is offered in many different languages including English, French, Japanese, Spanish, Mandarin and Cantonese.
- Refresher courses for pre-qualified students are also available.
- Special rates and group discounts are available.
- Fees include a certificate of completion for selected courses, continental breakfast, coffee breaks and course materials.

## Belden IBDN 305

### Introduction to Belden
*(by correspondence on CD Rom)*

### Who Should Attend:

End-users, networking and structured cabling sales people

### Course Benefits:

Provides students with an overview of Belden as a leader in telecommunications and offers an overall picture of the Belden IBDN Systems and products, as well as the positioning of Belden in the industry.

### What will be Covered:

- Introduction to cabling
- Overview of Belden IBDN systems and products, including:
  - GigaFlex cables: 1200, 2400, 4800LX,
  - Bonded-pair cables: DataTwist 350, MediaTwist®, DataTwist® 600e,
  - GigaBIX, Fiber*Express*, IntelliMAC-Plus, PowerSense and 10GX solutions.
- Certification and exercises
- Case studies
- Reference materials

Prerequisite: None
Written Exam: Yes
BICSI CECs: RCDD (7), INS, Level 2/Technician (7)

## Belden IBDN 201/202

### Project Management for Belden IBDN including Belden IBDN System Audit
*(2 days)*

### Who Should Attend:

Installation managers, installation supervisors participant must be familiar with Belden IBDN systems as well as the certification program

### Course Benefits:

Develop the skills to recognize the scale of the project and therefore be prepared to put an efficient work plan in place in order to deliver the project on time.

Gain an understanding of the Belden IBDN system design and installation requirements as related to the Belden IBDN certification program.

Learn how to conduct and write audit reports.

### What will be Covered:

- Project manager responsibilities
- Project planning
- Project execution
- Project closing
- When, why and how audits are conducted
- Audit preparation
- Audit visit
- Audit report

Prerequisites: Belden IBDN-303* and Belden IBDN-700*
*Taken after January 2001
Written Exam: Yes, two
BICSI CECs: RCDD (14), RCDD/LAN (14), INS, Level 2/Technician (12), OSP (14), RES (12)

# Belden IBDN Training
Course Descriptions

## Belden IBDN 303

### Belden IBDN Design and Concept
*(2 days – Can also be provided by correspondence on CD Rom)*

**Who Should Attend:**

Architects, designers, networking consultants

**Course Benefits:**

Gain the ability to design a Belden IBDN structured cabling system.

Learn about standards and planning procedures related to the installation of structured cabling systems.

**What will be Covered:**

- Belden IBDN systems and products:
  - GigaFlex cables: 1200, 2400, 4800LX,
  - Bonded-pair cables: DataTwist® 350, MediaTwist®, DataTwist® 600e,
  - GigaBIX, Fiber*Express*, IntelliMAC-Plus, PowerSense and 10GX solutions
- Structured cabling overview
- Standards update
- Horizontal distribution standards
- Backbone distribution standards
- Entrance facility
- Bonding and grounding
- Reference materials
- 60% In-class exercises

Prerequisite: None
Written Exam: Yes
BICSI CECs: RCDD (14), INS, Level 2/Technician (14)

## Belden IBDN 700

### Belden IBDN Installation
*(2 days)*

**Who Should Attend:**

Belden Certified System Vendor (CSV) installers, and distributors

**Course Benefits:**

Develop a fundamental understanding of a Belden IBDN structured cabling system.

Gain valuable experience on how to install and maintain a complete Belden IBDN structured cabling system.

**What will be Covered:**

- Belden company overview
- Structured cabling history
- Standards overview
- Belden IBDN systems and products:
  - GigaFlex cables: 1200, 2400, 4800LX,
  - Bonded-pair cables: DataTwist® 350, MediaTwist®, DataTwist® 600e,
  - GigaBIX and Fiber*Express* solutions
- Certification overview
- Installation preambles for Belden IBDN Systems
- Work area products installation:
  - GigaFlex Modules, faceplates and workstation outlets
- BIX and GigaBIX solutions:
  - IDC system installation
  - Wall mount, rack-mount patch panel system installation
- Modular jack and patch cord system

**What will be Covered *(continued)*:**

- High-density PS5E/PS6+ patch panel system
- PS5E patch box and multi-user box
- PS5E DVO outlets, MDVO adapters and EZ-MDVO modules
- Optical fiber overview
  - Belden IBDN Fiber*Express* systems and products
  - Products overview, fiber termination, (1U/2U), (3U) and (4U) patch panel installation
- OPTIMAX field installable connector (ST, SC, LC)
- Breakout kit installation
- 10GX solution overview
- Reference materials
- 75% In-class exercises

Prerequisite: None
Written Exam: No
BICSI CECs: RCDD (14), INS, Level 2/Technician (14)

# Belden IBDN Training
## Course Descriptions

### Belden IBDN 726

**Belden IBDN Copper Products**
*(1 day)*

**Who Should Attend:**

Structured cabling installers

**Course Benefits:**

Gain the ability to install copper structured cabling systems.

**What will be Covered:**

- Belden company overview
- Belden IBDN systems and products:
  - GigaFlex cables: 1200, 2400, 4800LX,
  - Bonded-pair cables: DataTwist® 350, MediaTwist®, DataTwist® 600e,
  - GigaBIX
- Installation preambles for Belden IBDN systems
- Work area products installation:
  - GigaFlex modules, faceplates and workstation outlets
- BIX and GigaBIX solutions:
  - IDC system installation
  - Wall mount, rack mount patch panel system installation
- Modular jack and patch cord system
- High-density PS5E/PS6+ patch panel system
- PS5E patch box and multi-user box
- PS5E DVO outlets, MDVO adapters and EZ-MDVO modules
- 10GX solution overview
- Reference materials
- 75% In-Class exercises

Prerequisites: None
Written Exam: No
BICSI CECs: RCDD (7), INS, Level 2/Technician (7)

### Belden IBDN 746

**Belden IBDN Fiber Products**
*(1 day)*

**Who Should Attend:**

Structured cabling installers

**Course Benefits:**

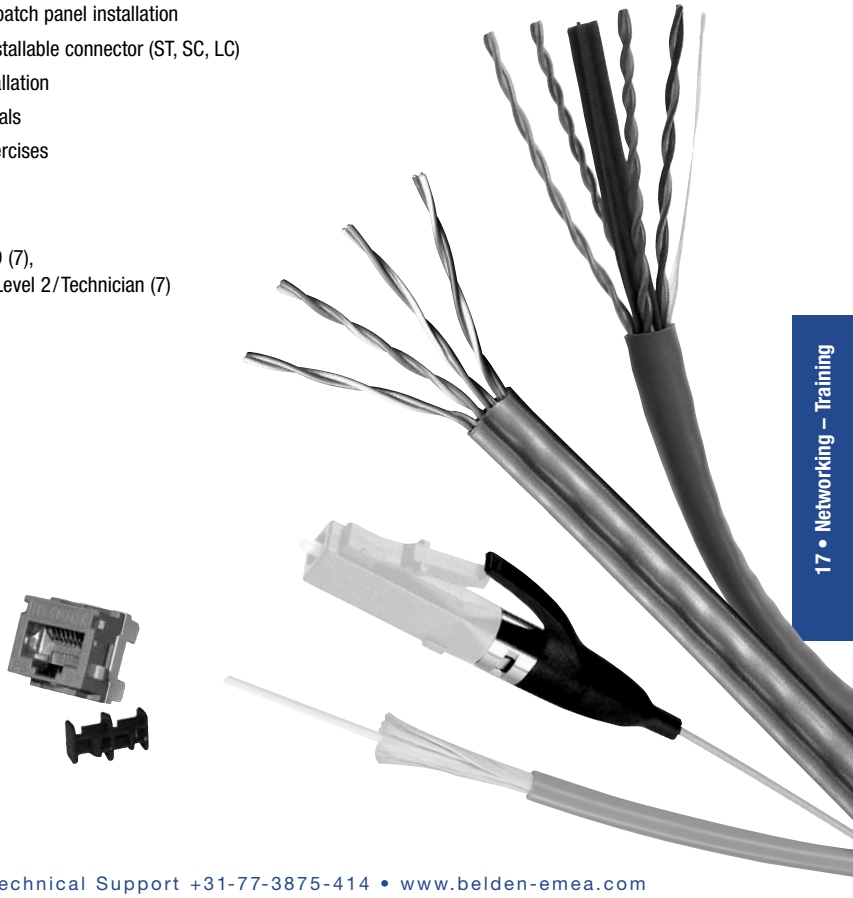
Gain an understanding of the principles behind optical fiber cabling media.

Gain the ability to install optical fiber components and solutions.

**What will be Covered:**

- Belden company overview
- Optical fiber overview
  - Belden IBDN Fiber*Express* system and products
  - Products overview, fiber termination, (1U/2U), (3U) and (4U) patch panel installation
- OPTIMAX field installable connector (ST, SC, LC)
- Breakout kit installation
- Reference materials
- 75% In-class exercises

Prerequisite: None
Written Exam: No
BICSI CECs: RCDD (7), INS, Level 2/Technician (7)



# Belden IBDN Training
Course Descriptions

**Belden IBDN 726**

### Belden IBDN End-to-End Installation and Testing – Copper Media
*(2 days)*

**Who Should Attend:**

Belden channel partners or employees contractors, technicians, supervisors, engineers and designers

**Course Benefits:**

Learn detailed installation methods of key copper Belden IBDN system components.

Learn appropriate methods and procedures of testing copper Belden IBDN systems.

**What will be Covered:**

- Review Belden IBDN systems and key copper components
- Basic balanced twisted-pair transmission and performance theories
- Installation practice reviews
- Installation and testing of End-to-End systems
- In detail, installation methods of:
  - Copper Belden IBDN systems components,

**Belden IBDN 1200, 2400 and 4800LX Systems including:**

  - GigaFlex cables: 1200, 2400 and 4800LX,
  - Bonded-pair cables: DataTwist® 350, MediaTwist®, DataTwist® 600e
- Learn testing methods of Belden IBDN systems and how to troubleshoot typical problems
- Understand the correlation between:
  - Basic theories of end-to-end system transmission,
  - Component and system installation practices,
  - Test results and system performances
- 10GX solution overview
- 90% In-class exercises

Prerequisite: None
Written Exam: Yes
BICSI CECs: RCDD (14), INS, Level 2/Technician (14)

**Belden IBDN 746**

### Belden IBDN End-to-End Installation and Testing – Optical Fiber Media
*(2 days)*

**Who Should Attend:**

Belden channel partners or employees contractors, technicians, supervisors, engineers and designers

**Course Benefits:**

Learn detailed installation methods of key Belden IBDN Fiber*Express* system components.

Learn appropriate methods and procedures of testing Belden IBDN Fiber*Express* systems.

**What will be Covered:**

- Review Belden IBDN Fiber*Express* systems and key fiber components
- Basic optical fiber transmission and performance theories
- Installation practice reviews
- Installation and testing of End-to-End systems
- In detail, installation methods of:
  - Belden IBDN Fiber*Express* system components,
  - Belden IBDN Fiber*Express* systems including: multimode (FX300, FX600 and FX2000) and single-mode systems
- Learn testing methods of Belden IBDN systems and how to troubleshoot typical problems
- Understand the correlation between:
  - Basic theories of end-to-end system transmission,
  - Component and system installation practices,
  - Test results and system performances
- 90% In-class exercises

Prerequisite: None
Written Exam: Yes
BICSI CECs: RCDD (14), INS, Level 2/Technician (14)

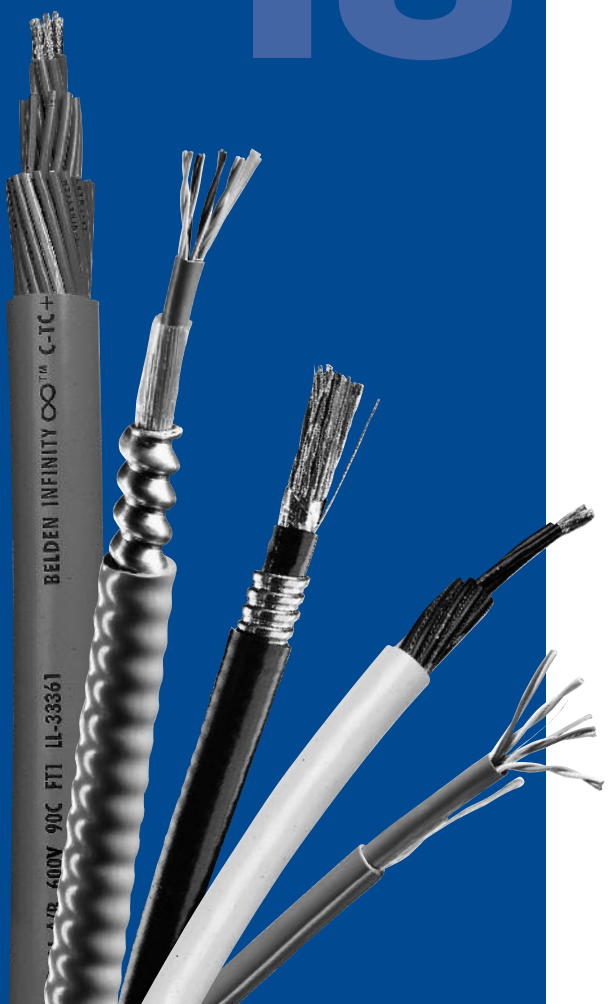


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# 18 Industrial Cables




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ControlNet™ is a ControlNet International trademark.
ODVA DeviceNet™ is an Open DeviceNet Vendor Association Inc. trademark.
Seriplex® is a Square D/Schneider AEG registered trademark.



Please refer to "Terms of Use of Master Catalog" on page 23.22.

# Introduction

INDUSTRIALTUFF™

### Tough Cables that Keep Performing.

High performance cabling solutions have changed the face of modern production facilities, manufacturing processes and the industrial infrastructure. Today, industry depends on reliability and demands long life, superb performance, often in the toughest of environments – in practice, that means peace of mind to get on with the job.

### Key applications

- Programmable logic controllers
- Human machine interfaces
- Remote I/O
- 4-20 mAmp systems (PLTC & TC instrumentation)

### IndustrialTuff™

This is the world's most comprehensive line of industrial cabling solutions – whether for networking factory floor equipment, hardware and controllers or relaying data between the control room, the engineering department and remote manufacturing sites or a combination of all the above. Belden industrial cables are designed to provide reliable communication between corporate headquarters and the plant, management and employees and everywhere in between.

### Industrial Solutions

- **Industrial Ethernet:** Networking Cables with Installable Performance™
  The reliability of an industrial ethernet network fully depends on the cable infrastructure. Transmission errors can result in lost production time – and even downtime or safety issues. Belden understands the critical nature and demands of each industry and has designed its industrial ethernet cables to provide top performance for different, often very demanding, industrial applications.

  Belden's patented bonded-pair cable constructions are included in the range of industrial ethernet products. Bonded-pair technology means installable performance – where cables are designed to withstand the pulling, bending, kinking, coiling and crushing that routinely takes place during installation.

- **Industrial Data Solutions®**
  Belden's full range of Industrial Data Solutions® includes cables for all types of bus applications such as Profibus, Fieldbus, DeviceNet™, ControlNet™, InterBus-S®.

  Belden practically invented Blue Hose® twinax cables from the original IBM specification; today these are the dominant call-out for PLC and DCS applications.

  ControlBus quad shielded coax cables are for ControlNet™ applications – all Belden industrial coax cables provide the dependability for long-lasting performance. Also available is a full range of cables for Profibus and Fieldbus applications, as well as DeviceBus cables for ODVA DeviceNet™ systems.

  In addition, Belden offers a wide range of Variable Frequency Drive (VFD) cables, Control and Instrumentation cables and the Infinity® line of flexible automation cables.

- **Diverse Manufacturing Facilities**
  Belden cables can have many different characteristics to meet the requirements of different industrial cabling applications. The cables are resistant to:
  - Effects of temperature
  - UV sunlight
  - Oils
  - Gasoline
  - Other chemical solvents

- **Belden Infinity® Flexible Automation Cable**
  Belden Infinity is used when the application requires highly flexible cables offering exceptional life and performance.
  - Reduced Cable Memory
    Belden Infinity's unique design and neutralized cabling, results in cables that are relaxed, with almost no memory.
  - Greater Flex Life
    Belden Infinity cables offer superior flexibility and are able to handle the vigorous motions and high speeds encountered in automated equipment.
  - Greater System Uptime
    Belden Infinity cables combine specialized manufacturing techniques with precision copper stranding and rugged insulation and jacketing compounds to maximize flex life and reliability.
  - No Talc Problems
    Unlike the potentially harmful talc used in other cables, Belden's non-toxic, non-irritating slipper compound facilitates flexing and also complies with OSHA regulations. It's safer for employees and operators and is less likely to contaminate solder joints or mechanical compounds.
  - CE Conformity
    All Belden Infinity cables are CE marked per the Conformité Européenne low voltage directive, allowing trade of product in Europe.
  - Custom Designs
    Other designs available upon request.

- **Armoring Capabilities**
  Belden offers both steel wire armor and interlocking (steel or aluminum) armor for extra protection against crushing and abrasion. Other solutions can be tailored to particular requirements.

| To Specify Part Number: | | |
|---|---|---|
| 1 | 2 | 3456 |
| Overall Jacket Type | Armor Type | Core Trade Number |

**Overall Jacket Type**

| Code | Material |
|---|---|
| 1 | PVC |
| 3 | CPE |
| 4 | TPE |
| 5 | HDPE |
| 6 | Oil Res II |
| 7 | Haloarrest® |

**Armor Type**

| Code | Material |
|---|---|
| 2 | Aluminum Interlock |
| 3 | Steel Interlock |
| 8 | Continuous Corrugated Aluminum |

### Availability

Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find an Industrial cable in this catalog section that meets your technical requirements, see our U.S. Master Catalog or contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

### Corresponding Literature

**Product Bulletins**
CB001: Belden's instrumentation & control capabilities
NP158: Blue Hose® cables

# Introduction

INDUSTRIALTUFF™

NP159: DeviceBus® cables for DeviceNet™ applications
NP164: Profibus® cables for Fieldbus applications
NP165: Seriplex® cables
NP177: Cable preparation tool for bonded-pair cables
NP185: Multimedia cables for analog & digital system controllers
NP195: IndustrialTuff® ControlBus® Low-loss coax cables
NP196: Industrial Fieldbus cables
NP218: Infinity® cables for factory automated systems
NP224: Cables for variable-frequency AC motor drive applications
NP231: Belden expands the DataTuff® Category 5e and 6

## PLC/DCS Cable Cross Reference Guide

| PLC/DCS Manufacturer | System Name | | Belden Part No. |
|---|---|---|---|
| ABB/ Bailey Controls | Infinet | | 9880 Network Trunk Cable<br>9463 Blue Hose® (Standard)<br>9463LS Steel Wire Armor (9463)<br>9463NH Low-Smoke, Halogen-Free (9463) |
| | Masterpiece 200 | | 9880 Network Trunk Cable<br>9907 Thin Network Trunk Cable |
| | MICRO-DCI | | 3105A 1 Pair, RS-485 |
| | MICROLINK | | 9860 Twinax, 16 AWG, 124 Ohm<br>9860LS Steel Wire Armor (9860)<br>9860NH Low-Smoke, Halogen-Free (9860) |
| | Modcell | | 3105A 1 Pair, RS-485 |
| Allen-Bradley/ Rockwell Automation | ControlNet™ | | See Protocol Listings on page 18.5 |
| | DeviceNet™ | | See Protocol Listings on page 18.5 |
| | DH | | 9463 Blue Hose® (Standard)<br>9463LS Steel Wire Armor (9463)<br>9463NH Low-Smoke, Halogen-Free (9463)<br>9463F Flexible Version (9463)<br>129463 Aluminum Armor (9463)<br>139463 Steel Armor (9463)<br>189463 Cast Aluminum (9463)<br>YR28826 Dual Version (9463)<br>9463DB Direct Burial (9463)<br>YR29565 Various Color Jackets (9463)<br>3072F 600V TC Rated (9463)<br>YR28764 Super Thick (PLTC)<br>89463 FEP* 200°C, Plenum |
| | DH-485 | | 3074F 600V Tray Cable<br>3106A 1.5 Pair, RS-485 (PLTC)<br>9842 2 Pair, RS-485, NH, LS<br>9842LS Steel Wire Armor (9842)<br>9842NH Low-Smoke, Halogen-Free (9842)<br>YM39500 Flexible Version (3106A) |
| | Longline Communications | | 8723 Interface Cable<br>88723 Plenum Version |
| Cutler-Hammer/ Westinghouse | IMPACC System | | YR29090 Proprietary Trunk Cable |
| | I/Q System | | 9463 Blue Hose® (Standard)<br>9463LS Steel Wire Armor (9463)<br>9463NH Low-Smoke, Halogen-Free (9463) |
| Emerson Process Management (Fisher/Rose-mount Controls) | Fieldbus (Type SP50 ISA/IEC) | | See Protocol Listings on page 18.5 |
| | Hart | | See Protocol Listings on page 18.5 |
| | Provox Plus | | 3094A RG-11 Quad Shield PVC<br>3131A RG-6 Quad Shield PVC |
| GE Fanuc | Genius I/O System | | YR29841 PLTC Version<br>9182 Communications Bus<br>89182 Plenum Version |
| Honeywell | Access 4000 System | | 9248 RG-6 PVC |
| | Fieldbus (Type SP50 ISA/IEC) | | See Protocol Listings on page 18.5 |
| | IPC 620 System | I/O | 9271 Twinax, 25 AWG, 124 Ohm |
| | | Serial Interface | 9729 Up to 1220 m (4000 ft.)<br>9182 Up to 3049 m (10000 ft.)<br>89182 Plenum |
| | 3000 UCN & LCN | | 3131A RG-6 Quad Shield PVC<br>9094A RG-11 Quad Shield PVC |
| Honeywell Micro-switch Division | Smart Distributed System | | 3086A Mini<br>3087A Micro |
| Invensys/Foxboro | Fieldbus (Type SP50 ISA/IEC) | | See Protocol Listings on page 18.5 |
| | I/A Series | Carrier Band | 8233 Small Trunk<br>3095A Plenum<br>9290 Drop Cable |
| | I/A Series | Fieldbus | 9207 Twinax<br>9207NH Low-Smoke, Halogen-Free (9207)<br>89207 200°C, Plenum<br>3073F 600V Tray Cable |
| | | Node Bus | 9880 Trunk Cable<br>89880 Plenum Version |
| Limitorque | DCC 100 | | 3105A Actuator Bus Cable, 1 Pair, RS-485 |
| Matsushita | FP Series | C-NET | 9207 Twinax, 20 AWG, Stranded, 100 Ohm<br>9207NH Low-Smoke, Halogen-Free (9207)<br>9860 Twinax, 16 AWG, Solid, 124 Ohm<br>9860LS Steel Wire Armor (9860)<br>9860NH Low-Smoke, Halogen-Free (9860) |
| | | MEWNET-F | 9207 Twinax, 20 AWG, Stranded, 100 Ohm<br>9207NH Low-Smoke, Halogen-Free (9207)<br>9860 Twinax, 16 AWG, Solid, 124 Ohm<br>9860LS Steel Wire Armor (9860)<br>9860NH Low-Smoke, Halogen-Free (9860) |
| | | MEWNET-H | 9248 RG-6, 75 Ohm, 18 AWG |
| | | MEWNET-TR | 9207 Twinax, 20 AWG, Stranded, 100 Ohm<br>9207NH Low-Smoke, Halogen-Free (9207)<br>9860 Twinax, 16 AWG, Solid, 124 Ohm<br>9860LS Steel Wire Armor (9860)<br>9860NH Low-Smoke, Halogen-Free (9860) |
| | | MEWNET-W | 9207 Twinax, 20 AWG, Stranded, 100 Ohm<br>9207NH Low-Smoke, Halogen-Free (9207)<br>9806 4 Pair, RS-232, RS-422 |
| | | MEWNET-W2 | 9207 Twinax, 20 AWG, Stranded, 100 Ohm<br>9207NH Low-Smoke, Halogen-Free (9207)<br>9860 Twinax, 16 AWG, Solid, 124 Ohm<br>9860LS Steel Wire Armor (9860)<br>9860NH Low-Smoke, Halogen-Free (9860) |
| | | TRNET | 9207 Twinax, 20 AWG, Stranded, 100 Ohm<br>9207NH Low-Smoke, Halogen-Free (9207)<br>9860 Twinax, 16 AWG, Solid, 124 Ohm<br>9860LS Steel Wire Armor (9860)<br>9860NH Low-Smoke, Halogen-Free (9860) |
| Mitsubishi | DeviceNet™ | | See Protocol Listings on page 18.5 |
| | CC-Link | | 1348A Three-Conductor<br>1349A Three-Conductor + Power |
| | Melsecnet (II) 10/10H | | 1505A Precision RG-59/U Coax<br>1505F High Flex (1505A)<br>1506A Plenum Precision Rg-59/U, Outdoor, Direct Burial<br>8241 Standard RG-59/U Coax<br>8241F High Flex (8241F) |
| | Profibus DP & FMS | | See Protocol Listings on page 18.5 |
| | Serial Communications | | 8777 Control and Instrumentation Interconnect Cable<br>8777LS Steel Wire Armor (8777)<br>8777NH Low-Smoke, Halogen-Free (8777) |

* Fluorinated Ethylene-Propylene

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# PLC/DCS Cable Cross Reference Guide
*(continued)*

INDUSTRIALTUFF™

| PLC/DCS Manufacturer | System Name | Belden Part No. |
|---|---|---|
| Modicon/ Schneider AEG | Modbus | 8777 Modem Drop Cable, 22 AWG, 3 Pair<br>8777LS Steel Wire Armor (8777)<br>8777NH Low-Smoke, Halogen-Free (8777)<br>128777 Aluminum Armor (8777)<br>138777 Steel Armor (8777)<br>88777 FEP* 200°C, Plenum |
| | Modbus II | 3092A RG-6 Quad Shield PVC<br>3132A RG-6 Quad Shield, 150°C, Plenum<br>3092F RG-6 Quad Shield PVC, Flexible Version<br>123092A Aluminum Armor (3092A)<br>133092A Steel Armor (3092A) |
| | Modbus Plus | YM29560 24 AWG, 1 Pair, RS-485<br>YC39000 Aluminum Armor (YM29560)<br>YC39222 Steel Armor (YM29560)<br>YQ29258 24 AWG, 1 Pair, 150°C, Plenum |
| | Remote I/O | 3092A RG-6 Quad Shield PVC<br>3092F RG-6 Quad Shield PVC, Flexible Version<br>123092A Aluminum Armor (3092A)<br>133092A Steel Armor (3092A)<br>123092F Aluminum Armor, RG-6 Quad Shield PVC<br>3132A RG-6 Quad Shield, 150°C, Plenum<br>3094A RG-11 Quad Shield PVC<br>123094A Aluminum Armor (3094A)<br>133094A Steel Armor (3094A)<br>3095A RG-11 Quad Shield, 150°C, Plenum |
| Omron | AS Interface | See Protocol Listings on page 18.5 |
| | CompoBus/D (DeviceNet™) | See DeviceNet™ Protocol listings on page 18.5 |
| | CompoBus/S | 9409 1 Pair, 18 AWG, 300V PLTC Control<br>9318 1 Pair, 18 AWG, 300V PLTC Control, Shielded<br>3073F 600V Twinax Tray Cable<br>3076ENH Fieldbus, Low-Smoke, Halogen-Free<br>89740 1 Pair, 18 AWG, 300V Control |
| | Controller Link | 9207 Twinax<br>9207NH Low-Smoke, Halogen-Free (9207)<br>89207 Twinax, 200°C, Plenum<br>9815 100 Ohm Twinax, Direct Burial<br>3073F 600V Twinax Tray Cable |
| | SYSBUS-2 | 3073F 600V Tray Cable Twinax |
| | SYSMAC BUS | 9841 24 AWG, 1 Pair, RS-485<br>9841LS Steel Wire Armor (9841)<br>9841NH Low-Smoke, Halogen-Free (9841)<br>3105A 22 AWG, 1 Pair, RS-485 |
| | SYSMAC LINK | 9231 Coax |
| Phoenix Contact | DeviceNet™ | See Protocol Listings on page 18.5 |
| | InterBus®-S | See Protocol Listings on page 18.5 |
| | Profibus DP FMS & PA | See Protocol Listings on page 18.5 |
| Reliance/A-B | Auto Max Distributed Power | MTB6002 2 Fiber Breakout<br>I100255 2 Fiber Loose Tube PVC<br>I100266 2 Fiber Loose Tube CPE |
| | R-Net | 9259 RG-59 PVC<br>89259 RG-59, 200°C, Plenum |
| Rotork | Pakscan II E RS-485 | 3105A 22 AWG, 1 Pair, RS-485 |
| Siemens/Moore | FMC (Field Mountable Controller) | 3105A 1 Pair, RS-485<br>3106A 1.5 Pair, RS-485<br>3107A 2 Pair, RS-485<br>3108A 3 Pair, RS-485<br>3109A 4 Pair, RS-485 |
| | Hiway | 9860 Network Trunk Cable<br>9860LS Steel Wire Armor (9860)<br>9860NH Low-Smoke, Halogen-Free (9860) |

| PLC/DCS Manufacturer | System Name | | Belden Part No. |
|---|---|---|---|
| Siemens/Moore *(continued)* | MODULNET | | 3094A RG-11 Quad Shield PVC<br>3131A RG-6 Quad Shield PVC |
| | Profibus DP & FMS (Purple) | | See Protocol Listings on page 18.5 |
| | Profibus PA (Blue) | | See Protocol Listings on page 18.5 |
| | SINEC Series | H1 | 9907 Thin Network Trunk Cable<br>9880 Network Trunk Cable |
| | | H2B | 3131A RG-6 Quad Shield<br>3094A RG-11 Quad Shield |
| | SINEC Series | L1 | 31071A 2 Pair, RS-485 |
| | | L2 | 3079A 300V Twinax<br>3079ALS Steel Wire Armor (3079A)<br>3079ANH Low-Smoke, Halogen-Free (3079A)<br>3079E Stranded Conductor (3079A) |
| | Thicknet Ethernet Trunk | | 9880 Network Trunk Cable<br>129880 Aluminum Interlocked Armor Trunk<br>139880 Steel Interlocked Armor Trunk<br>See Protocol listings on page 18.5 |
| | Thinnet Ethernet Trunk | | 9907 Thin Network Trunk Cable<br>See Protocol listings on page 18.5 |
| Smar | Fieldbus (Type SP50 ISA/IEC) | | See Protocol Listings on page 18.5 |
| | Profibus DP, FMS & PA | | See Protocol Listings on page 18.5 |
| | RS-485 | | See Protocol Listings on page 18.5 |
| Square D/ Schneider AEG | FIP/Fieldbus | | 3079A 22 AWG, 1 Pair, Shielded<br>3079ALS Steel Wire Armor (3079A)<br>3079ANH Low-Smoke, Halogen-Free (3079A)<br>3079E Stranded Conductor (3079A)<br>123079A Aluminum Armor (3079A) |
| | Model 50, RS-422 Cable | | 8760 18 AWG, 1 Pair, Shielded<br>128760 Aluminum Armor (8760) |
| | Passport I/O – I/O Net | | 3105A 22 AWG, 1 Pair, RS-485<br>123105A Aluminum Armor (3105A)<br>3106A 22 AWG, 1.5 Pair, RS-485<br>123106A Aluminum Armor (3106A) |
| | Power Logic | | 9841 24 AWG, 1 Pair, RS-485<br>9841LS Steel Wire Armor (9841)<br>9841NH Low-Smoke, Halogen-Free (9841)<br>9842 24 AWG, 2 Pair, RS-485<br>9842LS Steel Wire Armor (9842)<br>9842NH Low-Smoke, Halogen-Free (9842) |
| | Seriplex® | | 3124A CBL-1822-P20<br>3125A CBL-1622-P16<br>3126A CBL-162212-P16<br>123124A Aluminum Armor (3124A)<br>123125A Aluminum Armor (3125A)<br>123126A Aluminum Armor (3126A) |
| | SY/Net Network Trunk Cable | | 9463 Blue Hose® (Standard)<br>9463F Flexible Version (9463)<br>129463 Aluminum Armor (9463)<br>139463 Steel Armor (9463)<br>189463 Cast Aluminum (9463)<br>YR28826 Dual Version (9463)<br>9463DB Direct Burial (9463)<br>YR29565 Various Color Jackets (9463)<br>3072F 600V TC Rated (9463)<br>YR41194 Low-Smoke, Halogen-Free<br>YR28764 Super Thick (PLTC)<br>89463 FEP* 200°C, Plenum |
| | SY/Net TNIM Cable | | 9272 20 AWG, 1 Pair, Shielded<br>89272 FEP* 200°C, Plenum |
| Yokogawa | Fieldbus (Type SP50 ISA/IEC) | | See Protocol Listings on page 18.5 |
| Westinghouse | WDPF | | 9292 RG-11 PVC |

* Fluorinated Ethylene-Propylene

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# Industrial Communications Protocol
## Cross Reference

INDUSTRIALTUFF™

| System Name | Belden Part No. | |
|---|---|---|
| AS Interface | 3999E | Yellow Bus Cable |
| ControlNet™ | 3092A | RG-6 PVC Quad Shield |
| | 3092F | RG-6 PVC Quad Shield, Flex Version, Aluminum Braid |
| | YR28890 | RG-6 PVC Flex Version, Copper Braid |
| | 3093A | RG-6 FEP* Quad Shield, Plenum |
| DeviceNet™ | 3082A | PVC (Thick) |
| | 3082F | High-Flex (Thick) |
| | 3082K | CL2 (Flat) |
| | 3082KP | Auxiliary Power (Flat) |
| | 3083A | CPE (Thick) |
| | 3084A | PVC (Thin) |
| | 3084F | High-Flex (Thin) |
| | 3085A | CPE (Thin) |
| | 7895A | CL2 PVC (Cable III Mid) |
| | 7896A | CL1 PVC (Type V Trunk Cable) |
| | 7897A | CL1 PVC (Thick) |
| | 7900A | CL1 Unshielded (Drop Cable IV) |
| Ethernet – Fiber Optic | See Industrial Ethernet Fiber Optic Cable Selection Guide on page 18.36 | |
| Ethernet – Thicknet | 9880 | 10 Base 5 Network Trunk Cable |
| | 89880 | Plenum (9880) |
| Ethernet – Thinnet | 9907 | 10 Base 2 Network Trunk Cable |
| | 89907 | Plenum (9907) |
| Ethernet – Twisted Pair | See DataTuff® Industrial Ethernet Cable Selection Guide on page 18.36 | |
| Fieldbus (Type SP50 ISA/IEC) | 3076F | Type A, H1 1900 m (31.25K) |
| | 3076ELS | Steel Wire Armor (3076F) |
| | 3076ENH | Low-Smoke, Halogen-Free (3076F) |
| | 3077F | Type B, H1 1200 m (31.25K) |
| | 3077ELS | Steel Wire Armor (3077F) |
| | 3077ENH | Low-Smoke, Halogen-Free (3077F) |
| | 3078F | High-Speed (1.0 + 2.5 mbits/s) |
| | HSE | Copper & Fiber *(See Cables for Industrial Ethernet)* |
| Hart | 3105A | 1 Pair, RS-485 |
| | 3106A | 1.5 Pair, RS-485 |
| | 3107A | 2 Pair, RS-485 |
| InterBus®-S | 3119A | 18/3C, 24/3 Pair, Composite |
| | 3120A | 24/3 Pair |
| Profibus DP & FMS (Purple) | 3079A | 300V Twinax |
| | 3079ALS | Steel Wire Armor (3079A) |
| | 3079ANH | Low-Smoke, Halogen-Free (3079A) |
| | 3079E | Stranded Conductor (3079A) |
| Profibus PA (Blue) | 3076F | 18 AWG, 2 Conductors, Type A |
| | 3076ELS | Steel Wire Armor (3076F) |
| | 3076ENH | Low-Smoke, Halogen-Free (3076F) |
| RS-485/HART/CAN | 9841 | 1 Pair |
| | 9841LS | Steel Wire Armor (9841) |
| | 9841NH | Low-Smoke, Halogen-Free (9841) |
| | 9842 | 2 Pair |
| | 9842LS | Steel Wire Armor (9842) |
| | 9842NH | Low-Smoke, Halogen-Free (9842) |
| | 9843 | 3 Pair |
| | 9843NH | Low-Smoke, Halogen-Free (9843) |
| | 9844 | 4 Pair |
| | 3105A | 1 Pair (PLTC) |
| | 3106A | 1.5 Pair (PLTC) |
| | 3107A | 2 Pair (PLTC) |
| | 3108A | 3 Pair (PLTC) |
| | 3109A | 4 Pair (PLTC) |

* Fluorinated Ethylene-Propylene
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# Industrial Data Solutions® – Industrial Ethernet

INDUSTRIALTUFF™

**DataTuff® Industrial Ethernet Cable Selection Guide** (See Pages 18.7 – 18.11 for Product Detail.)

| Part No. | Pulling Tension | Shielding | | Conductor | | Installation | Environmental Issues | | Industrial Grade Jacket | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Un-shielded | Shielded* | Solid | Stranded** Flexibility | Installation Stress Re-sistance† | Oil Resis-tance | UV Sun-light Re-sistance | Gasoline Resis-tance | HI/LO Temp | Heavy | Upjacket | Armored | PVC | LSHN/ FRNC |
| **Category 5e** | | | | | | | | | | | | | | | |
| **BEB1212** | – | ● | | ● | | ● | ● | ● | | | ● | | | | ● |
| **BEB3212** | – | | ● | ● | | ● | ● | ● | | | ● | | | | ● |
| **7923A** | 40 | ● | | ● | | ● | ● | ● | | | ● | | | ● | |
| **7929A** | 35 | | ● | ● | | ● | ● | ● | | | ● | | | ● | |
| **7921A** | 75 | | ● | ● | | ● | ● | ● | | | ● | | | ● | |
| **11700A** | 40 | ● | | ● | | ● | ● | ● | | | | ● | | ● | |
| **121700A** | 40 | ● | | ● | | ● | ● | ● | | | | | ● | ● | |
| **7924A** | 40 | ● | | | ● | ● | ● | ● | | | ● | | | ● | |
| **7928A** | 40 | ● | | ● | | ● | ● | ● | ● | ● | ● | | | ● | |
| **7918A** | 35 | ● | | ● | | | ● | ● | | | ● | | | ● | |
| **7919A** | 25 | | ● | ● | | | ● | ● | | | ● | | | ● | |
| **Category 6** | | | | | | | | | | | | | | | |
| **7927A** | 45 | ● | | ● | | ● | ● | ● | | | ● | | | ● | |
| **7931A** | 40 | ● | | ● | | ● | ● | ● | ● | ● | ● | | | ● | |
| **11872A** | 45 | ● | | ● | | ● | | | | | | ● | | ● | |
| **121872A** | 45 | ● | | ● | | ● | | ● | | | | | ● | ● | |

* Shielded products are recommended for high-noise environments.
**Stranded products are recommended where more flexibility is needed.
† Products with bonded-pair technology provide Installable Performance™ advantages.

### Cable that Meets the Requirements of EN50170-2-2:1996 for Communications up to 12 Mbaud

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Baud Rate (k baud) | 9.6 | 19.2 | 93.75 | 187.5 | 500.0 | 1500.0 | 12000.0 |
| Maximum Trunk Length (m) | 1200 | 1200 | 1200 | 1000 | 400 | 200 | 100 |

### DeviceNet™ Communications Rate Table

| Communi-cations Rate | Maximum Distance | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3082A | | 3082F | | 3082K | | 3083A | | 3084F | | 3084A/3085A | | 7895A | | 7896A | | 7897A | | 7900A | |
| | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m |
| 125 Kbps | 1640 | 500 | 1640 | 500 | 1378 | 420 | 1640 | 500 | 328 | 100 | 328 | 100 | 984 | 300 | 1378 | 400 | 1640 | 500 | 328 | 100 |
| 250 Kbps | 820 | 250 | 820 | 250 | 656 | 200 | 820 | 250 | 328 | 100 | 328 | 100 | 820 | 250 | 656 | 200 | 820 | 250 | 328 | 100 |
| 500 Kbps | 328 | 100 | 328 | 100 | 328 | 100 | 328 | 100 | 328 | 100 | 328 | 100 | 328 | 100 | 328 | 100 | 328 | 100 | 328 | 100 |

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# Industrial Data Solutions® – Industrial Ethernet Cables

## Category 5e DataTuff® Twisted Pair Cables
## Heavy Duty Sunlight- and Oil-Resistant Jackets

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm Bare Copper • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Industrial Grade Sunlight- and Oil-Resistant FRNC/LSNH Jacket** (Black and Grey) | | | | | | | | | | | | | | | | | | | |
| | **BEB1212** | IEC 60332-1 | 1000 | 305 | 20.1 | 9.1 | 0.51 mm 24 AWG Solid BC | 0.037 | 0.95 | Bonded-Pair Unshielded | 0.217 | 5.50 | 1 | 2.0 | 62.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | | 1640 | 500 | 33.1 | 15.0 | | | | | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 10 | 6.3 | 47.3 | 41.0 | 40.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 8.0 | 44.3 | 36.2 | 36.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 10.1 | 41.3 | 31.2 | 32.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 62.5 | 16.5 | 35.4 | 18.9 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.3 | 32.3 | 11.0 | 20.8 | 100 ± 15 | 20.1 |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair<br>EtherNet/IP Compliant | | | Color Code: see chart below<br>Burning Energy: 400 kJ/m<br>RJ-45 Compatible, -25°C Cold Bend | | | | | | | | | | Verified to ISO/IEC 11801 (2nd Edition), EN-50173-1, TIA/EIA-568-B.2, Category 5e<br>U.S. Patents 5,606,151 and 5,734,126<br>Jacket sequentially marked at 1 m intervals. | | | | | | |
| **Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm Bare Copper • Overall **Beldfoil®** Shield + 40% TC **Braid** • 26 AWG TC Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Industrial Grade Sunlight- and Oil-Resistant FRNC/LSNH Jacket** (Black, Grey and Blue) | | | | | | | | | | | | | | | | | | | |
| Heavy Shielded | **BEB3212** | IEC 60332-1 | 1000 | 305 | 30.9 | 14.0 | 0.51 mm 24 AWG Solid BC | 0.041 | 1.05 | Bonded-Pair Overall Beldfoil® + Overall 40% TC Braid + Drain Wire (26 AWG TC) | 0.262 | 6.65 | | | | | | | see above |
| | | | 1640 | 500 | 50.7 | 23.0 | | | | | | | | | | | | | |
| 4-Pair<br>EtherNet/IP Compliant | | | Color Code: see chart below<br>Burning Energy: 575 kJ/m<br>RJ-45 Compatible, -25°C Cold Bend | | | | | | | | | | Verified to ISO/IEC 11801 (2nd Edition), EN-50173-1, Category 5e<br>U.S. Patents 5,606,151 and 5,734,126<br>Jacket sequentially marked at 1 m intervals. | | | | | | |
| **Enhanced Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm Bare Copper • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant Black PVC Jacket** (Black and Blue) | | | | | | | | | | | | | | | | | | | |
| Shielded | **7929A** | NEC:<br>CMR<br>CMX-Outdoor<br>CEC:<br>CMR FT4 | 1000 | 305 | 37.0 | 16.8 | 0.51 mm 24 AWG Solid BC | 0.045 | 1.14 | Bonded-Pair Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.265 | 6.73 | 1 | 2.0 | 62.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | | 2000 | 610 | 72.1 | 32.7 | | | | | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.0 |
| | | | | | | | | | | | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 8.2 | 44.3 | 36.1 | 36.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 18.4 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 32.4 | 27.8 | 1.0 | 14.7 | 100 ± 15 | 15.0 |
| 4-Pair | | | Color Code: see chart below<br>RJ-45 Compatible, -25°C Cold Bend<br>610 m put-up available in Black only. | | | | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e<br>U.S. Patents 5,606,151 and 5,734,126<br>Shield is bonded to jacket inner wall for electrical stability. Jacket sequentially marked at 0.6 m intervals. | | | | | | |
| **Enhanced Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm BC • Overall **Beldfoil®** Shield + 70% TC **Braid** • 24 AWG Spiral Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant Black PVC Jacket** (Black, Red, Blue and Teal) | | | | | | | | | | | | | | | | | | | |
| Heavy Shielded | **7921A** | NEC:<br>CMR<br>CMX-Outdoor<br>CEC:<br>CMR FT4 | 1000 | 305 | 54.9 | 24.9 | 0.51 mm 24 AWG Solid BC | 0.047 | 1.19 | Bonded-Pair Overall Beldfoil® + Overall 70% TC Braid + Drain Wire (24 AWG TC) | 0.330 | 8.38 | 1 | 2.0 | 62.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | | 2000 | 610 | 106.0 | 48.1 | | | | | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 26.0 |
| | | | | | | | | | | | | | 16 | 8.2 | 44.3 | 36.1 | 36.7 | 100 ± 15 | 26.0 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 18.4 | 24.8 | 100 ± 15 | 23.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 22.5 |
| 4-Pair | | | Color Code: see chart below<br>-25°C Cold Bend<br>610 m put-up available in Black only. | | | | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e<br>U.S. Patents 5,606,151 and 5,734,126<br>Jacket sequentially marked at 0.6 m intervals. | | | | | | |

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

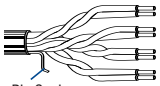
# Industrial Data Solutions® – Industrial Ethernet Cables

## Category 5e DataTuff® Twisted Pair Cables

## Heavy Duty Sunlight- and Oil-Resistant Jackets

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Enhanced Cat 5e • 24 AWG** • Solid 0.5 mm Bare Copper • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant PVC Jacket** (Black and Blue) | | | | | | | | | | | | | | | | | | | |
| | **7918A** | NEC: | 1000 | 305 | 28.0 | 12.7 | 0.51 mm | 0.037 | 0.94 | Non- | 0.230 | 5.84 | 1 | 2.0 | 62.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | CMR | 2000 | 610 | 52.0 | 23.6 | 24 AWG | | | Bonded-Pair | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.0 |
| | | CMX-Outdoor | | | | | Solid BC | | | Unshielded | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 25.0 |
| | | CEC: | | | | | | | | | | | 16 | 8.2 | 44.3 | 36.1 | 36.7 | 100 ± 15 | 25.0 |
| | | CMR FT4 | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 18.4 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 200 | 32.4 | 27.8 | 1.0 | 14.7 | 100 ± 25 | 15.0 |



Rip Cord

4-Pair

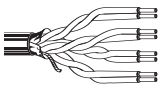
Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*
610 m put-up available in Black only.

RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2, Category 5e
Jacket sequentially marked at 0.6 m intervals.
Color Code: see chart below

**Enhanced Cat 5e • 24 AWG** • Solid 0.5 mm Bare Copper • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire

**Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shielded | **7919A** | NEC: | 1000 | 305 | 35.1 | 15.9 | 0.51 mm | 0.042 | 1.07 | Non- | 0.265 | 6.73 | 1 | 2.0 | 62.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | CMR | 2000 | 610 | 68.1 | 30.9 | 24 AWG | | | Bonded-Pair | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.0 |
| | | CMX-Outdoor | | | | | Solid BC | | | Overall Beldfoil® | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 25.0 |
| | | CEC: | | | | | | | | + Drain Wire | | | 16 | 8.2 | 44.3 | 36.1 | 36.7 | 100 ± 15 | 25.0 |
| | | CMR FT4 | | | | | | | | (24 AWG TC) | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 18.4 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 20.1 |



4-Pair

Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*
610 m put-up available in Black only.

RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2, Category 5e • P-07-KA060004-MSHA**
Shield is bonded to jacket inner wall for electrical stability. Jacket sequentially marked at 0.6 m intervals.
Color Code: see chart below

**Enhanced Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm Bare Copper • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire

**Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant PVC Jacket** (Black, Red and Teal)

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shielded | **7933A** | NEC: | 1000 | 305 | 32.0 | 14.5 | 0.51 mm | 0.038 | 0.97 | Bonded-Pair | 0.227 | 5.77 | 1 | 2.0 | 62.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | CMR FT4 | 2000 | 610 | 64.8 | 29.4 | 24 AWG | | | Overall Beldfoil® | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.6 |
| | | CEC: | | | | | Solid BC | | | + Drain Wire | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 26.0 |
| | | CMR FT4 | | | | | | | | (24 AWG TC) | | | 16 | 8.2 | 44.3 | 36.1 | 36.7 | 100 ± 15 | 26.0 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 18.4 | 24.8 | 100 ± 15 | 23.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 22.5 |
| | | | | | | | | | | | | | 200 | 32.4 | 27.8 | 1.0 | 14.7 | 100 ± 25 | 15.0 |



2-Pair

EtherNet/IP Compliant

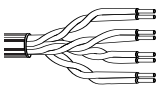
Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*
610 m put-up available in Black only.

M-12 or RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2, Category 5e • U.S. Patents 5,606,151 and 5,734,126
Shield is bonded to jacket inner wall for electrical stability. Jacket sequentially marked at 0.6 m intervals.
Color Code: see chart below

**Enhanced Cat 5e • 24 AWG • Bonded-Pair** • Solid 0.5 mm Bare Copper

**Plenum • FEP Insulation • Sunlight-, Oil-and Gas-Resistant Black FEP Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Compliant | **7928A** | NEC: | 1000 | 305 | 24.0 | 10.9 | 0.51 mm | 0.036 | 0.91 | Bonded-Pair | 0.187 | 4.57 | 1 | 2.0 | 65.3 | 63.3 | 60.8 | 100 ± 12 | 20.0 |
| High & Low Temp | | Limited | | | | | 24 AWG | | | Unshielded | | | 4 | 4.0 | 56.3 | 52.3 | 48.7 | 100 ± 12 | 23.6 |
| Oil Res I & II | | Combustible | | | | | Solid BC | | | | | | 10 | 6.4 | 50.3 | 43.9 | 40.8 | 100 ± 12 | 26.0 |
| Gas Res | | FHC 25/50 | | | | | | | | | | | 16 | 8.1 | 47.3 | 39.1 | 36.7 | 100 ± 12 | 26.0 |
| | | CMP | | | | | | | | | | | 31.25 | 11.6 | 42.9 | 31.3 | 30.9 | 100 ± 15 | 25.0 |
| | | CEC: | | | | | | | | | | | 62.5 | 16.8 | 38.4 | 21.6 | 24.8 | 100 ± 15 | 23.5 |
| | | CMP FT6 | | | | | | | | | | | 100 | 21.7 | 35.3 | 17.1 | 20.8 | 100 ± 15 | 22.5 |
| | | | | | | | | | | | | | 350 | 44.3 | 27.2 | – | 9.9 | 100 ± 22 | 17.0 |



4-Pair

EtherNet/IP Compliant

Cable passes -70°C Cold Bend per UL1581
Installation Temperature: -55°C to +150°C
Operating Temperature: -70°C to +150°C*

RJ-45 Compatible • Jacket sequentially marked at 0.6 m intervals.
Third party verified to TIA/EIA-568-B.2, Category 5e • U.S. Patents 5,606,151 and 5,734,126
Color Code: see chart below

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance • * Subject to length de-rating. • ** Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration Certification.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Industrial Data Solutions® – Industrial Ethernet Cables

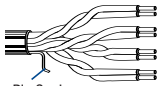
## Category 5e DataTuff® Twisted Pair Cables
## Heavy Duty Sunlight- and Oil-Resistant Jackets

INDUSTRIALTUFF™

### Enhanced Cat 5e • 24 AWG • Bonded-Pair • Solid 0.5 mm Bare Copper • Twisted Pairs • Rip Cord

**Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant PVC Jacket** (Black, Red or Teal)

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **7923A** | NEC: | 1000 | 305 | 28.0 | 12.7 | 0.51 mm | 0.038 | 0.97 | Bonded-Pair | 0.230 | 5.84 | 1 | 2.0 | 65.3 | 68.3 | 60.8 | 100 ± 12 | 20.0 |
| | | CMR | 2000 | 610 | 54.0 | 24.5 | 24 AWG | | | Unshielded | | | 4 | 4.0 | 56.3 | 52.3 | 48.7 | 100 ± 12 | 23.6 |
| | | CMX-Outdoor | | | | | Solid BC | | | | | | 8 | 5.7 | 51.8 | 46.1 | 42.7 | 100 ± 12 | 25.4 |
| | | CEC: | | | | | | | | | | | 10 | 6.4 | 50.3 | 43.9 | 40.8 | 100 ± 12 | 26.0 |
| | | CMR FT4 | | | | | | | | | | | 16 | 8.1 | 47.3 | 39.1 | 36.7 | 100 ± 12 | 26.0 |
| | | | | | | | | | | | | | 25 | 10.3 | 44.3 | 34.1 | 32. | 100 ± 15 | 25.5 |
| | | | | | | | | | | | | | 31.25 | 11.6 | 42.9 | 31.3 | 30.9 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 62.5 | 16.8 | 38.4 | 21.6 | 24.8 | 100 ± 15 | 23.5 |
| | | | | | | | | | | | | | 100 | 21.7 | 35.3 | 17.1 | 20.8 | 100 ± 15 | 22.5 |
| | | | | | | | | | | | | | 155 | 27.7 | 32.5 | 4.7 | 16.9 | 100 ± 18 | 19.0 |
| | | | | | | | | | | | | | 200 | 32.0 | 30.8 | 3.0 | 14.7 | 100 ± 20 | 19.0 |
| | | | | | | | | | | | | | 250 | 36.4 | 29.3 | – | 12.8 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 350 | 44.3 | 27.2 | – | 9.9 | 100 ± 22 | 17.0 |



Rip Cord

4-Pair

Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*
610 m put-up available in Black only.

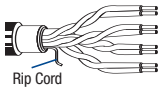
RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2, Category 5e • U.S. Patents 5,606,151 and 5,734,126
P-07-KA060003-MSHA**
Jacket sequentially marked at 0.6 m intervals.

EtherNet/IP Compliant

### Enhanced Cat 5e • 24 AWG • Bonded-Pair • Solid 0.5 mm Bare Copper • Rip Cord

**Polyolefin Insulation • PVC Inner Jacket • Industrial Grade PVC Outer Jacket** (Black, Grey, Red, Teal or Blue)

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upjacketed | **11700A** | NEC: | 1000 | 305 | 39.0 | 17.7 | 0.51 mm | 0.038 | 0.97 | Bonded-Pair | 0.285 | 7.24 | | see above |
| | | CMR | 3000 | 914 | 117.3 | 53.2 | 24 AWG | | | Unshielded | | | | |
| | | CMX-Outdoor | | | | | Solid BC | | | | Upjacketed O.D. | | | |
| | | CEC: | | | | | | | | | 0.200 | 5.08 | | |
| | | CMR FT4 | | | | | | | | | | | | |



Rip Cord

4-Pair

Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*
914 m put-up available in Black only.

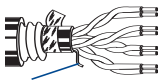
RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2, Category 5e • U.S. Patents 5,606,151 and 5,734,126
P-07-KA060005-MSHA**
Outer jacket is sunlight- and oil-resistant. Jacket sequentially marked at 0.6 m intervals.

EtherNet/IP Compliant

### Enhanced Cat 5e • 24 AWG • Bonded-Pair • Solid 0.5 mm Bare Copper • Polyester Wrap • Rip Cord

**Polyolefin Insulation • PVC Inner Jacket • Interlocked AL Armor • Industrial Grade PVC Outer Jacket** (Black or Grey)

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Interlocked AL Armor | **121700A** | NEC: | 1000 | 305 | 158.7 | 72.0 | 0.51 mm | 0.038 | 0.97 | Bonded-Pair | 0.530 | 13.46 | | see above |
| | | CM | 3000 | 914 | 464.3 | 210.6 | 24 AWG | | | Unshielded | | | | |
| | | CEC: | | | | | Solid BC | | | | Upjacketed O.D. | | | |
| | | HL | | | | | | | | | 0.200 | 5.08 | | |
| | | CMG FT4 | | | | | | | | | | | | |



Rip Cord

4-Pair CMG

Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*
914 m put-up available in Black only.

RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2, Category 5e • U.S. Patents 5,606,151 and 5,734,126
Verified to TIA/EIA-568-B.2, Category 5e
Outer jacket is sunlight- and oil-resistant. Jacket sequentially marked at 1 m intervals.

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

* Subject to length de-rating. • ** Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration Certification.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Industrial Data Solutions® – Industrial Ethernet Cables

## Category 5e DataTuff® Twisted Pair Cables

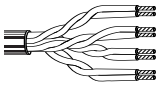
## Heavy Duty Sunlight- and Oil-Resistant Jackets

INDUSTRIALTUFF™

### Enhanced Cat 5e • 24 AWG • Bonded-Pair • Stranded (7x32) 0.6 mm Tinned Copper

**Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant PVC Jacket** (Black, Red or Teal)

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stranded Flexible | 7924A | NEC: | 1000 | 305 | 30.0 | 13.6 | 0.61 mm | 0.039 | 0.99 | Bonded-Pair | 0.242 | 6.15 | 1 | 2.4 | 65.3 | 62.9 | 60.8 | 100 ± 12 | 20.0 |
| | | CMR | 2000 | 610 | 58.0 | 26.3 | 24 AWG | | | Unshielded | | | 4 | 4.8 | 56.3 | 51.5 | 48.7 | 100 ± 12 | 23.6 |
| | | CMX-Outdoor | | | | | (7x32) TC | | | | | | 8 | 6.8 | 51.8 | 45.0 | 42.7 | 100 ± 12 | 25.4 |
| | | CEC: | | | | | | | | | | | 10 | 7.7 | 50.3 | 42.6 | 40.8 | 100 ± 12 | 26.0 |
| | | CMR FT4 | | | | | | | | | | | 16 | 9.7 | 47.3 | 37.5 | 36.7 | 100 ± 12 | 26.0 |
| | | | | | | | | | | | | | 25 | 12.4 | 44.3 | 31.9 | 32.8 | 100 ± 15 | 25.5 |
| | | | | | | | | | | | | | 31.25 | 13.9 | 42.9 | 29.0 | 30.9 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 62.5 | 20.2 | 38.4 | 18.3 | 24.8 | 100 ± 15 | 23.5 |
| | | | | | | | | | | | | | 100 | 26.0 | 35.3 | 9.2 | 20.8 | 100 ± 15 | 22.5 |
| | | | | | | | | | | | | | 155 | 33.2 | 32.5 | – | 16.9 | 100 ± 18 | 19.0 |
| | | | | | | | | | | | | | 200 | 38.4 | 30.8 | – | 14.7 | 100 ± 20 | 19.0 |
| | | | | | | | | | | | | | 250 | 43.7 | 29.3 | – | 12.8 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 350 | 53.2 | 27.2 | – | 9.9 | 100 ± 22 | 17.0 |



4-Pair

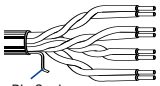
Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*
610 m put-up available in Black only.

RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2, Category 5e • U.S. Patents 5,606,151; 5,734,126 and 5,763,823
Jacket sequentially marked at 0.6 m intervals.
Color Code: see chart below

### Enhanced Cat 5e • 22 AWG • Bonded-Pair • Solid 0.6 mm Bare Copper • Rip Cord

**Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant Black PVC Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PLTC | 7922A | NEC: | 1000 | 305 | 46.3 | 21.0 | 0.64 mm | 0.048 | 1.22 | Bonded-Pair | 0.301 | 7.65 | 1 | 2.0 | 65.3 | 63.3 | 60.8 | 100 ± 12 | 20.0 |
| | | PLTC | 2000 | 610 | 92.6 | 42.0 | 22 AWG | | | Unshielded | | | 4 | 4.0 | 56.3 | 52.3 | 48.7 | 100 ± 12 | 23.0 |
| | | CMR | | | | | Solid BC | | | | | | 8 | 5.7 | 51.8 | 46.1 | 42.7 | 100 ± 12 | 24.5 |
| | | CMX-Outdoor | | | | | | | | | | | 10 | 6.4 | 50.3 | 43.9 | 40.8 | 100 ± 12 | 25.0 |
| | | CEC: | | | | | | | | | | | 16 | 8.1 | 47.3 | 39.1 | 36.7 | 100 ± 12 | 25.0 |
| | | CMR FT4 | | | | | | | | | | | 25 | 10.3 | 44.3 | 34.1 | 32.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.6 | 42.9 | 31.3 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.8 | 38.4 | 21.6 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.7 | 35.3 | 17.1 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 155 | 27.7 | 32.5 | 4.7 | 16.9 | 100 ± 18 | 19.0 |
| | | | | | | | | | | | | | 200 | 32.0 | 30.8 | 3.0 | 14.7 | 100 ± 20 | 19.0 |
| | | | | | | | | | | | | | 250 | 36.4 | 29.3 | – | 12.8 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 350 | 44.3 | 27.2 | – | 9.9 | 100 ± 22 | 17.0 |



Rip Cord

4-Pair

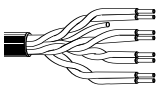
Cable passes -25°C Cold Bend per UL1581
Installation Temperature: -10°C to +75°C
Operating Temperature: -25°C to +75°C*

Third party verified to TIA/EIA-568-B.2, Category 5e
U.S. Patents 5,606,151 and 5,734,126
Jacket sequentially marked at 0.6 m intervals.
Color Code: see chart below

### Cat 6 • 23 AWG • Bonded-Pair • Solid 0.6 mm Bare Copper

**Plenum • FEP Insulation • Sunlight-, Oil- and Gas-Resistant Black FEP Jacket**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High & Low Temp Oil Res I & II Gas Res | 7931A | NEC: | 1000 | 305 | 35.1 | 15.9 | 0.57 mm | 0.038 | 0.97 | Bonded-Pair | 0.214 | 5.44 | 1 | 2.0 | 72.3 | 70.3 | 64.8 | 100 ± 15 | 20.0 |
| | | Limited | | | | | 23 AWG | | | Unshielded | | | 10 | 6.0 | 57.3 | 51.3 | 44.8 | 100 ± 15 | 25.0 |
| | | Combustible | | | | | Solid BC | | | | | | 20 | 8.5 | 52.8 | 44.3 | 38.7 | 100 ± 15 | 25.0 |
| | | FHC 25/50 | | | | | | | | | | | 31.25 | 10.7 | 49.9 | 39.2 | 34.9 | 100 ± 15 | 23.6 |
| | | CMP | | | | | | | | | | | 62.5 | 15.4 | 45.4 | 30.0 | 28.8 | 100 ± 15 | 21.5 |
| | | CEC: | | | | | | | | | | | 100 | 19.8 | 42.3 | 22.5 | 24.8 | 100 ± 15 | 20.1 |
| | | CMP FT6 | | | | | | | | | | | 200 | 29.0 | 37.8 | 8.8 | 18.7 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 250 | 32.8 | 36.3 | 3.5 | 16.8 | 100 ± 32 | 17.3 |



4-Pair

Cable passes -70°C Cold Bend per UL1581
Installation Temperature: -55°C to +150°C
Operating Temperature: -70°C to +150°C*

RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2-1, Category 6 • U.S. Patents 5,606,151 and 5,734,126
Jacket sequentially marked at 0.6 m intervals.
Color Code: see chart below

TC = Tinned Copper • BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* Subject to length de-rating.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

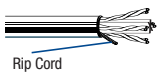
# Industrial Data Solutions® – Industrial Ethernet Cables

## Category 5e DataTuff® Twisted Pair Cables
## Heavy Duty Sunlight- and Oil-Resistant Jackets

INDUSTRIALTUFF™

### Enhanced Cat 6 • 23 AWG • Bonded-Pair • Solid 0.6 mm Bare Copper • Patented E-Spline Center Member • Rip Cord

**Polyolefin Insulation • Industrial Grade Sunlight- and Oil-Resistant Black PVC Jacket**

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  Rip Cord 4-Pair | 7927A | NEC: | 1000 | 305 | 44.1 | 20.0 | 0.57 mm | 0.042 | 1.07 | Bonded-Pair | 0.251 | 6.38 | 1 | 1.9 | 80.3 | 78.5 | 70.8 | 100 ± 12 | 20.0 |
| | | CMR | 2000 | 610 | 88.0 | 39.9 | 23 AWG | | | Unshielded | x | x | 10 | 5.7 | 65.3 | 59.6 | 50.8 | 100 ± 12 | 25.0 |
| | | CEC: | | | | | Solid BC | | | | 0.339 | 8.61 | 31.25 | 10.2 | 57.9 | 47.7 | 40.9 | 100 ± 15 | 25.0 |
| | | CMR FT4 | | | | | | | | | | | 62.5 | 14.7 | 53.4 | 38.7 | 34.9 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 100 | 18.9 | 50.3 | 31.4 | 30.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 155 | 23.9 | 47.5 | 23.5 | 27.0 | 100 ± 15 | 22.8 |
| | | | | | | | | | | | | | 200 | 27.5 | 45.8 | 18.3 | 24.8 | 100 ± 15 | 21.7 |
| | | | | | | | | | | | | | 250 | 31.2 | 44.3 | 13.2 | 22.8 | 100 ± 20 | 20.5 |
| | | | | | | | | | | | | | 350 | 37.7 | 40.2 | 4.5 | 19.9 | 100 ± 22 | 19.8 |
| | | | | | | | | | | | | | 400 | 40.6 | 39.3 | 0.6 | 18.8 | 100 ± 22 | 19.5 |
| | | | | | | | | | | | | | 500 | 46.2 | 37.8 | > 0* | 16.8 | 100 ± 22 | 18.4 |
| | | | | | | | | | | | | | 550 | 48.8 | 37.2 | – | 16.0 | 100 ± 22 | 18.0 |
| | | | | | | | | | | | | | 600 | 51.4 | 36.6 | – | 15.2 | 100 ± 22 | 17.6 |

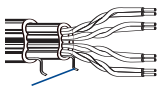
Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*

RJ-45 Compatible
Third party verified to TIA/EIA-568-B.2-1, Category 6
U.S. Patents 5,606,151; 5,734,126; 5,789,711 and 6,297,454-B1
Jacket sequentially marked at 0.6 m intervals.

* PSUM ACR
> 0 is guaranteed to 460 MHz

### Enhanced Cat 6 • 23 AWG • Bonded-Pair • Solid 0.6 mm Bare Copper • Rip Cord

**Polyolefin Insulation • PVC Inner Jacket • Industrial Grade PVC Outer Jacket** (Black and Grey)

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upjacketed  Rip Cord 4-Pair Mediatwist™ Construction | 11872A | NEC: | 1000 | 305 | 66.1 | 30.0 | 0.57 mm | 0.041 | 1.04 | Bonded-Pair | 0.475 | 12.07 | 1 | 1.9 | 72.3 | 70.0 | 64.8 | 100 ± 12 | 20.0 |
| | | CM | | | | | 23 AWG | | | Unshielded | x | x | 4 | 3.7 | 63.3 | 59.0 | 52.7 | 100 ± 12 | 23.0 |
| | | CEC: | | | | | Solid BC | | | | 0.265 | 6.73 | 10 | 5.9 | 57.3 | 51.0 | 44.8 | 100 ± 12 | 25.0 |
| | | CM | | | | | | | | | | | 16 | 7.5 | 54.3 | 46.0 | 40.7 | 100 ± 12 | 25.0 |
| | | FT1 | | | | | | | | | | | Upjacketed O.D. | | | | | | |
| | | | | | | | | | | | | | 31.25 | 10.6 | 49.9 | 39.0 | 34.9 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | 0.365 | 9.27 | 62.5 | 15.4 | 45.4 | 30.0 | 28.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | x | x | 100 | 19.8 | 42.3 | 25.0 | 24.8 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | 0.165 | 4.19 | 155 | 25.1 | 39.5 | 14.0 | 20.9 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 200 | 29.0 | 37.9 | 10.0 | 18.7 | 100 ± 15 | 21.0 |
| | | | | | | | | | | | | | 310 | 37.1 | 34.9 | – | 14.9 | 100 ± 20 | 18.0 |
| | | | | | | | | | | | | | 350 | 39.8 | 34.2 | – | 13.9 | 100 ± 22 | 17.0 |
| | | | | | | | | | | | | | 400* | 43.0 | 33.3 | – | 12.7 | 100 ± 32 | 14.0 |
| | | | | | | | | | | | | | 500* | 49.0 | 31.8 | – | 10.8 | 100 ± 32 | 14.0 |

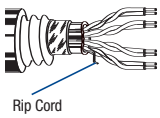
Cable passes -25°C Cold Bend per UL1581
Installation Temperature: -10°C to +75°C
Operating Temperature: -25°C to +75°C*

RJ-45 Compatible
Verified to TIA/EIA-568-B.2-1, Category 6
U.S. Patents 5,606,151, 5,734,126 and 5,821,467
Jacket sequentially marked at 0.6 m intervals.

* Value provided for information only.

### Enhanced Cat 6 • 23 AWG • Bonded-Pair • Solid 0.6 mm Bare Copper • Polyester Wrap • Rip Cord

**Polyolefin Insulation • PVC Inner Jacket • Interlocked AL Armor • Industrial Grade PVC Outer Jacket** (Black and Grey)

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Interlocked AL Armor  Rip Cord 4-Pair Mediatwist™ Construction | 121872A | NEC: | 1000 | 305 | 221.8 | 100.8 | 0.57 mm | 0.041 | 1.04 | Bonded-Pair | 0.684 | 17.37 | | | | | | | see above |
| | | CMG | | | | | 23 AWG | | | Unshielded | | | | | | | | | |
| | | CEC: | | | | | Solid BC | | | | | | | | | | | | |
| | | HL | | | | | | | | | | | | | | | | | |
| | | CMG FT4 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Upjacketed O.D. | | | | | | | | |
| | | | | | | | | | | | 0.365 | 9.27 | | | | | | | |
| | | | | | | | | | | | x | x | | | | | | | |
| | | | | | | | | | | | 0.165 | 4.19 | | | | | | | |

Cable passes -40°C Cold Bend per UL1581
Installation Temperature: -25°C to +75°C
Operating Temperature: -40°C to +75°C*

RJ-45 Compatible
Verified to TIA/EIA-568-B.2-1, Category 6
U.S. Patents 5,606,151, 5,734,126 and 5,821,467
Jacket sequentially marked at 1 m intervals.

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* Subject to length de-rating.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Industrial Data Solutions® – Industrial Ethernet Cables

## Coaxial Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Thinnet 10Base2 Ethernet • 20 AWG** • Stranded (19x32) 0.9 mm Tinned Copper • **Duobond® II** • 93% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Ethernet • Foam HDPE Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 60°C<br>UL AWM Style 1354 | **9907** | NEC:<br>CL2<br>CM<br>CEC:<br>CM | 500<br>U-1000<br>1000<br>1640<br>3280 | 152<br>U-305<br>305<br>500<br>1000 | 12.6<br>25.1<br>25.1<br>41.0<br>82.2 | 5.7<br>11.4<br>11.4<br>18.6<br>37.3 | 0.94 mm<br>20 AWG<br>(19x32) TC<br>47.9 Ω/km*<br>28.9 Ω/km** | 0.102 | 2.59 | Duobond® II<br>+ 93% TC<br>Braid<br>19.0 Ω/km*** | 0.185 | 4.70 | 50 | 80% | 25.4 | 83.3 | 1<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.4<br>1.3<br>2.9<br>4.2<br>6.1<br>8.9<br>12.1<br>13.9<br>14.8 | 1.4<br>4.3<br>9.5<br>13.8<br>20.0<br>29.2<br>39.7<br>45.6<br>48.6 |
| DEC Part No. 17-01248-00 | | | | | | | | | | | | | | | | | | | |
| **Plenum • Ethernet • Foam FEP Insulation • Grey Fluorocopolymer Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 150°C<br>RG-58/U Type | **89907** | NEC:<br>CL2P<br>CMP<br>CEC:<br>CMP | † 500<br>† 1000<br>† 2500 | 152<br>305<br>762 | 12.6<br>24.0<br>60.2 | 5.7<br>10.9<br>27.3 | 0.94 mm<br>20 AWG<br>(19x32) TC<br>47.9 Ω/km*<br>28.9 Ω/km** | 0.095 | 2.41 | Duobond® II<br>+ 93% TC<br>Braid<br>19.0 Ω/km*** | 0.160 | 4.06 | 50 | 80% | 25.4 | 83.3 | 1<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.4<br>1.3<br>2.9<br>4.2<br>6.1<br>9.2<br>12.9<br>15.0<br>16.0 | 1.4<br>4.3<br>9.5<br>13.8<br>20.0<br>30.2<br>42.3<br>49.2<br>52.5 |
| DEC Part No. 17-01248-00<br>Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | | | | | | |
| **Thicknet 10Base5 Ethernet • 12 AWG** • Solid 2.1 mm Bare Copper • **Duobond® IV** Quad Shield | | | | | | | | | | | | | | | | | | | |
| **Ethernet • Foam PE Insulation • Yellow PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 60°C<br>UL AWM Style 1478 | **9880** | NEC:<br>CL2<br>CM<br>CEC:<br>CM | 500<br>1000<br>1640 | 152<br>305<br>500 | 66.1<br>131.2<br>220.2 | 30.0<br>59.5<br>99.9 | 2.05 mm<br>12 AWG<br>Solid BC<br>9.7 Ω/km*<br>4.7 Ω/km** | 0.243 | 6.17 | Duobond® IV<br>Quad Shield<br>5.0 Ω/km*** | 0.405 | 10.29 | 50 | 78% | 25.9 | 85.3 | 1<br>5<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.2<br>0.4<br>0.5<br>1.2<br>1.7<br>2.6<br>3.9<br>5.5<br>6.5<br>6.9 | 0.6<br>1.2<br>1.7<br>3.9<br>5.6<br>8.4<br>12.8<br>18.1<br>21.3<br>22.6 |
| DEC Part No. 17-00451-00<br>Ring-band stripes marked every 2.5 m to aid users in tap placement. | | | | | | | | | | | | | | | | | | | |
| **Plenum • Foam FEP Insulation • Orange Fluorocopolymer Jacket** | | | | | | | | | | | | | | | | | | | |
| 150°C | **89880** | NEC:<br>CL2P<br>CMP<br>CEC:<br>CMP FT6 | 1000<br>†† 1640 | 305<br>500 | 134.3<br>225.1 | 60.9<br>102.1 | 2.05 mm<br>12 AWG<br>Solid BC<br>9.7 Ω/km*<br>4.7 Ω/km** | 0.245 | 6.22 | Duobond® IV<br>Quad Shield<br>5.0 Ω/km*** | 0.375 | 9.53 | 50 | 78% | 25.9 | 85.3 | | | see above |
| DEC Part No. 17-00324-00<br>Ring-band stripes marked every 2.5 m to aid users in tap placement. Suitable for outdoor and direct burial applications. | | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance
† Spools are one piece, but length may vary ±10% from length shown.
†† Final put-up length may vary from length shown ±10% for spools and reels, ±5% for UnReel® cartons.

Duobond® II and Duobond® IV see technical information page 23.13.

# Industrial Data Solutions® – Industrial Twinax

## Blue Hose® Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • Overall **Beldfoil®** + 55 % Tinned Copper Braid • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Blue Sunlight-Resistant PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 2464 | **9463** | NEC:<br>CM CL2<br>CEC:<br>CM | 100<br>U-500<br>500<br>U-1000<br>1000<br>† 6000<br>† 10000 | 31<br>U-152<br>152<br>U-305<br>305<br>1829<br>3048 | 4.2<br>18.5<br>18.5<br>37.0<br>37.0<br>233.9<br>370.8 | 1.9<br>8.4<br>8.4<br>16.8<br>16.8<br>106.1<br>168.2 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.076 | 1.92 | Overall<br>Beldfoil®<br>+ Overall<br>55% TC Braid<br>+ Drain Wire<br>(20 AWG TC) | 0.238 | 6.05 | 78 | 66% | 19.7 | 64.6 | 1<br>10<br>50<br>100<br>200<br>400 | 0.6<br>2.1<br>5.0<br>7.5<br>11.0<br>16.0 | 2.0<br>6.9<br>16.4<br>24.6<br>36.1<br>52.5 |
|  Z-Fold® | | | Color Code: Clear, Blue<br>305 m, 1829 m and 3048 m put-ups also available in Brown, Orange or Violet. | | | | | | | Allen-Bradley P/N 1770-CD<br>P-7K-SC-182141-MSHA*<br>CPE jacket optional. | | | | | | | | | |
| **Polyethylene Insulation • Blue FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **9463NH** | IEC<br>332-3C<br>BS 7655 | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 37.5<br>64.6<br>117.5 | 17.0<br>29.3<br>53.3 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.077 | 1.96 | Overall<br>Beldfoil®<br>+ Overall<br>55% TC Braid<br>+ Drain Wire<br>(20 AWG TC) | 0.250 | 6.35 | 78 | 66% | 19.7 | 64.6 | see above | | |
|  Z-Fold® | | | Color Code: Clear, Blue | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Blue FRNC/LSNH Inner Jacket • Steel Wire Armor • Blue FRNC/LSNH Outer Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>Steel Wire Armor | **9463LS** | IEC<br>332-3C<br>BS 7655 | 1640<br>3280<br>4920 | 500<br>1000<br>1500 | 249.1<br>537.9<br>925.9 | 113.0<br>244.0<br>420.0 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.077 | 1.96 | Overall<br>Beldfoil®<br>+ Overall<br>55% TC Braid<br>+ Drain Wire<br>(20 AWG TC) | 0.250<br>0.423 | 6.35<br>10.75 | 78 | 66% | 19.7 | 64.6 | see above | | |
|  Z-Fold® | | | Color Code: Clear, Blue | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Blue Sunlight-Resistant LDPE Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>Flooded<br>Direct Burial | **9463DB** | | 1000<br>5000 | 305<br>1524 | 33.1<br>155.2 | 15.0<br>70.4 | 0.96 mm<br>20 AWG<br>(7x28) TC | 0.076 | 1.92 | Overall<br>Beldfoil®<br>+ Overall<br>55% TC Braid<br>+ Drain Wire<br>(20 AWG TC) | 0.240 | 6.10 | 78 | 66% | 19.7 | 64.6 | see above | | |
|  Z-Fold® | | | Color Code: Clear, Blue | | | | | | | Allen-Bradley P/N 1770-CD | | | | | | | | | |
| **20 AWG** • Stranded (42x36) 1.0 mm Tinned Copper • Overall **Beldfoil®** + 85 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Blue Sunlight-Resistant PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2464 | **9463F** | NEC:<br>CM CL2<br>CEC:<br>CM | 1000<br>5000 | 305<br>1524 | 42.1<br>205.2 | 19.1<br>93.1 | 0.97 mm<br>20 AWG<br>(42x36) TC | 0.075 | 1.91 | Overall<br>Beldfoil®<br>+ Overall<br>85% TC Braid | 0.243 | 6.17 | 78 | 66% | 19.7 | 64.6 | see above | | |
|  Z-Fold® | | | | | | | | | | | | | | | | | | | |
| High-Flex | | | Color Code: Clear, Blue | | | | | | | Allen-Bradley P/N 1770-CD<br>P-7K-SC-182141-MSHA* | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance
† Final put-up length may vary ±10% from length shown.
* Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration Certification.

# Industrial Data Solutions® – Industrial Twinax

## Blue Hose® Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • Overall **Beldfoil®** + 76% Tinned Copper Braid • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | | |
| **Plenum • FEP Insulation • Blue FEP Jacket** | | | | | | | | | | | | | | | | | | | | |
| 300V 200°C High Temperature | **89463** | NEC: CMP CL2P CEC: CMP FT6 | 1000<br>2500 | 305<br>762 | 34.0<br>90.2 | 15.4<br>40.9 | 0.96 mm 20 AWG (7x28) TC | 0.073 | 1.85 | Overall Beldfoil® + Overall 76% TC Braid + Drain Wire (20 AWG TC) | 0.203 | 5.16 | 78 | 66% | 19.7 | 64.6 | 1<br>10<br>50<br>100<br>200<br>400 | 0.6<br>2.1<br>5.0<br>7.5<br>11.0<br>16.0 | 2.0<br>6.9<br>16.4<br>24.6<br>36.1<br>52.5 |
|  Z-Fold® | | | | | | | | | | | | | | | | | | | | |
| | | | Color Code: Clear, Blue | | | | | | | Allen-Bradley P/N 1770-CD | | | | | | | | | | |
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • **Beldfoil®** • 55% Tinned Copper Braid • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Blue PVC Inner Jacket • Aluminum Interlocked Armor • Blue Sunlight-Resistant PVC Outer Jacket** | | | | | | | | | | | | | | | | | | | | |
| 300V 60°C Aluminum Armored | **129463** | NEC: CM CL2 CEC: CM CMG FT4 HLBCD (Haz Loc) | 1000<br>6000 | 305<br>1829 | 122.4<br>925.9 | 55.5<br>420.0 | 0.96 mm 20 AWG (7x28) TC | 0.076 | 1.92 | Overall Beldfoil® + Overall 55% TC Braid + Drain Wire (20 AWG TC) | *0.238<br>**0.563 | *6.05<br>**14.30 | 78 | 66% | 19.7 | 64.6 | see above | | | |
|  | | | | | | | | | | | | | | | | | | | | |
| * Over Armor<br>** Under Armor | | | Color Code: Clear, Blue | | | | | | | Allen-Bradley P/N 1770-CD | | | | | | | | | | |
| **Polyethylene Insulation • Blue PVC Inner Jacket • Steel Armor • Blue Sunlight-Resistant PVC Outer Jacket** | | | | | | | | | | | | | | | | | | | | |
| 300V 60°C Steel Armored | **139463** | NEC: CM CL2 CEC: CM CMG FT4 HLBCD (Haz Loc) | 1000<br>6000 | 305<br>1829 | 220.5<br>1491.2 | 100.0<br>676.4 | 0.96 mm 20 AWG (7x28) TC | 0.076 | 1.92 | Overall Beldfoil® + Overall 55% TC Braid + Drain Wire (20 AWG TC) | *0.238<br>**0.563 | *6.05<br>**14.30 | 78 | 66% | 19.7 | 64.6 | see above | | | |
|  | | | | | | | | | | | | | | | | | | | | |
| * Over Armor<br>** Under Armor | | | Color Code: Clear, Blue | | | | | | | Allen-Bradley P/N 1770-CD | | | | | | | | | | |
| **Polyethylene Insulation • Blue PVC Inner Jacket • Continuously Corrugated Aluminum Armor • Blue Sunlight-Resistant PVC Outer Jacket** | | | | | | | | | | | | | | | | | | | | |
| 300V 60°C Continuously Armored | **189463** | NEC: PLTC | 2000 | 610 | 258.2 | 117.1 | 0.96 mm 20 AWG (7x28) TC | 0.076 | 1.92 | Overall Beldfoil® + Overall 55% TC Braid + Drain Wire (20 AWG TC) | *0.238<br>**0.500 | *6.05<br>**12.70 | 78 | 66% | 19.7 | 64.6 | see above | | | |
|  | | | | | | | | | | | | | | | | | | | | |
| * Over Armor<br>** Under Armor | | | Color Code: Clear, Blue | | | | | | | Allen-Bradley P/N 1770-CD | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

# Industrial Data Solutions® – Industrial Twinax

## Twinaxial Cables

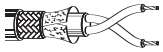
INDUSTRIALTUFF™

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**20 AWG** • Stranded (7x28) 1.0 mm One Tinned, One Bare Copper • **Duofoil®** • 86 % Tinned Copper Braid

**Polyethylene Insulation • Polyethylene Inner Jacket • Black PVC Outer Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75°C | **9207** | NEC: | 100 | 31 | 7.1 | 3.2 | 0.96 mm | 0.083 | 2.11 | Overall | 0.330 | 8.38 | 100 | 66 % | 14.5 | 47.6 | 1 | 0.3 | 1.0 |
| | | CMG CL2 | U-500 | U-152 | 34.2 | 15.5 | 20 AWG | | | Duofoil® | | | | | | | 10 | 1.2 | 3.9 |
| | | CEC: | 500 | 152 | 34.6 | 15.7 | (7x28) TC + BC | | | + Overall | | | | | | | 50 | 2.8 | 9.2 |
| | | CMG FT4 | 1000 | 305 | 68.1 | 30.9 | | | | 86 % TC Braid | | | | | | | 100 | 4.1 | 13.5 |
| | | | 1640 | 500 | 111.8 | 50.7 | | | | | | | | | | | 200 | 6.4 | 21.0 |
| | | | 2000 | 610 | 136.2 | 61.8 | | | | | | | | | | | 400 | 10.2 | 33.5 |
| | | | 3280 | 1000 | 220.2 | 99.9 | | | | | | | | | | | | | |
| | | | 5000 | 1524 | 350.8 | 159.1 | | | | | | | | | | | | | |

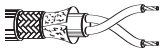


Color Code: Clear, Clear IBM P/N 7362211

CPE jacket optional

**Polyethylene Insulation • Black FRNC/LSNH Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **9207NH** | IEC 332 | 1000 | 305 | 44.3 | 20.1 | 0.96 mm | 0.077 | 1.96 | Overall | 0.339 | 8.60 | 100 | 66 % | 14.5 | 47.6 | | | see above |
| | | BS 7655 | 1640 | 500 | 69.9 | 31.7 | 20 AWG | | | Duofoil® | | | | | | | | | |
| | | | 3280 | 1000 | 143.7 | 65.2 | (7x28) TC + BC | | | + Overall | | | | | | | | | |
| | | | | | | | | | | 86 % TC Braid | | | | | | | | | |



Color Code: Clear, Clear

**16 AWG** • Solid 1.3 mm Bare Copper • **Duofoil®** • 90 % Tinned Copper Braid

**Foam Polyethylene Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30V 60°C | **9860** | NEC: | 500 | 152 | 52.0 | 23.6 | 1.29 mm | 0.161 | 4.09 | Overall | 0.440 | 11.18 | 124 | 78 % | 10.9 | 35.8 | 1 | 0.2 | 0.6 |
| UL AWM Style 2448 | | CMX | 1000 | 305 | 103.2 | 46.8 | 16 AWG | | | Duofoil® | | | | | | | 10 | 0.7 | 2.3 |
| | | CEC: | 2000 | 610 | 202.4 | 91.8 | Solid BC | | | + Overall | | | | | | | 50 | 1.8 | 5.9 |
| | | CMX | | | | | | | | 90 % TC Braid | | | | | | | 100 | 2.9 | 9.5 |
| | | | | | | | | | | | | | | | | | 200 | 4.1 | 13.5 |
| | | | | | | | | | | | | | | | | | 400 | 6.2 | 20.3 |



Color Code: Clear, Blue

CPE jacket optional

**Foam Polyethylene Insulation • Black FRNC/LSNH Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **9860NH** | IEC 332 | 1640 | 500 | 183.0 | 83.0 | 1.29 mm | 0.161 | 4.09 | Overall | 0.441 | 11.20 | 124 | 78 % | 10.9 | 35.8 | | | see above |
| | | BS 7655 | 3280 | 1000 | 354.9 | 161.0 | 16 AWG | | | Duofoil® | | | | | | | | | |
| | | | | | | | Solid BC | | | + Overall | | | | | | | | | |
| | | | | | | | | | | 90 % TC Braid | | | | | | | | | |



Color Code: Clear, Blue

**Foam Polyethylene Insulation • FRNC/LSNH Chrome Inner Jacket • Steel Wire Armor • Black FRNC/LSNH Outer Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **9860LS** | IEC | 1640 | 500 | 581.8 | 263.8 | 1.29 mm | 0.161 | 4.09 | Overall | *0.441 | *11.20 | 124 | 78 % | 10.9 | 35.8 | | | see above |
| | | 332-3C | 3280 | 1000 | 1262.6 | 572.7 | 16 AWG | | | Duofoil® | **0.650 | **16.50 | | | | | | | |
| | | BS 7655 | | | | | Solid BC | | | + Overall | | | | | | | | | |
| | | | | | | | | | | 90 % TC Braid | | | | | | | | | |



* Under Armor
** Over Armor

Color Code: Clear, Blue

TC = Tinned Copper • DCR = DC resistance
Duofoil® see technical information page 23.13.

# Industrial Data Solutions® – Industrial Twinax

## Twinaxial Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (19x34) 0.8 mm Tinned Copper • **Duofoil®** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 60°C<br>UL AWM Style 2668 | **9182** | NEC:<br>CL2X CMX<br>CEC:<br>CMX | U-500<br>500<br>1000 | U-152<br>152<br>305 | 22.5<br>22.9<br>44.1 | 10.2<br>10.4<br>20.0 | 0.78 mm<br>22 AWG<br>(19x34) TC | 0.137 | 3.49 | Overall<br>Duofoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.345 | 8.76 | 150 | 78% | 8.8 | 28.9 | 1<br>10<br>50<br>100<br>200<br>400 | 0.4<br>1.2<br>2.7<br>4.3<br>6.2<br>8.8 | 1.3<br>3.9<br>8.9<br>14.1<br>20.3<br>28.9 |
|  | | | | | | | | | | | | | | | | | | | |
| VW-1 | | Color Code: Black, Yellow | | | | | | | | Dual version: YR41609<br>CPE jacket optional. | | | | | | | | | |
| **Datalene® Insulation • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **9182NH** | IEC 332-1<br>BS 7655 | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 50.3<br>80.0<br>150.1 | 22.8<br>36.3<br>68.1 | 0.78 mm<br>22 AWG<br>(19x34) TC | 0.136 | 3.45 | Overall<br>Duofoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.346 | 8.80 | 150 | 78% | 8.8 | 28.9 | 1<br>5<br>10<br>20<br>50<br>100<br>200<br>400 | 0.4<br>0.9<br>1.2<br>1.7<br>2.7<br>4.3<br>6.2<br>8.8 | 1.3<br>2.8<br>3.9<br>5.6<br>8.9<br>14.1<br>20.3<br>28.9 |
|  | | Color Code: Black, Yellow | | | | | | | | | | | | | | | | | |
| **Plenum • Foam FEP Teflon® Insulation • Black FEP Teflon® Jacket** | | | | | | | | | | | | | | | | | | | |
| | **89182** | NEC:<br>CMP<br>CL2P<br>CEC:<br>CMP FT6 | 100<br>† 500<br>† 1000 | 31<br>152<br>305 | 6.4<br>28.0<br>53.1 | 2.9<br>12.7<br>24.1 | 0.78 mm<br>22 AWG<br>(19x34) TC | 0.139 | 3.53 | Overall<br>Duofoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.307 | 7.80 | 150 | 78% | 8.8 | 28.9 | 1<br>10<br>50<br>100<br>200<br>400 | 0.4<br>1.2<br>2.7<br>4.3<br>6.2<br>8.8 | 1.3<br>3.9<br>8.9<br>14.1<br>20.3<br>28.9 |
|  | | Color Code: Black, Yellow | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance
† Spools are one piece, but length may vary ±10% from length shown.

Duofoil® see technical information page 23.13.

Teflon® is a DuPont trademark.

# Industrial Data Solutions® – Industrial Twinax

## DataTray® 600V Twinaxial Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Stranded (7x26) 1.2 mm Tinned Copper • **Beldfoil®** • 55 % Tinned Copper Braid • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Flame-Retardant Polyolefin Insulation • Blue Sunlight-Resistant PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 600V 75°C<br>UL Type TC | **3072F** | NEC:<br>CMG, ITC<br>TC, PLTC<br>CEC:<br>CMG FT4 | 250<br>500<br>1000<br>2500<br>5000<br>10000 | 76<br>152<br>305<br>762<br>1524<br>3049 | 17.6<br>35.1<br>69.0<br>170.2<br>345.2<br>710.5 | 8.0<br>15.9<br>31.3<br>77.2<br>156.6<br>322.3 | 1.22 mm<br>18 AWG<br>(7x26) TC | 0.096 | 2.44 | Overall<br>Beldfoil®<br>+ Overall<br>55% TC Braid<br>+ Drain Wire<br>(20 AWG TC) | 0.324 | 8.23 | 78 | 65% | 19.5 | 64.0 | 1<br>10<br>50<br>100<br>200<br>400 | 0.5<br>2.0<br>3.8<br>5.4<br>7.6<br>10.7 | 1.7<br>6.6<br>12.4<br>17.6<br>24.8<br>35.1 |
| Z-Fold® | | | | | | | | | | | | | | | | | | | |
| VW-1 | | | | | | | | | | | | | | | | | | | |
| | | Color Code: Natural, Blue | | | | | | | | For CPE jacketed version order Part No. YM45044<br>P-MSHA-C-7K-1827* | | | | | | | | | |
| **Flame-Retardant Polyolefin Insulation • Blue Sunlight-Resistant PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 600V 75°C<br>UL Type TC | **3073F** | NEC:<br>CMG, ITC<br>TC, PLTC<br>CEC:<br>CMG FT4 | 250<br>1000<br>5000 | 76<br>305<br>1524 | 20.9<br>85.1<br>420.4 | 9.5<br>38.6<br>190.7 | 1.22 mm<br>18 AWG<br>(7x26) TC | 0.123 | 3.12 | Overall<br>Beldfoil®<br>+ Overall<br>55% TC Braid<br>+ Drain Wire<br>(20 AWG TC) | 0.388 | 9.86 | 100 | 65% | 15.3 | 50.2 | 1<br>10<br>50<br>100<br>200<br>400 | 0.4<br>1.3<br>3.0<br>4.2<br>5.9<br>7.5 | 1.3<br>4.4<br>9.7<br>13.8<br>19.5<br>24.7 |
| Z-Fold® | | | | | | | | | | | | | | | | | | | |
| | | Color Code: Natural, Blue | | | | | | | | CPE jacket optional. | | | | | | | | | |
| **Flame-Retardant Polyolefin Insulation • Blue Sunlight-Resistant PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 600V 75°C<br>UL Type TC | **3074F** | NEC:<br>CMG, ITC<br>TC, PLTC<br>CEC:<br>CMG FT4 | 500<br>1000<br>2500 | 152<br>305<br>762 | 62.6<br>121.0<br>300.3 | 28.4<br>54.9<br>136.2 | 1.22 mm<br>18 AWG<br>(7x26) TC | 0.164 | 4.17 | Overall<br>Beldfoil®<br>+ Overall<br>55% TC Braid<br>+ Drain Wire<br>(20 AWG TC) | 0.460 | 11.68 | 124 | 65% | 12.3 | 40.3 | 1<br>10<br>50<br>100<br>200<br>400 | 0.3<br>1.1<br>2.4<br>3.4<br>4.8<br>6.8 | 1.1<br>3.5<br>7.8<br>11.1<br>15.7<br>22.2 |
| Z-Fold® | | | | | | | | | | | | | | | | | | | |
| | | Color Code: Natural, Blue | | | | | | | | CPE jacket optional. | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance
* Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration Certification.

# Industrial Data Solutions® – Industrial Coax

## ControlNet™ Quad Shielded Coax

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Solid 1.0 mm Copper-Covered Steel • **Duobond® IV** Quad Shield | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • PVC Jacket** (Black or Intrinsically Safe Blue) | | | | | | | | | | | | | | | | | | | |
| | **3092A** | NEC: | 500 | 152 | 20.1 | 9.1 | 1.02 mm | 0.180 | 4.57 | Duobond® IV | 0.298 | 7.57 | 75 | 82% | 16.2 | 53.1 | 1 | 0.3 | 1.1 |
| | | CL2R CMR | 1000 | 305 | 39.0 | 17.7 | 18 AWG | | | Quad Shield | | | | | | | 2 | 0.4 | 1.2 |
| | | CEC: | 2000 | 610 | 78.0 | 35.4 | Solid CCS | | | 11.8 Ω/km*** | | | | | | | 5 | 0.5 | 1.5 |
| | | CMG FT4 | 2500 | 762 | 92.6 | 42.0 | 103.6 Ω/km* | | | | | | | | | | 10 | 0.6 | 1.9 |
|  | | | | | | | 91.8 Ω/km** | | | | | | | | | | 20 | 0.9 | 2.8 |
| | | | | | | | | | | | | | | | | | 50 | 1.4 | 4.5 |
| | | | | | | | | | | | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | | | | | | | | | | | 200 | 2.8 | 9.3 |
| RG-6/U Type | | | | | | | | | | | | | | | | | 300 | 3.5 | 11.4 |
| | | Sweep tested 5 MHz to 50 MHz. | | | | | | | | CPE jacket optional. | | | | | | | 400 | 4.1 | 13.3 |
| | | For Rockwell authorized flexible ControlNet™ order YR28890 (Tinned Copper Braid version). | | | | | | | | | | | | | | | | | |
| **Plenum • Foam FEP Insulation • Fluorocopolymer Jacket** (Black or Intrinsically Safe Blue) | | | | | | | | | | | | | | | | | | | |
| 150°C | **3093A** | NEC: | 1000 | 305 | 40.1 | 18.2 | 1.02 mm | 0.170 | 4.32 | Duobond® IV | 0.274 | 6.96 | 75 | 82% | 16.3 | 53.5 | 1 | 0.4 | 1.2 |
| | | CMP | † 2000 | 610 | 80.0 | 36.3 | 18 AWG | | | Quad Shield | | | | | | | 2 | 0.4 | 1.2 |
| | | CEC: | † 2500 | 762 | 95.0 | 43.1 | Solid CCS | | | 11.8 Ω/km*** | | | | | | | 5 | 0.5 | 1.6 |
| | | CMP FT6 | | | | | 103.6 Ω/km* | | | | | | | | | | 10 | 0.6 | 2.1 |
|  | | | | | | | 91.8 Ω/km** | | | | | | | | | | 20 | 0.9 | 3.1 |
| | | | | | | | | | | | | | | | | | 50 | 1.5 | 4.9 |
| | | | | | | | | | | | | | | | | | 100 | 2.1 | 7.0 |
| | | | | | | | | | | | | | | | | | 200 | 3.0 | 9.8 |
| RG-6/U Type | | | | | | | | | | | | | | | | | 300 | 3.7 | 12.0 |
| | | Sweep tested 5 MHz to 50 MHz. | | | | | | | | Allen-Bradley P/N 1786 | | | | | | | 400 | 4.2 | 13.9 |
| | | Blue available as standard in 305 m only. | | | | | | | | Suitable for outdoor and direct burial applications | | | | | | | | | |
| **18 AWG** • Stranded (105x40) 1.0 mm Bare Copper • **Duobond® IV** Quad Shield | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| High-Flex | **3092F** | NEC: | 1000 | 305 | 44.1 | 20.0 | 1.02 mm | 0.183 | 4.65 | Duobond® IV | 0.303 | 7.70 | 75 | 79% | 17.0 | 55.8 | 1 | 0.4 | 1.2 |
| | | CL2R CMR | 5000 | 1524 | 220.0 | 99.8 | 18 AWG | | | Quad Shield | | | | | | | 2 | 0.5 | 1.5 |
| | | CEC: | | | | | (105x40) BC | | | 11.8 Ω/km*** | | | | | | | 5 | 0.8 | 2.6 |
| | | CMR FT4 | | | | | 46.2 Ω/km* | | | | | | | | | | 10 | 1.2 | 3.9 |
|  | | | | | | | 34.4 Ω/km** | | | | | | | | | | 20 | 2.0 | 6.6 |
| | | | | | | | | | | | | | | | | | 50 | 3.2 | 10.5 |
| | | | | | | | | | | | | | | | | | 100 | 4.6 | 15.1 |
| | | | | | | | | | | | | | | | | | 200 | 6.5 | 21.3 |
| RG-6/U Type | | | | | | | | | | | | | | | | | 300 | 8.0 | 26.2 |
| | | Sweep tested 5 MHz to 400 MHz. | | | | | | | | 123092F – Aluminum Armor | | | | | | | 400 | 9.3 | 30.5 |
| | | Allen-Bradley P/N 1786 | | | | | | | | 133092F – Steel Armor | | | | | | | | | |
| | | IEEE 802.4 MAP/IEEE 802.7 Mini-MAP. | | | | | | | | | | | | | | | | | |
| | | CPE jacket optional. | | | | | | | | | | | | | | | | | |
| | | For Rockwell authorized flexible ControlNet™ order YR28890 (Tinned Copper Braid version). | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • BC = Bare Copper • CCS = Copper-Covered Steel • DCR = DC resistance
† Final put-up length may vary 0% to +10% from length shown.

Duobond® IV see technical information page 23.13.

ControlNet™ is a ControlNet International trademark.

# Industrial Data Solutions® – Industrial Coax

## ControlBus™ Quad Shielded Coax

INDUSTRIALTUFF™

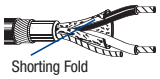
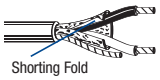
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Solid 1.0 mm Copper-Covered Steel • **Duobond® IV** Quad Shield | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam Polyethylene Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | **3131A** | NEC: | 1000 | 305 | 41.0 | 18.6 | 1.02 mm | 0.180 | 4.57 | Duobond® IV | 0.300 | 7.62 | 75 | 82% | 16.2 | 53.1 | 1 | 0.3 | 1.1 |
| | | CL2R CMR | 2500 | 762 | 100.1 | 45.4 | 18 AWG | | | Quad Shield | | | | | | | 2 | 0.4 | 1.2 |
| | | CEC: | | | | | Solid CCS | | | 11.8 Ω/km*** | | | | | | | 5 | 0.5 | 1.5 |
| | | CMG FT4 | | | | | 103.6 Ω/km* | | | | | | | | | | 10 | 0.6 | 1.9 |
|  | | | | | | | 91.8 Ω/km** | | | | | | | | | | 20 | 0.9 | 2.8 |
| | | | | | | | | | | | | | | | | | 50 | 1.4 | 4.5 |
| | | | | | | | | | | | | | | | | | 100 | 2.0 | 6.5 |
| RG-6/U Type | | | | | | | | | | | | | | | | | 200 | 2.8 | 9.3 |
| | | | | | | | | | | | | | | | | | 300 | 3.5 | 11.4 |
| | | Sweep tested 5 MHz to 400 MHz. | | | | | | | | CPE jacket optional. | | | | | | | 400 | 4.1 | 13.3 |
| | | IEEE 802.4 MAP/IEEE 802.7 Mini-MAP | | | | | | | | Tap marks every 2.6 m to aid users in installation. | | | | | | | | | |
| **Plenum • Foam FEP Insulation • Grey Fluorocopolymer Jacket** | | | | | | | | | | | | | | | | | | | |
| **150°C** | **3132A** | NEC: | 1000 | 305 | 36.2 | 16.4 | 1.02 mm | 0.170 | 4.32 | Duobond® IV | 0.274 | 6.96 | 75 | 82% | 16.3 | 53.5 | 1 | 0.4 | 1.2 |
| | | CMP | | | | | 18 AWG | | | Quad Shield | | | | | | | 2 | 0.4 | 1.2 |
| | | CEC: | | | | | Solid CCS | | | 11.8 Ω/km*** | | | | | | | 5 | 0.5 | 1.6 |
| | | CMG FT6 | | | | | 103.6 Ω/km* | | | | | | | | | | 10 | 0.6 | 2.1 |
|  | | | | | | | 91.8 Ω/km** | | | | | | | | | | 20 | 0.9 | 3.1 |
| | | | | | | | | | | | | | | | | | 50 | 1.5 | 4.9 |
| | | | | | | | | | | | | | | | | | 100 | 2.1 | 7.0 |
| RG-6/U Type | | | | | | | | | | | | | | | | | 200 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 300 | 3.7 | 12.0 |
| | | Sweep tested 5 MHz to 400 MHz. | | | | | | | | Tap marks every 2.6 m to aid users in installation. | | | | | | | 400 | 4.2 | 13.9 |
| | | IEEE 802.4 MAP/IEEE 802.7 Mini-MAP | | | | | | | | Suitable for outdoor and direct burial applications. | | | | | | | | | |
| **14 AWG** • Solid 1.6 mm Copper-Covered Steel • **Duobond® IV** Quad Shield | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam Polyethylene Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| | **3094A** | NEC: | 500 | 152 | 35.5 | 16.1 | 1.63 mm | 0.280 | 7.11 | Duobond® IV | 0.407 | 10.34 | 75 | 82% | 16.2 | 53.1 | 1 | 0.2 | 0.5 |
| | | CL2R CMR | 1000 | 305 | 61.9 | 28.1 | 14 AWG | | | Quad Shield | | | | | | | 2 | 0.2 | 0.6 |
| | | CEC: | 2500 | 762 | 140.2 | 63.6 | Solid CCS | | | 4.9 Ω/km*** | | | | | | | 5 | 0.3 | 0.9 |
| | | CMG FT4 | | | | | 41.0 Ω/km* | | | | | | | | | | 10 | 0.4 | 1.2 |
|  | | | | | | | 36.1 Ω/km** | | | | | | | | | | 20 | 0.5 | 1.8 |
| | | | | | | | | | | | | | | | | | 50 | 0.8 | 2.7 |
| | | | | | | | | | | | | | | | | | 100 | 1.2 | 3.8 |
| RG-11/U Type | | | | | | | | | | | | | | | | | 200 | 1.6 | 5.3 |
| | | | | | | | | | | | | | | | | | 300 | 2.0 | 6.5 |
| | | Sweep tested 5 MHz to 400 MHz. | | | | | | | | CPE jacket optional. | | | | | | | 400 | 2.3 | 7.5 |
| | | IEEE 802.4 MAP | | | | | | | | Tap marks every 2.6 m to aid users in installation. | | | | | | | | | |
| **Plenum • Foam FEP Insulation • Grey Fluorocopolymer Jacket** | | | | | | | | | | | | | | | | | | | |
| 150°C | **3095A** | NEC: | 1000 | 305 | 76.1 | 34.5 | 1.63 mm | 0.280 | 7.11 | Duobond® IV | 0.387 | 9.83 | 75 | 82% | 16.5 | 54.1 | 1 | 0.2 | 0.6 |
| | | CMP | | | | | 14 AWG | | | Quad Shield | | | | | | | 2 | 0.2 | 0.7 |
| | | CEC: | | | | | Solid CCS | | | 12.8 Ω/km*** | | | | | | | 5 | 0.3 | 0.9 |
| | | CMG FT6 | | | | | 48.9 Ω/km* | | | | | | | | | | 10 | 0.4 | 1.3 |
|  | | | | | | | 36.1 Ω/km** | | | | | | | | | | 20 | 0.6 | 2.0 |
| | | | | | | | | | | | | | | | | | 50 | 1.2 | 3.9 |
| | | | | | | | | | | | | | | | | | 100 | 1.7 | 5.6 |
| RG-11/U Type | | | | | | | | | | | | | | | | | 200 | 2.5 | 8.2 |
| | | | | | | | | | | | | | | | | | 300 | 3.0 | 10.0 |
| | | Sweep tested 5 MHz to 400 MHz. | | | | | | | | Tap marks every 2.6 m to aid users in installation. | | | | | | | 400 | 3.5 | 11.5 |
| | | IEEE 802.4 MAP | | | | | | | | Suitable for outdoor and direct burial applications. | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • CCS = Copper-Covered Steel • DCR = DC resistance
Duobond® IV see technical information page 23.13.

# Industrial Data Solutions® – Industrial Data

## DataBus® ISA/SP-50 FOUNDATION Fieldbus or PROFIBUS Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FOUNDATION Fieldbus/PROFIBUS PA • 18 AWG** • Stranded (7x26) 1.2 mm Tinned Copper • **Beldfoil®** • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Orange and Blue) | | | | | | | | | | | | | | | | | | | |
| Type A 300V 75°C (31.25 kbits/sec) | **3076F** | NEC: PLTC CM ITC CEC: CM | 250<br>500<br>1000<br>2500<br>† 5000 | 76<br>152<br>305<br>762<br>1524 | 10.6<br>18.5<br>34.2<br>85.1<br>170.4 | 4.8<br>8.4<br>15.5<br>38.6<br>77.3 | 1.22 mm 18 AWG (7x26) TC | 0.088 | 2.24 | Overall Beldfoil® + Drain Wire (20 AWG TC) | 0.253 | 6.43 | 100 @ 31.25 KHz | 66% | 24.0 | 78.7 | 0.039 | 0.1 | 0.26 |
|  Shorting Fold | | | | | | | | | | | | | | | | | | | |
| Color Code: Orange, Blue<br>Fieldbus: Orange jacket<br>Profibus PA: Intrinsically safe Blue jacket.<br>Blue available as standard in 305 m put-up only.<br>CPE jacket optional. | | | | | | | | | | 123076F – Version with Aluminum Interlocked Armor<br>133076F – Version with Steel Interlocked Armor<br>YM47023 – CPE jacketed version<br>YM46698 – Black & White color-coded pairs<br>YM47090 – Various colored jackets<br>YM41725 – LSZH (FRNC) jacketed version | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Blue and Orange) | | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **3076ENH** | IEC 332-3C BS 7655 | 1640<br>3280 | 500<br>1000 | 98.3<br>191.1 | 44.6<br>86.7 | 1.22 mm 18 AWG (7x26) TC | 0.088 | 2.24 | Overall Beldfoil® + Drain Wire (20 AWG TC) | 0.295 | 7.50 | 100 | 66% | 24.4 | 80.0 | 0.01<br>0.039<br>0.1<br>0.5<br>1.0 | 0.1<br>0.2<br>0.2<br>0.6<br>1.0 | 0.4<br>0.5<br>0.8<br>2.1<br>3.2 |
|  Shorting Fold | | | | | | | | | | | | | | | | | | | |
| Color Code: White, Black | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Inner Jacket** (Black and Blue) • **Steel Wire Armor • Black FRNC/LSNH Outer Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **3076ELS** | IEC 332-3C BS 7655 | 1640<br>3280 | 500<br>1000 | 394.8<br>737.0 | 179.1<br>334.3 | 1.22 mm 18 AWG (7x26) TC | 0.088 | 2.24 | Overall Beldfoil® + Drain Wire (20 AWG TC) | *0.295<br>**0.512 | *7.50<br>**13.00 | 100 | 66% | 24.4 | 80.0 | | | see above |
|  Shorting Fold | | | | | | | | | | | | | | | | | | | |
| * Under Armor<br>** Over Armor | | | | | | | | | | | | | | | | | | | |
| Color Code: White, Black | | | | | | | | | | | | | | | | | | | |
| **FOUNDATION Fieldbus • 22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • **Beldfoil®** • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Orange PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| Type B 300V 150°C (31.25 kbits/sec) | **3077F** | NEC: PLTC CM ITC CEC: CM | † 500<br>† 1000 | 152<br>305 | 11.0<br>22.9 | 5.0<br>10.4 | 0.76 mm 22 AWG (7x30) TC | 0.059 | 1.50 | Overall Beldfoil® + Drain Wire (20 AWG TC) | 0.196 | 4.97 | 100 @ 31.25 KHz | 66% | 23.5 | 77.1 | 0.039 | 0.1 | 0.5 |
|  Shorting Fold | | | | | | | | | | | | | | | | | | | |
| Color Code: Orange, Blue<br>CPE and LSZH jacketed versions also available. | | | | | | | | | | 123077F – Version with Aluminum Interlocked Armor<br>133077F – Version with Steel Interlocked Armor | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Jacket** (Blue and Orange) | | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **3077ENH** | IEC 332-3C BS 7655 | 1640<br>3280 | 500<br>1000 | 86.9<br>168.2 | 39.4<br>76.3 | 0.76 mm 22 AWG (7x30) TC | 0.059 | 1.50 | Overall Beldfoil® + Drain Wire (20 AWG TC) | 0.295 | 7.50 | 100 | 66% | 25.9 | 85.0 | 0.01<br>0.039<br>0.1<br>0.5<br>1.0 | 0.2<br>0.2<br>0.3<br>1.1<br>1.6 | 0.6<br>0.7<br>0.9<br>3.5<br>5.1 |
|  Shorting Fold | | | | | | | | | | | | | | | | | | | |
| Color Code: White, Black | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • FRNC/LSNH Inner Jacket** (Black and Blue) • **Steel Wire Armor • Black FRNC/LSNH Outer Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **3077ELS** | IEC 332-3C BS 7655 | 1640<br>3280 | 500<br>1000 | 381.8<br>741.8 | 173.2<br>336.5 | 0.76 mm 22 AWG (7x30) TC | 0.059 | 1.50 | Overall Beldfoil® + Drain Wire (20 AWG TC) | *0.295<br>**0.512 | *7.50<br>**13.00 | 100 | 66% | 25.9 | 85.0 | | | see above |
|  Shorting Fold | | | | | | | | | | | | | | | | | | | |
| * Under Armor<br>** Over Armor | | | | | | | | | | | | | | | | | | | |
| Color Code: White, Black | | | | | | | | | | | | | | | | | | | |

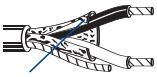
TC = Tinned Copper • DCR = DC resistance
† Final put-up length may vary 0% to +10% from length shown.

# Industrial Data Solutions® – Industrial Data

## DataBus® ISA/SP-50 FOUNDATION Fieldbus or PROFIBUS Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FOUNDATION Fieldbus • 22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • **Beldfoil®** • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **FHDPE Insulation • Orange PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| High Speed 300V 75°C (1.0 & 2.5 Mbits/sec) | **3078F** | NEC: | 250 | 76 | 9.9 | 4.5 | 0.76 mm | 0.121 | 3.07 | Overall | 0.351 | 8.92 | 150 @ | 78% | 8.5 | 27.9 | 0.25 | 0.2 | 0.6 |
| | | PLTC CM | 500 | 152 | 22.9 | 10.4 | 22 AWG | | | Beldfoil® | | | 1 MHz | | | | 0.625 | 0.3 | 0.9 |
| | | CEC: | 1000 | 305 | 44.1 | 20.0 | (7x30) TC | | | + Drain Wire | | | | | | | 1.25 | 0.3 | 1.1 |
| | | CM | 2500 | 762 | 115.1 | 52.2 | | | | (20 AWG TC) | | | | | | | 3.125 | 0.6 | 1.8 |



Shorting Fold

Color Code: Orange, Blue
CPE and LSZH jacketed versions also available.

123078F – Version with Aluminum Interlocked Armor
133078F – Version with Steel Interlocked Armor

## DataBus® PROFIBUS • DP EN50170-2-2

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Profibus DP • 22 AWG** • Solid 0.6 mm Bare Copper • **Beldfoil®** • 65% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **FHDPE Insulation • Chrome and Violet PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V 75°C | **3079A** | NEC: | 1000 | 305 | 56.0 | 25.4 | 0.64 mm | 0.099 | 2.52 | Overall | 0.315 | 8.00 | 150 | 78% | 8.5 | 27.9 | 0.2 | 0.3 | 0.9 |
| | | PLTC CMG | 2000 | 610 | 112.0 | 50.8 | 22 AWG | | | Beldfoil® | | | | | | | 4 | 0.7 | 2.2 |
| | | CEC: | 3600 | 1098 | 201.5 | 91.4 | Solid BC | | | + Overall | | | | | | | 16 | 1.4 | 4.5 |
| | | CMG FT4 | | | | | | | | 65% TC Braid | | | | | | | 100 | 3.8 | 12.3 |
| | | | | | | | | | | | | | | | | | 300 | 6.5 | 21.4 |



Color Code: Red, Green
Siemens Sinec L2 cable
UL AWM 20201 (600V)

123079A – Aluminum Interlocked Armor
133079A – Steel Interlocked Armor
YR45047 – CPE jacketed version
YR44731 – LSZH (FRNC) jacketed version

**Profibus DP • 22 AWG** • Stranded (7x30) 0.8 mm Bare Copper • **Beldfoil®** • 65% Tinned Copper Braid

**FR-FPE Insulation • Violet PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300V 75°C | **3079E** | NEC: | 1000 | 305 | 44.1 | 20.0 | 0.76 mm | 0.099 | 2.52 | Overall | 0.315 | 8.00 | 150 | 78% | 8.5 | 27.9 | 0.2 | 0.3 | 1.1 |
| | | PLTC CMG | 1640 | 500 | 73.9 | 33.5 | 22 AWG | | | Beldfoil® | | | | | | | 4 | 0.8 | 2.7 |
| | | CEC: | 3280 | 1000 | 144.4 | 65.5 | (7x30) BC | | | + Overall | | | | | | | 16 | 1.6 | 5.4 |
| | | CMG FT4 | | | | | | | | 65% TC Braid | | | | | | | | | |



Color Code: Red, Green
For CPE jacketed version order Part No. YR45047

**Cellular Polyolefin Insulation • Violet FRNC/LSNH Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300V 80°C | **3079ANH** | IEC | 1000 | 305 | 214.1 | 97.1 | 0.64 mm | 0.099 | 2.52 | Overall | 0.315 | 8.00 | 150 | 78% | 8.8 | 29.0 | 0.2 | 0.3 | 0.9 |
| | | 332-3C | 1640 | 500 | 358.2 | 162.5 | 22 AWG | | | Beldfoil® | | | | | | | 4 | 0.7 | 2.2 |
| | | BS 7655 | 3280 | 1000 | 711.2 | 322.6 | Solid BC | | | + Overall | | | | | | | 16 | 1.4 | 4.5 |
| | | | | | | | | | | 65% TC Braid | | | | | | | 100 | 3.8 | 12.3 |



Color Code: Red, Green

**Cellular Polyolefin Insulation • Black PVC Jacket • Steel Wire Armor**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300V 80°C | **3079ALS** | IEC | 1640 | 500 | 102.5 | 46.5 | 0.64 mm | 0.099 | 2.52 | Overall | *0.315 | *8.00 | 150 | 78% | 8.5 | 27.9 | 0.2 | 0.3 | 0.9 |
| | | 332-3C | 3280 | 1000 | 183.0 | 83.0 | 22 AWG | | | Beldfoil® | **0.488 | **12.40 | | | | | 4 | 0.7 | 2.2 |
| | | BS 7655 | | | | | Solid BC | | | + Overall | | | | | | | 16 | 1.4 | 4.5 |
| | | | | | | | | | | 65% TC Braid | | | | | | | | | |



* Under Armor
** Over Armor

Color Code: Red, Green

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Industrial Data Solutions® – Industrial Data

## DeviceBus® for ODVA DeviceNet™ Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Insulation OD inch | Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **600V Class 1 Thick • 15 AWG and 18 AWG** • Stranded Tinned Copper • **Beldfoil®** • 18 AWG TC Drain Wire • Overall 65% TC Braid | | | | | | | | | | | | | | | | |
| **PVC/Nylon Insulation (Power) • FEP Insulation (Data) • Grey Sunlight/Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| High Velocity Thick 600V 75°C | **7897A** | NEC: TC-ER | 500<br>1000<br>2000 | 152<br>305<br>610 | 69.7<br>135.1<br>274.3 | 31.6<br>61.3<br>124.4 | Red, Black | 0.461 | 11.70 | Power | 2-Conductor 15 AWG 1.7 mm (19x28) TC | Individual Beldfoil® | PVC/Nylon | | 0.099 | 2.51 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor 18 AWG 1.24 mm (19x30) TC VOP: 75% 120 Ohm | Individual Beldfoil® | FEP | | 0.146 | 3.71 |
| | | | | | | | Meter marks on jacket to aid users in installation. Allen-Bradley P/N 1485 CPI-A | | | | | | | | | |
| **600V Class 1 ODVA Cable V • 16 AWG and 18 AWG** • Stranded TC • **Beldfoil®** • 16 AWG TC Drain Wire • Overall 65% TC Braid | | | | | | | | | | | | | | | | |
| **PVC/Nylon Insulation (Power) • F-R Polypropylene Insulation (Data) • Grey Sunlight/Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| 600V 75°C | **7896A** | NEC: TC-ER | 500<br>1000<br>2000 | 152<br>305<br>610 | 89.1<br>168.0<br>339.9 | 40.4<br>76.2<br>154.2 | Red, Black | 0.525 | 13.34 | Power | 2-Conductor 16 AWG 1.47 mm (19x29) TC | Individual Beldfoil® | PVC/Nylon | | 0.101 | 2.57 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor 18 AWG 1.24 mm (19x30) TC VOP: 64% 120 Ohm | Individual Beldfoil® | F-R PP | | 0.182 | 4.62 |
| C(UL) AWM I/II A/B | | | | | | | Meter marks on jacket to aid users in installation. Allen-Bradley P/N 1485 CPI-A | | | | | | | | | |
| **600V Class 1 ODVA IV • 16 AWG and 18 AWG** • Stranded Tinned Copper • Unshielded | | | | | | | | | | | | | | | | |
| **PVC/Nylon Insulation (Power) • F-R Polypropylene Insulation (Data) • Grey Sunlight/Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| Drop 600V 75°C | **7900A** | NEC: TC-ER | 500<br>1000 | 152<br>305 | 50.9<br>104.9 | 23.1<br>47.6 | Red, Black | 0.430 | 10.92 | Power | 2-Conductor 16 AWG 1.47 mm (19x29) TC | Unshielded | PVC/Nylon | | 0.101 | 2.57 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor 18 AWG 1.24 mm (19x30) TC VOP: 64% 120 Ohm | Unshielded | F-R PP | | 0.098 | 2.49 |
| | | | | | | | Meter marks on jacket to aid users in installation. Allen-Bradley P/N 1485 CPI-C | | | | | | | | | |
| **600V Class 2 Thick • 15 AWG and 18 AWG** • Stranded Tinned Copper • **Beldfoil®** • 18 AWG TC Drain Wire • Overall 65% TC Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Sunlight/Oil-Resistant PVC Jacket** (Grey and Red) | | | | | | | | | | | | | | | | |
| Thick 75°C UL AWM 20201 | **3082A** | NEC: CMG PLTC-ER CEC: CMG FT4 | 500<br>1000<br>2000 | 152<br>305<br>610 | 71.0<br>138.0<br>280.0 | 32.2<br>62.6<br>127.0 | Red, Black | 0.480 | 12.19 | Power | 2-Conductor 15 AWG 1.7 mm (19x28) TC | Individual Beldfoil® | PVC | | 0.109 | 2.77 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor 18 AWG 1.24 mm (19x30) TC VOP: 75% 120 Ohm | Individual Beldfoil® | FPE | | 0.150 | 3.81 |
| C(UL) AWM I/II A | | | | | | | Meter marks on jacket to aid users in installation. Allen-Bradley P/N 1485 CPI-A 152 m and 610 m put-ups not available in Red. | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

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# Industrial Data Solutions® – Industrial Data

## DeviceBus® for ODVA DeviceNet™ Cables

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| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Insulation OD inch | Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300V Class 2 Thick • 15 AWG and 18 AWG** • Stranded Tinned Copper • **Beldfoil®** • 18 AWG TC Drain Wire • Overall 65% TC Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Grey Sunlight/Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| High-Flex Thick 75°C UL AWM 20201 | **3082F** | NEC: CMG PLTC-ER CEC: CMG FT4 | 500<br>1000<br>2000 | 152<br>305<br>610 | 72.5<br>140.0<br>284.0 | 32.9<br>63.5<br>128.8 | Red, Black | 0.480 | 12.19 | Power | 2-Conductor 15 AWG 1.7 mm (65x33) TC | Individual Beldfoil® | PVC | | 0.109 | 2.77 |
|  C(UL) AWM I/II A | | | | | | | Blue, White | | | Data | 2-Conductor 18 AWG 1.2 mm (65x36) TC VOP: 75% 120 Ohm | Individual Beldfoil® | FPE | | 0.153 | 3.89 |
| | | | | | | | Meter marks on jacket to aid users in installation. Allen-Bradley P/N 1485 CPI-A 152 m and 610 m put-ups not available in Red. | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Yellow CPE Jacket** | | | | | | | | | | | | | | | | |
| Thick 75°C | **3083A** | NEC: CMG PLTC CEC: CMG FT4 | 1000<br>2000 | 305<br>610 | 136.9<br>278.0 | 62.1<br>126.1 | Red, Black | 0.475 | 12.07 | Power | 2-Conductor 15 AWG 1.7 mm (19x28) TC | Individual Beldfoil® | PVC | | 0.109 | 2.77 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor 18 AWG 1.24 mm (19x30) TC VOP: 75% 120 Ohm | Individual Beldfoil® | FPE | | 0.150 | 3.81 |
| | | | | | | | Meter marks on jacket to aid users in installation. Allen-Bradley P/N 1485 CPI-A | | | | | | | | | |
| **300V Class 2 Thin • 22 AWG and 24 AWG** • Stranded Tinned Copper • **Beldfoil®** • 22 AWG TC Drain Wire • Overall 65% TC Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Grey Sunlight/Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| Thin 75°C | **3084A** | NEC: CL2 CMG CEC: CMG FT4 | 500<br>1000<br>2000 | 152<br>305<br>610 | 22.0<br>47.0<br>96.1 | 10.0<br>21.3<br>43.6 | Red, Black | 0.280 | 7.11 | Power | 2-Conductor 22 AWG 0.78 mm (19x34) TC | Individual Beldfoil® | PVC | | 0.072 | 1.83 |
|  C(UL) AWM I/II A | | | | | | | Blue, White | | | Data | 2-Conductor 24 AWG 0.61 mm (19x36) TC VOP: 75% 120 Ohm | Individual Beldfoil® | FPE | | 0.077 | 1.96 |
| | | | | | | | Meter marks on jacket to aid users in installation. Allen-Bradley P/N 1485 CPI-C 305 m put-up also available in Red. | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Grey Sunlight/Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| High-Flex Thin 75°C | **3084F** | NEC: CL2 CMG CEC: CMG FT4 | 500<br>1000<br>2000 | 152<br>305<br>610 | 22.0<br>47.0<br>96.1 | 10.0<br>21.3<br>43.6 | Red, Black | 0.275 | 6.99 | Power | 2-Conductor 22 AWG 0.76 mm (154x44) TC | Individual Beldfoil® | PVC | | 0.062 | 1.57 |
|  C(UL) AWM I/II A | | | | | | | Blue, White | | | Data | 2-Conductor 24 AWG 0.58 mm (105x44) TC VOP: 75% 120 Ohm | Individual Beldfoil® | FPE | | 0.081 | 2.06 |
| | | | | | | | Meter marks on jacket to aid users in installation. Allen-Bradley P/N 1485 CPI-C | | | | | | | | | |

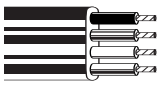
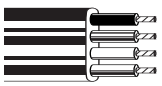
TC = Tinned Copper • DCR = DC resistance

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# Industrial Data Solutions® – Industrial Data

## DeviceBus® for ODVA DeviceNet™ Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Insulation OD inch | Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300V Class 2 Thin • 22 AWG and 24 AWG** • Stranded Tinned Copper • **Beldfoil®** • 22 AWG TC Drain Wire • Overall 65 % TC Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Yellow CPE Jacket** | | | | | | | | | | | | | | | | |
| Thin 75°C | **3085A** | NEC:<br>CL2 CMG<br>CEC:<br>CMG FT4 | 500<br>1000<br>2000 | 152<br>305<br>610 | 25.1<br>47.2<br>96.1 | 11.4<br>21.4<br>43.6 | Red, Black | 0.280 | 7.11 | Power | 2-Conductor<br>22 AWG<br>0.78 mm<br>(19x34) TC | Individual<br>Beldfoil® | PVC | | 0.072 | 1.83 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor<br>24 AWG<br>0.61 mm<br>(19x36) TC<br>VOP: 75%<br>120 Ohm | Individual<br>Beldfoil® | FPE | | 0.077 | 1.96 |
| | | | | | | | Meter marks on jacket to aid users in installation.<br>Allen-Bradley P/N 1485 CPI-C | | | | | | | | | |
| **300V Class 2 ODVA Cable III • 20 AWG and 18 AWG** • Stranded TC • **Beldfoil®** • 20 AWG TC Drain Wire • Overall 65 % TC Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Grey Sunlight/Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| Mid 75°C<br>UL AWM 20201 (600V) | **7895A** | NEC:<br>CMG<br>PLTC<br>CEC:<br>CMG FT4 | 500<br>1000 | 152<br>305 | 41.0<br>84.0 | 18.6<br>38.1 | Red, Black | 0.378 | 9.60 | Power | 2-Conductor<br>20 AWG<br>0.94 mm<br>(19x32) TC | Individual<br>Beldfoil® | PVC | | 0.080 | 2.03 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor<br>18 AWG<br>1.24 mm<br>(19x30) TC<br>VOP: 75%<br>120 Ohm | Individual<br>Beldfoil® | FPE | | 0.129 | 3.28 |
| | | | | | | | Meter marks on jacket to aid users in installation. | | | | | | | | | |
| **Flat • 16 AWG** • Stranded (19x29) 1.5 mm Tinned Copper • Unshielded | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Grey Sunlight/Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| Class 2<br>300V 75°C | **3082K** | NEC:<br>CMG CL2<br>PLTC<br>CEC:<br>CMG FT4 | 246<br>656<br>1378 | 75<br>200<br>420 | 30.9<br>78.7<br>165.6 | 14.0<br>35.7<br>75.1 | Red, Black | 0.430<br>x<br>0.210 | 10.92<br>x<br>5.33 | Power | 2-Conductor<br>16 AWG<br>1.47 mm<br>(19x29) TC | Unshielded | PVC | | 0.110 | 2.80 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor<br>16 AWG<br>1.47 mm<br>(19x29) TC<br>VOP: 75%<br>120 Ohm | Unshielded | FPE | | 0.110 | 2.80 |
| | | | | | | | Allen-Bradley P/N 1485 CPI-G | | | | | | | | | |
| **PVC Insulation (Power) • Black Sunlight-Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| Class 1<br>Power<br>600V 75°C | **3082KP** | NEC:<br>CMG ITC<br>PLTC TC<br>CEC:<br>CMG FT4 | 246<br>656<br>1378 | 75<br>200<br>420 | 32.0<br>81.3<br>171.1 | 14.5<br>36.9<br>77.6 | Red, Black | 0.430<br>x<br>0.210 | 10.92<br>x<br>5.33 | Power | 2-Conductor<br>16 AWG<br>1.47 mm<br>(19x29) TC | Unshielded | PVC | | 0.110 | 2.80 |
|  | | | | | | | Blue, White | | | Data | 2-Conductor<br>16 AWG<br>1.47 mm<br>(19x29) TC<br>VOP: 75%<br>120 Ohm | Unshielded | PVC | | 0.110 | 2.80 |
| | | | | | | | Allen-Bradley P/N 1485 CPI-G | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

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# Industrial Data Solutions® – Industrial Data

## DeviceBus® for Honeywell Smart Distributed System Cables

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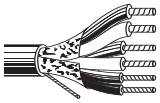
| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Insulation OD inch | Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded Tinned Copper • Each Pair Individually **Beldfoil®** Shielded • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2464 | **3087A** | NEC:<br>CL2<br>CEC:<br>FT1 | 500<br>1000<br>2000 | 152<br>305<br>610 | 19.0<br>41.0<br>84.0 | 8.6<br>18.6<br>38.1 | Blue, Brown | 0.290 | 7.37 | Power | 2-Conductor<br>22 AWG<br>0.78 mm<br>(19x34) TC | Individual<br>Beldfoil® | PVC | | 0.050 | 1.27 |
|  | | | | | | | Black, White | | | Data | 2-Conductor<br>22 AWG<br>0.78 mm<br>(19x34) TC<br>VOP: 76%<br>120 Ohm | Individual<br>Beldfoil® | FPE | | 0.098 | 2.49 |
| CSA AWM I/II A<br>Micro Cable (Drop) | | | | | | | Honeywell Smart Distributed System | | | | | | | | | |
| **16 AWG and 20 AWG** • Stranded Tinned Copper • Each Pair Individually **Beldfoil®** Shielded • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • FPE Insulation (Data) • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2464 | **3086A** | NEC:<br>CL2<br>CEC:<br>FT1 | 500<br>1000 | 152<br>305 | 43.4<br>88.0 | 19.7<br>39.9 | Blue, Brown | 0.398 | 10.11 | Power | 2-Conductor<br>16 AWG<br>1.47 mm<br>(19x29) TC | Individual<br>Beldfoil® | PVC | | 0.090 | 2.29 |
|  | | | | | | | Black, White | | | Data | 2-Conductor<br>20 AWG<br>0.94 mm<br>(19x32) TC<br>VOP: 76%<br>120 Ohm | Individual<br>Beldfoil® | FPE | | 0.120 | 3.05 |
| CSA AWM I/II A<br>Mini Cable (Trunk) | | | | | | | Honeywell Smart Distributed System | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

# Industrial Data Solutions® – Industrial Data

## DeviceBus® for Square D/Seriplex® Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Insulation OD inch | Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG and 22 AWG** • Stranded Tinned Copper • Overall **Beldfoil®** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | |
| **Foam HDPE Insulation (Power) • Foam HDPE Insulation (Data) • Orange PVC Jacket** | | | | | | | | | | | | | | | | |
| 600V 75°C UL AWM Style 20201 | **3124A** | NEC: CL2 CM CEC: CM | 1000 | 305 | 47.0 | 21.3 | Red, Black | 0.308 | 7.82 | Power | 2-Conductor 18 AWG 1.2 mm (16x30) TC | Unshielded | Foam HDPE | | 0.098 | 2.49 |
|  | | | | | | | White, Green | | | Data | 2-Conductor 22 AWG 0.76 mm (7x30) TC VOP: 78% | Unshielded | Foam HDPE | | 0.092 | 2.34 |
| | | | | | | | Seriplex® CBL 1822-P18 | | | | | | | | | |
| **16 AWG and 22 AWG** • Stranded Tinned Copper • Overall **Beldfoil®** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | |
| **Foam HDPE Insulation (Power) • Foam HDPE Insulation (Data) • Orange PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V 75°C | **3125A** | NEC: CL2 CM CEC: CM | 500<br>1000 | 152<br>305 | 31.5<br>63.1 | 14.3<br>28.6 | Red, Black | 0.368 | 9.35 | Power | 2-Conductor 16 AWG 1.5 mm (26x30) TC | Unshielded | Foam HDPE | | 0.110 | 2.79 |
|  | | | | | | | White, Green | | | Data | 2-Conductor 22 AWG 0.76 mm (7x30) TC VOP: 78% | Unshielded | Foam HDPE | | 0.110 | 2.79 |
| | | | | | | | Seriplex® CBL 1622-P1 | | | | | | | | | |
| **16 AWG, 22 AWG and 12 AWG** • Stranded Tinned Copper • Twisted Pair • Overall **Beldfoil®** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | |
| **Foam HDPE Insulation (Control) • Foam HDPE Insulation (Data) • PVC Insulation (Power) • Orange PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V 75°C | **3126A** | NEC: CL2 CM CEC: CM | 1000 | 305 | 112.0 | 50.8 | Red, Black | 0.486 x 0.363 | 12.34 x 9.22 | Control | 2-Conductor 16 AWG 1.5 mm (26x30) TC VOP: 78% | Unshielded | Foam HDPE | | 0.110 | 2.79 |
|  | | | | | | | White, Green | | | Data | 2-Conductor 22 AWG 0.76 mm (7x30) TC VOP: 78% | Unshielded | Foam HDPE | | 0.110 | 2.79 |
| | | | | | | | Black/White, Red/White | | | Power | 2-Conductor 12 AWG 2.41 mm (65x30) TC VOP: 48% | Unshielded | PVC | | 0.123 | 3.12 |
| | | | | | | | Seriplex® CBL 162212-P16 | | | | | | | | | |

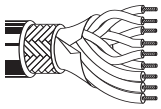
TC = Tinned Copper • DCR = DC resistance

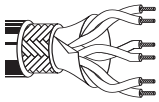
Seriplex® is a Square D/Schneider AEG registered trademark.

# Industrial Data Solutions® – Industrial Data

## DeviceBus® for Phoenix Contact InterBus®-S Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Insulation OD inch | Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG and 24 AWG** • Stranded Tinned Copper • Overall **Beldfoil®** + 90% Tinned Copper Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • Polyethylene Insulation (Data) • Green Polyurethane Jacket** | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 20233 | **3119A** | | 500<br>1000 | 152<br>305 | 35.5<br>71.0 | 16.1<br>32.2 | Red, Blue and Green (with Yellow Stripe) | 0.333 | 8.46 | Control | 3-Conductor 18 AWG 1.22 mm (7x26) TC | Unshielded | PVC | | 0.066 | 1.68 |
|  | | | | | | | White/Brown, Pink/Grey, Yellow/Green | | | Power | 3-Pair 24 AWG 0.61 mm (7x32) TC VOP: 66% 100 Ohm | Unshielded | PE | | 0.056 | 1.42 |

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6mm Tinned Copper • Overall **Beldfoil®** + 90% Tinned Copper Braid | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Green Polyurethane Jacket** | | | | | | | | | | | | | | | | | |
| 300V 80°C<br>UL AWM Style 20233 | **3120A** | | 500<br>1000 | 152<br>305 | 26.0<br>48.9 | 11.8<br>22.2 | 0.61 mm 24 AWG (7x32) TC | 0.056 | 1.42 | Overall Beldfoil® + Overall 90% TC Braid | 0.277 | 7.04 | 100 | 66% | 15.4 | 50.5 | White/Brown, Pink/Grey, Yellow/Green |
|  | | | | | | | | | | | | | | | | | |
| 3-Pair | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

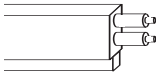
InterBus® is a Phoenix Contact trademark.

# Industrial Data Solutions® – Industrial Data

## ASI Bus Flatcable

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 AWG** • Stranded (84x0.15) 1.5 mm Tinned Copper | | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Yellow TPE-O Jacket** | | | | | | | | | | | | | | | | | | | |
| **300V 80°C** | **3999E** | | 328 | 100 | 63.9 | 29.0 | 1.5 mm 16 AWG (84x0.15) TC | 0.096 | 2.45 | Unshielded | 0.157 x 0.394 | 4.00 x 10.00 | | | | | | | |



2-Conductor

Color Code: Blue, Brown

# Industrial Data Solutions® – Industrial Data

## EIA Industrial RS-485 PLTC/CM

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 90% Tinned Copper Braid • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Black UV Resistant Jacket (CPE Jacket Optional)** | | | | | | | | | | | | | | | | | | |
| 300V Oil Res II | | NEC: CM PLTC CEC: CM FT1 | | | | | 0.76 mm 22 AWG (7x30) TC | 0.087 | 2.21 | Overall Beldfoil® + Overall 90% TC Braid + Drain Wire (22 AWG TC) | | | 120 | 78% | | | | |
| **3105A** 1-Pair DMX512 Type | | | 500<br>1000<br>† 5000 | 152<br>305<br>1524 | 23.0<br>50.0<br>255.2 | 10.4<br>22.7<br>115.8 | | | | | 0.284 | 7.21 | | | CDR/CDR<br>CDR/SCR | 20.9<br>11.0 | 68.6<br>36.1 | see chart below |
| For CPE jacketed version order Part No. YR44345. | | | | | | | | | | | | | | | | | | |
| **3106A** 1.5-Pair* | | | 500<br>1000<br>† 5000 | 152<br>305<br>1524 | 27.1<br>51.1<br>260.4 | 12.3<br>23.2<br>118.1 | | | | | 0.300 | 7.62 | | | CDR/CDR<br>CDR/SCR | 20.9<br>11.0 | 68.6<br>36.1 | White/Orange, Orange/White Blue/White |
| For CPE jacketed version order Part No. YR46721. | | | | | | | | | | | | | | | | | | |
| **3107A** 2-Pair DMX512 Type | | | 1000<br>4000<br>† 5000 | 305<br>1.219<br>1524 | 69.1<br>300.2<br>385.3 | 31.3<br>136.2<br>174.8 | | | | | 0.356 | 9.04 | | | CDR/CDR<br>CDR/SCR | 20.9<br>11.0 | 68.6<br>36.1 | see chart below |
| For CPE jacketed version order Part No. YR46792. | | | | | | | | | | | | | | | | | | |
| **3108A** 3-Pair | | | 1000<br>2000 | 305<br>610 | 93.0<br>184.0 | 42.2<br>83.5 | | | | | 0.420 | 10.67 | | | CDR/CDR<br>CDR/SCR | 20.9<br>11.0 | 68.6<br>36.1 | see chart below |
| For CPE jacketed version order Part No. YR45287. | | | | | | | | | | | | | | | | | | |
| **3109A** 4-Pair | | | 1000<br>2000 | 305<br>610 | 107.2<br>218.2 | 48.6<br>99.0 | | | | | 0.420 | 10.67 | | | CDR/CDR<br>CDR/SCR | 20.9<br>11.0 | 68.6<br>36.1 | see chart below |
| For CPE jacketed version order Part No. YR44768. | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

† Final put-up length may vary 0% to +10% from length shown. • * All conductors are under the braid shield; one pair is under the Beldfoil shield.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue/White Stripe |
| 2 | White/Orange Stripe, Orange/White Stripe |
| 3 | White/Green Stripe, Green/White Stripe |
| 4 | White/Brown Stripe, Brown/White Stripe |

# Industrial Data Solutions® – Industrial Data

## CC-Link Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Stranded (7x28) 1.0 mm Bare Copper • **Beldfoil®** • 78% Tinned Copper Braid • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Foam HDPE Insulation • Red PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 60°C | **1348A** | NEC: CM<br>CEC: CM | 1000<br>2000 | 305<br>610 | 57.1<br>114.2 | 25.9<br>51.8 | 0.96 mm 20 AWG (7x28) BC | 0.094 | 2.39 | Overall Beldfoil® + Overall 78% TC Braid + Drain Wire (22 AWG TC) | 0.303 | 7.70 | 110 | 75% | 18.3 | 60.0 | 1<br>5 | 0.5<br>1.1 | 1.6<br>3.5 |
|  | | | | | | | | | | | | | | | | | | | |
| 3 CDR | | | Color Code: Blue, White, Yellow | | | | | | | | | | | | | | | | |

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Insulation OD inch | Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Power Limited Tray Cable • 16 AWG and 22 AWG** • Stranded Tinned Copper • Overall **Beldfoil®** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | |
| **PVC Insulation (Power) • Foam HDPE Insulation (Data) • Red UV Resistant PVC Jacket** | | | | | | | | | | | | | | | | |
| **105°C** | **1349A** | NEC: PLTC CM<br>CEC: CM | 1000 | 305 | 126.1 | 57.2 | White, Black | 0.512 | 13.00 | Power | 2-Conductor 18 AWG 1.22 mm (7x26) TC | Unshielded | PVC | – | 0.091 | 2.31 |
|  | | | | | | | Blue, White and Yellow | | | Data | 3-Conductor 20 AWG 0.96 mm (7x28) TC VOP: 76% 110 Ohm | Beldfoil® 78% TC + Drain Wire | HDPE | PVC | 0.098 | 2.49 |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Industrial Data Solutions® – Industrial Data

## LonWorks Cables

INDUSTRIALTUFF™

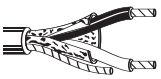
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Solid 0.6 mm Bare Copper • Twisted Pair | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • White FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **7701NH** | IEC 332-3C<br>BS 7655 | 1000<br>1640 | 305<br>500 | 10.6<br>17.6 | 4.8<br>8.0 | 0.64 mm 22 AWG Solid BC | 0.046 | 1.17 | Unshielded | 0.138 | 3.50 | 100 | 68% | 14.0 | 46.0 | 1<br>1<br>4<br>10<br>16<br>20 | 0.4<br>0.5<br>0.9<br>1.5<br>1.9<br>2.1 | 1.3<br>1.5<br>3.1<br>4.9<br>6.3<br>6.9 |
|  | | | | | | | | | | | | | | | | | | | |
| 1-Pair | | Color Code: White/Blue, Blue/White | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • White FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **7702NH** | IEC 332-3C<br>BS 7655 | 1000 | 305 | 19.6 | 8.9 | 0.64 mm 22 AWG Solid BC | 0.046 | 1.14 | Unshielded | 0.205 | 5.20 | 100 | 68% | 14.0 | 46.0 | see above | | |
|  | | | | | | | | | | | | | | | | | | | |
| 2-Pair | | Color Code: White/Blue, Blue/White, Orange/White, White/Orange | | | | | | | | | | | | | | | | | |
| **22 AWG** • Solid 0.6 mm Bare Copper • Twisted Pair • **Beldfoil®** • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • White FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **7703NH** | IEC 332-3C<br>BS 7655 | 1000 | 305 | 17.9 | 8.1 | 0.64 mm 22 AWG Solid BC | 0.061 | 1.55 | Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.181 | 4.60 | 100 | 68% | 24.4 | 80.0 | 1<br>1<br>4<br>10<br>16<br>20 | 0.5<br>0.6<br>1.1<br>1.7<br>2.1<br>2.4 | 1.8<br>2.0<br>3.6<br>5.5<br>7.0<br>7.8 |
|  | | | | | | | | | | | | | | | | | | | |
| 1-Pair | | Color Code: White/Blue, Blue/White | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • White FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| | **7704NH** | IEC 332-3C<br>BS 7655 | 1000<br>1640<br>3346 | 305<br>500<br>1020 | 27.1<br>44.3<br>88.6 | 12.3<br>20.1<br>40.2 | 0.64 mm 22 AWG Solid BC | 0.053 | 1.35 | Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.256 | 6.50 | 100 | 68% | 12.2 | 40.0 | see above | | |
|  | | | | | | | | | | | | | | | | | | | |
| 2-Pair | | Color Code: White/Blue, Blue/White, Orange/White, White/Orange | | | | | | | | | | | | | | | | | |
| **16 AWG** • Stranded (19x29) 1.5 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| UL AWM Style 2598 | **8471** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 20.1<br>20.1<br>39.0<br>40.1 | 9.1<br>9.1<br>17.7<br>18.2 | 1.47 mm 16 AWG (19x29) TC | 0.105 | 2.67 | Unshielded | 0.274 | 6.96 | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |
| 1-Pair | | Color Code: Black, White | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Industrial Data Solutions® – Industrial Data

## LonWorks Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 AWG** • Stranded (19x29) 1.5 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| Part 1 | **8471NH** | IEC 60332 | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 60.5<br>66.1<br>132.3 | 27.5<br>30.0<br>60.0 | 1.47 mm<br>16 AWG<br>(19x29) TC | 0.105 | 2.67 | Unshielded | 0.280 | 7.10 | Black, White |
|  1-Pair | | | | | | | | | | | | | |
| **Polyethylene Insulation • FRNC/LSNH Inner Jacket • Steel Wire Armor • Chrome FRNC/LSNH Outer Jacket** | | | | | | | | | | | | | |
| Part 1 | **8471LS** | IEC 60332 | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 248.9<br>407.9<br>815.7 | 112.9<br>185.0<br>370.0 | 1.47 mm<br>16 AWG<br>(19x29) TC | 0.032 | 0.81 | Unshielded | 0.413 | 10.50 | Black, White |
|  1-Pair | | | | | | | | | | | | | |
| **Tefzel® Insulation • Clear Tefzel® Jacket** | | | | | | | | | | | | | |
| 300V<br>RMS 80°<br>VW-1 | **85102** | | 500<br>1000 | 152<br>305 | 20.1<br>33.1 | 9.1<br>15.0 | 1.47 mm<br>16 AWG<br>(19x29) TC | 0.015 | 0.38 | Unshielded | 0.211 | 5.36 | Black, White |
|  1-Pair | | | | | | | | | | | | | |
| **16 AWG** • Stranded (19x29) 1.5 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 18 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | |
| 300V<br>RMS 80°<br>UL AWM Style 20253 | **8719** | NEC:<br>CM CL2<br>CEC:<br>CM | U-500<br>500<br>U-1000<br>1000<br>2000<br>5000<br>10000 | U-152<br>152<br>U-305<br>305<br>610<br>1524<br>3049 | 24.5<br>24.5<br>47.2<br>49.2<br>100.3<br>245.6<br>431.0 | 11.1<br>11.1<br>21.4<br>22.3<br>45.5<br>111.4<br>195.5 | 1.47 mm<br>16 AWG<br>(19x29) TC | 0.032 | 0.81 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(18 AWG TC) | 0.313 | 7.95 | Black, Clear |
|  1-Pair | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

Tefzel® is a DuPont trademark.

# Industrial Data Solutions® – Industrial Data

## Low-Capacitance Computer Cables for EIA RS-485 Applications

INDUSTRIALTUFF™

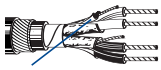
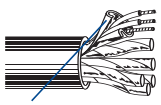
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Overall **Beldfoil®** + 90% Tinned Copper Braid • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | | NEC:<br>CM<br>CEC:<br>CM | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.068 | 1.73 | Overall<br>Beldfoil®<br>+ Overall<br>90% TC Braid<br>+ Drain Wire<br>(24 AWG TC) | | | 120 | 66% | CDR/CDR<br>CDR/SCR | 12.8<br>23.0 | 42.0<br>75.5 | see chart 5<br>(Tech Info Section) |
|  | | | | | | | | | | | | | | | | | | |
| DMX 512 | **9841** | 1-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 4.9<br>20.1<br>40.1 | 2.2<br>9.1<br>18.2 | | | | | 0.232 | 5.89 | | | | | | |
| | **9842** | 2-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 5.7<br>29.5<br>57.1 | 2.6<br>13.4<br>25.9 | | | | | 0.340 | 8.64 | | | | | | |
| | **9843** | 3-Pair | 100<br>500<br>1000 | 31<br>152<br>305 | 7.1<br>34.6<br>67.2 | 3.2<br>15.7<br>30.5 | | | | | 0.360 | 9.14 | | | | | | |
| | **9844** | 4-Pair | 500<br>1000 | 152<br>305 | 43.0<br>83.1 | 19.5<br>37.7 | | | | | 0.390 | 9.91 | | | | | | |
| **Polyethylene Insulation • Chrome FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 80°C | | IEC 332-3C<br>BS 7655 | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.068 | 1.73 | Overall<br>Beldfoil®<br>+ Overall<br>90% TC Braid<br>+ Drain Wire<br>(24 AWG TC) | | | 120 | 66% | CDR/CDR<br>CDR/SCR | 12.8<br>23.0 | 42.0<br>75.5 | see chart 5<br>(Tech Info Section) |
|  | | | | | | | | | | | | | | | | | | |
| | **9841NH** | 1-Pair | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 38.1<br>65.0<br>124.8 | 17.3<br>29.5<br>56.6 | | | | | 0.232 | 5.90 | | | | | | |
| | **9842NH** | 2-Pair | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 64.4<br>102.7<br>196.4 | 29.2<br>46.6<br>89.1 | | | | | 0.341 | 8.65 | | | | | | |
| | **9843NH** | 3-Pair | 1000 | 305 | 69.0 | 31.3 | | | | | 0.358 | 9.10 | | | | | | |
| **Polyethylene Insulation • Chrome FRNC/LSNH Inner Jacket • Steel Wire Armor • Black Sunlight-Resistant FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 80°C | | IEC 332-3C<br>BS 7655 | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.068 | 1.73 | Overall<br>Beldfoil®<br>+ Overall<br>90% TC Braid<br>+ Drain Wire<br>(24 AWG TC) | | | 120 | 66% | CDR/CDR<br>CDR/SCR | 12.8<br>23.0 | 42.0<br>75.5 | see chart 5<br>(Tech Info Section) |
|  | | | | | | | | | | | | | | | | | | |
| | **9841LS** | 1-Pair | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 154.1<br>276.9<br>624.3 | 69.9<br>125.6<br>283.2 | | | | | *0.232<br>**0.406 | *5.90<br>**10.30 | | | | | | |
| * Under Armor<br>** Over Armor | **9842LS** | 2-Pair | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 195.5<br>335.1<br>648.2 | 88.7<br>152.0<br>294.0 | | | | | *0.341<br>**0.516 | *8.65<br>**13.10 | | | | | | |

TC = Tinned Copper • DCR = DC resistance

# Industrial Data Solutions® – Interconnect Cables

## Shielded Twisted Pair Cables

INDUSTRIALTUFF™

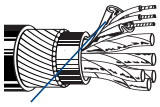
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2493 | **9729** | NEC:<br>CM<br>CEC:<br>CM | 100<br>500<br>1000<br>10000 | 31<br>152<br>305<br>3049 | 4.4<br>20.5<br>39.0<br>390.4 | 2.0<br>9.3<br>17.7<br>177.1 | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.061 | 1.55 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | 0.266 | 6.76 | 100 | 76% | CDR/CDR<br>CDR/SCR | 12.5<br>23.2 | 41.0<br>76.1 | Red, Black<br>White, Black |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 2-Pair | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Black FRNC/LSNH Jacket • Color Coded Foils** (Red, Green) | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **9729NH** | IEC<br>332-3C<br>BS 7655 | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 44.1<br>74.5<br>137.3 | 20.0<br>33.8<br>62.3 | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.061 | 1.55 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | 0.335 | 8.50 | 100 | 76% | CDR/CDR<br>CDR/SCR | 12.5<br>23.2 | 41.0<br>76.1 | Red, Black<br>White, Black |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 2-Pair | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Chrome FRNC/LSNH Inner Jacket • Steel Wire Armor • Black Sunlight-Resistant FRNC/LSNH Jacket • Color Coded Foils** (Red, Green) | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **9729LS** | IEC<br>332-3C<br>BS 7655 | 1640<br>3280 | 500<br>1000 | 347.2<br>672.4 | 157.5<br>305.0 | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.061 | 1.55 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | *0.335<br>**0.512 | *8.50<br>**13.00 | 100 | 76% | CDR/CDR<br>CDR/SCR | 12.5<br>23.2 | 41.0<br>76.1 | Red, Black<br>White, Black |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 2-Pair | | | | | | | | | | | | | | | | | | |
| * Under Armor<br>** Over Armor | | | | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 2919 | **8777** | NEC:<br>CM<br>CEC:<br>CM | 100<br>250<br>U-500<br>500<br>U-1000<br>1000<br>1640<br>3280<br>5000<br>10000 | 31<br>76<br>U-152<br>152<br>U-305<br>305<br>500<br>1000<br>1524<br>3049 | 4.6<br>11.0<br>20.9<br>20.9<br>41.0<br>42.1<br>67.2<br>137.8<br>210.1<br>450.4 | 2.1<br>5.0<br>9.5<br>9.5<br>18.6<br>19.1<br>30.5<br>62.5<br>95.3<br>204.3 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.050 | 1.27 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.273 | 6.93 | 50 | 66% | CDR/CDR<br>CDR/SCR | 30.0<br>55.0 | 98.0<br>180.0 | Red, Black<br>White, Black<br>Green, Black |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| For Plenum version of 8777, see 88777, 87777 or 82777. | | | | | | | | | | | | | | | | | | |
| 3-Pair | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Chrome FRNC/LSNH Jacket • Color Coded Foils** (Red, Green, Blue) | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **8777NH** | IEC<br>332-3C<br>BS 7655 | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 50.7<br>78.5<br>151.5 | 23.0<br>35.6<br>68.7 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.050 | 1.27 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | 0.276 | 7.00 | 50 | 66% | CDR/CDR<br>CDR/SCR | 30.0<br>55.0 | 98.4<br>180.4 | Red, Black<br>White, Black<br>Green, Black |
|  <br>Z-Fold® | | | | | | | | | | | | | | | | | | |
| 3-Pair | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

# Industrial Data Solutions® – Interconnect Cables

## Shielded Twisted Pair Cables

INDUSTRIALTUFF™

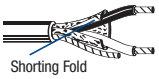
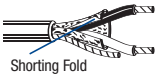
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome FRNC/LSNH Inner Jacket • Steel Wire Armor • Black Sunlight-Resistant FRNC/LSNH Jacket • Color Coded Foils** (Red, Green, Blue) | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **8777LS** | IEC<br>332-3C<br>BS 7655 | 1640<br>3280 | 500<br>1000 | 290.3<br>712.5 | 131.7<br>323.2 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.050 | 1.27 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(22 AWG TC) | *0.276<br>**0.425 | *7.00<br>**10.80 | 50 | 66% | CDR/CDR<br>CDR/SCR | 30.0<br>55.0 | 98.4<br>180.4 | Red, Black<br>Green, White<br>Green, Black |
|  Z-Fold® 3-Pair | | | | | | | | | | | | | | | | | | |
| * Under Armor<br>** Over Armor | | | | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **8723** | NEC:<br>CM<br>CEC:<br>CM | 100<br>U-500<br>500<br>U-1000<br>1000<br>1640<br>U-2000<br>2000<br>3280<br>5000<br>10000 | 31<br>U-152<br>152<br>U-305<br>305<br>500<br>U-610<br>610<br>1000<br>1524<br>3049 | 2.2<br>10.6<br>9.9<br>20.1<br>20.1<br>32.8<br>40.1<br>40.1<br>65.7<br>95.0<br>200.4 | 1.0<br>4.8<br>4.5<br>9.1<br>9.1<br>14.9<br>18.2<br>18.2<br>29.8<br>43.1<br>90.9 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.046 | 1.17 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | 0.168 | 4.27 | 45 | 66% | CDR/CDR<br>CDR/SCR | 35.0<br>62.0 | 115.0<br>203.0 | Red, Black<br>Green, White |
|  2-Pair | | | | | | | | | | | | | | | | | | |
| For Plenum version of 8723, see 88723, 87723 or 82723<br>Pairs cabled on common axis to reduce diameter. | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Chrome FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| **300V 80°C** | **8723NH** | IEC<br>332-3C<br>BS 7655 | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 23.1<br>36.8<br>75.0 | 10.5<br>16.7<br>34.0 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.046 | 1.17 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | 0.179 | 4.55 | 45 | 66% | CDR/CDR<br>CDR/SCR | 35.0<br>62.0 | 114.8<br>203.4 | Red, Black<br>Green, White |
|  2-Pair | | | | | | | | | | | | | | | | | | |
| Pairs cabled on common axis to reduce diameter. | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Chrome FRNC/LSNH Inner Jacket • Steel Wire Armor • Black Sunlight-Resistant FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| **300V 80°C** | **8723LS** | IEC<br>332-3C<br>BS 7655 | 1640<br>3280 | 500<br>1000 | 168.7<br>350.1 | 76.5<br>158.8 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.046 | 1.17 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | *0.179<br>**0.346 | *4.55<br>**8.80 | 45 | 66% | CDR/CDR<br>CDR/SCR | 35.0<br>62.0 | 114.8<br>203.4 | Red, Black<br>Green, White |
|  2-Pair | | | | | | | | | | | | | | | | | | |
| * Under Armor<br>** Over Armor | | | | | | | | | | | | | | | | | | |
| **Plenum • FEP Insulation • Red FEP Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>Non-conduit | **88723** | NEC:<br>CMP<br>CEC:<br>CMP FT6 | 100<br>500<br>1000 | 31<br>152<br>305 | 3.3<br>11.0<br>20.9 | 1.5<br>5.0<br>9.5 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.046 | 1.17 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | 0.148 | 3.76 | 40 | 69% | CDR/CDR<br>CDR/SCR | 35.0<br>67.0 | 115.0<br>220.0 | Red, Black<br>Green, White |
|  Z-Fold® 2-Pair | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance

# Industrial Data Solutions® – Interconnect Cable

## Shielded Twisted Pair Cables

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Stranded (16x30) 1.2 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 60°C<br>UL AWM Style 2092 | **8760** | NEC:<br>CM<br>CEC:<br>CM | 250<br>U-500<br>500<br>U-1000<br>1000<br>2000<br>5000<br>10000 | 76<br>U-152<br>152<br>U-305<br>305<br>610<br>1524<br>3049 | 6.8<br>13.0<br>13.0<br>26.0<br>26.0<br>50.0<br>135.1<br>260.1 | 3.1<br>5.9<br>5.9<br>11.8<br>11.8<br>22.7<br>61.3<br>118.0 | 1.2 mm<br>18 AWG<br>(16x30) TC | 0.082 | 2.08 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | 0.222 | 5.64 | – | – | CDR/CDR<br>CDR/SCR | 24.0<br>44.0 | 79.0<br>144.0 | Black, Clear |
|  Shorting Fold<br>1-Pair | | For Plenum version of 8760, see 88760, 87760 or 82760. | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **8760NH** | IEC<br>332-3C<br>BS 7655 | 1000<br>1640<br>3280 | 305<br>500<br>1000 | 34.6<br>54.2<br>110.5 | 15.7<br>24.6<br>50.1 | 1.2 mm<br>18 AWG<br>(16x30) TC | 0.082 | 2.08 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | 0.236 | 6.00 | 60 | 66% | CDR/CDR<br>CDR/SCR | 24.0<br>44.0 | 78.7<br>144.4 | Black, Clear |
|  Shorting Fold<br>1-Pair | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Chrome FRNC/LSNH Inner Jacket • Steel Wire Armor • Black Sunlight-Resistant FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 80°C | **8760LS** | IEC<br>332-3C<br>BS 7655 | 1640<br>3280 | 500<br>1000 | 270.1<br>610.5 | 122.5<br>276.9 | 1.2 mm<br>18 AWG<br>(16x30) TC | 0.082 | 2.08 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(20 AWG TC) | *0.236<br>**0.409 | *6.00<br>**10.40 | 60 | 66% | CDR/CDR<br>CDR/SCR | 24.0<br>44.0 | 78.7<br>144.4 | Black, Clear |
|  Shorting Fold<br>1-Pair | | | | | | | | | | | | | | | | | | |

* Under Armor
** Over Armor

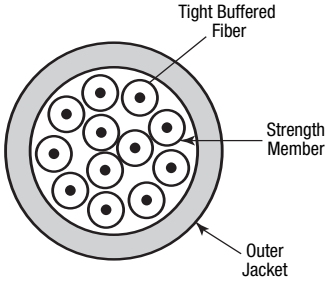
TC = Tinned Copper • DCR = DC resistance

# Industrial Data Solutions® – Industrial Fiber

## Tactical Mobile Fiber

INDUSTRIALTUFF™

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending Radii Cable (mm) static | Bending Radii Cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GMMT • Intex Mobile** • Tight Buffer • Designed for Despooling and Respooling • **A/I-VQ(ZN)H** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • PUR Jacket** (Orange or Black) | | | | | | | | | | | | | | | | | | |
| 70°C | | | 6888 | 2100 | | | Ø 280 ± 15 | | | Longitudinal watertightness Swellable Reinforced Yarn | | | no | | | | | |
| **GMMT**x04 | 4 | | 143.5 | 65.1 | | | | | | | 0.23 | 5.8 | 800 | 4 | 580 | 58 | 87 | |
| **GMMT**x06 | 6 | | 175.9 | 79.8 | | | | | | | 0.25 | 6.3 | 950 | 4 | 725 | 63 | 95 | |
| **GMMT**x08 | 8 | | 217.6 | 98.7 | | | | | | | 0.28 | 7.0 | 1100 | 4 | 890 | 70 | 105 | |




Color Code: see chart page 16.23

Optical characteristics see page 16.21.

### Industrial Ethernet Fiber Optic Cable Selection Guide

This chart is meant to help users to select the right cable. Refer to cable specifications for details. See www.belden-emea.com for fiber optic cable recommendations and technical data sheets.

| Part No. | Jacket Material | No. of Fibers | Description | Outer Diameter inch | Outer Diameter mm |
|---|---|---|---|---|---|
| **Fiber (9/125) Micron, Single-mode, OS1** **Central Loose Tube, Steel Wire Armor, Improved Rodent Protection** | | | | | |
| **GOWA**904 | PE | 4 | Outdoor, T12 | 0.421 | 10.7 |
| **GOWA**908 | PE | 8 | Outdoor, T12 | 0.421 | 10.7 |
| **GOWA**912 | PE | 12 | Outdoor, T12 | 0.421 | 10.7 |
| **GUWA**908 | FRNC | 8 | Universal, T12 | 0.421 | 10.7 |
| **GUWA**912 | FRNC | 12 | Universal, T12 | 0.421 | 10.7 |
| **GUWB**924 | FRNC | 24 | Universal, T24 | 0.543 | 13.8 |
| **GOWB**924 | FRNC | 24 | Outdoor, T24 | 0.543 | 13.8 |
| **Fiber (50/125) Micron, Multimode, OM2** **Central Loose Tube, Steel Wire Armor, Improved Rodent Protection** | | | | | |
| **GOWA**204 | PE | 4 | Outdoor, T12 | 0.421 | 10.7 |
| **GOWA**206 | PE | 6 | Outdoor, T12 | 0.421 | 10.7 |
| **GOWA**212 | PE | 12 | Outdoor, T12 | 0.421 | 10.7 |
| **GUWA**204 | FRNC | 4 | Universal, T12 | 0.421 | 10.7 |
| **GUWA**208 | FRNC | 8 | Universal, T12 | 0.421 | 10.7 |
| **GUWA**212 | FRNC | 12 | Universal, T12 | 0.421 | 10.7 |

| Part No. | Jacket Material | No. of Fibers | Description | Outer Diameter inch | Outer Diameter mm |
|---|---|---|---|---|---|
| **Fiber (62.5/125) Micron, Multimode, OM1** **Central Loose Tube, Steel Wire Armor, Improved Rodent Protection** | | | | | |
| **GOWA**106 | PE | 6 | Outdoor, T12 | 0.421 | 10.7 |
| **GOWA**112 | PE | 12 | Outdoor, T12 | 0.421 | 10.7 |
| **GUWA**104 | FRNC | 4 | Universal, T12 | 0.421 | 10.7 |
| **GUWA**108 | FRNC | 8 | Universal, T12 | 0.421 | 10.7 |
| **GUWA**112 | FRNC | 12 | Universal, T12 | 0.421 | 10.7 |
| **GUWB**124 | FRNC | 24 | Universal, T24 | 0.543 | 13.8 |

# Belden Infinity® Flexible Automation Cables

## 300V Flex Data Cables (1 Million Flex Cycles#)

INDUSTRIALTUFF™

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | | pF/ft. | pF/m | |
| **Flex Data • 24 AWG** • Stranded (41x40) 0.6 mm BC • Twisted Pair • Overall **Beldfoil®** Shield + Overall 85% TC Braid • 24 AWG TC Drain Wire | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation with Skin • Bright Green Oil-Resistant PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 80°C  | | NEC: CM CEC: CM | | | | | 0.58 mm 24 AWG (41x40) BC | 0.071 | 1.80 | Overall Beldfoil® + Overall 85% TC Braid + Drain Wire (24 AWG TC) | | | | – | | | | |
| | **7200A** | 1-Pair | 500<br>1000 | 152<br>305 | 17.0<br>38.1 | 7.7<br>17.3 | | | | | 0.240 | 6.10 | 120 | | CDR/CDR | 15 | 49 | White, Blue |
| | RS-232, RS-485 | | | | | | | | | | | | | | | | | |
| | **7201A** | 2-Pair | 500<br>1000 | 152<br>305 | 31.1<br>60.0 | 14.1<br>27.2 | | | | | 0.322 | 8.18 | 120 | | CDR/CDR | 15 | 49 | see chart 5 (Tech Info Section) |
| | RS-232, RS-485 | | | | | | | | | | | | | | | | | |
| | **7202A** | 3-Pair | 500<br>1000 | 152<br>305 | 33.5<br>68.1 | 15.2<br>30.9 | | | | | 0.347 | 8.81 | 120 | | CDR/CDR | 15 | 49 | see chart 5 (Tech Info Section) |
| | RS-232, RS-485 | | | | | | | | | | | | | | | | | |
| | **7203A** | 4-Pair | 500<br>1000 | 152<br>305 | 39.0<br>79.1 | 17.7<br>35.9 | | | | | 0.362 | 9.20 | 120 | | CDR/CDR | 15 | 49 | see chart 5 (Tech Info Section) |
| | RS-232, RS-485 | | | | | | | | | | | | | | | | | |
| | **7205A** | 1-Pair | 500<br>1000 | 152<br>305 | 17.4<br>38.1 | 7.9<br>17.3 | | | | | 0.232 | 5.89 | 100 | | CDR/CDR | 14 | 46 | White, Blue |
| | RS-232, RS-422 | | | | | | | | | | | | | | | | | |
| | **7206A** | 1-Pair | 1000 | 305 | 59.1 | 26.8 | | | | | 0.302 | 7.67 | 150 | | CDR/CDR | 10 | 33 | White, Blue |
| | RS-232, RS-485 | | | | | | | | | | | | | | | | | |
| | Temp. Rating: -20° to 60°C (-5°C to 60°C flexing) | | | | | | | | | | | | | | | | | |

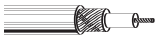
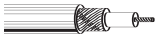
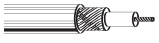
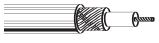
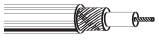
TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Based on proper installation techniques in a C-track cable guide.

# Belden Infinity® Flexible Automation Cables

## 300V Flex Data Cables (1 Million Flex Cycles#)

INDUSTRIALTUFF™

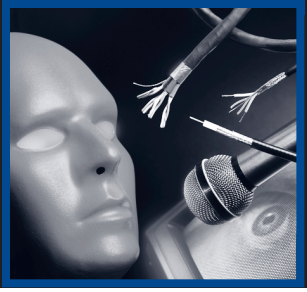
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sub-Mini Type • 30 AWG** • Stranded (7x38) 0.3 mm Tinned Cadmium Bronze • 95% Tinned Copper **French Braid®** | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Matte Blue Belflex® Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 1354 | **7500A**<br> | CEC:<br>FT1 | † 250<br>† 500<br>† 1000 | 76<br>152<br>305 | 3.1<br>5.1<br>9.0 | 1.4<br>2.3<br>4.1 | 0.31 mm<br>30 AWG<br>(7x38) TCB<br>379.9 Ω/km*<br>354.3 Ω/km** | 0.056 | 1.42 | French Braid®<br>+ 95% TC<br>43.6 Ω/km*** | 0.110 | 2.79 | 75 | 78% | 16.7 | 54.8 | 2.2<br>5<br>10<br>30<br>50<br>100 | 0.9<br>1.4<br>2.0<br>3.4<br>4.4<br>6.4 | 2.95<br>4.59<br>6.56<br>11.16<br>14.44<br>21.00 |
|  | | | | | | | | | | | | | | | | | | | |
| CSA AWM I/II A/B | | | | | | | | | | | | | | | | | | | |
| **Mini Type • 25 AWG** • Stranded (19x38) 0.5 mm Bare Copper • 95% Tinned Copper **French Braid®** | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Matte Blue Belflex® Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 1354 | **7501A**<br> | CEC:<br>FT1 | † 500<br>† 1000 | 152<br>305 | 7.5<br>14.1 | 3.4<br>6.4 | 0.48 mm<br>25 AWG<br>(19x38) BC<br>144.7 Ω/km*<br>114.8 Ω/km** | 0.090 | 2.29 | French Braid®<br>+ 95% TC<br>29.9 Ω/km*** | 0.146 | 3.71 | 75 | 77% | 17.7 | 58.1 | 2.2<br>5<br>10<br>30<br>50<br>100 | 0.6<br>0.9<br>1.3<br>2.2<br>2.9<br>4.2 | 1.97<br>2.95<br>4.27<br>7.22<br>9.52<br>13.78 |
|  | | | | | | | | | | | | | | | | | | | |
| CSA AWM I/II A/B | | | | | | | | | | | | | | | | | | | |
| **RG-59 Type • 22 AWG** • Stranded (19x34) 0.8 mm Bare Copper • 95% Tinned Copper **French Braid®** | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Matte Blue Belflex® Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 1354 | **7502A**<br> | CEC:<br>FT1 | † 250<br>† 500<br>† 1000 | 76<br>152<br>305 | 10.6<br>18.1<br>34.0 | 4.8<br>8.2<br>15.4 | 0.79 mm<br>22 AWG<br>(19x34) BC<br>65.0 Ω/km*<br>44.0 Ω/km** | 0.146 | 3.71 | French Braid®<br>+ 95% TC<br>21.0 Ω/km*** | 0.242 | 6.15 | 75 | 79% | 18.0 | 59.1 | 2.2<br>5<br>10<br>30<br>50<br>100 | 0.4<br>0.5<br>0.8<br>1.4<br>1.8<br>2.7 | 1.31<br>1.64<br>2.63<br>4.59<br>5.91<br>8.86 |
|  | | | | | | | | | | | | | | | | | | | |
| CSA AWM I/II A/B | | | | | | | | | | | | | | | | | | | |
| **RG-6/U Type • 18 AWG** • Stranded (7x15x40) 1.0 mm Bare Copper • 95% Tinned Copper **French Braid®** | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Matte Blue Belflex® Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 1354 | **7503A**<br> | CEC:<br>FT1 | † 250<br>† 500<br>† 1000 | 76<br>152<br>305 | 12.1<br>20.9<br>40.1 | 5.5<br>9.5<br>18.2 | 1.02 mm<br>18 AWG<br>(7x15x40) BC<br>62.7 Ω/km*<br>26.6 Ω/km** | 0.185 | 4.70 | French Braid®<br>+ 95% TC<br>36.1 Ω/km*** | 0.275 | 6.99 | 75 | 80% | 17.3 | 56.8 | 2.2<br>5<br>10<br>30<br>50<br>100 | 0.3<br>0.4<br>0.6<br>1.1<br>1.5<br>2.2 | 0.98<br>1.31<br>1.97<br>3.61<br>4.92<br>7.22 |
|  | | | | | | | | | | | | | | | | | | | |
| CSA AWM I/II A/B | | | | | | | | | | | | | | | | | | | |
| **RG-11 Type • 16 AWG** • Stranded (7x37x40) 1.7 mm Bare Copper • 95% Tinned Copper **French Braid®** | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Matte Blue Belflex® Jacket** | | | | | | | | | | | | | | | | | | | |
| 30V 80°C<br>UL AWM Style 1354 | **7504A**<br> | CEC:<br>FT1 | † 1000 | 305 | 84.0 | 38.1 | 1.65 mm<br>16 AWG<br>(7x37x40) BC<br>23.3 Ω/km*<br>11.5 Ω/km** | 0.285 | 7.24 | French Braid®<br>+ 95% TC<br>11.8 Ω/km*** | 0.405 | 10.29 | 75 | 81% | 17.3 | 56.8 | 2.2<br>5<br>10<br>30<br>50<br>100 | 0.2<br>0.3<br>0.4<br>0.8<br>1.0<br>1.5 | 0.66<br>0.98<br>1.31<br>2.63<br>3.28<br>4.92 |
|  | | | | | | | | | | | | | | | | | | | |
| CSA AWM I/II A/B | | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance
* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor
† Final put-up length may vary ±10% from length shown.

# Based on proper installation techniques in a C-track cable guide.

BELDEN
SENDING ALL THE RIGHT SIGNALS

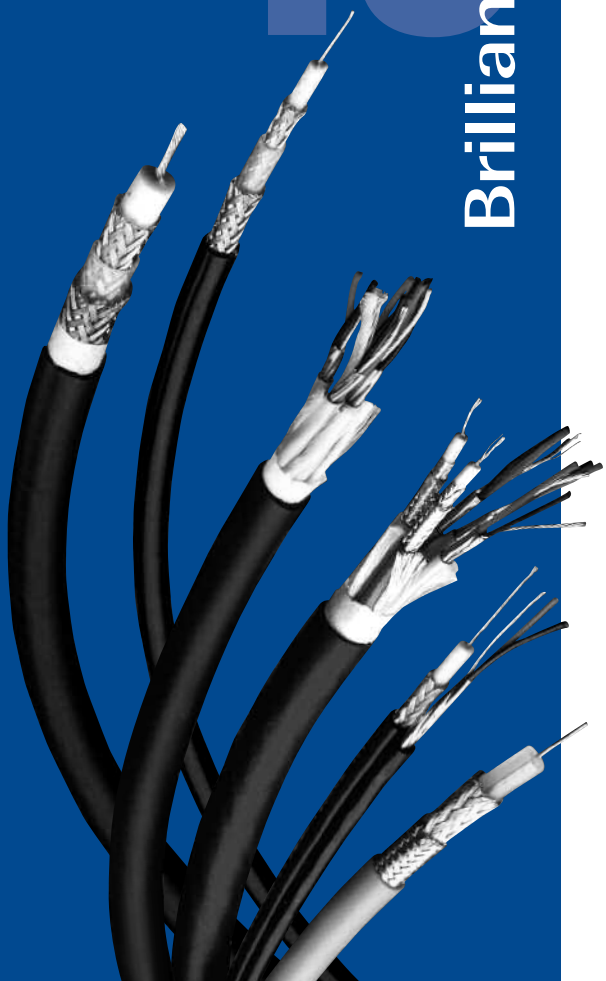
BRILLIANCE®





# Brilliance® Broadcast Cables

19



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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

BRILLIANCE®

### The Broadcasters' Choice

Perhaps there is no other industry which values reliability so highly because inferior broadcast performance has immediate, far-reaching and embarrassing results. Cable performance means assured product quality, absolute signal integrity and no system downtime. Did you watch television last night or listen to the radio this morning? Chances are the link were made with Belden cable – and with so much dedication to development and innovation, the link with Belden increases.

Belden products offer the highest performance in both critical field applications (where cable is dragged, crunched and trodden on) and permanent studio installations (where long runs are all important). Belden cables are an important link in network and cable broadcasts (e.g. BBC, CNN, NBC, NOB, ZDF), film studios (Lucas film) and corporate broadcasting (USA Today, Merrill Lynch).

### Key Applications

- Television monitors
- LCD screens
- Microphones
- Lighting, DMX
- VGA on large screens
- Animation, editing
- Loudspeakers
- HD/SDI

### Key Markets

- Broadcast TV and radio, music and entertainment industries
- OB vans
- Sports, entertainment stadiums/arenas, theatres, cinemas and hotels
- Airports, convention centers and other public facilities
- Race tracks and casinos
- Film studios
- Cruise ships

### Key Products

Belden's commitment to product innovation and technical excellence in the broadcast industry has resulted in a range of reliable audio and video cabling products called Brilliance®. Known for sound and picture brilliance and improved signal integrity, Brilliance® embraces all Belden audio/video products.

The range includes:

- **Optical Fiber Cables:**
  - HDTV Fiber/Copper Composite Cables
    Designed specifically for high-definition cameras, these composite cables can multiplex audio and video signals and power. The cables meet all the requirements of the SMPTE 311 standard developed by the Society of Motion Picture and Television Engineers (SMPTE). They are also compatible with industry standard SMPTE 304M connectors.
  - Mobile Fiber Cables
    Broadcast truck owners and operators always appreciate the chance to reduce the size and/or weight of any component being carried. Lighter weight Belden mobile optical fiber cable with PUR jacket is extreme rugged and designed for despooling and respooling.
  - Flexible Microphone Cables
    Belden microphone cable is used for connecting low level microphones. Key properties of microphone (MIC) cables are ruggedness, flexibility, flex life and interference immunity. Low impedance MIC cables use balanced 2-, 3- or 4-conductor (quad) designs.
  - High-Conductivity Copper Cables
    All Belden microphone cables with bare copper conductors (except: BE46349) use only high-conductivity copper. The refining process, called Electrolytic Tough Pitch (ETP), produces a copper conductor that is 99.95% pure copper resulting in high-conductivity per ASTM B115. The high purity obtained from ETP copper results in microphone cables performance that is comparable to that of oxygen-free copper cables.
  - Plastic Cables
    These are recommended for lower capacitance, lower loss, greater ozone and oil resistance, lighter weight, smaller diameter.
  - Rubber (EPDM) Cables
    These are recommended for greater abrasion and impact resistance and extra limpness so the cable will lie flat on stage or on studio floors.
  - Four-Conductor Star Quad Cables
    Quad connection scheme: The two blue wires (or wires directly opposite one another) are connected together to form one conductor; similarly the two white wires (or remaining wires) are connected together to form the second conductor. Conductors joined in this manner reduce the chance of induced noise.

- **Line Level Analog Audio Cables:** Belden analog audio cables are used for connecting line level audio equipment, in either permanent or semi-permanent installations. They consist of one or two individually foil-shielded, twisted pairs. Once installed, they are not intended to be moved while in operation. For cables that are in motion during use, refer to the microphone and musical instrument cable section in this catalog.

  Belden's analog audio cable range consists of several designs to handle a variety of audio applications. Belden part no. 8451 has a paper tape separator to facilitate easy long length jacket stripping. Part no. 9451 comes with a bonded Beldfoil® shield so that the shield and jacket strip simultaneously with automatic stripping equipment. A special matte PVC jacket material is used on part no. 1883A to make it a highly flexible construction. Double-pair cables are available in a round construction (part no. 8728).

- **Analog Multi-Pair Snake Cables:** Specially designed for the broadcast industry, Belden's full family of multi-pair audio "Snake" cables feature different options and constructions for virtually every application.
  - Applications
    Snake cables are used to connect multiple audio channels in low-level (microphone) and high-level (line) configurations, such as console board equipment for recording studios, radio television stations, post-production facilities and sound system installations. With Belden's individually shielded and jacketed snakes, pairs can be split out of the overall jacket for any length and connected directly without the need for heat shrink tubing or costly and time-consuming preparation. 26 AWG and 24 AWG sizes are also ideal for punch down connector applications.
  - Numbered and Color Coded
    Jacketed pairs are individually numbered and color coded (following the familiar resistor color code) for easy identification.

    Belden's BE46313 Series; jacketed pairs are grey and individually numbered.

# Introduction



- Mobile and Fixed Installations
  Foil-shielded multicore cables are mainly used for permanent installations while Belden's braid shield constructions are recommended for mobile (semi-permanent) applications.
- French Braid® Shield
  Belden's patented "French Braid" shield is a double spiral (double serve) bare copper shield with the two spirals tied together by one weave. This improves flex life over standard spiral shields, improves flexibility over conventional braid shields and lowers microphonic or triboelectric noise. The "French Braid" is easy to terminate since it is not fully woven. It also provides for lower DC loop resistance than the single spiral braid. The "French Braid" is featured in Belden's FleXnake® Cables (1900 Series) and quad snake cables (7880 Series).
- Beldfoil® Shield
  The foil shield of each pair is bonded to the jacket with the drain wire inside the foil. This makes the cable easier to strip. A standard stripping tool removes both the insulation and foil and greatly speeds up the installation time.

- **AES/EBU Digital Audio Cables:** The specification for digital audio was developed jointly by the Audio Engineering Society (AES) & European Broadcast Union (EBU). The key difference between twisted pair specifications for digital audio cable and standard analog audio cable is the impedance specification.

  The detailed specifications of this standard are:
  Sampling rate: from 32 KHz to 192 KHz
  Bandwidth: from 4.096 MHz to 24.5 MHz
  Impedance: 110 Ω ± 20%

| Sampling Rate | Bandwidth |
|---|---|
| 32 kHz | 4.096 MHz |
| 44.1 kHz | 5.6448 MHz |
| 48 kHz | 6.144 MHz |
| 96 kHz | 12.228 MHz |
| 192 kHz | 24.576 MHz |

  AES/EBU, with its broad tolerance, allows cables with impedances from 88 Ohm to 132 Ohm to be used. Standard analog audio cable impedance is 45 Ohm to 70 Ohm. This amount of potential mismatch can result in signal reflections and jitter, causing bit errors at the receiver. For this reason, Belden recommends 100 to 120 Ohm shielded twisted pair cables.

## How to Choose a AES/EBU Cable.

### Single and Double Pairs

- 9180
  26 Gage (0.14 mm²/0.5 mm), Beldfoil®, Datalene®
- 1800B
  24 Gage (0.22 mm²/0.6 mm), Beldfoil®, Datalene®
- 1802B
  24 Gage (0.22 mm²/0.6 mm), Beldfoil®, Datalene®, Double-Pairs
- 1800F
  24 Gage (0.22 mm²/0.6 mm), FrenchBraid®, Datalene®, several colors
- 1696A
  22 Gage (0.34 mm²/0.8 mm), Beldfoil®/FrenchBraid®, Datalene®

### Multi-Pair Snake Cables

- 7880A Series
  26 Gage (0.14 mm²/0.5 mm),
  Beldfoil®/Overall Beldfoil®, Datalene®, Color coded
- BE46935 Series
  26 Gage (0.14 mm²/0.5 mm), Braid/Overall Braid, FRNC IEC 332-3C
- BE46266 SlimSnake™
  26 Gage (0.14 mm²/0.5 mm), Braid/Overall Braid, Halogen-Free
- 1803F Series
  24 Gage (0.22 mm²/0.6 mm),
  Beldfoil®/Overall Beldfoil®, Datalene®, Color coded

### Maximum Recommended Transmission Distance at Digital Audio Data Rates

| Part No. | AWG | 2 MHz | | 4 MHz | | 5 MHz | | 6 MHz | | 12 MHz | | 25 MHz | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m |
| **110 Ohm** | | | | | | | | | | | | | |
| 9180, 7880A Series | 26 | 1197 | 365 | 948 | 289 | 869 | 265 | 813 | 248 | 633 | 193 | 472 | 144 |
| 1800F | 24 | 1233 | 376 | 922 | 281 | 764 | 233 | 666 | 203 | 423 | 129 | 279 | 85 |
| 1800B, 1802B, 1803F Series | 24 | 1538 | 469 | 1282 | 391 | 1178 | 359 | 1105 | 337 | 876 | 267 | 649 | 198 |
| 1696A | 22 | 2148 | 655 | 1738 | 530 | 1666 | 508 | 1538 | 469 | 1250 | 381 | 1014 | 309 |
| **75 Ohm** | | | | | | | | | | | | | |
| 179DT | 28.5 | 1492 | 455 | 1197 | 365 | 1148 | 350 | 1004 | 306 | 722 | 220 | 522 | 159 |
| 1855A | 23 | 3519 | 1073 | 2427 | 740 | 2175 | 663 | 1991 | 607 | 1538 | 469 | 1112 | 339 |
| 1505F | 22 | 5881 | 1793 | 3772 | 1150 | 3332 | 1016 | 2985 | 910 | 2040 | 622 | 1387 | 423 |
| 1505A | 20 | 4864 | 1483 | 3477 | 1060 | 3175 | 968 | 2909 | 887 | 2221 | 677 | 1538 | 469 |
| 1694A | 18 | 5881 | 1793 | 4182 | 1275 | 3703 | 1129 | 3408 | 1039 | 2499 | 762 | 2001 | 610 |

Much longer transmission distance is achievable but is contingent upon system component quality.

# Introduction

BRILLIANCE®

- **Speaker Cables**
  Speaker cables are used to connect receivers or power amplifiers to speakers and are also used for the internal wiring of the speakers themselves.

  Because the impedance of the loudspeaker is quite low (typically 3 to 10 Ohm) much of the power conducted through the cable is carried in the current domain which is affected by conductor resistance. The resistance of the cable between the speaker and the amplifier turns some of the amplifier's power into heat and does not get to the speaker.

  The feedback from the speaker is altered by the cable. This feedback is used by the amplifier to correct the speaker's non-linearity. This is measured as the 'damping' factor by amplifier designers and is called "Servoing" by the Hi-fi community.

  In general, the higher the cable resistance, the lower the power level getting to the speaker. This results in "sloppier" speaker performance due to damping.

  Ultimately, the system designer must decide how to compromise system performance against system cost. In general, one of the least expensive ways to squeeze increased and better performance out of the system hardware is to use larger speaker cables and cut your losses where they occur rather than try to "band-aid" the system later with equalization or more power.

  The cable selection guide can aid in determining the proper gage selection depending on the speaker impedance, acceptable power loss and cable run length.

- **Special Cables**
  Cables listed in this section are for special audio applications – unbalanced audio cables, DMX512 cable and CatSnake™.

  - Unbalanced Audio Cables
    Traditional unbalanced (coaxial) cables use two lines to transmit the audio signal – a hot line which carries the signal and an earth line. This is all that is required to transmit audio and is common in short cables (where noise is less of a problem).
  - DMX512 Cables
    The DMX512 standard describes a method of digital data transmission between controllers and controlled lighting equipment and accessories, including dimmers and related equipment. The cable has a nominal characteristic impedance of 100 to 120 Ohm and shielded twisted pairs approved by its manufacturer for EIA-422/EIA-485-A use at 250 Kbits/second and distances of 500 meters or more.
  - CatSnake™
    Belden now offers Brilliance CatSnake™. This is a mobile Category 5e cable which employs Belden's patented bonded-pair design, for use in high traffic areas in a broadcast studio or in any type of tactical field deployable digital audio/video installation.
  - Video Triax Cables
    Triaxial cables are used to interconnect video cameras to related equipment. They contain two isolated shields and a solid or stranded center conductor. Isolated shields allow the triax to provide multiple functions over one cable through multiplexing techniques.

    Applications include: DC power to camera, intercom to operator, teleprompter feeds, monitoring feeds and even automatic or robotic functions.

    The O.D. describes size and distance – Triax 8 for short runs, Triax 11 for long runs and Triax 14 for very long runs.

    Silver-plated copper: Typical triax cable construction in the industry is bare copper. Four of Belden's new triax cables use silver-plated copper for the inner conductor and the first shield. This construction provides exceptional electrical characteristics (attenuation and impedance stability) for excellent picture quality over extended transmission distances. These cables are also suitable for the latest digital camera triax applications.
  - Standard Analog Video Cables
    Belden standard video cables are typically used in non-critical video applications such as video equipment rack wiring, Closed Circuit TV (CCTV), Master Antenna TV (MATV) and color or monochrome video monitor hook-ups. Applications such as these do not require precision video coaxes which have extremely tight electrical tolerances.

    Video coax cables have a characteristic impedance of 75 Ohm. This value was not chosen arbitrarily. Physics shows that optimum attenuation characteristics occur at 77 Ohm. Materials and design lead to the selection of 75 Ohm as the optimum compromise for low power applications. Standard video coaxes are available in both solid and stranded designs.
  - Low Loss HDTV/SDI Digital Coax
    HDTV/SDI video cables usually have solid center conductors and dual shields. The dielectrics can either be foamed or for better crush resistance have foamed HDPE insulation. Tighter impedance and attenuation tolerances, superior Return Loss (RL) specifications and improved shielding give precision video cables their no-compromise performance.

## Cable Selection Guide

| | | 4 Ω Speaker | | | 8 Ω Speaker | | | 70 V Speaker* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Power (%)/Loss dB/m | | | | | | | | |
| AWG | mm² | 11% 0.5 | 21% 1.0 | 50% 3.0 | 11% 0.5 | 21% 1.0 | 50% 3.0 | 11% 0.5 | 21% 1.0 | 50% 3.0 |
| 11 | 4.00 | 53 | 116 | 438 | 109 | 232 | 871 | 2637 | 5675 | 21341 |
| 13 | 2.50 | 34 | 74 | 282 | 71 | 151 | 564 | 1711 | 3678 | 13834 |
| 14 | 2.10 | 27 | 59 | 226 | 56 | 120 | 451 | 1369 | 2942 | 11067 |
| 16 | 1.50 | 18 | 38 | 143 | 35 | 76 | 285 | 866 | 1860 | 6997 |
| 26 | 0.14 | 2 | 6 | 21 | 5 | 11 | 41 | 127 | 273 | 1027 |

The number of meter of cable you can run for a given loss and performance budget.

## How to Use the Guide

| | |
|---|---|
| Step One: | Select the appropriate speaker impedance column. |
| Step Two: | Select the appropriate power loss column deemed to be acceptable. |
| Step Three: | Select the applicable wire gage size and follow the row over to the columns determined in steps one and two. The number listed is the maximum cable run length. |
| Example: | The maximum run for 11 AWG in a 4 Ohm speaker system with 11% or 0.5 dB loss is 53 m. |

* 70 volt line drive systems, while considered a potential for Hi-fi performance, follow the same cable loss physics as the higher current (lower impedance) system. For the sake of this calculation a 25 watt 70 volts system (196 Ohm) was used.

# Introduction



## The Future is HDTV

The Society of Motion Picture and Television Engineers (SMPTE) has developed several standards for serial digital video transmissions (SDI) and a 540 Mb/s format is currently under development. There is also a European standards body known as the ITU (formerly CCIR) that has developed the composite video standard for Europe known as PAL/SECAM. The most common is the 270 Mb/s SDI (Serial Digital Interface). All of the specifications differ in bandwidth requirements and transmission technology, i.e. composite, component and digital:

| Data Rate | Bandwidth | Standard | Description |
|---|---|---|---|
| 143 Mb/s | 71.5 MHz | SMPTE 259M | NTSC |
| 177 Mb/s | 88.5 MHz | ITU-R BT.601 | PAL/SECAM |
| 270 Mb/s | 135.0 MHz | SMPTE 259M | Component Video 4:3 |
| 360 Mb/s | 180.0 MHz | SMPTE 259M | Component 16:9 |
| 540 Mb/s | 270.0 MHz | SMPTE 344M | Component Widescreen |
| 1.5 Gb/s | 750.0 MHz | SMPTE 292M | HDTV |

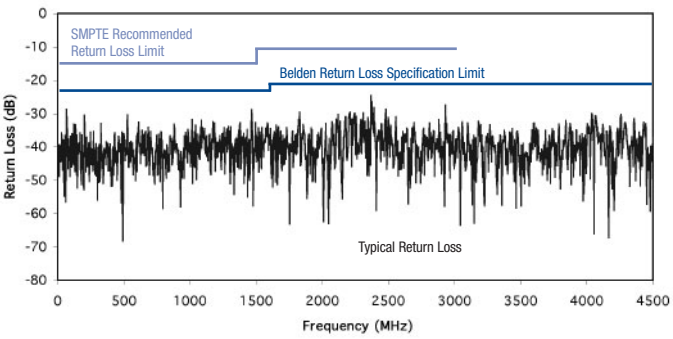
High Definition Television (HDTV) will require upgrades throughout the broadcasting industry, creating additional opportunities. International competitions such as the Olympic Games, Formula One, football and many other sporting events are very popular and demand the best broadcasting technology to guarantee viewer satisfaction.

Belden has a range of available coaxes that exceeds the SMPTE RL specification for HDTV distribution and provides maximum “RL headroom” to ensure that the user can achieve the SMPTE's requirement for signal distribution:

| Specification RL Limit | RL | Frequency |
|---|---|---|
| SMPTE Recommendation | > 15 dB | 5 - 1.5 GHz |
| Belden Guaranteed RL | > 23 dB | 5 - 850 MHz |
| Belden Guaranteed RL | > 21 dB | 850 MHz - 4.5 GHz |

Using Belden coaxial cable will result in a minimum 6 dB of headroom to accommodate RL reduction created by connectors and patch-bays etc.

Below you will find the actual RL data of Belden 1505A. The cable is typically -30 dB:




Belden's extremely popular HDTV Brilliance® Broadcast video cables are now 4.5 GHz sweep tested! Prepared for 1080p formats, 1855, 1505A, 1694A and 7731A cables are sweep tested to 4.5 GHz. Belden has always tested every finished put-up to be certain of a top quality product. This is the only way in which damage introduced in finishing operations can be detected. This process sets Belden apart from competitors who only test in batches.

# Introduction

BRILLIANCE®

### Maximum Transmission Distance at Serial Digital Data Rates

| Data Rate: | 143 Mb/s | | 177 Mb/s | | 270 Mb/s | | 360 Mb/s | | 540 Mb/s | | 1.5 Gb/s | | 1.5 Gb/s | | 3.0 Gb/s | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Spec: | SMPTE 259M | | ITU-R BT .601 | | SMPTE 259M | | SMPTE 259M | | SMPTE 344M | | SMPTE 292M | | Independent Test | | SMPTE 424M | |
| Application: | Composite NTSC | | Composite PAL | | Composite Video | | Component Widescreen | | Component Widescreen | | HDTV | | HDTV | | Prog. Scan HDTV | |
| Part No. | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m | ft. | m |
| 179DT | 500 | 152 | 450 | 137 | 380 | 116 | 340 | 104 | 280 | 85 | 110 | **34** | 132 | **40** +6 | 80 | 24 |
| 1855A | 980 | 299 | 950 | 290 | 790 | 241 | 680 | 207 | 560 | 171 | 260 | **79** | 263 | **80** +1 | 150 | 46 |
| 1855ENH | – | – | – | – | – | – | – | – | – | – | – | **–** | 328 | **100** – | – | – |
| 1505A | 1430 | 436 | 1360 | 415 | 1110 | 338 | 970 | 296 | 790 | 241 | 310 | **94** | 394 | **120** +26 | 220 | 67 |
| 1505F | 1200 | 366 | 1071 | 327 | 857 | 261 | 732 | 223 | 588 | 179 | 225 | **69** | 328 | **100** +31 | – | – |
| 1694A | 1880 | 573 | 1710 | 521 | 1.430 | 436 | 1240 | 378 | 1010 | 308 | 400 | **122** | 459 | **140** +18 | 270 | 82 |
| 7731A | 2750 | 838 | 2480 | 756 | 2.040 | 622 | 1760 | 536 | 1430 | 436 | 550 | **168** | 656 | **200** +32 | 360 | 110 |

### Crush Resistance

Manufacturers may provide very good cable and test data for their product in the laboratory or on the package spool. However, the rigors of installation can have a serious affect on the actual physical layer performance.

Any change in impedance at any point would cause a reflection. This reflection may have serious repercussions on the cable's performance.

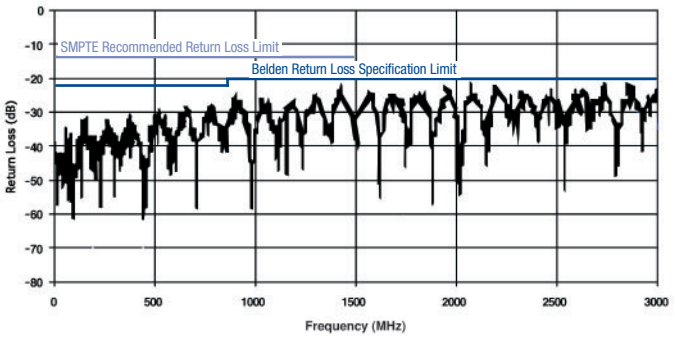
Belden products maintain superiority in crush resistance. Belden products use a gas-injected foam high-density polyethylene dielectric material in precision video cables in order to maintain:

- Better field ruggedness
- The ability to handle tighter bend radii
- More weight in cable trays
- Bending/flexing without pushing out the center pin and/or damaging attached equipment
- More rugged installation practices
- Plus various other environmental and installation benefits

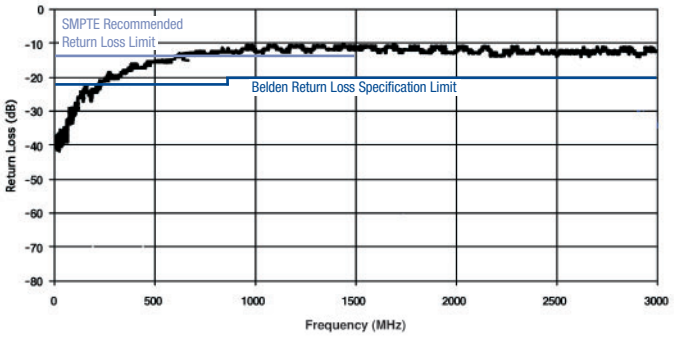
### Return Loss (dB)

The tested cables were loaded with 50 N (50 Newton = 5 kilograms), according to EN50289-3-5.

75 Ohm Brilliance® precision video cable 1505A: RL 28 dB - 850 MHz, 22dB - 3 GHz




Manufacturer X: RL 12 dB - 850 MHz, 11 dB - 3 GHz



# Introduction



## Connector Cross

| Belden | Type | ADC | Bomar | Damar + Hagen | Fischer | Lemo | Neutrik | Radiall | Telegärtner | Trompeter | Vitelec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **179DT** | 0.3/1.4 | BNC-31 | – | – | – | – | NBTC75 BF14 | – | – | – | – |
| **152xA** | 0.3/1.42 RGB | – | – | on request | – | FGG.3B.244.CL.CD82 | NBTC75 BF14 | R142.004.000 | J01002A0027 | -D7 | VB10-2036 |
| **12xxR** | 0.45/1.9 RGB | BNC-16 | – | 1-xxxx-2100 | – | 9.1.04 | NBTC75 BNN5 | – | 9.1.04 | 105-2053-9 | – |
| **14xxB** | 0.5/2.3 RGB | BNC-13 | – | 1-3397-3602 | – | – | NBTC75 BVV5 | – | – | -D1 | – |
| **1865A** | 0.5/2.4 | BNC-12 | – | on request | – | FFS0A.250.NTAC40 | NBTC75 BXX6 | R142.078.161 | J01002F1350 | -D1 | VB10-2063 |
| **1855A** | 0.6/2.6 | BNC-13 | SBC1855A | 1-6097-2100 | – | FFS0A.250.NTAC47 | NBNC75 BDD6 | R142.081.320 | J01002A0030 | -D1 | – |
| **1855ENH** | 0.6/2.8 | BNC-26 | – | 1-4271-2100 | – | FFS0A.250.NTAE63 | NBNC75 BFG7 | R142.082.027 | J01002A0018 | -D24 | – |
| **8241** | 0.6/3.7 | BNC-2 | – | 1-1190-2100 | – | on request | NBNC75 BLP7 | R142.016.000 | J01002A0003 | -D3 | – |
| **1505A** | 0.8/3.7 | BNC-1 | SBC1505A | 1-4253-2100 | – | FFS0A.250.NTAE63 | NBNC75 BLP9 | R142.084.161 | J01002A0031 | -D2 | – |
| **8281** | 0.8/4.9 | BNC-3 | – | 1-1194-2100 | – | on request | NBNC75 BXY9 | R142.090.161 | J01002A0014 | -D10 | VB10-2026 |
| **1694A** | 1.0/4.6 | BNC-8 | SBC1694A | 1-4482-2100 | – | on request | NBNC75 BTU11 | R142.086.161 | J01002A0010 | -D4 | VB10-2024 |
| **1694F** | 1.0/5.7 | BNC-8F-N | – | – | – | – | – | – | – | – | – |
| **7731A** | 1.6/7.2 | BNC-25 | SBC7731A | 1-5044-2100 | – | FFA.4E.675.CTAC10 | NBLC75 BVZ17 | R142.186.000 | J01002A1940 | -D5 | – |
| **7783A** | Triax 8 | ProAx™ | – | Serie47 | 1051 A004-5 | FFA.4E.675.CTAC85 | – | – | – | 305-1365-1 | – |
| **1856A** | Triax 9 | ProAx™ | – | Serie47 | 1051 A004-5 | FFA.4E.675.CTAC95 | – | – | – | 305-0088-2 | – |
| **7784A** | Triax 11 | ProAx™ | – | Serie47 | 1051 A004-5 | FFA.4E.675.CTAC11 | – | R142.017.000 | – | 305-1289-1 | – |
| **7785A** | Triax 14 | ProAx™ | – | Serie47 | 1051 A004-4 | on request | – | – | – | – | – |

ProAx™ is an ADC Krone trademark.

## Multicore Cables

- **Video Multicore Cables**
  Belden's video multicore cables (RGBs) are designed for high resolution VGA on large screens, HDTV, Hi-Res CAD, animation, editing and special effects.

  RGB coaxial cables are used for sending Red, Green and Blue signals through separate coaxes in component video applications. This type of video transmission provides a sharper, clearer picture than the composite video format.

  Bundled coaxial cables are available in 3-, 4- or 5-conductor versions and are color coded for easy identification. Cable selection depends on whether the component transmission is RGB (3 cdr.), RGB and Sync (4 cdr.) or RGB, Sync and Hold (5 cdr.).

  All Belden RGB cables are pre-timed to less than 4.0 ns/m delay difference between each coax. This allows for cut-and-connect installation with no TDR or Vectorscope timing required.

- **Banana Peel® - RGB Cable without a Jacket**
  Series 1281 is an enhanced version of traditional RGB cables and feature 25 AWG solid copper center conductors for lower attenuation and easier termination. Flexible PVC jackets and high frequency Beldfoil® foil shields are used in combination with Belden's unique interlocked serve copper shield for 100 % coverage. The unique shielding design also prevents the shields from bunching up when flexed, yet the shield is easier to comb out than a full braid.

  Banana Peel® hi-res composite video cables will decrease labor costs because the overall jacket has been eliminated. Without the overall jacket, a whole step in the termination process has been removed. In addition, the individual cable components are all instantly identifiable (the individual cables are color-coded and the print legends are immediately visible). Jacketed RGB cables are also notoriously difficult to strip for termination – Banana Peel® RGBs overcome this problem.

  Exceptional Benefits:
  - Labor saving
  - Easy identification
  - Smaller outer diameter than jacketed version
  - More flexible than jacketed version

## Availability

Most of our Brilliance® broadcast cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a Brilliance® broadcast cable in this catalog section that meets your technical requirements contact Technical Support at +31-77-3875-414 or techsupport.venlo@belden.com.

## Corresponding Literature

### Technical Bulletins

TB-65: Digital studio guide
TB E100: Video multicores
TB E101: Belden exceeds the standards of HD
TB E104: Flame retardant triax and coax

### Product Bulletins

NP151: Siamese cables (9451D)
NP152: Star quad cables
NP183: 1505F, flexible version of 1505A
NP198: Mini High-Res RGBs (127xR)
NP207: DigiTruck (179DT)
NP217: Banana Peel® Mini-RGBs (Serie1281)
NP228: CatSnake™ (1305A)
NP233: 1694F, Flexible version of 1694A
NP234: Banana Peel® designed SDI RGBs (1855S5/1505S5)
NP108E: SlimSnake™ halogen-free AES/EBU multi-pair cable

# Optical Fiber Cables

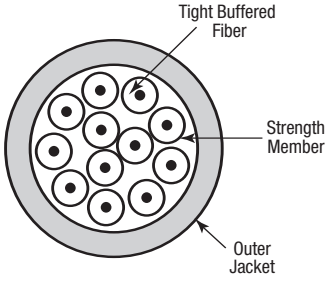
## SMPTE 311M HDTV Cables

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Shielding Material | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Jacket Material & Colors | Component OD inch | Component OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SMPTE 311M • 2 Power Conductors • SM Fiber w/24 and 16 AWG** • Stranded (7x32 and 65x34) TC • Overall 95 % Tinned Copper Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation • Black Belflex® Jacket** | | | | | | | | | | | | | | | | |
| | **7804C** | NEC: | 328 | 100 | 33.1 | 15.0 | – | + 95 % TC Braid | 0.362 | 9.20 | 2 x Fiber | 2 Breakout Fibers SM/125µ/900µ core/clad/buffer | Unshielded | PVC Blue Yellow | 0.079 | 2.00 |
| | | CMR | 500 | 152 | 47.6 | 21.6 | | | | | | | | | | |
| | | CEC: | 1000 | 305 | 95.9 | 43.5 | | | | | | | | | | |
| | | CMG FT4 | 1640 | 500 | 152.6 | 69.2 | | | | | | | | | | |
| | | | 3280 | 1000 | 314.8 | 142.8 | | | | | 2 x Data | 2 Conductors 24 AWG 0.61 mm (7x32) TC | Unshielded | PVC Red Grey | 0.050 | 1.27 |
| | | | | | | | | | | | 2 x Power | 2 Conductors 16 AWG 1.5 mm (65x34) TC | Unshielded | PVC Black White | 0.093 | 2.36 |
| Plenum version and other conductor counts/diameters available by special order. Fibers and aramid fillers contained within a 0.008″ (2.0 mm) diameter PVC breakout jacket. | | | | | | | | | | | | | | | | |
| **SMPTE 311M • 4 Power Conductors • SM Fiber w/24 and 20 AWG** • Stranded (7x32 and 19x32) TC • Overall 95 % Tinned Copper Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation • Black Belflex® Jacket** | | | | | | | | | | | | | | | | |
| | **7804R** | NEC: | 328 | 100 | 32.8 | 14.9 | – | + 95 % TC Braid | 0.362 | 9.20 | 2 x Fiber | 2 Fibers SM/125µ/900µ core/clad/buffer | Unshielded | PVC Blue Yellow | 0.035 | 0.89 |
| | | CMR | 500 | 152 | 48.9 | 22.2 | | | | | | | | | | |
| | | CEC: | 1000 | 305 | 99.0 | 44.9 | | | | | | | | | | |
| | | CMG FT4 | 1640 | 500 | 157.4 | 71.4 | | | | | | | | | | |
| | | | 3280 | 1000 | 324.7 | 147.3 | | | | | 2 x Data | 2 Conductors 24 AWG 0.61 mm (7x32) TC | Unshielded | PVC Red Grey | 0.050 | 1.27 |
| | | | | | | | | | | | 4 x Power | 4 Conductors 20 AWG 0.94 mm (19x32) TC | Unshielded | PVC Black White White/Black Black/White | 0.063 | 1.60 |
| Plenum version and other conductor counts/diameters available by special order. | | | | | | | | | | | | | | | | |

## Tactical Mobile Optical Fiber

| Description | Part No. | No. of Fibers | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Fiber Size µm | Nom. Buffer/Tube OD inch | Nom. Buffer/Tube OD mm | Strength Members | Nominal OD inch | Nominal OD mm | Central Element mm | Pulling Tension N | Crush Resistance kN/m | Energy kJ/m | Bending radii cable (mm) static | Bending radii cable (mm) dynamic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GMMT • Intex Mobile** • Tight Buffer • Designed for Despooling and Respooling • **A/I-VQ(ZN)11Y** | | | | | | | | | | | | | | | | | | |
| **Dry Construction • PUR Jacket** (Orange or Black) | | | | | | | | | | | | | | | | | | |
| -30/70°C IEC 60332-1 | | | 6888 | 2100 | | | Ø 280 ± 15 | | | Longitudinal watertightness Swellable Reinforced Yarn | | | no | | | | | |
| | **GMMT**x04 | 4 | | | 143.5 | 65.1 | | | | | 0.23 | 5.8 | 800 | 4 | 580 | 58 | 87 | |
| | **GMMT**x06 | 6 | | | 175.9 | 79.8 | | | | | 0.25 | 6.3 | 950 | 4 | 725 | 63 | 95 | |
| | **GMMT**x08 | 8 | | | 217.6 | 98.7 | | | | | 0.28 | 7.0 | 1100 | 4 | 890 | 70 | 105 | |




Color coding of the buffered fibers: White, Red, Blue, Yellow, Green, Violet, Brown, Black
Optical characteristics see page 16.21.

TC = Tinned Copper • DCR = DC resistance

# Microphone and Musical Instrument Cables

## Two-Conductor, Low-Impedance Cables

BRILLIANCE®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (105x44) 0.6 mm High-Conductivity (Oxygen-Free) BC • Conductors Cabled with Fillers • 97% BC Double Spiral Braid | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 80°C | **9397** | | 500<br>1000 | 152<br>305 | 12.1<br>24.1 | 5.5<br>10.9 | 0.61 mm 24 AWG (105x44) BC | 0.048 | 1.22 | Overall Double Spiral + 97% BC Braid | 0.176 | 4.47 | 47 | – | CDR/CDR<br>CDR/SCR | 47<br>86 | 154<br>283 | White, Green |
|  0.22 mm² | | | Pulling Tension: 44 N | | | | | | | | | | | | | | | |
| **24 AWG** • Stranded (32x0.1) 0.6 mm Bare Copper • Conductors Cabled with Fillers • 92% Bare Copper Spiral Serve Braid | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • PVC Jacket** (Red, Yellow, Green, Blue, Grey, White and Black) | | | | | | | | | | | | | | | | | | |
| 100V RMS 60°C | **BE46349** | | 328<br>1640<br>3280 | 100<br>500<br>1000 | 9.3<br>46.3<br>92.6 | 4.2<br>21.0<br>42.0 | 0.6 mm 24 AWG (32x0.1) BC | 0.057 | 1.45 | Overall Spiral Serve + 92% BC Braid | 0.240 | 6.10 | – | – | CDR/CDR<br>CDR/SCR | 18<br>34 | 60<br>110 | Red, Blue |
|  0.25 mm² | | | Pulling Tension: 44 N | | | | | | | | | | | | | | | |
| **20 AWG** • Stranded (26x34) 0.9 mm High-Conductivity (Oxygen-Free) TC • Cotton Wrap • Conductors Cabled • Rayon Braid • 85% TC Braid | | | | | | | | | | | | | | | | | | |
| **EPDM Rubber Insulation • EPDM Jacket** (Black, Red, Yellow and Blue) | | | | | | | | | | | | | | | | | | |
| 600V RMS 90°C | **8412** | | 100<br>250<br>U-500<br>500<br>U-1000<br>1000 | 31<br>76<br>U-152<br>152<br>U-305<br>305 | 5.2<br>12.1<br>24.0<br>24.0<br>46.0<br>47.1 | 2.4<br>5.5<br>10.9<br>10.9<br>20.9<br>21.4 | 0.94 mm 20 AWG (26x34) TC | 0.083 | 2.11 | Overall 85% TC Braid | 0.262 | 6.65 | 52 | – | CDR/CDR<br>CDR/SCR | 30<br>55 | 98<br>180 | White, Black |
|  0.52 mm² | | | Pulling Tension: 445 N<br>Red, Yellow or Blue available in 305 m put-up only. | | | | | | | | | | | | | | | |

## Three-Conductor, Low-Impedance Cables

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (105x44) 0.6 mm High-Conductivity (Oxygen-Free) Bare Copper • Double Spiral Braid • 97% Bare Copper Braid | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 80°C | **9398** | | 1000 | 305 | 25.1 | 11.4 | 0.61 mm 24 AWG (105x44) BC | 0.048 | 1.22 | Overall Double Spiral + 97% BC Braid | 0.185 | 4.70 | 47 | – | CDR/CDR<br>CDR/SCR | 40<br>110 | 131<br>361 | White, Green, Brown |
|  0.22 mm² | | | Pulling Tension: 200 N | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • EPDM = Ethylene Propylene Diene Monomer • DCR = DC resistance
SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Microphone and Musical Instrument Cables

## Four-Conductor, Star-Quad

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **28 AWG** • Stranded (19x40) 0.4 mm High-Conductivity (Oxygen-Free) Silver-Plated Copper Alloy • 78% Tinned Copper Braid | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Matte PVC Jacket** (Red, Yellow, Blue, Beige and Black) | | | | | | | | | | | | | | | | | | |
| 100V RMS<br>60°C | **1804A*** | | 100<br>▲500 | 31<br>152 | 1.6<br>4.5 | 0.7<br>2.0 | 0.38 mm<br>28 AWG<br>(19x40) SPC | 0.030 | 0.76 | Overall<br>78% TC<br>Braid | 0.115 | 2.92 | 40 | – | CDR/CDR<br>CDR/SCR | 40<br>60 | 131<br>196 | see chart below |
|  0.09 mm² | | | 31 m put-up available in Black only. | | | | | | | 2/c 23 AWG equivalent DCR when connected to a 3-pin XLR.<br>Pulling Tension: 106 N | | | | | | | | |
| **26 AWG** • Stranded (30x40) 0.5 mm High-Conductivity (Oxygen-Free) BC • Conductors Cabled • 95% TC French Braid® • 28 AWG BC Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Matte PVC Jacket** (Red, Green, Yellow, Blue, Grey and Black) | | | | | | | | | | | | | | | | | | |
| 100V RMS<br>60°C | **1172A*** | | 500<br>1000 | 152<br>305 | 13.5<br>27.0 | 6.1<br>12.2 | 0.53 mm<br>26 AWG<br>(30x40) BC | 0.045 | 1.14 | Overall<br>French Braid®<br>95% TC<br>+ Drain Wire<br>(28 AWG BC) | 0.190 | 4.83 | 39 | – | CDR/CDR<br>CDR/SCR | 39<br>57 | 129<br>188 | see chart below |
|  0.14 mm² | | | 152 m put-up available in Black only. | | | | | | | 2/c 23 AWG equivalent DCR when connected to a 3-pin XLR.<br>Pulling Tension: 164 N | | | | | | | | |
| **24 AWG** • Stranded (41x40) 0.6 mm High-Conductivity (Oxygen-Free) Bare Copper • Conductors Cabled • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Matte PVC Jacket** (Red, Green, Yellow, Blue, Grey and Black) | | | | | | | | | | | | | | | | | | |
| 100V RMS<br>75°C | **1192A*** | | 100<br>500<br>1000 | 31<br>152<br>305 | 4.1<br>16.5<br>37.0 | 1.9<br>7.5<br>16.8 | 0.58 mm<br>24 AWG<br>(41x40) BC | 0.056 | 1.42 | Overall<br>95% TC<br>Braid | 0.245 | 6.22 | 40 | – | CDR/CDR<br>CDR/SCR | 39<br>57 | 129<br>188 | see chart below |
|  0.22 mm² | | | 31 m put-up available in Black only.<br>152 m put-up available in Blue or Black only. | | | | | | | 2/c 21 AWG equivalent DCR when connected to a 3-pin XLR.<br>Pulling Tension: 93 N | | | | | | | | |
| **20 AWG** • Stranded (26x34) 0.9 mm High-Conductivity (Oxygen-Free) TC • Cotton Wrap • Conductors Cabled • Rayon Braid • 85% TC Braid | | | | | | | | | | | | | | | | | | |
| **EPDM Rubber Insulation • Cotton Wrap • Black EPDM Rubber Jacket** | | | | | | | | | | | | | | | | | | |
| 600V RMS<br>90°C | **8424** | | 100<br>250<br>U-500<br>500<br>1000 | 31<br>76<br>U-152<br>152<br>305 | 6.8<br>16.8<br>32.0<br>32.6<br>64.1 | 3.1<br>7.6<br>14.5<br>14.8<br>29.1 | 0.91 mm<br>20 AWG<br>(26x34) TC | 0.083 | 2.11 | Overall<br>85% TC<br>Braid | 0.294 | 7.47 | 52 | – | CDR/CDR<br>CDR/SCR | 47<br>59 | 154<br>194 | Black,<br>White, Red,<br>Green |
|  0.52 mm² | | | 2/c 17 AWG equivalent DCR when connected to a 3-pin XLR.<br>Pulling Tension: 387 N | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • SPC = Silver-Plated Copper • DCR = DC resistance
SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
* One Blue conductor and one White conductor are striped for use in MIDI and other four conductor applications.
▲ May contain more than one piece. Min. length of any one piece is 15 m (50 ft.).

### Color Code

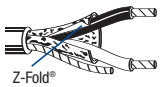
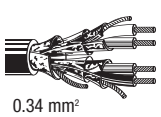
| Pair No. | Color |
|---|---|
| 1 | Blue |
| 2 | White |
| 3 | Blue with White Stripe |
| 4 | White with Blue Stripe |

# Line Level Analog Audio Cables

## Single- and Double-Pair Cables
## Audio-Connect

BRILLIANCE®



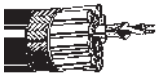
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper Conductors • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS | **1883A** | NEC: | U-1000 | U-305 | 11.0 | 5.0 | 0.61 mm | 0.040 | 1.02 | Overall | 0.123 | 3.12 | 52 | – | CDR/CDR | 31 | 101 | Black, Red |
| | | CMR | 1000 | 305 | 11.0 | 5.0 | 24 AWG | | | Beldfoil® | | | | | CDR/SCR | 58 | 190 | |
| | | CEC: | | | | | (7x32) TC | | | + Drain Wire | | | | | | | | |
| | | CMG FT4 | | | | | | | | (24 AWG TC) | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| 0.22 mm² | | | | | | | | | | | | | | | | | | |
| | | | U-305 m put-up also available in Brown, Red, Orange, Yellow, Green, Blue, Violet, White or Black. Jacket and shield are bonded so both can be removed with automatic stripping equipment. Pulling Tension: 71 N | | | | | | | | | | | | | | | |
| **24 AWG** • Stranded (19x36) 0.6 mm High-Conductivity (Oxygen-Free) Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield (Unbonded) • 24 AWG Tinned Copper Drain Wire • Noise Reducing Tape | | | | | | | | | | | | | | | | | | |
| **High-density Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 200V RMS | **9452** | | U-500 | U-152 | 6.6 | 3.0 | 0.61 mm | 0.040 | 1.02 | Overall | 0.135 | 3.43 | 56 | – | CDR/CDR | 30 | 98 | Black, Red |
| 75°C | | | 500 | 152 | 6.0 | 2.7 | 24 AWG | | | Beldfoil® | | | | | CDR/SCR | 58 | 190 | |
| | | | U-1000 | U-305 | 12.0 | 5.4 | (19x36) TC | | | + Drain Wire | | | | | | | | |
| | | | 1000 | 305 | 12.0 | 5.4 | | | | (24 AWG TC) | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| Shorting Fold | | | | | | | | | | | | | | | | | | |
| 0.22 mm² | | | Pulling Tension: 79 N | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • PVC Jacket** (Black, Grey, Brown, Red, Orange, Yellow, Green, Blue, Violet and White) | | | | | | | | | | | | | | | | | | |
| 300V RMS | **9451** | NEC: | U-500 | U-152 | 8.0 | 3.6 | 0.76 mm | 0.050 | 1.27 | Overall | 0.135 | 3.43 | 45 | – | CDR/CDR | 35 | 115 | Black, Red |
| 75°C | | CMR | 500 | 152 | 8.0 | 3.6 | 22 AWG | | | Beldfoil® | | | | | CDR/SCR | 67 | 220 | |
| 1-Pair | | CEC: | T-1000 | T-305 | 18.0 | 8.2 | (7x30) TC | | | + Drain Wire | | | | | | | | |
| | | CMG FT4 | U-1000 | U-305 | 16.0 | 7.3 | | | | (22 AWG TC) | | | | | | | | |
|  | | | 5000 | 1524 | 75.0 | 34.0 | | | | | | | | | | | | |
| 0.34 mm² | | | U-152 m, 152 m and T-305 m put-ups available in Grey only. The jacket and shield are bonded so both can be removed with automatic stripping equipment. Drain wire is inside foil shield. Pulling Tension: 120 N | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm TC • Twisted Pair • Overall **Beldfoil®** Shield (Unbonded) • 22 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Paper Wrap • PVC Jacket** (Black or Grey) | | | | | | | | | | | | | | | | | | |
| 300V RMS | **8451** | NEC: | 100 | 31 | 2.3 | 1.0 | 0.76 mm | 0.050 | 1.27 | Overall | 0.138 | 3.51 | 45 | – | CDR/CDR | 34 | 112 | Black, Red |
| 75°C | | CMR | U-500 | U-152 | 8.5 | 3.9 | 22 AWG | | | Beldfoil® | | | | | CDR/SCR | 67 | 220 | |
| | | CEC: | 500 | 152 | 8.0 | 3.6 | (7x30) TC | | | + Drain Wire | | | | | | | | |
| | | CMR | U-1000 | U-305 | 16.0 | 7.3 | | | | (22 AWG TC) | | | | | | | | |
|  | | | 1000 | 305 | 16.0 | 7.3 | | | | | | | | | | | | |
| Z-Fold® | | | | | | | | | | | | | | | | | | |
| 0.34 mm² | | | 31 m put-up available in Black only. Pulling Tension: 120 N | | | | | | | | | | | | | | | |
| | | | Belden's miniature type broadcast audio and instrumentation cables occupy 1/2 to 2/3 less space than standard cables. Unique paper separator facilitates jacket stripping. | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • Dual Pairs • Overall **Beldfoil®** Shield (Unbonded) • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **Polypropylene Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 80°C | **8728** | NEC: | U-500 | U-152 | 15.0 | 6.8 | 0.76 mm | 0.050 | 1.27 | Individual | 0.215 | 5.46 | 50 | – | CDR/CDR | 35 | 115 | Black, Red, |
| UL AWM Style 2717 | | CM | 500 | 152 | 15.5 | 7.0 | 22 AWG | | | Beldfoil® | | | | | CDR/SCR | 62 | 203 | Green, White |
| | | CEC: | U-1000 | U-305 | 30.0 | 13.6 | (7x30) TC | | | + Drain Wire | | | | | | | | |
| | | CM | 1000 | 305 | 31.0 | 14.1 | | | | (24 AWG TC) | | | | | | | | |
|  | | | | | | | | | | + Overall | | | | | | | | |
| | | | | | | | | | | Beldfoil® | | | | | | | | |
| 0.34 mm² | | | Each pair Beldfoil shielded with individual drain wire plus polyester film over each shield. Pulling Tension: 161 N | | | | | | | | | | | | | | | |
| Meets NEC Article 800 | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

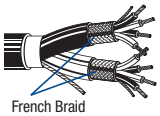
# Analog Multi-Pair Snake Cables

## Flexible, Field Use, Rugged-Stage Cables
## Individually Shielded and Jacketed Pairs

BRILLIANCE®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **26 AWG** • Stranded (18x0.1) 0.5 mm TC • Each Pair Individually **TC Spiral Braid** • Numbered PVC Jackets • **Overall > 80% TC Braid** | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Overall Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 100V RMS 75°C | | | | | | | 0.48 mm 26 AWG (18x0.1) TC | 0.041 | 1.05 | Individual Spiral Serve > 90% TC Braid + Overall Braid | | | 95 | – | CDR/CDR CDR/SCR | 18 34 | 60 110 | White, Red |
|  0.14 mm² | | | | | | | | Jacketed Pairs O.D.: 0.122 | 3.10 | | | | | | | | | |
| | **BE46312** | 4-Pair | 1640 | 500 | 212.5 | 96.4 | | | | | 0.492 | 12.50 | | | | | | |
| | **BE46313** | 8-Pair | 1640 | 500 | 323.6 | 146.8 | | | | | 0.591 | 15.00 | | | | | | |
| | **BE46315** | 12-Pair | 1640 | 500 | 374.6 | 169.9 | | | | | 0.638 | 16.20 | | | | | | |
| | **BE46305** | 16-Pair | 1640 | 500 | 470.0 | 213.2 | | | | | 0.709 | 18.00 | | | | | | |
| | **BE46306** | 24-Pair | 820 | 250 | 343.9 | 156.0 | | | | | 0.882 | 22.40 | | | | | | |
| | **BE46948** | 40-Pair | 820 | 250 | 555.6 | 252.0 | | | | | 1.075 | 27.30 | | | | | | |

## Super-Flexible, High-Performance Cables, Star Quad
## Individually Shielded and Jacketed Pairs

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **26 AWG** • Stranded (19x38) 0.5 mm High-Conductivity (Oxygen-Free) Bare Copper • Each Pair 95% Bare Copper **French Braid®** • 26 AWG Tinned Copper Drain Wire • Numbered and Color Coded PVC Jackets | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Overall Black PVC Jacket** with 20 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| 300V RMS 60°C | | | | | | | 0.51 mm 26 AWG (19x38) BC | 0.045 | 1.14 | Individual French Braid® 95% BC + Drain Wire (26 AWG TC) | | | 40 | – | CDR/CDR CDR/SCR | 39 57 | 129 188 | see chart below |
|  French Braid | | | | | | | | Jacketed Pairs O.D.: 0.157 | 3.99 | | | | | | | | | Pulling Tension: |
| 0.14 mm² Star-Quad | **7884A** | 2-Pair | 250<br>† 500<br>† 1000 | 76<br>152<br>305 | 27.0<br>49.0<br>98.0 | 12.2<br>22.2<br>44.5 | | | | | 0.458 | 11.63 | | | | | | 396 N |
| | **7885A** | 4-Pair | 250<br>† 500<br>† 1000 | 76<br>152<br>305 | 36.3<br>70.5<br>136.0 | 16.5<br>32.0<br>61.7 | | | | | 0.498 | 12.65 | | | | | | 792 N |
| | **7886A** | 8-Pair | † 500<br>† 1000 | 152<br>305 | 146.5<br>314.0 | 66.5<br>142.4 | | | | | 0.782 | 19.86 | | | | | | 1584 N |
| | **7887A** | 12-Pair | 250<br>† 500<br>† 1000 | 76<br>152<br>305 | 89.5<br>177.5<br>365.0 | 40.6<br>80.5<br>165.6 | | | | | 0.828 | 21.03 | | | | | | 2380 N |
| | **7888A** | 16-Pair | 250<br>† 500<br>† 1000 | 76<br>152<br>305 | 114.0<br>238.5<br>468.0 | 51.7<br>108.2<br>212.3 | | | | | 0.938 | 23.83 | | | | | | 3172 N |
| | **7889A** | 24-Pair | † 500<br>† 1000 | 152<br>305 | 396.0<br>798.0 | 179.6<br>362.0 | | | | | 1.232 | 31.29 | | | | | | 4759 N |
| 2/c 21 AWG equivalent DCR when connected to a 3-pin XLR. | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance
SCR = Capacitance between one conductor and other conductors connected to shield.
CDR = Capacitance between conductors
† Length may vary -10% to 0% from length shown.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | Blue |
| 2 | White |

| Pair No. | Color |
|---|---|
| 3 | Blue with White Stripe |
| 4 | White with Blue Stripe |

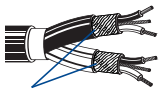
# Analog Multi-Pair Snake Cables

## FleXnake® Super-Flexible, High-Performance Cables
## Individually Shielded and Jacketed Pairs

BRILLIANCE®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (41x40) 0.6 mm High-Conductivity (Oxygen-Free) Bare Copper • Each Pair Individually 93% **French Braid®** • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded PVC Jackets | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Overall Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 60°C | | | | | | | 0.58 mm 24 AWG (41x40) BC | 0.040 | 1.02 | Individual French Braid® 93% + Drain Wire (24 AWG TC) | | | 60 | – | CDR/CDR CDR/SCR | 26 48 | 86 156 | Red, Black |
| | | | | | | | | Jacketed Pairs O.D.: 0.119 | 3.02 | | | | | | | | | |
| 0.22 mm² | | | | | | | | | | | | | | | | | | Pulling Tension: |
| **1902A** | 2-Pair | | 250 | 76 | 12.0 | 5.4 | | | | | 0.330 | 8.38 | | | | | | 258 N |
| | | | † 500 | 152 | 27.5 | 12.5 | | | | | | | | | | | | |
| | | | † 1000 | 305 | 53.0 | 24.0 | | | | | | | | | | | | |
| **1904A** | 4-Pair | | 250 | 76 | 19.8 | 9.0 | | | | | 0.333 | 8.45 | | | | | | 534 N |
| | | | † 500 | 152 | 40.5 | 18.4 | | | | | | | | | | | | |
| | | | † 1000 | 305 | 78.0 | 35.4 | | | | | | | | | | | | |
| **1906A** | 6-Pair | | 250 | 76 | 28.5 | 12.9 | | | | | 0.449 | 11.40 | | | | | | 801 N |
| | | | † 500 | 152 | 55.5 | 25.2 | | | | | | | | | | | | |
| | | | † 1000 | 305 | 111.0 | 50.3 | | | | | | | | | | | | |
| **1908A** | 8-Pair | | 250 | 76 | 36.0 | 16.3 | | | | | 0.480 | 12.20 | | | | | | 1023 N |
| | | | † 500 | 152 | 72.5 | 32.9 | | | | | | | | | | | | |
| | | | † 1000 | 305 | 141.0 | 64.0 | | | | | | | | | | | | |
| **1912A** | 12-Pair | | 250 | 76 | 51.8 | 23.5 | | | | | 0.602 | 15.30 | | | | | | 1557 N |
| | | | † 500 | 152 | 102.5 | 46.5 | | | | | | | | | | | | |
| | | | † 1000 | 305 | 203.0 | 92.1 | | | | | | | | | | | | |
| **1916A** | 16-Pair | | 250 | 76 | 71.0 | 32.2 | | | | | 0.681 | 17.30 | | | | | | 2091 N |
| | | | † 500 | 152 | 138.0 | 62.6 | | | | | | | | | | | | |
| | | | † 1000 | 305 | 279.0 | 126.6 | | | | | | | | | | | | |
| **1924A** | 24-Pair | | 250 | 76 | 108.0 | 49.0 | | | | | 0.827 | 21.00 | | | | | | 3114 N |
| | | | † 500 | 152 | 214.5 | 97.3 | | | | | | | | | | | | |
| | | | † 1000 | 305 | 437.0 | 198.2 | | | | | | | | | | | | |
| **1932A** | 32-Pair | | 250 | 76 | 135.3 | 61.4 | | | | | 0.969 | 24.60 | | | | | | 4173 N |
| | | | † 500 | 152 | 274.0 | 124.3 | | | | | | | | | | | | |
| | | | † 1000 | 305 | 539.0 | 244.5 | | | | | | | | | | | | |



French Braid

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Length may vary -10% to 0% from length shown.

# Analog Multi-Pair Snake Cables

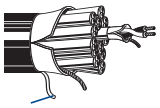
## Beldfoil® High-Performance Cables
## Individually Shielded and Jacketed Pairs

BRILLIANCE®

**24 AWG** • Stranded (7x32) 0.6 mm High-Conductivity (Oxygen-Free) Tinned Copper • Each Pair **Beldfoil®** Shielded • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded PVC Jackets • Overall **Beldfoil®** Shield • Rip Cord

**Polyolefin Insulation • Overall Black PVC Jacket** with 18 AWG Tinned Copper Drain Wire

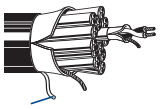
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300V RMS 75°C | | NEC: CM CEC: CM | | | | | 0.61 mm 24 AWG (7x32) TC | 0.040 | 1.02 | Individual Beldfoil® + Drain Wire (24 AWG TC) + Overall Beldfoil® | | | 60 | – | CDR/CDR CDR/SCR | 31 58 | 102 190 | Brown, Red |
| | | | | | | | | Jacketed Pairs O.D.: 0.111 | 2.82 | | | | | | | | | |
| 0.22 mm² | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **1508A** | 1-Pair | 500 1000 | 152 305 | 6.5 11.0 | 2.9 5.0 | | | | | 0.131 | 3.33 | | | | | | 73 N |
| | **1509C** | 2-Pair | 500 1000 | 152 305 | 24.0 46.0 | 10.9 20.9 | | | | | 0.301 | 7.65 | | | | | | 246 N |
| | **1510C** | 4-Pair | 500 1000 | 152 305 | 35.5 72.0 | 16.1 32.7 | | | | | 0.352 | 8.94 | | | | | | 393 N |
| | **1511C** | 6-Pair | 500 1000 | 152 305 | 52.0 102.0 | 23.6 46.3 | | | | | 0.418 | 10.61 | | | | | | 544 N |
| | **1512C** | 8-Pair | 500 1000 | 152 305 | 65.5 124.0 | 29.7 56.2 | | | | | 0.452 | 11.48 | | | | | | 676 N |
| | **1513C** (DT-12) | 12-Pair | 500 1000 | 152 305 | 89.5 178.0 | 40.6 80.7 | | | | | 0.561 | 14.25 | | | | | | 980 N |
| | **1514C** | 16-Pair | 500 1000 | 152 305 | 122.5 241.0 | 55.6 109.3 | | | | | 0.628 | 15.95 | | | | | | 1273 N |
| | **1515C** | 20-Pair | 500 1000 | 152 305 | 142.5 288.0 | 64.6 130.6 | | | | | 0.770 | 19.56 | | | | | | 1567 N |
| | **1516C** | 24-Pair | 500 1000 | 152 305 | 180.5 371.0 | 81.9 168.3 | | | | | 0.807 | 20.50 | | | | | | 1861 N |
| | **1517C** | 26-Pair | 500 1000 | 152 305 | 187.5 385.0 | 85.0 174.6 | | | | | 0.823 | 20.90 | | | | | | 2007 N |
| | **1518C** | 32-Pair | 500 1000 | 152 305 | 236.5 481.0 | 107.3 218.2 | | | | | 0.897 | 22.78 | | | | | | 2448 N |
| | **1519C** | 52-Pair | 500 1000 | 152 305 | 372.5 731.0 | 169.0 331.6 | | | | | 1.117 | 28.37 | | | | | | 3916 N |




**24 AWG** • Stranded (7x32) 0.6 mm High-Conductivity (Oxygen-Free) Tinned Copper • Each Pair **Beldfoil®** Shielded • 24 AWG Tinned Copper Drain Wire • Numbered FRNC Jackets • Overall **Beldfoil®** Shield • Rip Cord

**Polyolefin Insulation • Overall Black FRNC/LSNH Jacket** with 18 AWG Tinned Copper Drain Wire

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300V RMS 75°C | | NEC: CM CEC: CM | | | | | 0.61 mm 24 AWG (7x32) TC | 0.040 | 1.02 | Individual Beldfoil® + Drain Wire (24 AWG TC) + Overall Beldfoil® | | | 60 | – | CDR/CDR CDR/SCR | 28 55 | 92 180 | Brown, Red |
| | | | | | | | | Jacketed Pairs O.D.: 0.111 | 2.82 | | | | | | | | | |
| 0.22 mm² | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **1508ENH** | 1-Pair | 1640 3280 | 500 1000 | 21.0 42.4 | 9.5 19.1 | | | | | 0.131 | 3.33 | | | | | | 73 N |
| | **1509ENH** | 2-Pair | 1640 | 500 | 79.1 | 35.9 | | | | | 0.301 | 7.65 | | | | | | 246 N |
| | **1512ENH** | 8-Pair | 1640 3280 | 500 1000 | 215.4 430.8 | 97.7 195.4 | | | | | 0.453 | 11.50 | | | | | | 676 N |




TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

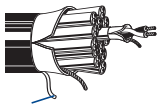
# Analog Multi-Pair Snake Cables

## Beldfoil® High-Performance Cables, Long Runs
## Individually Shielded and Jacketed Pairs

BRILLIANCE®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm High-Conductivity (Oxygen-Free) Tinned Copper • Each Pair **Beldfoil®** Shielded • 22 AWG Tinned Copper Drain Wire • Numbered and Color Coded PVC Jackets • Overall **Beldfoil®** Shield • Rip Cord | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Overall Matte Black PVC Jacket** with Stranded 18 AWG Tinned Copper Drain Wire, except 1814 with 22 AWG | | | | | | | | | | | | | | | | | | |
| 300V RMS 60°C | | NEC: CMR CEC: CMG FT4 | | | | | 0.76 mm 22 AWG (7x30) TC | 0.050 | 1.27 | Individual Beldfoil® + Drain Wire (22 AWG TC) + Overall Beldfoil® | | | 50 | 66 | CDR/CDR CDR/SCR | 31.0 56.1 | 102 184 | Red, Black |
| | | | | | | | | Jacketed Pairs O.D.: 0.133 | 3.38 | | | | | | | | | |
| 0.35 mm² | | | | | | | | | | | | | | | | | | Pulling Tension: |
| **1814R** | 2-Pair | | 500 1000 | 152 305 | 30.0 59.0 | 13.6 26.8 | | | | | 0.330 | 8.38 | | | | | | 283 N |
| **1815R** | 4-Pair | | 500 1000 | 152 305 | 45.0 91.0 | 20.4 41.3 | | | | | 0.383 | 9.74 | | | | | | 485 N |
| **1816R** | 6-Pair | | 500 1000 | 152 305 | 65.0 131.0 | 29.5 59.4 | | | | | 0.462 | 11.73 | | | | | | 838 N |
| **1817R** | 8-Pair | | 500 1000 | 152 305 | 80.0 152.0 | 36.3 68.9 | | | | | 0.503 | 12.78 | | | | | | 1081 N |
| **1818R** | 12-Pair | | 500 1000 | 152 305 | 121.0 241.0 | 54.9 109.3 | | | | | 0.638 | 16.21 | | | | | | 1623 N |
| **1819R** | 16-Pair | | 500 1000 | 152 305 | 180.0 364.0 | 81.6 165.1 | | | | | 0.776 | 19.71 | | | | | | 2052 N |
| **1820R** | 20-Pair | | 500 1000 | 152 305 | 216.0 442.0 | 98.0 200.5 | | | | | 0.865 | 21.97 | | | | | | 2538 N |
| **1821R** | 24-Pair | | 500 1000 | 152 305 | 263.5 518.0 | 119.5 235.0 | | | | | 0.969 | 24.61 | | | | | | 3024 N |
| **1822R** | 26-Pair | | 500 1000 | 152 305 | 280.5 552.0 | 127.2 250.4 | | | | | 0.989 | 25.12 | | | | | | 3266 N |
| **1823R** | 32-Pair | | 500 1000 | 152 305 | 335.5 692.0 | 152.2 313.9 | | | | | 1.072 | 27.23 | | | | | | 3995 N |

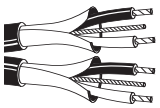



TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# AES/EBU Digital Audio Cables

## Single- and Double-Pair Cables
## Audio-Connect

BRILLIANCE®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **26 AWG** • Stranded (7x34) 0.5 mm Tinned Copper • Twisted Pair • **Beldfoil®** • 26 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • PVC Jacket** (Chrome or Violet) | | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>75°C | **9180** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | 1000 | 305 | 10.0 | 4.5 | 0.48 mm<br>26 AWG<br>(7x34) TC | 0.049 | 1.24 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(26 AWG TC) | 0.144 | 3.66 | 110 | 76% | 13.0 | 42.6 | 2.0<br>4.1<br>5.6<br>11.3<br>12.3<br>24.6 | 1.7<br>2.1<br>2.4<br>3.1<br>3.2<br>4.2 | 5.5<br>7.0<br>7.9<br>10.1<br>10.4<br>13.8 |
|  Shorting Fold | | | | | | | | | | | | | | | | | | | |
| 0.14 mm²<br>Digital Video Time Code | | | Color Code: Black, White<br>Pulling Tension: 46 N | | | | | | | | | | | | | | | | |
| **24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • PVC Jacket** (Grey or Violet) | | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **1800B** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | 500<br>U-1000<br>1000<br>5000 | 152<br>U-305<br>305<br>1524 | 8.0<br>17.0<br>16.0<br>90.0 | 3.6<br>7.7<br>7.3<br>40.8 | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.068 | 1.73 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | 0.177 | 4.50 | 110 | 76% | 12.0 | 39.3 | 2.0<br>4.1<br>5.6<br>11.3<br>12.3<br>24.6 | 1.3<br>1.6<br>1.8<br>2.2<br>2.3<br>3.1 | 4.3<br>5.2<br>5.8<br>7.3<br>7.5<br>10.1 |
|  0.22 mm² | | | 152 m put-up available in Grey only.<br>1524 m put-up available in Violet only.<br>Color Code: Red, Black | | | | | | | The jacket and shield are bonded so both can be removed with automatic stripping equipment.<br>Pulling Tension: 73 N | | | | | | | | | |
| **24 AWG** • Stranded (7x32) 0.6 mm Tinned Copper • Dual Twisted Pairs • Individual **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • PVC Jacket** (Grey or Violet) | | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **1802B** | NEC:<br>CMG<br>CEC:<br>CMG FT4 | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 16.5<br>35.0<br>37.0 | 7.5<br>15.9<br>16.8 | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.068 | 1.73 | Individual<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | 0.180<br>x<br>0.360 | 4.57<br>x<br>9.14 | 110 | 76% | 12.0 | 39.3 | 2.0<br>4.1<br>5.6<br>11.3<br>12.3<br>24.6 | 1.3<br>1.6<br>1.8<br>2.2<br>2.3<br>3.1 | 4.3<br>5.2<br>5.8<br>7.3<br>7.5<br>10.1 |
|  0.22 mm² | | | Color Code: Red, Black | | | | | | | The jacket and shield are bonded so both can be removed with automatic stripping equipment.<br>Pulling Tension: 73 N | | | | | | | | | |
| **24 AWG** • Stranded (41x40) 0.6 mm High-Conductivity (Oxygen-Free) Bare Copper • Twisted Pair with Fillers • Conductors Cabled with Fillers • 95% Tinned Copper **French Braid®** • 26 AWG Bare Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Matte PVC Jacket** (Red, Yellow, Green, Blue, Grey and Black) | | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **1800F** | NEC:<br>CL2R | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 12.0<br>26.0<br>24.0 | 5.4<br>11.8<br>10.9 | 0.58 mm<br>24 AWG<br>(41x40) BC | 0.058 | 1.47 | Overall<br>French Braid®<br>95% TC<br>+ Drain Wire<br>(26 AWG BC) | 0.211 | 5.36 | 110 | 76% | 12.0 | 39.3 | 2.0<br>4.1<br>5.6<br>11.3<br>12.3<br>24.6 | 1.3<br>2.2<br>2.9<br>4.5<br>4.8<br>7.1 | 4.3<br>7.3<br>9.5<br>14.9<br>15.7<br>23.3 |
|  French Braid | | | | | | | | | | | | | | | | | | | |
| 0.22 mm² | | | 152 m and 305 m put-ups available in Black only.<br>Color Code: Red, Black | | | | | | | Pulling Tension: 184 N | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm TC • Twisted Pair with Fillers • Overall **Beldfoil®** Shield (Unbonded) • 90% TC **French Braid®** • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Black High-Flex Matte PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **1696A** | | 250<br>500<br>U-1000<br>1000 | 76<br>152<br>U-305<br>305 | 8.0<br>14.5<br>30.0<br>32.0 | 3.6<br>6.6<br>13.6<br>14.5 | 0.76 mm<br>22 AWG<br>(7x30) TC | 0.082 | 2.08 | Overall<br>French Braid®<br>90% TC<br>+ Drain Wire<br>(24 AWG TC) | 0.234 | 5.94 | 110 | 76% | 13.0 | 42.6 | 2.0<br>4.1<br>5.6<br>11.3<br>12.3<br>24.6 | 0.9<br>1.1<br>1.3<br>1.7<br>1.8<br>2.4 | 2.9<br>3.6<br>4.3<br>5.7<br>5.8<br>7.9 |
|  Z-Fold® | | | | | | | | | | | | | | | | | | | |
| 0.34 mm² | | | Color Code: Light Blue, White<br>Pulling Tension: 249 N | | | | | | | | | | | | | | | | |

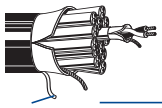
TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# AES/EBU Digital Multi-Pair Snake Cables

## Beldfoil® High-Performance Cable, Low-Capacitance Individually Shielded and Jacketed Pairs

BRILLIANCE®



| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **26 AWG** • Stranded (7x34) 0.5 mm High-Conductivity (Oxygen-Free) TC • Each Pair **Beldfoil®** Shielded • 26 AWG Tinned Copper Drain Wire • Numbered and Color Coded PVC Jackets • Overall **Beldfoil®** Shield • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Overall Matte Black PVC Jacket** with 26 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>80°C | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.48 mm<br>26 AWG<br>(7x34) TC | 0.054<br>Jacketed Pairs O.D.:<br>0.136 | 1.37<br>3.45 | Individual Beldfoil®<br>+ Drain Wire<br>(26 AWG TC)<br>+ Overall Beldfoil® | | | 110 | 76% | 13.0 | 42.7 | 2.0<br>4.0<br>5.0<br>6.0<br>12.0<br>25.0 | 1.7<br>2.1<br>2.3<br>2.5<br>3.2<br>4.2 | 5.5<br>6.9<br>7.5<br>8.1<br>10.4<br>13.8 |
|  <br>Rip Cord<br>0.14 mm² | | | | | | | | | | | | | | | | | | Pulling Tension: | |
| | **7891A** | 2-Pair | 500<br>1000 | 152<br>305 | 28.0<br>56.0 | 12.7<br>25.4 | | | | | 0.343 | 8.71 | | | | | | 107 N | |
| | **7890A** | 4-Pair | 100<br>250<br>500<br>1000 | 31<br>76<br>152<br>305 | 8.2<br>18.0<br>31.0<br>61.0 | 3.7<br>8.2<br>14.1<br>27.7 | | | | | 0.399 | 10.13 | | | | | | 200 N | |
| | **7880A** (Fits D-Sub connectors) | 8-Pair | † 250<br>500<br>1000 | 76<br>152<br>305 | 28.0<br>57.0<br>142.0 | 12.7<br>25.9<br>64.4 | | | | | 0.541 | 13.74 | | | | | | 374 N | |
| | **7892A** | 12-Pair | 500<br>1000 | 152<br>305 | 85.0<br>174.0 | 38.6<br>78.9 | | | | | 0.679 | 17.25 | | | | | | 574 N | |
| | **7893A** | 16-Pair | 500<br>1000 | 152<br>305 | 109.5<br>240.0 | 49.7<br>108.9 | | | | | 0.770 | 19.56 | | | | | | 761 N | |
| | Color Code: Red, Black | | | | | | | | | | | | | | | | | | |

## Fire Resistant, Installation Cable, FRNC/LSNH IEC 332-3C Individually Shielded and Jacketed Pairs

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **26 AWG** • Stranded (18x0.1) 0.5 mm TC • Each Pair Individually **Tinned Copper Spiral Braid** • Numbered FRNC/LSNH Jackets • **Overall > 90% Tinned Copper Braid** | | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Overall Grey FRNC/LSNH Jacket** with 26 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| 100V RMS<br>70°C | | IEC<br>332-3C | | | | | 0.5 mm<br>26 AWG<br>(18x0.1) TC | 0.044<br>Jacketed Pairs O.D.:<br>0.114 | 1.13<br>2.90 | Individual Spiral Serve > 90% TC Braid<br>+ Overall Braid | 0.488 | 12.39 | 110 | 60% | 17.4 | 57.0 | 0.1<br>1.0<br>4.0<br>10.0 | 0.3<br>0.7<br>1.9<br>3.7 | 0.9<br>2.2<br>6.3<br>12.0 |
|  <br>0.14 mm² | | | | | | | | | | | | | | | | | | Burning Energy:<br>Pulling Tension: | |
| | **YE00193** | 1-Pair | 1640 | 500 | 13.4 | 6.1 | | | | | 0.114 | 2.90 | | | | | | – | – |
| | **BE46959** | 1-Pair | 1640 | 500 | 24.3 | 11.0 | | | | | 0.154 | 3.90 | | | | | | 283 kJ/m | 85 N |
| | **BE46923** | 2-Pair | 1640 | 500 | 102.1 | 46.3 | | | | | 0.331 | 8.40 | | | | | | 913 kJ/m | 150 N |
| | **BE46925** | 4-Pair | 1640 | 500 | 134.5 | 61.0 | | | | | 0.374 | 9.50 | | | | | | 1271 kJ/m | 250 N |
| | **BE46935** | 8-Pair | 1640 | 500 | 245.6 | 111.4 | | | | | 0.492 | 12.50 | | | | | | 2023 kJ/m | 400 N |
| | **BE46936** | 10-Pair | 1640 | 500 | 278.0 | 126.1 | | | | | 0.524 | 13.30 | | | | | | 2325 kJ/m | 500 N |
| | **BE46937** | 12-Pair | 1640 | 500 | 301.6 | 136.8 | | | | | 0.559 | 14.20 | | | | | | 2644 kJ/m | 600 N |
| | **BE46938** | 16-Pair | 1640 | 500 | 392.9 | 178.2 | | | | | 0.630 | 16.00 | | | | | | 3292 kJ/m | 750 N |
| | Color Code: White, Blue | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • DCR = DC resistance
† 7880A is designed to fit in 25-pin D-sub connectors used in digital console board equipment.

# AES/EBU Digital Multi-Pair Snake Cables

## SlimSnake™, Installation Cable, Halogen-Free
## Individually Shielded and Jacketed Pairs

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **26 AWG** • Stranded (7x0.16) 0.5 mm TC • Each Pair Individually **TC Spiral Braid** • Numbered PA Jackets • Overall > 90% TC Braid | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Overall Purple Halogen-Free Jacket** | | | | | | | | | | | | | | | | | | | |
| 100V RMS<br>70°C | | | | | | | 0.5 mm<br>26 AWG<br>(7x0.16) TC | 0.043<br>Jacketed Pairs O.D.:<br>0.114 | 1.10<br><br>2.90 | Individual Spiral Serve > 90% TC Braid + Overall Braid | | | 110 | 60% | 15.2 | 50.0 | 0.1<br>1.0<br>6.0<br>10.0 | 0.3<br>0.7<br>2.9<br>4.9 | 0.9<br>2.3<br>9.5<br>16.0 |
| 0.14 mm² | **BE46273** | 1-Pair | 820<br>1640 | 250<br>500 | 5.7<br>11.2 | 2.6<br>5.1 | | | | | 0.110 | 2.80 | | | | | | Pulling Tension: | – |
| | **BE46202** | 1-Pair | 820<br>1640 | 250<br>500 | 6.6<br>12.1 | 3.0<br>5.5 | | | | | 0.154 | 3.90 | | | | | | | – |
| | **BE46203** | 2-Pair | 820<br>1640 | 250<br>500 | 42.1<br>84.2 | 19.1<br>38.2 | | | | | 0.319 | 8.10 | | | | | | | 150 N |
| | **BE46204** | 4-Pair | 820<br>1640 | 250<br>500 | 57.3<br>114.4 | 26.0<br>51.9 | | | | | 0.354 | 9.00 | | | | | | | 250 N |
| | **BE46266** | 8-Pair | 820<br>1640 | 250<br>500 | 85.8<br>171.5 | 38.9<br>77.8 | | | | | 0.406 | 10.30 | | | | | | | 400 N |
| | **BE46208** | 10-Pair | 820<br>1640 | 250<br>500 | 97.0<br>193.8 | 44.0<br>87.9 | | | | | 0.480 | 12.20 | | | | | | | 500 N |
| | **BE46205** | 12-Pair | 820<br>1640 | 250<br>500 | 124.1<br>248.2 | 56.3<br>112.6 | | | | | 0.504 | 12.80 | | | | | | | 600 N |
| | **BE46207** | 16-Pair | 820<br>1640 | 250<br>500 | 171.7<br>343.3 | 77.9<br>155.7 | | | | | 0.602 | 15.30 | | | | | | | 750 N |
| | Color Code: White, Blue | | | | | | | | | | | | | | | | | | |

## Beldfoil® High-Performance Cable, Low-Capacitance, Long-Runs
## Individually Shielded and Jacketed Pairs

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6 mm High-Conductivity (Oxygen-Free) TC • Each Pair **Beldfoil®** Shielded • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded PVC Jackets • Overall **Beldfoil®** Shield • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Datalene® Insulation • Overall Matte Black PVC Jacket** with 16 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | | NEC:<br>CMG<br>CEC:<br>CMG FT4 | | | | | 0.61 mm<br>24 AWG<br>(7x32) TC | 0.068<br>Jacketed Pairs O.D.:<br>0.167 | 1.73<br><br>4.24 | Individual Beldfoil® + Drain Wire (24 AWG TC) + Overall Beldfoil® | | | 110 | 76% | 12.0 | 39.4 | 2.0<br>4.0<br>5.0<br>6.0<br>12.0<br>25.0 | 1.3<br>1.6<br>1.7<br>1.8<br>2.3<br>3.1 | 4.3<br>5.1<br>5.6<br>5.9<br>7.5<br>10.1 |
| Rip Cord | | | | | | | | | | | | | | | | | | Pulling Tension: | |
| 0.22 mm² | **1803F** | 4-Pair | 500<br>1000 | 152<br>305 | 57.5<br>107.0 | 26.1<br>48.5 | | | | | 0.488 | 12.39 | | | | | | | 367 N |
| | **1805F** | 8-Pair | 500<br>1000 | 152<br>305 | 106.5<br>211.0 | 48.3<br>95.7 | | | | | 0.661 | 16.79 | | | | | | | 609 N |
| | **1806F** | 12-Pair | 500<br>1000 | 152<br>305 | 160.0<br>330.0 | 72.6<br>149.7 | | | | | 0.829 | 21.06 | | | | | | | 890 N |
| | **1850F** | 16-Pair | 500<br>1000 | 152<br>305 | 208.0<br>407.0 | 94.3<br>184.6 | | | | | 0.944 | 23.98 | | | | | | | 1174 N |
| | **1852F** | 24-Pair | 500<br>1000 | 152<br>305 | 321.0<br>644.0 | 145.6<br>292.1 | | | | | 1.205 | 30.61 | | | | | | | 1779 N |
| | **1854F** | 32-Pair | 1000 | 305 | 841.0 | 381.5 | | | | | 1.346 | 34.19 | | | | | | | 2356 N |
| | Color Code: Red, Black | | | | | | | | | | | | | | | | | | |

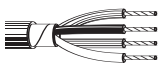
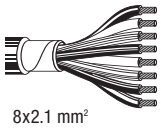
TC = Tinned Copper • DCR = DC resistance

# Speaker Cables

BRILLIANCE®



| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Shielding Material | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component OD inch | Component OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **26 AWG • 2 CDR (Audio)** Stranded (18x0.1) 0.5 mm BC **+ 3 CDR (Power)** Stranded (32x0.2) 1.2 mm BC • Conductors Cabled with Fillers | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Overall Matte Black PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **BE43908** | | 328<br>1640 | 100<br>500 | 37.5<br>187.4 | 17.0<br>85.0 | Unshielded | 0.461 | 11.7 | 1xAudio | 1-Pair<br>26 AWG<br>0.48 mm<br>(18x0.1) BC | Overall<br>90% BC<br>Braid | PE<br>Black<br>Red | PVC<br>Black | 0.044 | 1.12 |
| | | | | | | | | | | 1xPower | 3 Conductors<br>18 AWG<br>1.15 mm<br>(32x0.2) BC | Unshielded | PVC<br>Brown<br>Blue<br>Green/Yellow | PVC<br>Black | 0.083 | 2.10 |
|  <br>2x0.14 mm² (Audio)<br>3x1.20 mm² (Power) | | | | | | | Pulling Tension: 200 N | | | | | | | | | |

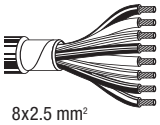
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 AWG • 2 Conductor** • Stranded (25x0.23) 1.5 mm Bare Copper | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Overall Matte Black PVC Jacket** (Grey or Black) | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **BE46382**<br>2 CDR | | 328<br>1640<br>3280 | 100<br>500<br>1000 | 15.9<br>79.8<br>159.4 | 7.2<br>36.2<br>72.3 | 1.5 mm<br>16 AWG<br>(25x0.23) BC | 0.098 | 2.50 | Unshielded | 0.276 | 7.00 | 12 | – | CDR/CDR | 35 | 115 | Black, Red |
|  <br>2x1.5 mm² | | | | | | | | | | | | | | | | | | |
| | | | 1000 m put-up available in Black only.<br>Pulling Tension: 240 N | | | | | | | | | | | | | | | |
| **14 AWG • 4 or 8 Conductor** • Stranded (104x34) 1.9 mm Bare Copper • Conductors Cabled with Fillers • Paper Wrap | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Overall Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **1810A**<br>4 CDR | | 250<br>500<br>1000 | 76<br>152<br>305 | 26.3<br>55.5<br>114.0 | 11.9<br>25.2<br>51.7 | 1.85 mm<br>14 AWG<br>(104x34) BC | 0.025 | 0.64 | Unshielded | 0.390 | 9.91 | 8.8 | – | CDR/CDR<br>CDR/SCR | 19<br>57 | 61<br>187 | Red, Green,<br>White, Black |
|  <br>High-Flex<br>4x2.1 mm² | | | | | | | | | | | | | | | | | | |
| | | | Compatible with Speakon® connectors.<br>Pulling Tension: 889 N | | | | | | | | | | | | | | | |
| **PVC Insulation • Overall Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS<br>60°C | **1811A**<br>8 CDR | | 1000 | 305 | 205.0 | 93.0 | 1.85 mm<br>14 AWG<br>(104x34) BC | 0.025 | 0.64 | Unshielded | 0.515 | 13.08 | 8.8 | – | CDR/CDR<br>CDR/SCR | 19<br>57 | 61<br>187 | Brown, Red,<br>Orange,<br>Yellow,<br>Green,<br>White, Blue,<br>Black |
|  <br>8x2.1 mm² | | | | | | | | | | | | | | | | | | |
| | | | Compatible with Speakon® connectors.<br>Pulling Tension: 1779 N | | | | | | | | | | | | | | | |

BC = Bare Copper • PE = Polyethelene • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Speakon® is a Neutrik trademark.

# Speaker Cables

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **13 AWG • 2 Conductor** • Stranded (50x0.25) 2.1 mm Bare Copper | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Overall Matte PVC Jacket** (Grey or Black) | | | | | | | | | | | | | | | | | | |
| 300V RMS 60°C | **BE46381** 2 CDR | | 328<br>1640<br>3280 | 100<br>500<br>1000 | 22.5<br>112.4<br>224.9 | 10.2<br>51.0<br>102.0 | 2.05 mm 13 AWG (50x0.25) BC | 0.114 | 2.90 | Unshielded | 0.317 | 8.05 | 7.4 | – | CDR/CDR | 40 | 131 | Black, Red |
|  2x2.5 mm² | | | | | | | | | | | | | | | | | | |
| | | | 1000 m put-up available in Black only.<br>Pulling Tension: 400 N | | | | | | | | | | | | | | | |
| **13 AWG • 4 Conductor** • Stranded (50x0.25) 2.1 mm Bare Copper • Conductors Cabled with Fillers • Paper Wrap | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Overall Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 60°C | **BE46379** 4 CDR | | 3280 | 1000 | 399.5 | 181.2 | 2.05 mm 13 AWG (50x0.25) BC | 0.114 | 2.90 | Unshielded | 0.394 | 10.00 | 7.4 | – | CDR/CDR | 40 | 131 | Red, Green, White, Black |
|  4x2.5 mm² | | | | | | | | | | | | | | | | | | |
| | | | Pulling Tension: 200 N | | | | | | | | | | | | | | | |
| **13 AWG • 8 Conductor** • Stranded (300x0.1) 2.1 mm Bare Copper • Conductors Cabled with Fillers • Paper Wrap | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Overall Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 60°C | **BE43907** 8 CDR | | 820 | 250 | 160.5 | 72.8 | 2.05 mm 13 AWG (300x0.1) BC | 0.114 | 2.90 | Unshielded | 0.488 | 12.40 | 7.4 | – | CDR/CDR | 40 | 131 | Red, Green, White, Black, Yellow, Purple, Brown, Blue |
|  8x2.5 mm² | | | | | | | | | | | | | | | | | | |
| | | | Pulling Tension: 1500 N | | | | | | | | | | | | | | | |
| **11 AWG • 2 Conductor** • Stranded (56x0.3) 2.6 mm Bare Copper | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Overall Matte PVC Jacket** (Grey or Black) | | | | | | | | | | | | | | | | | | |
| 300V RMS 60°C | **BE46380** 2 CDR | | 328<br>1640<br>3280 | 100<br>500<br>1000 | 31.5<br>157.4<br>314.8 | 14.3<br>71.4<br>142.8 | 2.6 mm 11 AWG (56x0.3) BC | 0.138 | 3.50 | Unshielded | 0.354 | 9.00 | 4.5 | – | CDR/CDR | 35 | 116 | Black, Red |
|  2x4.0 mm² | | | | | | | | | | | | | | | | | | |
| | | | 500 m put-up available in Grey only.<br>Pulling Tension: 600 N | | | | | | | | | | | | | | | |

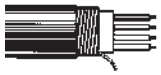
BC = Bare Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

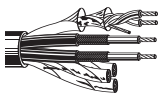
# Special Cables

BRILLIANCE®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **25 AWG** • Stranded (7x33) 0.5 mm High-Conductivity Copper (Oxygen-Free) • (3) Strands TC, (4) Strands TCCS • Rayon Braid • 80 % TC Braid | | | | | | | | | | | | | | | | | | |
| **Rayon Braid, Rubber Insulation • Black EPDM Rubber Jacket** | | | | | | | | | | | | | | | | | | |
| 3000 VDC 60°C | **8410** | | 1640 | 500 | 18.5 | 8.4 | 0.53 mm 25 AWG (3x33, 4x33) TC, TCCS | 0.154 | 3.91 | Overall 80 % TC Braid | 0.245 | 6.22 | 52 | – | CDR/CDR | 33 | 108 | – |
|  | | | | | | | | | | | | | | | | | | |
| | | | Pulling Tension: 267 N | | | | | | | | | | | | | | | |

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Shielding Material | Nominal OD inch | Nominal OD mm | Compo-nent | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component OD inch | Component OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x0.25) Tinned Copper • Dual Twisted Pairs • Aluminum-Foil • 24 AWG (7x0.20) Drain Wire • 80 % Tinned Copper Braid | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Overall Matte PVC Jacket** (Black or Blue) | | | | | | | | | | | | | | | | |
| 300V 70°C | **BE43906** | | 1640<br>3280 | 500<br>1000 | 68.8<br>137.3 | 31.2<br>62.3 | 0.75 mm 22 AWG (7x0.25) TC | 0.053 | 1.35 | Overall 80 % TC Braid + Drain Wire (24 AWG TC) | 0.268 | 6.80 | 110 | – | CDR/CDR | 21.3 | 70 | White, Red, Green, Black |
|  | | | | | | | | | | | | | | | | | | |
| DMX512<br>0.34 mm² | | | 1000 m put-up available in Black only. | | | | | | | | 22 AWG: 3105A - 1 Pair DMX512 (see Industrial section)<br>3107A - 2 Pair DMX512 (see Industrial section)<br>24 AWG: 9841, 9842, 9843 and 9844 (see Industrial section) | | | | | | | |

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Shielding Material | Nominal OD inch | Nominal OD mm | Compo-nent | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component OD inch | Component OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **(2) Coax 20 AWG** • Solid 0.8 mm Bare Copper • **Duofoil®** • **(4) Audio** 22 AWG (7x30) Tinned Copper Shielded Pair | | | | | | | | | | | | | | | | |
| **Gas-Injected FPE Insulation (Coax) • Polypropylene Insulation (Conductors) • Black F-R PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V RMS 75°C | **1347A** | NEC: CMR CEC: CMR FT4 | 500<br>1000 | 152<br>305 | 232.2<br>108.6 | 105.3<br>49.3 | – | 0.630 | 16.00 | 2 x Video | 2-Coax (1505A) 20 AWG 0.8 mm Solid BC | Duofoil® 100 % 95 % TC Braid | HDPE | PVC Black, White | 0.233 | 5.92 |
|  | | | | | | | | | | 4 x Audio | 4 Pair 22 AWG 0.8 mm (7x30) BC | Overall Beldfoil® 100 % + Drain Wire (22 AWG TC) | Polypropylene | PVC Brown, Red, Orange, Yellow | 0.135 | 3.43 each Pair |
| 2 Coax + 4 Pair | | | | | | | Pulling Tension: 947 N | | | | | | | | | |

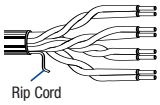
TC = Tinned Copper • TCCS = Tinned Copper-Covered Steel • BC = Bare Copper • DCR = DC resistance
SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Duofoil® see technical information page 23.13.

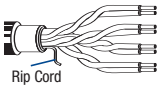
# RJ-45 Cables for A/V Applications

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CatSnake™ (Mobile Cat 5e) • 24 AWG • Bonded-Pair** • Stranded (7x32) 0.6 mm Bare Copper Conductors • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Heavy-Duty Jacketed • Polyolefin Insulation • Flexible Matte Black PVC Jacket • Category 5e** | | | | | | | | | | | | | | | | | | | |
| | **1304A** | | 1000 | 305 | 27.8 | 12.6 | 0.61 mm | 0.037 | 0.95 | Bonded-Pair | 0.245 | 6.22 | 1 | 2.4 | 62.3 | 63.3 | 60.8 | 100±12 | 20.0 |
| | | | 500 | 152 | 14.3 | 6.5 | 24 AWG | | | Unshielded | | | 4 | 4.9 | 53.3 | 52.3 | 48.7 | 100±12 | 23.0 |
| | | | | | | | (7x32) BC | | | U/UTP | | | 8 | 6.9 | 48.8 | 46.1 | 42.7 | 100±12 | 24.5 |
| | | | | | | | | | | | | | 10 | 7.8 | 47.3 | 43.9 | 40.8 | 100±12 | 25.0 |
| | | | | | | | | | | | | | 16 | 9.9 | 44.3 | 39.1 | 36.7 | 100±12 | 25.0 |
| | | | | | | | | | | | | | 25 | 12.5 | 41.3 | 34.1 | 32.8 | 100±15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 14.1 | 39.9 | 31.3 | 30.9 | 100±15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 20.4 | 35.4 | 21.6 | 24.8 | 100±15 | 21.5 |
| | | | | | | | | | | | | | 100 | 26.4 | 32.3 | 17.1 | 20.8 | 100±18 | 20.1 |
| | | | | | | | | | | | | | 300 | 48.6 | 28.2 | – | 11.2 | 100±20 | 18.0 |
| | | | | | | | | | | | | | 350 | 53.2 | 27.2 | – | 9.9 | 100±22 | 17.0 |
| | | | RJ-45 Compatible • -40°C Cold Bend<br>U.S. Patents 5,606,151; 5,734,126 and 5,763,823<br>Color Code: see chart below | | | | | | | | | | | | | | | | |
| | | | Jacket sequentially marked at 0.6 m intervals.<br>Third party verified to TIA/EIA-568-B.2, Category 5e | | | | | | | | | | | | | | | | |
| **Upjacketed • Polyolefin Insulation • PVC Inner Jacket • Matte Black Flexible PVC Outer Jacket • Category 5e** | | | | | | | | | | | | | | | | | | | |
| | **1305A** | | 1000 | 305 | 39.9 | 18.1 | 0.61 mm | 0.037 | 0.95 | Bonded-Pair | 0.295 | 7.49 | 1 | 2.4 | 62.3 | 63.3 | 60.8 | 100±12 | 20.0 |
| | | | 500 | 152 | 19.8 | 9.0 | 24 AWG | | | Unshielded | | | 4 | 4.9 | 53.3 | 52.3 | 48.7 | 100±12 | 23.0 |
| | | | | | | | (7x32) BC | | | U/UTP | Upjacketed O.D.: | | 8 | 6.9 | 48.8 | 46.1 | 42.7 | 100±12 | 24.5 |
| | | | | | | | | | | | 0.242 | 6.14 | 10 | 7.8 | 47.3 | 43.9 | 40.8 | 100±12 | 25.0 |
| | | | | | | | | | | | | | 16 | 9.9 | 44.3 | 39.1 | 36.7 | 100±12 | 25.0 |
| | | | | | | | | | | | | | 25 | 12.5 | 41.3 | 34.1 | 32.8 | 100±15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 14.1 | 39.9 | 31.3 | 30.9 | 100±15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 20.4 | 35.4 | 21.6 | 24.8 | 100±15 | 21.5 |
| | | | | | | | | | | | | | 100 | 26.4 | 32.3 | 17.1 | 20.8 | 100±18 | 20.1 |
| | | | | | | | | | | | | | 300 | 48.6 | 28.2 | – | 11.2 | 100±20 | 18.0 |
| | | | | | | | | | | | | | 350 | 53.2 | 27.2 | – | 9.9 | 100±22 | 17.0 |
| | | | RJ-45 Compatible • -40°C Cold Bend<br>U.S. Patents 5,606,151 and 5,734,126<br>Color Code: see chart below | | | | | | | | | | | | | | | | |
| | | | Jacket sequentially marked at 0.6 m intervals<br>Third party verified to TIA/EIA-568-B.2, Category 5e | | | | | | | | | | | | | | | | |




4-Pairs




4-Pairs
EtherCon® compatible

BC = Bare Copper • DCR = DC resistance • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss

EtherCon® is a Neutrik trademark.

## Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Video Triax Cables

BRILLIANCE®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Triax 8** • Stranded (19x0.36) 1.0 mm • Silver-Plated Copper • 90 % Silver-Plated Copper Braid • 80 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **7783AF** | | 1000 | 305 | 75.0 | 34.0 | 0.99 mm<br>20 AWG<br>(19x0.36) SPC<br>22.0 Ω/km*<br>12.0 Ω/km** | 0.178 | 4.52 | 90 % SPC<br>Braid<br>+ 80 % BC<br>Braid<br>10.0 Ω/km***<br>6.5 mm | 0.331 | 8.40 | 75 | 82 % | 16.5 | 54.0 | 1<br>10<br>20<br>40<br>50<br>60<br>100<br>300 | 0.2<br>0.7<br>1.0<br>1.4<br>1.6<br>1.7<br>2.3<br>4.2 | 0.6<br>2.2<br>3.2<br>4.6<br>5.1<br>5.6<br>7.5<br>13.8 |
| | | | Return loss at 5-850 MHz: ≥ 21 dB | | | | | | | Spools are one piece, but length may vary 0 % to +10 % from length shown. | | | | | | | | | |
| **Triax 11** • Solid 1.4 mm Silver-Plated Copper • 90 % Silver-Plated Copper Braid • 85 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **7784AS** | | 1000<br>1968 | 305<br>600 | 100.1<br>197.1 | 49.3<br>96.9 | 1.4mm<br>16 AWG<br>Solid SPC<br>18.4 Ω/km*<br>11.0 Ω/km** | 0.256 | 6.50 | 90 % SPC<br>Braid<br>+ 85 % BC<br>Braid<br>7.4 Ω/km***<br>7.2 mm | 0.455 | 11.30 | 75 | 81 % | 16.8 | 55.0 | 1<br>10<br>20<br>40<br>50<br>60<br>100<br>300<br>750 | 0.2<br>0.5<br>0.7<br>1.0<br>1.1<br>1.3<br>1.6<br>3.1<br>4.6 | 0.5<br>1.6<br>2.3<br>3.3<br>3.7<br>4.1<br>5.2<br>10.3<br>15.2 |
| | | | Return loss at 5-750 MHz: ≥ 23 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB<br>Pulling Tension: 300 N<br>Spools are one piece, but length may vary ±5 % from length shown. | | | | | | | | | |
| **Foam Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **7784ANH** | | 1000<br>1968<br>3280 | 305<br>600<br>1000 | 100.1<br>197.1<br>328.5 | 52.3<br>102.9<br>171.5 | 1.4mm<br>16 AWG<br>Solid SPC<br>18.4 Ω/km*<br>11.0 Ω/km** | 0.256 | 6.50 | 90 % SPC<br>Braid<br>+ 85 % BC<br>Braid<br>7.4 Ω/km***<br>7.2 mm | 0.455 | 11.30 | 75 | 81 % | 16.8 | 55.0 | | | see above |
| | | | Return loss at 5-750 MHz: ≥ 23 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB<br>Pulling Tension: 300 N<br>Spools are one piece, but length may vary 0 % to +10 % from length shown, 1000 m +/-5 %. | | | | | | | | | |
| **Triax 11** • Stranded (19x0.28) 1.4 mm Silver-Plated Copper • 90 % Silver-Plated Copper Braid • 85 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **7784AF** | | 1000<br>1968 | 305<br>600 | 100.1<br>197.1 | 47.9<br>94.1 | 1.4mm<br>17 AWG<br>(19x0.28) SPC<br>21.4 Ω/km*<br>14.0 Ω/km** | 0.256 | 6.50 | 90 % SPC<br>Braid<br>+ 85 % BC<br>Braid<br>7.4 Ω/km***<br>7.2 mm | 0.433 | 11.00 | 75 | 82 % | 16.5 | 54.0 | 1<br>5<br>10<br>100<br>180<br>360<br>750 | 0.2<br>0.3<br>0.5<br>1.7<br>2.4<br>3.5<br>5.2 | 0.5<br>1.1<br>1.6<br>5.6<br>7.9<br>11.5<br>17.1 |
| Flexible | | | Return loss at 5-750 MHz: ≥ 23 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB<br>Pulling Tension: 270 N<br>Spools are one piece, but length may vary 0 % to +10 % from length shown. | | | | | | | | | |
| **Triax 11** • Solid 1.4 mm Bare Copper • 85 % Bare Copper Braid • 80 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **7784E** | | 1640 | 500 | 173.5 | 78.7 | 1.4mm<br>16 AWG<br>Solid BC<br>18.2 Ω/km*<br>11.2 Ω/km** | 0.256 | 6.50 | 85 % BC<br>Braid<br>+ 80 % BC<br>Braid<br>7.4 Ω/km***<br>7.2 mm | 0.433 | 11.00 | 75 | 81 % | 16.8 | 55.0 | 1<br>3<br>5<br>10<br>100<br>300<br>750 | 0.2<br>0.2<br>0.4<br>0.5<br>1.8<br>3.2<br>4.8 | 0.5<br>0.8<br>1.3<br>1.7<br>5.8<br>10.6<br>15.6 |
| | | | Available: 7784ENH - with FRNC/LSNH Jacket<br>7784EPU - with PUR Jacket | | | | | | | Pulling Tension: 300 N<br>Spools are one piece, but length may vary ±5 % from length shown. | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • SPC = Silver-Plated Copper

# Video Triax Cables

BRILLIANCE®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Triax 14** • Stranded (7x0.75) 2.2 mm Silver-Plated Copper • 80 % Silver-Plated Copper Braid • 80 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **7785A** | | 1000 | 305 | 157.9 | 76.2 | 2.21 mm | 0.382 | 9.70 | 80% SPC | 0.571 | 14.50 | 75 | 82% | 16.5 | 54.0 | 1 | 0.1 | 0.4 |
| | | | 1640 | 500 | 259.0 | 124.9 | 12 AWG | | | Braid | | | | | | | 10 | 0.4 | 1.3 |
| | | | 1968 | 600 | 310.8 | 149.9 | (7x0.75) SPC | | | + 80% BC | | | | | | | 20 | 0.5 | 1.7 |
| | | | | | | | 12.1 Ω/km* | | | Braid | | | | | | | 40 | 0.8 | 2.5 |
| | | | | | | | 5.7 Ω/km** | | | 6.4 Ω/km*** | | | | | | | 50 | 0.9 | 2.8 |
| | | | | | | | | | | 10.4 mm | | | | | | | 60 | 0.9 | 3.1 |
| | | | | | | | | | | | | | | | | | 100 | 1.3 | 4.2 |
| | | | Return loss at 5-850 MHz: ≥ 21 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | 300 | 2.3 | 7.6 |
| | | | | | | | | | | Pulling Tension: 550 N | | | | | | | 1000 | 4.4 | 14.3 |
| | | | | | | | | | | Spools are one piece, but length may vary 305 m 0% to +5%, 500 m ±10%, 600 m ±10% from length shown. | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **7785ANH** | | 1000 | 305 | 157.9 | 80.3 | 2.21 mm | 0.382 | 9.70 | 80% SPC | 0.571 | 14.50 | 75 | 82% | 16.5 | 54.0 | see above | | |
| | | | 1640 | 500 | 259.0 | 131.6 | 12 AWG | | | Braid | | | | | | | | | |
| | | | 1968 | 600 | 310.8 | 157.9 | (7x0.75) SPC | | | + 80% BC | | | | | | | | | |
| | | | | | | | 12.1 Ω/km* | | | Braid | | | | | | | | | |
| | | | | | | | 5.7 Ω/km** | | | 6.4 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | 10.4 mm | | | | | | | | | |
| | | | Return loss at 5-850 MHz: ≥ 21 dB | | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | | | |
| | | | | | | | | | | Pulling Tension: 550 N | | | | | | | | | |
| | | | | | | | | | | Spools are one piece, but length may vary 305 m 0% to +5%, 500 m ±5%, 600 m 0% to +10% from length shown. | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • SPC = Silver-Plated Copper

# Standard Analog Video Cables

## 75 Ohm Coax

BRILLIANCE®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

### 23 AWG • Solid 0.6 mm Copper-Covered Steel Conductor • 95 % Bare Copper Braid

**Polyethylene Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30V RMS | **8241** | NEC: | 100 | 31 | 4.4 | 2.0 | 0.58 mm | 0.146 | 3.71 | 95% BC | 0.240 | 6.10 | 75 | 66% | 20.5 | 67.3 | 1 | 0.6 | 2.0 |
| 75°C | | CM | U-500 | U-152 | 19.5 | 8.8 | 23 AWG | | | Braid | | | | | | | 10 | 1.1 | 3.6 |
| UL AWM Style 1354, VW1 | | | 500 | 152 | 18.5 | 8.4 | Solid CCS | | | 8.5 Ω/km*** | | | | | | | 50 | 2.4 | 7.9 |
| | | | U-1000 | U-305 | 38.0 | 17.2 | 169.2 Ω/km* | | | | | | | | | | 100 | 3.4 | 11.2 |
| | | | 1000 | 305 | 40.0 | 18.1 | 160.7 Ω/km** | | | | | | | | | | 200 | 4.9 | 16.1 |
| | | | 2000 | 610 | 80.0 | 36.3 | | | | | | | | | | | 400 | 7.0 | 23.0 |
| | | | 5000 | 1524 | 200.0 | 90.7 | | | | | | | | | | | 700 | 9.7 | 31.8 |
| 0.6/3.7 | | | | | | | | | | | | | | | | | 900 | 11.1 | 36.4 |
| RG-59/U Typ | | | | | | | | | | | | | | | | | 1000 | 12.0 | 39.4 |

U-305 m put-up also available in Red, Yellow, Green, Light Blue, White, Orange and Black.

Nominal Delay: 5.053 ns/m
Pulling Tension: 276 N

### 22 AWG • Stranded (7x30) 0.8 mm Bare Copper Conductor • 95 % Bare Copper Braid

**Polyethylene Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30V RMS | **9259** | NEC: | 100 | 31 | 4.1 | 1.9 | 0.76 mm | 0.146 | 3.71 | 95% BC | 0.241 | 6.12 | 75 | 78% | 17.3 | 56.7 | 1 | 0.3 | 1.0 |
| 80°C | | CM | U-500 | U-152 | 18.1 | 8.2 | 22 AWG | | | Braid | | | | | | | 10 | 0.9 | 3.0 |
| UL AWM Style 1354 | | CEC: | 500 | 152 | 16.6 | 7.5 | (7x30) BC | | | 8.5 Ω/km*** | | | | | | | 50 | 2.1 | 6.9 |
| | | CM | U-1000 | U-305 | 35.0 | 15.9 | 57.7 Ω/km* | | | | | | | | | | 100 | 3.0 | 9.8 |
| | | | 1000 | 305 | 37.0 | 16.8 | 49.2 Ω/km** | | | | | | | | | | 200 | 4.5 | 14.8 |
| | | | | | | | | | | | | | | | | | 400 | 6.6 | 21.7 |
| 0.7/3.7 | | | | | | | | | | | | | | | | | 700 | 8.9 | 29.2 |
| | | | | | | | | | | | | | | | | | 900 | 10.1 | 33.1 |
| For CCTV applications. | | | | | | | | | | | | | | | | | 1000 | 10.9 | 35.8 |

Nominal Delay: 5.053 ns/m
Pulling Tension: 275 N

### 20 AWG • Solid 0.8 mm Bare Copper • 98 % Tinned Copper Double Braid

**Polyethylene Insulation • Polyethylene Jacket** (Red, Yellow, Green, Light Blue, White, Orange and Black)

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **8281** | | 500 | 152 | 37.5 | 17.0 | 0.81 mm | 0.198 | 5.03 | Double Braid | 0.305 | 7.75 | 75 | 66% | 21.0 | 68.9 | 1 | 0.3 | 1.0 |
| | | | 1000 | 305 | 74.0 | 33.6 | 20 AWG | | | 98% TC | | | | | | | 3.6 | 0.5 | 1.6 |
| | | | | | | | Solid BC | | | 3.6 Ω/km*** | | | | | | | 10 | 0.8 | 2.6 |
| | | | | | | | 36.1 Ω/km* | | | | | | | | | | 71.5 | 2.1 | 6.9 |
| | | | | | | | 32.5 Ω/km** | | | | | | | | | | 135 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 270 | 4.3 | 14.1 |
| 0.8/5.0 | | | | | | | | | | | | | | | | | 360 | 5.1 | 16.7 |
| RG-59/U Type | | | | | | | | | | | | | | | | | 540 | 6.3 | 20.7 |
| | | | | | | | | | | | | | | | | | 720 | 7.4 | 24.3 |
| 152 m put-up not available in White. | | | | | | | | | | | | | | | | | 750 | 7.6 | 24.9 |
| | | | | | | | | | | | | | | | | | 1000 | 9.2 | 30.2 |

Nominal Delay: 5.053 ns/m
Pulling Tension: 515 N

### 18 AWG • Solid 1.0 mm Bare Copper • **Duofoil®** • 60 % Tinned Copper Braid

**Gas-Injected Foam HDPE Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30V RMS | **9248** | NEC: | U-500 | U-152 | 16.5 | 7.5 | 1.02 mm | 0.180 | 4.57 | Duofoil® | 0.270 | 6.86 | 75 | 82% | 16.2 | 53.1 | 1 | 0.3 | 1.0 |
| 80°C | | CM | 500 | 152 | 15.0 | 6.8 | 18 AWG | | | + 60% TC | | | | | | | 10 | 0.7 | 2.3 |
| UL AWM Style 1354 | | CEC: | U-1000 | U-305 | 32.0 | 14.5 | Solid BC | | | Braid | | | | | | | 50 | 1.5 | 4.9 |
| | | CM | 1000 | 305 | 33.0 | 15.0 | 39.4 Ω/km* | | | 18.4 Ω/km*** | | | | | | | 100 | 2.0 | 6.6 |
| | | | 1640 | 500 | 55.8 | 25.3 | 21.0 Ω/km** | | | | | | | | | | 200 | 2.8 | 9.2 |
| | | | 3280 | 1000 | 108.2 | 49.1 | | | | | | | | | | | 400 | 4.0 | 13.1 |
| | | | | | | | | | | | | | | | | | 700 | 5.3 | 17.4 |
| 1.0/4.6 | | | | | | | | | | | | | | | | | 900 | 6.1 | 20.0 |
| RG-6 | | | | | | | | | | | | | | | | | 1000 | 6.5 | 21.3 |
| | | | | | | | | | | | | | | | | | 1500 | 8.3 | 27.2 |

Nominal Delay: 4.068 ns/m
Pulling Tension: 195 N

### 14 AWG • Solid 1.6 mm Bare Copper • **Duofoil®** • 60 % Tinned Copper Braid

**Gas-Injected Foam HDPE Insulation • Black PVC Jacket**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80°C | **9292** | | 1000 | 305 | 75.0 | 34.0 | 1.63 mm | 0.280 | 7.11 | Duofoil® | 0.405 | 10.29 | 75 | 84% | 16.1 | 52.8 | 1 | 0.2 | 0.6 |
| | | | | | | | 14 AWG | | | + 60% TC | | | | | | | 10 | 0.5 | 1.6 |
| | | | | | | | Solid BC | | | Braid | | | | | | | 50 | 0.9 | 3.0 |
| | | | | | | | 18.3 Ω/km* | | | 9.8 Ω/km*** | | | | | | | 100 | 1.3 | 4.3 |
| | | | | | | | 8.5 Ω/km** | | | | | | | | | | 200 | 1.6 | 5.3 |
| | | | | | | | | | | | | | | | | | 400 | 2.3 | 7.5 |
| 1.6/7.2 | | | | | | | | | | | | | | | | | 700 | 3.3 | 10.8 |
| RG-11 | | | | | | | | | | | | | | | | | 900 | 4.0 | 13.1 |
| | | | | | | | | | | | | | | | | | 1000 | 4.3 | 14.1 |

Nominal Delay: 3.937 ns/m
Pulling Tension: 435 N

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper • CCS = Copper-Covered Steel
Duofoil® see technical information page 23.13.

# Standard Analog Video Cables

## RGB Component Video Multicore Cables

BRILLIANCE®

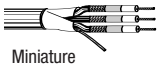
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | Nominal Attenuation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | pF/ft. | pF/m | MHz | dB/ 100 ft. | dB/ 100 m |

**30 AWG** • Stranded (7x38) 0.3 mm Tinned Copper • **Duofoil®** • 90 % Tinned Copper Braid (Coaxes) • Overall **Beldfoil®** Shield • TC Drain Wire

**Foam HDPE Insulation • Overall Black PVC Jacket**

30V RMS
60°C

NEC:
CL2



Miniature
0.3/1.4

0.31 mm
30 AWG
(7x38) TC
413.2 Ω/km*
382.1 Ω/km**

0.056 | 1.42 | Duofoil® + 90 % TC Braid | 31.1 Ω/km***

75 | 78 % | 17.3 | 56.8

| MHz | dB/ 100 ft. | dB/ 100 m |
|---|---|---|
| 1 | 0.8 | 2.6 |
| 5 | 1.5 | 4.9 |
| 10 | 2.2 | 7.2 |
| 30 | 4.0 | 13.1 |
| 50 | 5.4 | 17.7 |
| 100 | 8.2 | 26.9 |
| 1000 | 32.8 | 107.6 |

Pulling Tension:

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1520A** | 3 Coax | 500<br>1000 | 152<br>305 | 23.0<br>50.0 | 10.4<br>22.7 | | | 0.283 | 7.19 | | 187 N |
| **1521A** | 4 Coax | 500<br>1000 | 152<br>305 | 31.0<br>60.0 | 14.1<br>27.2 | | | 0.310 | 7.87 | | 249 N |
| **1522A** | 5 Coax | 500<br>1000 | 152<br>305 | 34.5<br>67.0 | 15.6<br>30.4 | | | 0.338 | 8.59 | | 311 N |

Nominal Delay: 4.265 ns/m
100 % Sweep tested. 10 MHz to 40 MHz.
Color Code: see chart below

**26 AWG** • Stranded (7x34) 0.5 mm Bare Copper • **Duofoil®** • 93 % Tinned Copper Braid (Coaxes)

**Foam HDPE Insulation • Overall Matte Black PVC Jacket**

30V RMS
60°C



High-Flex
0.5/2.3

0.48 mm
26 AWG
(7x34) TC
164.3 Ω/km*
136.1 Ω/km**

0.090 | 2.29 | Duofoil® + 93 % TC Braid | 28.2 Ω/km***

75 | 78 % | 17.3 | 56.8

| MHz | dB/ 100 ft. | dB/ 100 m |
|---|---|---|
| 1 | 0.6 | 2.0 |
| 5 | 1.3 | 4.3 |
| 10 | 1.8 | 5.9 |
| 30 | 3.1 | 10.2 |
| 50 | 3.9 | 12.8 |
| 100 | 5.4 | 17.7 |
| 1000 | 15.9 | 52.2 |

Pulling Tension:

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1406B** | 3 Coax | 1000 | 305 | 79.0 | 35.8 | | | 0.388 | 9.86 | | 458 N |
| **1407B** | 4 Coax | 1000 | 305 | 100.0 | 45.4 | | | 0.455 | 11.56 | | 614 N |
| **1417B** | 5 Coax | 1000 | 305 | 110.0 | 49.9 | | | 0.477 | 12.12 | | 765 N |

Nominal Delay: 4.265 ns/m
100 % Sweep tested. 10 MHz to 40 MHz.
Color Code: see chart below

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper

Duofoil® see technical information page 23.13.

### Color Code

| Cond. | Color |
|---|---|
| 1 | Red |
| 2 | Green |
| 3 | Blue |
| 4 | White |
| 5 | Yellow |

# Low Loss HDTV/SDI Digital Coax

75 Ohm Coax

BRILLIANCE®



| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **28.5 AWG** • Solid 0.3 mm Bare Copper Conductor • **Duobond® foil** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • PVC Jacket** (Brown, Red, Orange, Yellow, Green, Blue, Violet, Grey, White and Black) | | | | | | | | | | | | | | | | | | | |
| DigiTruck HDTV/SDI Digital Video 70°C | **179DT** | NEC: CM CEC: CMG FT4 | 500 1000 | 152 305 | 5.0 8.0 | 2.3 3.6 | 0.31 mm 28.5 AWG Solid BC 379.2 Ω/km* 350.0 Ω/km** | 0.056 | 1.42 | Duobond® + 95% TC Braid 29.2 Ω/km*** | 0.100 | 2.54 | 75 | 77% | 17.5 | 57.4 | 1 5 10 67.5 71.5 100 135 270 360 540 720 750 1000 1500 2000 2250 3000 4500 | 1.2 1.9 2.4 5.9 6.0 6.9 7.9 10.8 12.5 15.4 17.9 18.3 21.3 26.3 30.8 32.8 38.3 47.5 | 3.9 6.1 7.8 19.3 19.6 22.6 25.8 35.4 41.0 50.5 58.7 60.0 69.9 86.3 101.1 107.6 125.7 155.8 |
|  0.3/1.4 RG-179 | | | | | | | | | | | | | | | | | | | |
| | | | Return loss at 5-1600 MHz: ≥ 23 dB 1600-3000 MHz: ≥ 21 dB | | | | | | | Nominal Delay: 4.331 ns/m 100% Sweep tested. 5 Mhz to 3 GHz. Pulling Tension: 66 N | | | | | | | | | |
| **25 AWG** • Stranded (19x37) 0.5 mm Bare Copper • **Duofoil®** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • PVC Jacket** (Brown, Red, Orange, Yellow, Blue, Violet, Grey, White and Black) | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C | **1865A** | NEC: CMR CEC: CMG FT4 | 1000 | 305 | 14.0 | 6.4 | 0.53 mm 25 AWG (19x37) BC 107.6 Ω/km* 89.9 Ω/km** | 0.094 | 2.39 | Duofoil® + 95% TC Braid 17.7 Ω/km*** | 0.150 | 3.81 | 75 | 82% | 16.5 | 54.1 | 1 5 71.5 360 540 750 1000 1500 2250 3000 | 0.5 1.1 3.7 8.2 10.1 12.0 13.9 17.0 20.8 24.0 | 1.5 3.6 12.1 26.9 33.1 39.4 45.6 55.8 68.2 78.7 |
|  0.5/2.4 RG-59/U Type | | | | | | | | | | | | | | | | | | | |
| | | | Nominal Delay: 4.068 ns/m 100% Sweep tested. 5 Mhz to 3 GHz. | | | | | | | Pulling Tension: 133 N | | | | | | | | | |
| **23 AWG** • Solid 0.6 mm Bare Copper Conductor • **Duofoil®** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C | **1855A** | NEC: CMR CEC: CMG FT4 | 500 1000 | 152 305 | 9.0 16.0 | 4.1 7.3 | 0.58 mm 23 AWG Solid BC 90.8 Ω/km* 65.9 Ω/km** | 0.102 | 2.59 | Duofoil® + 95% TC Braid 24.9 Ω/km*** | 0.159 | 4.04 | 75 | 82% | 16.3 | 53.5 | 1 3.6 10 71.5 135 270 360 540 720 750 1000 1500 2000 2250 3000 4500 | 0.4 0.8 1.2 3.1 3.8 5.4 6.2 7.7 9.5 9.6 10.5 13.0 15.1 16.0 18.5 22.8 | 1.3 2.6 3.9 10.0 12.5 17.7 20.3 25.3 31.1 31.5 34.4 42.6 49.5 52.5 60.7 74.8 |
|  0.6/2.6 RG-59/U Type | | | | | | | | | | | | | | | | | | | |
| | | | Return loss at 5-1600 MHz: ≥ 23 dB 1601-4500 MHz: ≥ 21 dB 152 m put-up available in Black only. | | | | | | | Nominal Delay: 4.003 ns/m 100% Sweep tested. 5 Mhz to 3 GHz. Pulling Tension: 160 N Also available in multiples, bundled. See page 19.31 and 19.33. | | | | | | | | | |
| **22 AWG** • Solid 0.6 mm Tinned Copper • **Duofoil®** • 90% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • Green with FRNC Jacket** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C | **1855ENH** | | 328 1640 | 100 500 | 6.2 30.9 | 2.8 14.0 | 0.64 mm 22 AWG Solid TC 69.0 Ω/km* 52.0 Ω/km** | 0.110 | 2.80 | Duofoil® + 90% TC Braid 17.0 Ω/km*** | 0.175 | 4.45 | 75 | 84% | 16.2 | 53.0 | 71.5 135 270 360 540 750 1500 3000 | 2.6 3.5 4.9 5.7 7.0 8.2 11.8 17.1 | 8.6 11.5 16.1 18.6 22.8 26.9 38.7 56.1 |
|  0.6/2.8 RG-59/U Type | | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper

Duofoil® and Duobond® see technical information page 23.13.

# Low Loss HDTV/SDI Digital Coax

75 Ohm Coax

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **23 AWG** • Solid 0.6 mm Bare Copper • 90% Tinned Copper Double Braid + 85% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Polyethylene Insulation • Cream PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| SDI<br>Digital Video<br>75°C | **BE43187** | | 328<br>1640 | 100<br>500 | 7.5<br>37.5 | 7.0<br>35.0 | 0.58 mm<br>23 AWG<br>Solid BC | 0.146 | 3.70 | Double Braid<br>90% TC<br>85% TC | 0.248 | 6.30 | 75 | 66% | 20.7 | 68.0 | 1<br>10<br>135<br>270<br>360<br>540<br>750<br>1000 | 0.3<br>1.1<br>3.8<br>5.5<br>6.3<br>8.0<br>9.8<br>11.3 | 1.1<br>3.5<br>12.5<br>17.9<br>20.8<br>26.2<br>32.0<br>37.0 |
|  <br>0.6/3.7<br>RG-59/U Type | | | | | | | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x29) 0.8 mm Bare Compacted Copper# • 98% Tinned Copper Double Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • PVC Jacket** (Matte Black, Red, Green, Blue, Yellow, White and Violet) | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI<br>Digital Video<br>75°C | **1505F** | NEC:<br>CM<br>CEC:<br>CM | 1000 | 305 | 45.0 | 20.4 | 0.76 mm<br>22 AWG<br>(7x29) BCC<br>47.8 Ω/km*<br>40.0 Ω/km** | 0.145 | 3.68 | Double Braid<br>98% TC<br>Braid<br>7.8 Ω/km*** | 0.242 | 6.15 | 75 | 80% | 17.0 | 55.7 | 1<br>3.6<br>5<br>7<br>10<br>71.5<br>100<br>135<br>270<br>360<br>540<br>720<br>750<br>1000<br>1500<br>2000<br>2250<br>3000 | 0.2<br>0.5<br>0.6<br>0.7<br>0.9<br>2.5<br>3.0<br>3.5<br>5.1<br>6.0<br>7.4<br>8.7<br>8.9<br>10.5<br>13.3<br>15.7<br>16.9<br>20.3 | 0.7<br>1.6<br>2.0<br>2.4<br>2.4<br>8.2<br>9.8<br>11.5<br>16.7<br>19.7<br>24.3<br>28.5<br>29.2<br>34.4<br>43.6<br>51.5<br>55.4<br>66.6 |
|  <br>0.8/3.7<br>RG-59/U Type | | | | | | | | | | | | | | | | | | | |
| Return loss at 5-3000 MHz: ≥ 15 dB<br>Nominal Delay: 4.265 ns/m<br>100% Sweep tested. 5 Mhz to 3 GHz.<br>Pulling Tension: 400 N | | | | | | | | | | | | | | | | | | | |
| **20 AWG** • Solid 0.8 mm Bare Copper • **Duofoil®** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • PVC Jacket** (Brown, Red, Orange, Yellow, Green, Blue, Violet, Grey, White and Black) | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI<br>Digital Video<br>75°C | **1505A** | NEC:<br>CMR<br>CEC:<br>CMG FT4 | 500<br>1000<br>5000 | 152<br>305<br>1524 | 17.5<br>36.0<br>165.4 | 7.9<br>16.3<br>75.0 | 0.81 mm<br>20 AWG<br>Solid BC<br>45.3 Ω/km*<br>32.8 Ω/km** | 0.145 | 3.68 | Duofoil®<br>95% TC<br>Braid<br>12.5 Ω/km*** | 0.233 | 5.92 | 75 | 83% | 16.3 | 53.5 | 1<br>3.6<br>5<br>7<br>10<br>71.5<br>100<br>135<br>270<br>360<br>540<br>720<br>750<br>1000<br>1500<br>2000<br>2250<br>3000<br>4500 | 0.3<br>0.5<br>0.6<br>0.7<br>0.9<br>2.1<br>2.3<br>2.7<br>3.8<br>4.4<br>5.5<br>6.4<br>6.5<br>7.6<br>9.3<br>9.3<br>11.6<br>13.4<br>16.4 | 1.0<br>1.8<br>2.1<br>2.4<br>2.9<br>6.9<br>7.6<br>8.9<br>12.5<br>14.4<br>18.0<br>21.0<br>21.3<br>24.9<br>30.5<br>30.5<br>38.0<br>44.0<br>53.8 |
|  <br>0.8/3.7<br>RG-59/U Type | | | | | | | | | | | | | | | | | | | |
| Return loss at 5-1600 MHz: ≥ 23 dB<br>1601-4500 MHz: ≥ 21 dB<br>Nominal Delay: 4.003 ns/m<br>100% Sweep tested. 5 Mhz to 3 GHz.<br>Pulling Tension: 209 N<br>152 m put-up available in Black, Red or Blue only.<br>Also available in bundled versions. See page 19.32 and 19.34. | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE • Black FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI<br>Digital Video<br>75°C | **1505ANH** | IEC 332-3C<br>IEC 332-1<br>IEC 61034-1<br>IEC 60331-11<br>IEC 60754-1<br>IEC 60754-2 | 1000 | 305 | 36.0 | 15.5 | 0.81 mm<br>20 AWG<br>Solid BC<br>45.2 Ω/km*<br>32.8 Ω/km** | 0.145 | 3.68 | Duofoil®<br>95% TC<br>Braid<br>12.4 Ω/km*** | 0.233 | 5.92 | 75 | 83% | 16.3 | 53.5 | | | see above |
|  <br>0.8/3.7<br>RG-59/U Type | | | | | | | | | | | | | | | | | | | |
| Return loss at 5-1600 MHz: ≥ 23 dB<br>1601-4500 MHz: ≥ 21 dB<br>Nominal Delay: 4.003 ns/m<br>100% Sweep tested. 5 Mhz to 3 GHz.<br>Pulling Tension: 209 N | | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper • BCC = Bare Compacted Copper
#Compacted conductor combines impedance uniformity of solid conductors and "nick-resistance" of stranded conductors.

Duofoil® see technical information page 23.13.

# Low Loss HDTV/SDI Digital Coax

75 Ohm Coax

BRILLIANCE®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Solid 1.0 mm Bare Copper • **Duofoil®** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE • PVC Jacket** (Brown, Red, Orange, Yellow, Green, Blue, Violet, Grey, White and Black) | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 70°C | **1694A** | NEC: | 500 | 152 | 20.5 | 9.3 | 1.02 mm | 0.180 | 4.57 | Duofoil® | 0.275 | 6.99 | 75 | 82% | 16.2 | 53.1 | 1 | 0.2 | 0.8 |
| | | CMR | 1000 | 305 | 45.0 | 20.4 | 18 AWG | | | + 95% TC | | | | | | | 3.6 | 0.5 | 1.5 |
| | | CEC: | 4500 | 1372 | 202.5 | 91.9 | Solid BC | | | Braid | | | | | | | 10 | 0.7 | 2.4 |
| | | CMG FT4 | | | | | 30.2 Ω/km* | | | 9.2 Ω/km*** | | | | | | | 71.5 | 1.6 | 5.2 |
| | | | | | | | 21.0 Ω/km** | | | | | | | | | | 135 | 2.1 | 6.9 |
| | | | | | | | | | | | | | | | | | 270 | 3.0 | 9.7 |
| | | | | | | | | | | | | | | | | | 360 | 3.4 | 11.3 |
| 1.0/4.6 RG-6/U Type | | | | | | | | | | | | | | | | | 540 | 4.3 | 13.9 |
| | | | | | | | | | | | | | | | | | 720 | 4.9 | 16.1 |
| | | | | | | | | | | | | | | | | | 750 | 5.0 | 16.4 |
| | | | | | | | | | | | | | | | | | 1000 | 5.9 | 19.3 |
| | | Return loss at | 5-1600 MHz: ≥ 23 dB | | | | | | | Nominal Delay: 4.068 ns/m | | | | | | | 1500 | 7.3 | 24.0 |
| | | | 1601-4500 MHz: ≥ 21 dB | | | | | | | 100% Sweep tested. 5 Mhz to 4.5 GHz. | | | | | | | 2250 | 9.1 | 30.0 |
| | | | | | | | | | | Pulling Tension: 306 N | | | | | | | 3000 | 10.7 | 35.0 |
| | | 152 m put-up available in Black only. | | | | | | | | Also available in bundled versions, see page 19.32. | | | | | | | 4500 | 13.3 | 43.6 |
| **Gas-Injected Foam HDPE • Black FRNC Jacket** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 70°C | **1694ANH** | IEC 332-3C | 328 | 100 | 15.4 | 6.4 | 1.02 mm | 0.180 | 4.57 | Duofoil® | 0.275 | 6.99 | 75 | 82% | 16.2 | 53.1 | | | see above |
| | | IEC 332-1 | 1000 | 305 | 46.2 | 19.6 | 18 AWG | | | + 95% TC | | | | | | | | | |
| | | IEC 61034-1 | 1640 | 500 | 77.0 | 32.2 | Solid BC | | | Braid | | | | | | | | | |
| | | IEC 60331-11 | 4500 | 1372 | 207.7 | 88.2 | 30.2 Ω/km* | | | 9.2 Ω/km*** | | | | | | | | | |
| | | IEC 60754-1 | | | | | 21.0 Ω/km** | | | | | | | | | | | | |
| | | IEC 60754-2 | | | | | | | | | | | | | | | | | |
| 1.0/4.6 RG-6/U Type | | | | | | | | | | | | | | | | | | | |
| | | Return loss at | 5-1600 MHz: ≥ 23 dB | | | | | | | Nominal Delay: 4.068 ns/m | | | | | | | | | |
| | | | 1601-4500 MHz: ≥ 21 dB | | | | | | | 100% Sweep tested. 5 Mhz to 4.5 GHz. | | | | | | | | | |
| | | 305 m put-up available in Black only. | | | | | | | | Pulling Tension: 306 N | | | | | | | | | |
| **19 AWG** • Stranded (7x27) 1.0 mm Bare Copper • 99% Tinned Copper Double Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE • PVC Jacket** (Black, Red, Green, Blue, White, Orange, Yellow and Violet) | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C 300V RMS | **1694F** | NEC: | 1000 | 305 | 54.0 | 24.5 | 1.016 mm | 0.225 | 5.72 | Double Braid | 0.276 | 7.01 | 75 | 81% | 16.2 | 53.1 | 1 | 0.2 | 0.8 |
| | | CMR | | | | | 19 AWG | | | + 99% TC | | | | | | | 3.6 | 0.5 | 1.5 |
| | | CEC: | | | | | (7x27) BC | | | Braid | | | | | | | 10 | 0.7 | 2.4 |
| | | CMG | | | | | 33.3 Ω/km* | | | 5.5 Ω/km*** | | | | | | | 71.5 | 2.0 | 6.5 |
| | | | | | | | 27.8 Ω/km** | | | | | | | | | | 270 | 4.0 | 13.1 |
| | | | | | | | | | | | | | | | | | 360 | 4.7 | 15.4 |
| | | | | | | | | | | | | | | | | | 540 | 5.9 | 19.3 |
| | | | | | | | | | | | | | | | | | 720 | 6.9 | 22.6 |
| 1.0/4.6 RG-6/U Type | | | | | | | | | | | | | | | | | 750 | 7.0 | 22.9 |
| | | | | | | | | | | | | | | | | | 1000 | 8.2 | 26.9 |
| | | | | | | | | | | | | | | | | | 1500 | 10.4 | 34.1 |
| | | Return loss at | 5-850 MHz: ≥ 20 dB | | | | | | | Nominal Delay: 4.101 ns/m | | | | | | | 2250 | 13.2 | 43.3 |
| | | | 850-4500 MHz: ≥ 15 dB | | | | | | | 100% Sweep tested. 5 Mhz to 4.5 GHz. | | | | | | | 3000 | 15.6 | 51.1 |
| | | | | | | | | | | Pulling Tension: 364 N | | | | | | | 4500 | 19.8 | 64.9 |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper

Duofoil® see technical information page 23.13.

# Low Loss HDTV/SDI Digital Coax

75 Ohm Coax

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14 AWG** • Solid 1.6 mm Bare Copper • **Duofoil®** • 95% Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • PVC Jacket** (Brown, Red, Orange, Yellow, Green, Blue, Violet, Grey, White and Black) | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C | **7731A** | NEC: | 500 | 152 | 46.5 | 21.1 | 1.63 mm | 0.280 | 7.11 | Duofoil® | 0.400 | 10.16 | 75 | 85% | 16.0 | 52.5 | 1 | 0.2 | 0.5 |
| | | CMR | 1000 | 305 | 95.0 | 43.1 | 14 AWG | | | + 95% TC | | | | | | | 10 | 0.5 | 1.5 |
| | | CEC: | 4000 | 1219 | 388.0 | 176.0 | Solid BC | | | Braid | | | | | | | 71.5 | 1.1 | 3.6 |
| | | CMG FT4 | | | | | 13.1 Ω/km* | | | 4.9 Ω/km*** | | | | | | | 135 | 1.5 | 4.8 |
| | | | | | | | 8.2 Ω/km** | | | | | | | | | | 270 | 2.1 | 6.9 |
| | | | | | | | | | | | | | | | | | 360 | 2.5 | 8.0 |
| | | | | | | | | | | | | | | | | | 540 | 3.1 | 10.0 |
| 1.6/7.2 RG-11/U Type | | | | | | | | | | | | | | | | | 720 | 3.6 | 11.7 |
| | | | | | | | | | | | | | | | | | 750 | 3.7 | 12.0 |
| | | | | | | | | | | | | | | | | | 1000 | 4.3 | 14.1 |
| | | Return loss at | 5-1600 MHz: ≥ 23 dB | | | | | | | Nominal Delay: 3.97 ns/m | | | | | | | 1500 | 5.5 | 18.0 |
| | | | 1601-4500 MHz: ≥ 21 dB | | | | | | | 100% Sweep tested. 5 Mhz to 3 GHz. | | | | | | | 2250 | 6.9 | 22.6 |
| | | | | | | | | | | | | | | | | | 3000 | 8.2 | 26.9 |
| | | 152 m put-up available in Black only. | | | | | | | | Pulling Tension: 644 N | | | | | | | 4500 | 10.4 | 34.1 |
| **Gas-Injected Foam HDPE • Black FRNC Jacket** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 70°C | **7731ANH** | IEC 332-3C | 1000 | 305 | 100.0 | 40.4 | 1.63 mm | 0.280 | 7.11 | Duofoil® | 0.400 | 10.16 | 75 | 85% | 16.0 | 52.5 | | | see above |
| | | IEC 332-1 | 1640 | 500 | 164.0 | 66.3 | 14 AWG | | | + 95% TC | | | | | | | | | |
| | | IEC 61034-1 | 3280 | 1000 | 328.0 | 132.5 | Solid BC | | | Braid | | | | | | | | | |
| | | IEC 60331-11 | 4000 | 1219 | 400.0 | 161.5 | 13.1 Ω/km* | | | 4.9 Ω/km*** | | | | | | | | | |
| | | IEC 60754-1 | | | | | 8.2 Ω/km** | | | | | | | | | | | | |
| | | IEC 60754-2 | | | | | | | | | | | | | | | | | |
| 1.6/7.2 RG-11/U Type | | | | | | | | | | | | | | | | | | | |
| | | Return loss at | 5-1600 MHz: ≥ 23 dB | | | | | | | Nominal Delay: 3.97 ns/m | | | | | | | | | |
| | | | 1601-4500 MHz: ≥ 21 dB | | | | | | | 100% Sweep tested. 5 Mhz to 3 GHz. | | | | | | | | | |
| | | | | | | | | | | Pulling Tension: 644 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper

Duofoil® see technical information page 23.13.

# HDTV/SDI Digital Coax

## RGB Component Video Multicore Cables
## VideoFlex® Snake Cables

BRILLIANCE®



### 25 AWG • Solid 0.5 mm Tinned Copper • Duobond® • 95 % Tinned Interlocked Serve (Coaxes)

**FPFA Insulation • Overall Matte Black PVC Jacket**

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDTV/SDI Digital Video 60°C | | NEC: CMR CEC: CMG | | | | | 0.46 mm 25 AWG Solid TC 129.2 Ω/km* 111.5 Ω/km** | 0.074 | 1.88 | Duobond® 95% TC Serve 17.7 Ω/km*** | 0.114 | 2.90 | 75 | 80% | 17.0 | 55.8 | 1 | 0.5 | 1.7 |
| | | | | | | | | | | | | | | | | | 5 | 1.2 | 3.8 |
| | | | | | | | | | | | | | | | | | 50 | 3.7 | 12.1 |
| | | | | | | | | | | | | | | | | | 100 | 4.9 | 16.1 |
| | | | | | | | | | | | | | | | | | 200 | 6.7 | 22.0 |
| | | | | | | | | | | | | | | | | | 400 | 9.5 | 31.2 |
| Miniature 0.5/1.9 | | | | | | | | | | | | | | | | | 750 | 13.4 | 44.0 |
| | | | | | | | | | | | | | | | | | 900 | 15.0 | 49.2 |
| | | | | | | | | | | | | | | | | | 1000 | 15.8 | 51.8 |
| | | | | | | | | | | | | | | | | | 3000 | 31.2 | 102.4 |
| Nominal Delay: 4.068 ns/m • Color Code: see chart 1 | | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **1277R** | 3 Coax | † 500 | 152 | 25.5 | 11.6 | | | | | 0.320 | 8.13 | | | | | | | 400 N |
| | | | † 1000 | 305 | 48.0 | 21.8 | | | | | | | | | | | | | |
| | **1278R** | 4 Coax | 250 | 76 | 21.8 | 9.9 | | | | | 0.351 | 8.92 | | | | | | | 489 N |
| | | | † 500 | 152 | 31.5 | 14.3 | | | | | | | | | | | | | |
| | | | † 1000 | 305 | 60.0 | 27.2 | | | | | | | | | | | | | |
| | **1279R** | 5 Coax | † 500 | 152 | 40.5 | 18.4 | | | | | 0.403 | 10.24 | | | | | | | 578 N |
| | | | † 1000 | 305 | 80.0 | 36.3 | | | | | | | | | | | | | |
| | **1280R** | 6 Coax | † 500 | 152 | 44.0 | 20.0 | | | | | 0.423 | 10.74 | | | | | | | 601 N |
| | | | † 1000 | 305 | 87.0 | 39.5 | | | | | | | | | | | | | |

### 23 AWG • Solid 0.6 mm Tinned Copper • Duofoil® • 95 % Tinned Copper Braid (Coaxes)

**Gas-Injected Foam HDPE Insulation • Overall Matte Black PVC Jacket**

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDTV/SDI Digital Video 75°C | | NEC: CMR CEC: CMG FT4 | | | | | 0.58 mm 23 AWG Solid TC 90.8 Ω/km* 65.9 Ω/km** | 0.100 | 2.55 | Duofoil® + 95% TC Braid 24.9 Ω/km*** | 0.159 | 4.03 | 75 | 83% | 16.5 | 54.1 | 1 | 0.4 | 1.3 |
| | | | | | | | | | | | | | | | | | 3.6 | 0.8 | 2.6 |
| | | | | | | | | | | | | | | | | | 10 | 1.2 | 3.9 |
| | | | | | | | | | | | | | | | | | 270 | 5.4 | 17.7 |
| | | | | | | | | | | | | | | | | | 360 | 6.2 | 20.3 |
| | | | | | | | | | | | | | | | | | 750 | 9.5 | 31.2 |
| 1855A Bundled 0.6/2.6 | | | | | | | | | | | | | | | | | 1000 | 10.5 | 34.4 |
| | | | | | | | | | | | | | | | | | 2500 | 16.9 | 55.4 |
| | | | | | | | | | | | | | | | | | 3000 | 18.5 | 60.7 |
| Nominal Delay: 4.068 ns/m • Sweep tested. 5 MHz to 3 GHz. • Color Code: see chart 2 | | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **7787A** | 3 Coax | 500 | 152 | 47.5 | 21.5 | | | | | 0.432 | 10.97 | | | | | | | 480 N |
| | | | 1000 | 305 | 94.0 | 42.6 | | | | | | | | | | | | | |
| | **7788A** | 4 Coax | 1000 | 305 | 110.0 | 49.9 | | | | | 0.481 | 12.22 | | | | | | | 640 N |
| | **7789A** | 5 Coax | 500 | 152 | 73.0 | 33.1 | | | | | 0.539 | 13.69 | | | | | | | 801 N |
| | | | 1000 | 305 | 142.0 | 64.4 | | | | | | | | | | | | | |
| | **7790A** | 6 Coax | 500 | 152 | 88.5 | 40.1 | | | | | 0.597 | 15.16 | | | | | | | 961 N |
| | | | 1000 | 305 | 176.0 | 79.8 | | | | | | | | | | | | | |
| | **7791A** | 10 Coax | 500 | 152 | 155.5 | 70.5 | | | | | 0.796 | 20.22 | | | | | | | 1601 N |
| | | | 1000 | 305 | 304.0 | 137.9 | | | | | | | | | | | | | |
| | **7792A** | 12 Coax | 500 | 152 | 178.5 | 81.0 | | | | | 0.825 | 20.96 | | | | | | | 1922 N |
| | | | 1000 | 305 | 367.0 | 166.5 | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • TC = Tinned Copper • FPFA = Foam Perfluoroalkoxy • HDPE = High-density Polyethylene • DCR = DC resistance • † Spools are one piece, but length may vary ±10% from length shown. • Duobond® see technical information page 23.13.

### Color Code (Chart 1)

| Cond. | Color | Cond. | Color | Cond. | Color |
|---|---|---|---|---|---|
| 1 | Red | 3 | Blue | 5 | Black |
| 2 | Green | 4 | Yellow | 6 | White |

### Color Code (Chart 2)

| Cond. | Color | Cond. | Color | Cond. | Color | Cond. | Color | Cond. | Color | Cond. | Color |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Red | 3 | Blue | 5 | Yellow | 7 | Orange | 9 | Purple | 11 | Pink |
| 2 | Green | 4 | White | 6 | Brown | 8 | Grey | 10 | Black | 12 | Tan |

# HDTV/SDI Digital Coax

## RGB Component Video Multicore Cables
## VideoFlex® Snake Cables

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Solid 0.8 mm Bare Copper • **Duofoil®** • 95% Tinned Copper Braid (Coaxes) | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • Overall Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C<br>  <br>1505A Bundled 0.8/3.7 | | NEC: CMR CEC: CMG FT4 | | | | | 0.81 mm 20 AWG Solid BC 45.3 Ω/km* 32.8 Ω/km** | 0.145 | 3.68 | Duofoil® + 95% TC Braid 12.5 Ω/km*** | 0.235 | 5.97 | 75 | 83% | 16.2 | 53.1 | 1<br>3<br>10<br>270<br>360<br>750<br>1000<br>2500<br>3000 | 0.3<br>0.5<br>0.9<br>3.8<br>4.4<br>6.5<br>7.6<br>12.4<br>13.8 | 1.0<br>1.8<br>2.9<br>12.5<br>14.4<br>21.3<br>24.9<br>40.7<br>45.3 |
| | | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **7794A** | 3 Coax | 500<br>1000 | 152<br>305 | 94.5<br>187.0 | 42.9<br>84.8 | | | | | 0.631 | 16.03 | | | | | | | 961 N |
| | **7795A** | 4 Coax | 500<br>1000 | 152<br>305 | 116.5<br>237.0 | 52.8<br>107.5 | | | | | 0.706 | 17.93 | | | | | | | 1281 N |
| | **7796A** | 5 Coax | 500<br>1000 | 152<br>305 | 153.0<br>299.0 | 69.4<br>135.6 | | | | | 0.790 | 20.07 | | | | | | | 1601 N |
| | **7798A** | 10 Coax | 500<br>1000 | 152<br>305 | 319.5<br>625.0 | 144.9<br>283.5 | | | | | 1.166 | 29.62 | | | | | | | 3203 N |
| | Nominal Delay: 4.265 ns/m • Sweep tested. 5 MHz to 3 GHz.<br>Color Code: see chart below | | | | | | | | | | | | | | | | | | |
| **18 AWG** • Solid 1.0 mm Bare Copper • **Duofoil®** • 95% Tinned Copper Braid (Coaxes) | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • Overall Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C<br>  <br>1694A Bundled 1.0/4.6 | | NEC: CMR CEC: CMG FT4 | | | | | 1.02 mm 18 AWG Solid BC 30.8 Ω/km* 21.0 Ω/km** | 0.180 | 4.57 | Duofoil® + 95% TC Braid 9.8 Ω/km*** | 0.275 | 6.99 | 75 | 82% | 16.2 | 53.1 | 1<br>3.6<br>10<br>270<br>360<br>750<br>1000<br>2500<br>3000 | 0.2<br>0.5<br>0.7<br>3.0<br>3.4<br>5.0<br>5.9<br>9.7<br>10.7 | 0.8<br>1.5<br>2.4<br>9.7<br>11.3<br>16.4<br>19.3<br>31.8<br>35.0 |
| | | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **7710A** | 3 Coax | 500<br>1000 | 152<br>305 | 137.5<br>285.0 | 62.4<br>129.3 | | | | | 0.770 | 19.56 | | | | | | | 921 N |
| | **7711A** | 4 Coax | 500<br>1000 | 152<br>305 | 179.5<br>350.0 | 81.4<br>158.8 | | | | | 0.900 | 22.86 | | | | | | | 1227 N |
| | **7712A** | 5 Coax | 500<br>1000 | 152<br>305 | 216.5<br>454.0 | 98.2<br>205.9 | | | | | 0.970 | 24.64 | | | | | | | 1534 N |
| | **7713A** | 10 Coax | 500<br>1000 | 152<br>305 | 463.0<br>904.0 | 210.0<br>410.1 | | | | | 1.386 | 35.20 | | | | | | | 3069 N |
| | Nominal Delay: 4.068 ns/m • Sweep tested. 5 MHz to 3 GHz.<br>Color Code: see chart below | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper
Duofoil® see technical information page 23.13.

### Color Code

| Cond. | Color |
|---|---|
| 1 | Red |
| 2 | Green |

| Cond. | Color |
|---|---|
| 3 | Blue |
| 4 | White |

| Cond. | Color |
|---|---|
| 5 | Yellow |
| 6 | Brown |

| Cond. | Color |
|---|---|
| 7 | Orange |
| 8 | Grey |

| Cond. | Color |
|---|---|
| 9 | Purple |
| 10 | Black |

# HDTV/SDI Digital Coax

## RGB Component Video Multicore Cables
## Banana Peel® Unjacketed Bundles

BRILLIANCE®



**25 AWG** • Solid 0.5 mm Tinned Copper • **Duobond®** • 95 % Tinned Copper Interlocked Serve Braid (Coaxes) • **Banana Peel® Unjacketed,** Bonded to Central Spline

**Foam HDPE Insulation • PVC Jackets in Colors**

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDTV/SDI Digital Video 75°C | | NEC: CMR CEC: CMG | | | | | 0.46 mm 25 AWG Solid TC 129.2 Ω/km* 111.5 Ω/km** | 0.074 | 1.88 | Duobond® 95% TC Serve 17.7 Ω/km*** | 0.114 | 2.90 | 75 | 80% | 17.0 | 55.8 | 5 | 1.2 | 3.8 |
| | | | | | | | | | | | | | | | | | 50 | 3.7 | 12.1 |
| | | | | | | | | | | | | | | | | | 100 | 4.9 | 16.1 |
| | | | | | | | | | | | | | | | | | 200 | 6.7 | 22.0 |
| | | | | | | | | | | | | | | | | | 400 | 9.5 | 31.2 |
| | | | | | | | | | | | | | | | | | 750 | 13.4 | 44.0 |
| | | | | | | | | | | | | | | | | | 900 | 15.0 | 49.2 |
| | | | | | | | | | | | | | | | | | 1000 | 15.8 | 51.8 |
| Miniature 0.5/1.9 | | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **1281S3** | 3 Coax | † 500 | 152 | 17.0 | 7.7 | | | | | 0.246 | 6.25 | | | | | | | 400 N |
| | | | † 1000 | 305 | 31.0 | 14.1 | | | | | | | | | | | | | |
| | **1281S4** | 4 Coax | † 500 | 152 | 23.5 | 10.7 | | | | | 0.275 | 6.99 | | | | | | | 489 N |
| | | | † 1000 | 305 | 44.0 | 20.0 | | | | | | | | | | | | | |
| | **1281S5** | 5 Coax | † 250 | 76 | 16.0 | 7.3 | | | | | 0.308 | 7.82 | | | | | | | 578 N |
| | | | † 500 | 152 | 28.5 | 12.9 | | | | | | | | | | | | | |
| | | | † 1000 | 305 | 55.0 | 24.9 | | | | | | | | | | | | | |
| | **1281S6** | 6 Coax | † 500 | 152 | 33.5 | 15.2 | | | | | 0.342 | 8.69 | | | | | | | 601 N |
| | | | † 1000 | 305 | 68.0 | 30.8 | | | | | | | | | | | | | |

100 % Sweep tested. 5 MHz to 850 MHz. Patent pending.

Nominal Delay: 4.068 ns/m
Color Code: see chart 1

**23 AWG** • Solid 0.6 mm Bare Copper • **Duofoil®** • 95 % TC Braid (Coaxes) • **Banana Peel® Unjacketed,** Bonded to Central Spline

**Gas-Injected Foam HDPE Insulation • PVC Jacket**

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDTV/SDI Digital Video 75°C | | NEC: CMR CEC: CMG | | | | | 0.58 mm 23 AWG Solid BC 90.8 Ω/km* 65.9 Ω/km** | 0.102 | 2.59 | Duofoil® + 95% TC Braid 24.9 Ω/km*** | 0.159 | 4.04 | 75 | 82% | 16.3 | 53.5 | 1 | 0.4 | 1.3 |
| | | | | | | | | | | | | | | | | | 3.6 | 0.8 | 2.6 |
| | | | | | | | | | | | | | | | | | 10 | 1.2 | 3.9 |
| | | | | | | | | | | | | | | | | | 360 | 6.2 | 20.3 |
| | | | | | | | | | | | | | | | | | 750 | 9.6 | 31.5 |
| | | | | | | | | | | | | | | | | | 1000 | 10.5 | 34.4 |
| | | | | | | | | | | | | | | | | | 2000 | 15.1 | 49.5 |
| | | | | | | | | | | | | | | | | | 2250 | 16.0 | 52.5 |
| | | | | | | | | | | | | | | | | | 3000 | 18.5 | 60.7 |
| | | | | | | | | | | | | | | | | | 4500 | 22.8 | 74.8 |
| 1855A Bundled 0.6/2.6 | | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **1855S3** | 3 Coax | 500 | 152 | 29.5 | 13.4 | | | | | 0.343 | 8.71 | | | | | | | 480 N |
| | | | 1000 | 305 | 57.1 | 25.9 | | | | | | | | | | | | | |
| | **1855S5** | 5 Coax | 500 | 152 | 51.5 | 23.4 | | | | | 0.429 | 10.90 | | | | | | | 800 N |
| | | | 1000 | 305 | 102.1 | 46.3 | | | | | | | | | | | | | |
| | **1855S6** | 6 Coax | 500 | 152 | 64.1 | 29.1 | | | | | 0.477 | 12.12 | | | | | | | 960 N |
| | | | 1000 | 305 | 121.1 | 54.9 | | | | | | | | | | | | | |

Return loss at 5-625 MHz: ≥ 20 dB
625-675 MHz: ≥ 15 dB
675-850 MHz: ≥ 20 dB
850-4500 MHz: ≥ 15 dB

Nominal Delay: 4.068 ns/m
100 % Sweep tested. 5 MHz to 5 GHz.
152 m put-up available in Black only.
Color Code: see chart 2

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper
† Spools are one piece, but length may vary ±10 % from length shown. • Duofoil® and Duobond® see technical information page 23.13.

**Color Code** (Chart 1)

| Cond. | Color | Cond. | Color | Cond. | Color |
|---|---|---|---|---|---|
| 1 | Red | 3 | Blue | 5 | Black |
| 2 | Green | 4 | Yellow | 6 | White |

**Color Code** (Chart 2)

| Cond. | Color | Cond. | Color | Cond. | Color |
|---|---|---|---|---|---|
| 1 | Red | 3 | Blue | 5 | Yellow |
| 2 | Green | 4 | White | 6 | Brown |

# HDTV/SDI Digital Coax

## RGB Component Video Multicore Cables
## Banana Peel® Unjacketed Bundles

BRILLIANCE®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Solid 0.8 mm Bare Copper • **Duofoil®** • 95 % TC Braid (Coaxes) • **Banana Peel® Unjacketed,** Bonded to Central Spline | | | | | | | | | | | | | | | | | | | |
| **Foam HDPE Insulation • Individual PVC Jackets in Colors** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C | | NEC: CMR CEC: CMG | | | | | 0.81 mm 20 AWG Solid BC 45.2 Ω/km* 32.8 Ω/km** | 0.145 | 3.68 | Duofoil® + 95 % TC Braid 12.4 Ω/km*** | 0.235 | 5.97 | 75 | 83 % | 16.2 | 53.1 | 1 | 0.3 | 0.9 |
| | | | | | | | | | | | | | | | | | 3.6 | 0.6 | 1.9 |
| | | | | | | | | | | | | | | | | | 10 | 0.9 | 2.9 |
| | | | | | | | | | | | | | | | | | 71.5 | 2.1 | 6.8 |
| | | | | | | | | | | | | | | | | | 135 | 2.7 | 8.8 |
| | | | | | | | | | | | | | | | | | 270 | 3.8 | 12.4 |
| | | | | | | | | | | | | | | | | | 360 | 4.4 | 14.4 |
| | | | | | | | | | | | | | | | | | 540 | 5.5 | 18.0 |
| | | | | | | | | | | | | | | | | | 720 | 6.4 | 20.9 |
| | | | | | | | | | | | | | | | | | 750 | 6.5 | 21.3 |
| | | | | | | | | | | | | | | | | | 1000 | 7.6 | 24.9 |
| | | | | | | | | | | | | | | | | | 1500 | 9.4 | 30.8 |
| | | | | | | | | | | | | | | | | | 2500 | 12.4 | 40.6 |
| | | | | | | | | | | | | | | | | | 3000 | 13.8 | 45.2 |
| | | | | | | | | | | | | | | | | | 4500 | 16.5 | 54.2 |
| 1505A Bundled 0.8/3.7 RG-59/U Type | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | Pulling Tension: | |
| **1505S3** 3 Coax | | | 500 | 152 | 55.5 | 25.2 | | | | | 0.502 | 12.75 | | | | | | 960 N | |
| | | | 1000 | 305 | 104.0 | 47.2 | | | | | | | | | | | | | |
| **1505S5** 5 Coax | | | 500 | 152 | 95.0 | 43.1 | | | | | 0.629 | 15.98 | | | | | | 1601 N | |
| | | | 1000 | 305 | 185.0 | 83.9 | | | | | | | | | | | | | |
| **1505S6** 6 Coax | | | 500 | 152 | 117.6 | 53.3 | | | | | 0.790 | 20.07 | | | | | | 1921 N | |
| | | | 1000 | 305 | 250.3 | 113.5 | | | | | | | | | | | | | |

Return loss at
5-475 MHz: ≥ 20 dB
475-525 MHz: ≥ 15 dB
525-850 MHz: ≥ 20 dB
850-4500 MHz: ≥ 15 dB

Nominal Delay: 4.003 ns/m
100 % Sweep tested. 5 MHz to 4.5 GHz. Patent pending.
Color Code: see chart below

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper

Duofoil® see technical information page 23.13.

### Color Code

| Cond. | Color |
|---|---|
| 1 | Red |
| 2 | Green |
| 3 | Blue |

| Cond. | Color |
|---|---|
| 4 | White |
| 5 | Yellow |
| 6 | Brown |

BELDEN
SENDING ALL THE RIGHT SIGNALS

NEW GENERATION®




# 20 New Generation® Cables



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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

### Changing the Future

The demands of the market are constantly changing the boundaries of cable technology. Nowhere is the demand for uncompromising quality and leading-edge technology more critical than in the increasingly complex fields of security and alarm systems and audio/visual applications – that's why choice, imagination, technical expertise and exceptional quality are vital.

Belden's New Generation® range comprises low voltage electronic cables. It includes one of the largest, modern and economical/cost effective selections of reliable multi-conductor and coaxial products on the market.

Innovations include Belden's revolutionary Banana Peel® access control composite cable, Banana Peel® CCTV PTZ (Power, Tilt, Zoom) cable, and Belcoil packaging for selected cables – all designed for easier and more efficient installation.

### Key Applications

- Security systems
- Intercom/PA systems
- Sound/audio systems
- Power-limited controls
- Single line telephone
- Addressable fire systems
- Data circuits
- Monitor/detection
- Control circuits
- Initiating circuits
- Notification circuits

### Special Features

- **Banana Peel® Composite Cables**
  Belden's (patent pending) Banana Peel® cable technology fixes individual cables to a center spline or substrate. The individual cables can be easily peeled away eliminating the need for composite cables with an overall jacket. Banana Peel® technology is available in access control cables and CCTV PTZ camera cables.

  Benefits include:
  - Reduced installation time
  - Smaller overall diameter
  - Easier and more reliable installations – less set-up, pulling and termination time compared to individual cables
  - Quicker identification of individual components

- **Banana Peel® Access Control Cables**
  Belden Banana Peel® access control composite cables enable more cost effective security installations for access control devices such as card readers, retina scanners and hand-scanning devices. Whether the installation is in a commercial building, hospital, school, university, commercial building or government facility, Banana Peel® access control cables are designed to bring a whole new level of ease and convenience to the workplace.

  Benefits include:
  - Cost effective security
  - Ease and convenience of installation
  - Reliable day to day use

- **Banana Peel® CCTV Power Tilt Zoom (PTZ) Camera Cable**
  Many public and private sector buildings today – such as offices, hospitals, airports, amusement parks, retail establishments, educational facilities, casinos, sports stadiums, prisons and other places – all have surveillance systems to monitor visitors and employees. The purpose of these systems is clear – to protect people, to protect the facility and to protect its assets.

  CCTV cameras that can swivel and zoom in on particular areas are increasingly common. Banana Peel® PTZ cables facilitate the most effective camera installation and operation by providing all the video, power, and control cables needed in one easy-to-use composite cable.

  Benefits include:
  - High level security
  - High-performance monitoring
  - Protection of people
  - Protection of premises and contents

- **New Generation® Fire Resistant, Circuit Integrity Cables**
  When a fire occurs, there is no time for hesitation and every second counts. It is critical that fire detection, warning and alarm circuits continue to operate even under the most extreme conditions of fire, smoke and heat. There is nothing more important than the safety and evacuation of personnel and the fire alarm system must not fail.

  Belden's New Generation® range features cables specifically designed for use during severe fires where a low-smoke, zero-halogen cable is required to maintain circuit integrity. The range includes cables that meet IEC 331 requirements for circuit integrity applications.

  These cables are ideal for fire detection systems, emergency lighting, video surveillance and public address systems.

  Benefits include:
  - Fire detection and warning
  - High-performance alarm circuits
  - Continual operation during severe fires

### Availability

Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a New Generation® cable in this catalog section that meets your technical requirements, see our U.S. Master Catalog or contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

### Corresponding Literature

**Product Bulletins**

NP193: Belcoil packaging
NP199: Banana Peel® access control composite cables, jacketless
NP206: UTP composite cables for CCTV camera applications
NP216: Banana Peel® PTZ composite cables for CCTV camera applications

# Cable Finder Guide – New Generation® Coax



| No. of Cond. | Material | Stranded (mm) | Solid (mm) | Nom. Imp. Ohm | CDR Dia. (mm) | Braid | | | Cu-foil/Braid | | | Duobond®/Braid | | | Duobond II®/Braid | | | Duofoil®/Braid | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Part No. | BC | Page | Part No. | BC | Page | Part No. | AL | Page | Part No. | TC | Page | Part No. | | Page |
| **25 AWG** | | **0.55** | **0.45** | | | | | | | | | | | | | | | | | |
| **1** | BC | | solid | 75 | 0.46 | 473945 | 95% | 20.35 | | | | | | | | | | | | |
| | BC | | solid | 75 | 0.46 | 573945 | 94% | 20.35 | | | | | | | | | | | | |
| **22 AWG** | | **0.80** | **0.60** | | | | | | | | | | | | | | | | | |
| **1** | BC | 7x30 | | 75 | 0.76 | 451945 | 95% | 20.35 | | | | | | | | | | | | |
| | BC | 7x30 | | 75 | 0.76 | 551945 | 95% | 20.35 | | | | | | | | | | | | |
| **20 AWG** | | **0.90** | **0.80** | | | | | | | | | | | | | | | | | |
| **1** | BC | | solid | 75 | 0.81 | 443945 | 95% | 20.36 | | | | | | | | | | | | |
| | BC | | solid | 75 | 0.81 | 543945 | 95% | 20.35 | | | | | | | | | | | | |
| | BC | | solid | 75 | 0.81 | | | | | | | | | | 5439W5# | 95% | 20.37 | | | |
| | BC | | solid | 75 | 0.80 | | | | | | | | | | | | | H121A00 | 40% TC | 20.34 |
| **18 AWG** | | **1.20** | **1.00** | | | | | | | | | | | | | | | | | |
| **1** | BC | | solid | 75 | 1.02 | | | | | | | | | | | | | 4339B5 | 63% BC | 20.38 |
| | BC | | solid | 75 | 1.02 | | | | | | | | | | | | | 4339Q5* | 60% AL +40% AL | 20.38 |
| | BC | | solid | 75 | 1.02 | 433945 | 95% | 20.36 | | | | | | | | | | | | |
| | BC | | solid | 75 | 1.02 | 533945 | 95% | 20.36 | | | | | | | | | | | | |
| | BC | | solid | 75 | 1.02 | | | | | | | | | | | | | 5339B5 | 60% AL | 20.38 |
| | BC | | solid | 75 | 1.02 | | | | | | | | | | | | | 5339Q5* | 60% AL +40% AL | 20.38 |
| | BC | | solid | 75 | 1.02 | | | | | | | | | | | | | 5339W5# | 60% AL | 20.37 |
| | BC | | solid | 75 | 1.02 | | | | | | | 5399B5 | 60% | 20.38 | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | H109A00 | 55% | 20.34 | | | | | | | | | |
| | BC | | solid | 75 | 1.00 | | | | | | | | | | | | | H125A00 | 40% TC | 20.34 |
| **14 AWG** | | **1.85** | **1.60** | | | | | | | | | | | | | | | | | |
| **1** | BC | | solid | 75 | 1.63 | 413945 | 95% | 20.36 | | | | | | | | | | | | |
| | BC | | solid | 75 | 1.63 | 513945 | 95% | 20.36 | | | | | | | | | | | | |

* Quad Shield = Duofoil Tape + 60% Aluminum Braid + Duofoil Tape + 40% Aluminum Braid
# CoreGuard®
TC = Tinned Copper • BC = Bare Copper • AL = Aluminum

# Cable Finder Guide – New Generation® Multi-Conductor and Twisted Pair

| No. of Cond. | No. of Pairs | Stranded (mm) | Solid (mm) | Drain Wire | Unshielded | | Overall Foil | | Individual Foil | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page |
| **24 AWG** 0.22 mm² | | **0.60** | **0.50** | | | | | | | |
| **2** | none | 7x32 | | x | | | 5600FE | 20.18 | | |
| | none | 7x0.193 | | | | | SEC0008 | 20.18 | | |
| | 1 | 7x0.193 | | | | | SEC0027 | 20.19 | | |
| **4** | none | 7x0.193 | | | | | SEC0009 | 20.18 | | |
| | 2 | 7x0.193 | | | | | SEC0028 | 20.19 | | |
| | 1/1 | 7x0.193 | | | | | SEC0037 | 20.19 | | |
| | 1/1 | 7x0.193 | | | | | SEC0042 | 20.19 | | |
| **6** | none | 7x0.193 | | | | | SEC0010 | 20.18 | | |
| | 3 | 7x0.193 | | | | | SEC0029 | 20.19 | | |
| | 2/1 | 7x0.193 | | | | | SEC0038 | 20.19 | | |
| | 2/1 | 7x0.193 | | | | | SEC0043 | 20.19 | | |

AWG values are approximate where cables are made to European standards (mm²), and vice versa.
Where the current reaches upper limits, the varying operation conditions for installation and laying acc. to standards are to be taken into consideration.

# Cable Finder Guide

## New Generation® Multi-Conductor and Twisted Pair *(continued)*

| No. of Cond. | No. of Pairs | Stranded (mm) | Solid (mm) | Drain Wire | Unshielded | | Overall Foil | | Individual Foil | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page |
| **24 AWG** 0.22 mm² | | **0.60** | **0.50** *(continued)* | | | | | | | |
| **8** | 4 | | solid | | 1500A | 20.42 | | | | |
| | 4 | | solid | | 1583E | 20.42 | | | | |
| | none | 7x0.193 | | | | | SEC0011 | 20.18 | | |
| | 4 | 7x0.193 | | | | | SEC0030 | 20.19 | | |
| | 3/1 | 7x0.193 | | | | | SEC0039 | 20.19 | | |
| | 3/1 | 7x0.193 | | | | | SEC0044 | 20.19 | | |
| **10** | none | 7x0.193 | | | | | SEC0012 | 20.18 | | |
| | 5 | 7x0.193 | | | | | SEC0031 | 20.19 | | |
| | 4/1 | 7x0.193 | | | | | SEC0040 | 20.19 | | |
| | 4/1 | 7x0.193 | | | | | SEC0045 | 20.19 | | |
| **12** | none | 7x0.193 | | | | | SEC0013 | 20.18 | | |
| | 6 | 7x0.193 | | | | | SEC0032 | 20.19 | | |
| | 5/1 | 7x0.193 | | | | | SEC0041 | 20.19 | | |
| | 5/1 | 7x0.193 | | | | | SEC0046 | 20.19 | | |
| **14** | 7 | 7x0.193 | | | | | SEC0033 | 20.19 | | |
| **16** | none | 7x0.193 | | | | | SEC0014 | 20.18 | | |
| | 8 | 7x0.193 | | | | | SEC0034 | 20.19 | | |
| **20** | 10 | 7x0.193 | | | | | SEC0035 | 20.19 | | |
| **22** | 11 | 7x0.193 | | | | | SEC0036 | 20.19 | | |
| **2/2** | none | 7x0.193 | | | | | SEC0015 | 20.18 | | |
| | none | 7x0.193 | | | | | SEC0021 | 20.18 | | |
| **4/2** | none | 7x0.193 | | | | | SEC0016 | 20.18 | | |
| | none | 7x0.193 | | | | | SEC0022 | 20.18 | | |
| **6/2** | none | 7x0.193 | | | | | SEC0017 | 20.18 | | |
| | none | 7x0.193 | | | | | SEC0023 | 20.18 | | |
| **8/2** | none | 7x0.193 | | | | | SEC0018 | 20.18 | | |
| | none | 7x0.193 | | | | | SEC0024 | 20.18 | | |
| **10/2** | none | 7x0.193 | | | | | SEC0019 | 20.18 | | |
| | none | 7x0.193 | | | | | SEC0025 | 20.18 | | |
| **12/2** | none | 7x0.193 | | | | | SEC0020 | 20.18 | | |
| | none | 7x0.193 | | | | | SEC0026 | 20.18 | | |
| **23 AWG** 0.26 mm² | | **0.65** | **0.57** | | | | | | | |
| **8** | 4 | | solid | | 7881A | 20.42 | | | | |
| **22 AWG** 0.34 mm² | | **0.80** | **0.60** | | | | | | | |
| **2** | none | 7x30 | | x | | | 4500FE | 20.21 | | |
| | none | 7x30 | | | 4500UE | 20.12 | | | | |
| | none | 7x30 | | | | | 5500F1 | 20.28 | | |
| | none | 7x30 | | x | | | 5500FE | 20.20 | | |
| | none | 7x30 | | | 5500UE | 20.11 | | | | |
| | none | 7x30 | | | 5500UG | 20.10 | | | | |
| **3** | none | 7x30 | | x | | | 4501FE | 20.21 | | |
| | none | 7x30 | | | 4501UE | 20.12 | | | | |
| | none | 7x30 | | x | | | 5501FE | 20.20 | | |
| | none | 7x30 | | | 5501UE | 20.11 | | | | |
| | 1+1/C | 7x30 | | x | | | | | 5501GE | 20.33 |
| **4** | none | 7x30 | | x | | | 4502FE | 20.21 | | |
| | none | 7x30 | | | 4502UE | 20.12 | | | | |
| | none | 7x30 | | x | | | 5502FE | 20.20 | | |
| | none | 7x30 | | | 5502UE | 20.11 | | | | |
| | none | 7x30 | | | 5502UG | 20.10 | | | | |
| | none | | solid | x | | | 5522FL | 20.50 | | |
| | none | | solid | x | 5522UL | 20.46 | | | | |

AWG values are approximate where cables are made to European standards (mm²), and vice versa.
Where the current reaches upper limits, the varying operation conditions for installation and laying acc. to standards are to be taken into consideration.

# Cable Finder Guide

## New Generation® Multi-Conductor and Twisted Pair *(continued)*

NEW GENERATION®

| No. of Cond. | No. of Pairs | Stranded (mm) | Solid (mm) | Drain Wire | Unshielded | | Overall Foil | | Individual Foil | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page |
| **22 AWG** 0.34 mm² | | **0.80** | **0.60** *(continued)* | | | | | | | |
| **4** | 1+2/C | 7x30 | | x | | | | | 4502GE | 20.33 |
| | 1+2/C | 7x30 | | x | | | | | 5502GE | 20.33 |
| | 2 | 7x30 | | | 5541UE | 20.29 | | | | |
| | 2 | 7x30 | | x | | | 4541FE | 20.30 | | |
| | 2 | 7x30 | | x | | | 5541FE | 20.30 | | |
| **5** | none | 7x30 | | x | | | 5503FE | 20.20 | | |
| | none | 7x30 | | | 5503UE | 20.11 | | | | |
| **6** | none | 7x30 | | x | | | 4504FE | 20.21 | | |
| | none | 7x30 | | | 4504UE | 20.12 | | | | |
| | none | 7x30 | | x | | | 5504FE | 20.20 | | |
| | none | 7x30 | | | 5504UE | 20.11 | | | | |
| | none | | solid | | 5542UL | 20.46 | | | | |
| | 1+2/TP | 7x30 | | x | | | | | 5542GE | 20.33 |
| | 3 | 7x30 | | | 5542UE | 20.29 | | | | |
| | 3 | 7x30 | | x | | | 4542FE | 20.30 | | |
| | 3 | 7x30 | | x | | | 5542FE | 20.30 | | |
| **8** | none | 7x30 | | x | | | 4506FE | 20.21 | | |
| | none | 7x30 | | | 4506UE | 20.12 | | | | |
| | none | 7x30 | | x | | | 5506FE | 20.20 | | |
| | none | 7x30 | | | 5506UE | 20.11 | | | | |
| | 4 | 7x30 | | | 5543UE | 20.29 | | | | |
| | 4 | 7x30 | | x | | | 5543FE | 20.30 | | |
| | 4 | 7x30 | | x | | | | | 5543PE | 20.32 |
| **10** | none | 7x30 | | x | | | 4508FE | 20.21 | | |
| | none | 7x30 | | x | | | 5508FE | 20.20 | | |
| | none | 7x30 | | | 5508UE | 20.11 | | | | |
| **12** | none | 7x30 | | | 4509UE | 20.12 | | | | |
| | none | 7x30 | | | 5509UE | 20.11 | | | | |
| | 6 | 7x30 | | x | | | 4545FE | 20.30 | | |
| | 6 | 7x30 | | x | | | 5545FE | 20.30 | | |
| **18** | 9 | 7x30 | | | 5547UE | 20.29 | | | | |
| **20 AWG** 0.50 mm² | | **0.90** | **0.80** | | | | | | | |
| **2** | none | 7x28 | | x | | | 4400FE | 20.22 | | |
| | none | 7x28 | | | 4400UE | 20.13 | | | | |
| | none | 7x28 | | | | | 5400F1 | 20.28 | | |
| | none | 7x28 | | x | | | 5400FE | 20.22 | | |
| | none | 7x28 | | | 5400UE | 20.13 | | | | |
| **3** | none | 7x28 | | x | | | 4401FE | 20.22 | | |
| | 1+1/C | 7x28 | | x | | | | | 5401GE | 20.33 |
| | none | 7x28 | | x | | | 5401FE | 20.22 | | |
| | none | 7x28 | | | 5401UE | 20.13 | | | | |
| **4** | none | 7x28 | | | 4402UE | 20.13 | | | | |
| | none | 7x28 | | x | | | 4402FE | 20.22 | | |
| | 2 | 7x28 | | x | | | 4441FE | 20.31 | | |
| | none | 7x28 | | x | | | 5402FE | 20.22 | | |
| | 1+2/C | 7x28 | | x | | | | | 5402GE | 20.33 |
| | none | 7x28 | | | 5402UE | 20.13 | | | | |
| | 2 | 7x28 | | x | | | 5441FE | 20.30 | | |
| **5** | none | 7x28 | | x | | | 4403FE | 20.22 | | |
| | none | 7x28 | | x | | | 5403FE | 20.22 | | |
| | none | 7x28 | | | 5403UE | 20.13 | | | | |
| **6** | 3 | 7x28 | | x | | | 5442FE | 20.30 | | |
| **7** | none | 7x28 | | x | | | 5405FE | 20.22 | | |
| | none | 7x28 | | | 5405UE | 20.13 | | | | |

AWG values are approximate where cables are made to European standards (mm²), and vice versa.
Where the current reaches upper limits, the varying operation conditions for installation and laying acc. to standards are to be taken into consideration.

# Cable Finder Guide

## New Generation® Multi-Conductor and Twisted Pair *(continued)*

| No. of Cond. | No. of Pairs | Stranded (mm) | Solid (mm) | Drain Wire | Unshielded | | Overall Foil | | Individual Foil | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page |
| **20 AWG** 0.50 mm² | | **0.90** | **0.80** *(continued)* | | | | | | | |
| **8** | none | 7x28 | | | 5406UE | 20.13 | | | | |
| **9** | none | 7x28 | | x | | | 5407FE | 20.22 | | |
| | none | 7x28 | | | 5407UE | 20.13 | | | | |
| **10** | none | 7x28 | | | 5408UE | 20.13 | | | | |
| **12** | none | 7x28 | | | 5409UE | 20.13 | | | | |
| | 6 | 7x28 | | x | | | 4445FE | 20.31 | | |
| | 6 | 7x28 | | x | | | 5445FE | 20.30 | | |
| **20** | none | 7x28 | | | 540BUE | 20.13 | | | | |
| **18 AWG** 0.75 mm² | | **1.20** | **1.00** | | | | | | | |
| **2** | none | 7x26 | | x | | | 4300FE | 20.24 | | |
| | none | 7x26 | | | 4300UE | 20.15 | | | | |
| | none | 7x26 | | | | | 5300F1 | 20.28 | | |
| | none | 7x26 | | x | | | 5300FE | 20.23 | | |
| | none | 7x26 | | | 5300U1 | 20.28 | | | | |
| | none | 7x26 | | | 5300UE | 20.14 | | | | |
| | none | 7x26 | | | 5300UG | 20.10 | | | | |
| | none | | solid | | | | 5320FJ | 20.52 | | |
| | none | | solid | x | | | 5320FL | 20.50 | | |
| | none | | solid | x | | | 5320FN | 20.54 | | |
| | none | | solid | | 5320UJ | 20.52 | | | | |
| | none | | solid | | 5320UL | 20.46 | | | | |
| | none | | solid | | 5320UN | 20.54 | | | | |
| | none | 20x0.243 | | | | | SEC0047 | 20.25 | | |
| **3** | none | 7x26 | | x | | | 4301FE | 20.24 | | |
| | none | 7x26 | | | 4301UE | 20.15 | | | | |
| | none | 7x26 | | x | | | 5301FE | 20.23 | | |
| | none | 7x26 | | | 5301UE | 20.14 | | | | |
| | none | 20x0.243 | | | | | SEC0048 | 20.25 | | |
| **4** | none | 7x26 | | x | | | 4302FE | 20.24 | | |
| | none | 7x26 | | | 4302UE | 20.15 | | | | |
| | none | 7x26 | | x | | | 5302FE | 20.23 | | |
| | none | 7x26 | | | 5302UE | 20.14 | | | | |
| | none | | solid | x | | | 4320FL | 20.50 | | |
| | none | | solid | x | | | 4322FL | 20.50 | | |
| | none | | solid | | 4322UL | 20.47 | | | | |
| | none | | solid | | | | 5322FJ | 20.52 | | |
| | none | | solid | x | | | 5322FL | 20.50 | | |
| | none | | solid | x | | | 5322FN | 20.54 | | |
| | none | | solid | | 5322UL | 20.46 | | | | |
| | none | | solid | | 5322UN | 20.54 | | | | |
| | 1+2/C | 7x26 | | x | | | | | 5302GE | 20.33 |
| | 2 | 7x26 | | | 4341UE | 20.29 | | | | |
| | 2 | 7x26 | | | 5341UE | 20.29 | | | | |
| | 2 | 7x26 | | x | | | 4341FE | 20.31 | | |
| | 2 | 7x26 | | x | | | 5341FE | 20.31 | | |
| | none | 20x0.243 | | | | | SEC0049 | 20.25 | | |
| **5** | none | 7x26 | | x | | | 4303FE | 20.24 | | |
| | none | 7x26 | | | 4303UE | 20.15 | | | | |
| | none | 7x26 | | x | | | 5303FE | 20.23 | | |
| | none | 7x26 | | | 5303UE | 20.14 | | | | |
| | none | 20x0.243 | | | | | SEC0050 | 20.25 | | |
| **6** | none | 7x26 | | x | | | 4304FE | 20.24 | | |
| | none | 7x26 | | | 4304UE | 20.15 | | | | |
| | none | 7x26 | | x | | | 5304FE | 20.23 | | |
| | none | 7x26 | | | 5304UE | 20.14 | | | | |
| | none | | solid | | 4324UL | 20.47 | | | | |

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# Cable Finder Guide

## New Generation® Multi-Conductor and Twisted Pair *(continued)*

NEW GENERATION®

| No. of Cond. | No. of Pairs | Stranded (mm) | Solid (mm) | Drain Wire | Unshielded | | Overall Foil | | Individual Foil | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page |
| **18 AWG** 0.75 mm² | | **1.20** | **1.00** *(continued)* | | | | | | | |
| **6** | none | | solid | | 5324UL | 20.46 | | | | |
| | 3 | 7x26 | | | 5342UE | 20.29 | | | | |
| | 3 | 7x26 | | x | | | 4342FE | 20.31 | | |
| | 3 | 7x26 | | x | | | 5342FE | 20.31 | | |
| **7** | none | 7x26 | | x | | | 5305FE | 20.23 | | |
| | none | 7x26 | | | 5305UE | 20.14 | | | | |
| **8** | none | 7x26 | | x | | | 4306FE | 20.24 | | |
| | none | 7x26 | | | 4306UE | 20.15 | | | | |
| | none | 7x26 | | x | | | 5306FE | 20.23 | | |
| | none | 7x26 | | | 5306UE | 20.14 | | | | |
| | none | | solid | | 5326UL | 20.46 | | | | |
| | 4 | 7x26 | | | 5343UE | 20.29 | | | | |
| | 4 | 7x26 | | x | | | 4343FE | 20.31 | | |
| | 4 | 7x26 | | x | | | 5343FE | 20.31 | | |
| **9** | none | 7x26 | | x | | | 4307FE | 20.24 | | |
| | none | 7x26 | | x | | | 5307FE | 20.23 | | |
| | none | 7x26 | | | 5307UE | 20.14 | | | | |
| **10** | none | 7x26 | | | 4308UE | 20.15 | | | | |
| | none | 7x26 | | | 5308UE | 20.14 | | | | |
| | none | | solid | | 5328UL | 20.46 | | | | |
| **12** | none | 7x26 | | | 4309UE | 20.15 | | | | |
| | none | 7x26 | | | 5309UE | 20.14 | | | | |
| | none | | solid | | 5329UL | 20.46 | | | | |
| | 6 | 7x26 | | | 5345UE | 20.29 | | | | |
| | 6 | 7x26 | | x | | | 4345FE | 20.31 | | |
| | 6 | 7x26 | | x | | | 5345FE | 20.31 | | |
| **18** | 9 | 7x26 | | | 5347UE | 20.29 | | | | |
| **20** | none | 7x26 | | | 530BUE | 20.14 | | | | |
| **17 AWG** 1.00 mm² | | **1.20** | **1.00** | | | | | | | |
| **2** | none | | solid | x | | | 4K20FX* | 20.56 | | |
| **3** | none | | solid | x | | | 4K21FX* | 20.56 | | |
| **4** | none | | solid | x | | | 4K22FX* | 20.56 | | |
| **16 AWG** 1.50 mm² | | **1.50** | **1.30** | | | | | | | |
| **2** | none | 19x29 | | x | | | 4200FE | 20.26 | | |
| | none | 19x29 | | | 4200UE | 20.16 | | | | |
| | none | | solid | x | | | 4220FL | 20.50 | | |
| | none | | solid | | 4220UL | 20.48 | | | | |
| | none | 19x29 | | x | | | 5200FE | 20.26 | | |
| | none | 19x29 | | | 5200UE | 20.15 | | | | |
| | none | | solid | | | | 5220FJ | 20.52 | | |
| | none | | solid | x | | | 5220FL | 20.50 | | |
| | none | | solid | x | | | 5220FN | 20.55 | | |
| | none | | solid | | 5220UJ | 20.52 | | | | |
| | none | | solid | | 5220UL | 20.48 | | | | |
| | none | | solid | | 5220UN | 20.54 | | | | |
| **3** | none | 19x29 | | x | | | 4201FE | 20.26 | | |
| | none | 19x29 | | | 4201UE | 20.16 | | | | |
| | none | 19x29 | | x | | | 5201FE | 20.26 | | |
| | none | 19x29 | | | 5201UE | 20.15 | | | | |
| **4** | none | 19x29 | | x | | | 4202FE | 20.26 | | |
| | none | 19x29 | | | 4202UE | 20.16 | | | | |
| | none | | solid | | 4222UL | 20.48 | | | | |
| | none | 19x29 | | x | | | 5202FE | 20.26 | | |
| | none | 19x29 | | | 5202UE | 20.15 | | | | |

* Mica/Glass Fire Barrier, XL Polyolefin FROH and Aluminum/Polyester taped Screen • AWG values are approximate where cables are made to European standards (mm²), and vice versa. Where the current reaches upper limits, the varying operation conditions for installation and laying acc. to standards are to be taken into consideration.

# Cable Finder Guide

## New Generation® Multi-Conductor and Twisted Pair *(continued)*

| No. of Cond. | No. of Pairs | Stranded (mm) | Solid (mm) | Drain Wire | Unshielded | | Overall Foil | | Individual Foil | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Part No. | Page | Part No. | Page | Part No. | Page |
| **16 AWG** 1.50 mm² | | **1.50** | **1.30** *(continued)* | | | | | | | |
| **4** | none | | solid | | | | 5222FJ | 20.52 | | |
| | none | | solid | x | | | 5222FL | 20.50 | | |
| | none | | solid | x | | | 5222FN | 20.55 | | |
| | none | | solid | | 5222UL | 20.48 | | | | |
| | none | | solid | | 5222UN | 20.54 | | | | |
| **7** | none | 19x29 | | | 5205UE | 20.15 | | | | |
| **15 AWG** 1.65 mm² | | | **1.40** | | | | | | | |
| **2** | none | | solid | x | | | 4L20FX* | 20.56 | | |
| **3** | none | | solid | x | | | 4L21FX* | 20.56 | | |
| **4** | none | | solid | x | | | 4L22FX* | 20.56 | | |
| **7** | none | | solid | x | | | 4L25FX* | 20.56 | | |
| **14 AWG** 2.50 mm² | | **1.85** | **1.60** | | | | | | | |
| **2** | none | 19x27 | | x | | | 4100FE | 20.27 | | |
| | none | 19x27 | | | 4100UE | 20.16 | | | | |
| | none | | solid | x | | | 4120FL | 20.51 | | |
| | none | | solid | | 4120UL | 20.48 | | | | |
| | none | 19x27 | | x | | | 5100FE | 20.27 | | |
| | none | 19x27 | | | 5100UE | 20.16 | | | | |
| | none | | solid | | | | 5120FJ | 20.53 | | |
| | none | | solid | x | | | 5120FL | 20.51 | | |
| | none | | solid | x | | | 5120FN | 20.55 | | |
| | none | | solid | | 5120UL | 20.48 | | | | |
| | none | | solid | | 5120UN | 20.54 | | | | |
| **3** | none | 19x27 | | | 4101UE | 20.16 | | | | |
| | none | 19x27 | | x | | | 5101FE | 20.27 | | |
| | none | 19x27 | | | 5101UE | 20.16 | | | | |
| **4** | none | 19x27 | | | 4102UE | 20.16 | | | | |
| | none | | solid | | 4122UL | 20.48 | | | | |
| | none | 19x27 | | | 5102UE | 20.16 | | | | |
| | none | | solid | x | | | 5122FL | 20.51 | | |
| | none | | solid | x | | | 5122FN | 20.55 | | |
| | none | | solid | | 5122UL | 20.48 | | | | |
| **13 AWG** 2.63 mm² | | **2.10** | **1.80** | | | | | | | |
| **2** | none | | solid | x | | | 4N20FX* | 20.56 | | |
| **3** | none | | solid | x | | | 4N21FX* | 20.56 | | |
| **4** | none | | solid | x | | | 4N22FX* | 20.56 | | |
| **12 AWG** 4.00 mm² | | **2.40** | **2.10** | | | | | | | |
| **2** | none | 19x25 | | x | | | 4000FE | 20.27 | | |
| | none | 19x25 | | | 4000UE | 20.17 | | | | |
| | none | | solid | x | | | 4020FL | 20.51 | | |
| | none | | solid | | 4020UL | 20.49 | | | | |
| | none | 19x25 | | x | | | 5000FE | 20.27 | | |
| | none | 19x25 | | | 5000UE | 20.17 | | | | |
| | none | | solid | | | | 5020FJ | 20.53 | | |
| | none | | solid | x | | | 5020FL | 20.51 | | |
| | none | | solid | x | | | 5020FN | 20.55 | | |
| | none | | solid | | 5020UL | 20.49 | | | | |
| **3** | none | 19x25 | | | 4001UE | 20.17 | | | | |
| | none | 19x25 | | | 5001UE | 20.17 | | | | |

* Mica/Glass Fire Barrier, XL Polyolefin FROH and Aluminum/Polyester taped Screen

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# Cable Finder Guide – New Generation® Combination

| No. of Cond. | Part No. | Description: Conductor / Gage | Description: mm | Shielding | Component | Page |
|---|---|---|---|---|---|---|
| **Combination Gages** | | | | | | |
| 3 | SEC0001 | 2 cdr - 26 AWG<br>1 co - 21 AWG | 0.50<br>0.41 | Unshielded<br>Alu + 72% BC Braid | 1 x Data<br>1 x Coax | 20.40 |
| | SEC0003 | 2 cdr - 20 AWG<br>1 co - 26 AWG | 1.00<br>0.41 | Unshielded<br>Alu + 72% BC Braid | 1 x Data<br>1 x Coax | 20.40 |
| | 439945 | 1pr - 18 AWG<br>1 co - 18 AWG | 1.22<br>1.02 | Unshielded<br>95% BC Braid | 2 x Data<br>1 x Coax | 20.39 |
| | 449945 | 1 pr - 18 AWG<br>1 co - 20 AWG | 1.22<br>0.80 | Unshielded<br>95% BC Braid | 2 x Data<br>1 x Coax | 20.39 |
| | 539945 | 1 pr - 18 AWG<br>1 co - 18 AWG | 1.22<br>1.02 | Unshielded<br>95% BC Braid | 2 x Data<br>1 x Coax | 20.39 |
| | 549945 | 1 pr - 18 AWG<br>1 co - 20 AWG | 1.22<br>0.80 | Unshielded<br>95% BC Braid | 2 x Data<br>1 x Coax | 20.39 |
| 5 | SEC0002 | 1 co - 20 AWG<br>2 cdr - 16 AWG<br>2 cdr - 26 AWG | 0.81<br>1.50<br>0.50 | Alu + 55% TC Braid<br>Unshielded<br>Unshielded | 1 x Coax<br>1 x Data<br>1 x Control | 20.40 |
| | SEC0004 | 1 co - 26 AWG<br>2 cdr - 24 AWG<br>2 cdr - 26 AWG | 0.41<br>0.22<br>0.50 | Alu + 72% TC Braid<br>Unshielded<br>Unshielded | 1 x Coax<br>1 x Data<br>1 x Control | 20.40 |
| | 500PTZ | 1 co - 20 AWG<br>1 pr - 23 AWG<br>2 cdr - 18 AWG | 0.81<br>0.57<br>1.22 | 95% BC Braid<br>Unshielded<br>Unshielded | Video<br>Control<br>Power | 20.44 |
| | 501PTZ | 1 co - 20 AWG<br>1 pr - 22 AWG<br>2 cdr - 18 AWG | 0.81<br>0.76<br>1.22 | 95% BC Braid<br>Beldfoil®<br>Unshielded | Video<br>Control<br>Power | 20.44 |
| | 502PTZ | 1 co - 20 AWG<br>1 pr - 18 AWG<br>2 cdr - 18 AWG | 0.81<br>1.24<br>1.22 | 95% BC Braid<br>Beldfoil®<br>Unshielded | Video<br>Control<br>Power | 20.44 |
| 6 | 5284UE | 2 pr - 23 AWG<br>2 cdr - 16 AWG | 0.60<br>1.47 | Unshielded<br>Unshielded | 1 x Data<br>2 x Power | 20.41 |
| | 5284US | 2 pr - 24 AWG<br>2 cdr - 16 AWG | 0.50<br>1.47 | Unshielded<br>Unshielded | 1 x Data<br>2 x Power | 20.41 |
| 8 | SEC0006 | 2 cdr - 16 AWG<br>3 pr - 28 AWG | 1.50<br>0.35 | Unshielded<br>Unshielded | Power<br>Control | 20.43 |
| 10 | 5288US | 4 pr - 24 AWG<br>2 cdr - 16 AWG | 0.50<br>1.47 | Unshielded<br>Unshielded | 1 x Data<br>2 x Power | 20.41 |
| 13 | SEC0005 | 1 co - 23 AWG<br>3 cdr - 20 AWG<br>9 cdr - 22 AWG | 0.58<br>1.00<br>0.75 | 55% TC Braid<br>Unshielded<br>Unshielded | Coax<br>Power<br>Control | 20.43 |
| 15 | SEC0007 | 1 co - 21 AWG<br>2 cdr - 22 AWG<br>6 cdr - 26 AWG<br>3 pr - 28 AWG | 0.75<br>0.75<br>0.50<br>0.35 | 80% BC Braid<br>Unshielded<br>Unshielded<br>Unshielded | Coax<br>Power<br>Data<br>Control | 20.43 |
| 16 | 558AFS | 4 cdr - 18 AWG<br>3 pr - 22 AWG<br>2 cdr - 22 AWG<br>4 cdr - 22 AWG | 1.22<br>0.76<br>0.76<br>0.76 | Overall Beldfoil®<br>Overall Beldfoil®<br>Overall Beldfoil®<br>Overall Beldfoil® | Lock Power<br>Card Reader<br>Door Contact<br>Rex/Spare | 20.45 |

co = Coax • cdr = Conductor(s) • pr = Pair

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Teflon® is a DuPont trademark.

## How to Interpret a Catalog Number

Can be used with part numbers starting with 4 or 5.

**Standard Multi-Conductor, Paired, Fire Alarm, Combination Gage Cables:**

5 3 0 0 U E

**Location**
- 5 = Non-plenum
- 6 = Plenum
- 4 = LSNH

**Gage**
- E = 8/8.4 mm² (solid)
- T = 10/5.3 mm² (solid)
- 0 = 12/3.3 mm² (solid)/3.6 mm² (stranded)
- 1 = 14/2.1 mm²/2.2 mm²
- 2 = 16/1.3 mm²/1.4 mm²
- 3 = 18/0.82 mm²/0.90 mm²
- 4 = 20/0.52 mm²/0.56 mm²
- 5 = 22/0.33mm²/0.36 mm²
- 6 = 24/0.21 mm²/0.23 mm²
- K = 1.0 mm²
- L = 1.5 mm²
- M = 2.0 mm²
- N = 2.5 mm²

**Type of Conductor**
- 0 = Stranded multi-conductor
- 2 = Solid multi-conductor
- 4 = Stranded paired conductor
- 6 = Solid paired conductor
- 8 = Composite Cable

**Number of Conductors**
- 0 = 2 conductors
- 1 = 3 conductors or 2 pairs
- 2 = 4 conductors or 3 pairs
- 3 = 5 conductors or 4 pairs
- 4 = 6 conductors
- 5 = 7 conductors or 6 pairs
- 6 = 8 conductors
- 7 = 9 conductors or 9 pairs
- 8 = 10 conductors or 12 pairs
- 9 = 12 conductors
- A = 16 conductors
- B = 20 conductors

**Shielding**
- C = Foil plus 85% braid, overall (m/c, pairs)
- F = Overall foil w/drain (m/c or multipair)
- G = One foil shielded pair w/drain (m/c, pair(s) combo)
- H = SPOS – shielded pairs and O/A foil shield
- P = Individual shielded pairs with drain (multipairs)
- U = Unshielded (m/c, pairs)

**Application**
- 1 = Water-blocked multi-conductor
- A = FEP Insulation/Teflon® jacket, plenum cable
- C = Halar® jacket, plenum cable
- E = Power-limited communication cable, high-capacitance
- G = Non-riser rated, may be un-cabled
- J = Power-limited fire protective, mid-capacitance
- K = Fire Alarm, Halar®/Flamarrest®, mid-capacitance
- L = Power-limited fire protective, high-capacitance
- N = PVC/Nylon Insulation, NPLF rated
- P = High Strand Audio
- Q = Residential Audio
- S = Spline
- X = Circuit Integrity, IEC 331

# Security Multi-Conductor Cables

Residential, Light Commercial and Institutional Applications

NEW GENERATION®

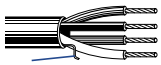
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm Bare Copper • Numbered and Color Coded • Conductors may not be Cabled | | | | | | | | | | | | | |
| **Polypropylene Insulation • PVC Jacket** (Beige, Brown, Orange, Yellow, Green, Blue, Violet, Grey and Natural) | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CM CEC: CM FT1 | | | | | 0.76 mm 22 AWG (7x30) BC | 0.045 | 1.14 | Unshielded | | | |
|  | | | | | | | | | | | | | |
| | **5500UG** | 2 CDR | C-500 U-500 C-1000 U-1000 | C-152 U-152 C-305 U-305 | 3.5 5.1 7.1 9.0 | 1.6 2.3 3.2 4.1 | | | | | 0.114 | 2.90 | Black, Red |
| | U-305 m put-up available in Brown, Grey or Natural only. | | | | | | | | | | | | |
| | **5502UG** | 4 CDR | U-500 U-1000 | U-152 U-305 | 7.5 14.1 | 3.4 6.4 | | | | | 0.131 | 3.33 | Black, Red, White, Green |
| | U-152 m put-up available in Grey or White only. | | | | | | | | | | | | |
| **18 AWG** • Stranded (7x26) 1.2 mm Bare Copper • Numbered and Color Coded • Conductors may not be Cabled | | | | | | | | | | | | | |
| **Polypropylene Insulation • PVC Jacket** (Beige, Brown, Orange, Yellow, Green, Blue, Violet, Grey and Natural) | | | | | | | | | | | | | |
| 300V 75°C | **5300UG** | NEC: CM CEC: CM FT1 | C-500 U-500 U-1000 | C-152 U-152 U-305 | 7.5 8.6 16.1 | 3.4 3.9 7.3 | 1.22 mm 18 AWG (7x26) BC | 0.063 | 1.60 | Unshielded | 0.148 | 3.76 | Black, Red |
|  | | | | | | | | | | | | | |
| 2 CDR | Available in Grey, Black or Natural only. | | | | | | | | | | | | |

BC = Bare Copper • DCR = DC resistance

# Security and Alarm Cables

## Commercial Applications Unshielded

NEW GENERATION®

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CMF FT4 | | | | | 0.76 mm 22 AWG (7x30) BC | 0.040 | 1.01 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **5500UE** | 2 CDR | C-500<br>U-500<br>500<br>C-1000<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>C-305<br>U-305<br>305 | 4.0<br>5.5<br>5.5<br>7.9<br>9.9<br>9.0 | 1.8<br>2.5<br>2.5<br>3.6<br>4.5<br>4.1 | | | | | 0.128 | 3.25 | |
| | **5501UE** | 3 CDR | U-1000<br>1000 | U-305<br>305 | 13.0<br>13.0 | 5.9<br>5.9 | | | | | 0.135 | 3.43 | |
| | **5502UE** | 4 CDR | C-500<br>U-500<br>U-1000<br>1000 | C-152<br>U-152<br>U-305<br>305 | 7.5<br>9.0<br>16.1<br>16.1 | 3.4<br>4.1<br>7.3<br>7.3 | | | | | 0.148 | 3.76 | |
| | Also available in White. | | | | | | | | | | | | |
| | **5503UE** | 5 CDR | U-1000<br>1000 | U-305<br>305 | 20.1<br>20.1 | 9.1<br>9.1 | | | | | 0.162 | 4.11 | |
| | **5504UE** | 6 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 12.6<br>14.1<br>13.4<br>27.1<br>27.1 | 5.7<br>6.4<br>6.1<br>12.3<br>12.3 | | | | | 0.177 | 4.50 | |
| | Also available in White. | | | | | | | | | | | | |
| | **5506UE** | 8 CDR | U-1000<br>1000 | U-305<br>305 | 29.1<br>30.0 | 13.2<br>13.6 | | | | | 0.192 | 4.88 | |
| | **5508UE** | 10 CDR | U-1000<br>1000 | U-152<br>305 | 35.9<br>41.0 | 16.3<br>18.6 | | | | | 0.226 | 5.74 | |
| | **5509UE** | 12 CDR | U-500<br>U-1000<br>1000 | U-152<br>U-305<br>305 | 21.6<br>42.1<br>47.2 | 9.8<br>19.1<br>21.4 | | | | | 0.233 | 5.92 | |

BC = Bare Copper • DCR = DC resistance

### Color Code

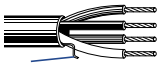
| Cond. No. | Color |
|---|---|
| 1 | Black |
| 2 | Red |
| 3 | White |
| 4 | Green |
| 5 | Brown |
| 6 | Blue |

| Cond. No. | Color |
|---|---|
| 7 | Orange |
| 8 | Yellow |
| 9 | Purple |
| 10 | Grey |
| 11 | Pink |
| 12 | Tan |

# Security and Alarm Cables

## Commercial Applications Unshielded

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | |
| **22 AWG** • Stranded (7x30) 0.8 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 0.76 mm 22 AWG (7x30) BC | 0.049 | 1.25 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **4500UE** | 2 CDR | 328<br>1640 | 100<br>500 | 3.1<br>15.4 | 1.4<br>7.0 | | | | | 0.130 | 3.30 | |
| | **4501UE** | 3 CDR | 328<br>1640 | 100<br>500 | 3.1<br>15.4 | 1.4<br>7.0 | | | | | 0.130 | 3.30 | |
| | **4502UE** | 4 CDR | 328<br>1640 | 100<br>500 | 5.3<br>26.0 | 2.4<br>11.8 | | | | | 0.154 | 3.90 | |
| | **4504UE** | 6 CDR | 328<br>1640 | 100<br>500 | 7.3<br>36.2 | 3.3<br>16.4 | | | | | 0.177 | 4.50 | |
| | **4506UE** | 8 CDR | 328<br>1640 | 100<br>500 | 8.8<br>43.7 | 4.0<br>19.8 | | | | | 0.193 | 4.90 | |
| | **4509UE** | 12 CDR | 328<br>1640 | 100<br>500 | 13.4<br>66.8 | 6.1<br>30.3 | | | | | 0.232 | 5.90 | |

BC = Bare Copper • DCR = DC resistance

### Color Code

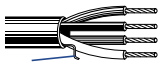
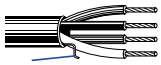
| Cond. No. | Color |
|---|---|
| **1** | Black |
| **2** | Red |
| **3** | White |
| **4** | Green |
| **5** | Brown |
| **6** | Blue |

| Cond. No. | Color |
|---|---|
| **7** | Orange |
| **8** | Yellow |
| **9** | Purple |
| **10** | Grey |
| **11** | Pink |
| **12** | Tan |

# Security and Alarm Cables

## Commercial Applications Unshielded

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Stranded (7x28) 1.0 mm Bare Copper • Numbered and Color Coded PVC Jackets • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CMF FT4 | | | | | 0.96 mm 20 AWG (7x28) BC | 0.048 | 1.21 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **5400UE** | 2 CDR | C-500<br>U-1000<br>1000 | C-152<br>U-305<br>305 | 6.0<br>13.0<br>13.0 | 2.7<br>5.9<br>5.9 | | | | | 0.142 | 3.61 | |
| | **5401UE** | 3 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 9.0<br>18.1<br>18.1 | 4.1<br>8.2<br>8.2 | | | | | 0.150 | 3.81 | |
| | **5402UE** | 4 CDR | C-500<br>U-1000<br>1000 | C-152<br>U-305<br>305 | 10.6<br>23.1<br>23.1 | 4.8<br>10.5<br>10.5 | | | | | 0.165 | 4.19 | |
| | **5403UE** | 5 CDR | U-1000<br>1000 | U-305<br>305 | 26.9<br>28.0 | 12.2<br>12.7 | | | | | 0.181 | 4.60 | |
| | **5405UE** | 7 CDR | 500<br>1000 | 152<br>305 | 19.0<br>40.1 | 8.6<br>18.2 | | | | | 0.198 | 5.03 | |
| | **5406UE** | 8 CDR | U-1000<br>1000 | U-305<br>305 | 41.0<br>43.0 | 18.6<br>19.5 | | | | | 0.215 | 5.46 | |
| | **5407UE** | 9 CDR | 1000 | 305 | 48.1 | 21.8 | | | | | 0.233 | 5.92 | |
| | **5408UE** | 10 CDR | 1000 | 305 | 53.1 | 24.1 | | | | | 0.254 | 6.45 | |
| | **5409UE** | 12 CDR | 1000 | 305 | 61.9 | 28.1 | | | | | 0.262 | 6.65 | |
| | **540BUE** | 20 CDR | 1000 | 305 | 110.0 | 49.9 | | | | | 0.347 | 8.81 | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | IEC 60754-2 | | | | | 0.96 mm 20 AWG (7x28) BC | 0.057 | 1.45 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **4400UE** | 2 CDR | 328<br>1640 | 100<br>500 | 3.7<br>18.7 | 1.7<br>8.5 | | | | | 0.142 | 3.60 | |
| | **4402UE** | 4 CDR | 328<br>1640 | 100<br>500 | 6.4<br>31.7 | 2.9<br>14.4 | | | | | 0.165 | 4.20 | |

BC = Bare Copper • DCR = DC resistance

### Color Code

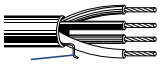
| Cond. No. | Color |
|---|---|
| 1 | Black |
| 2 | Red |
| 3 | White |
| 4 | Green |
| 5 | Brown |
| 6 | Blue |
| 7 | Orange |
| 8 | Yellow |
| 9 | Purple |
| 10 | Grey |

| Cond. No. | Color |
|---|---|
| 11 | Pink |
| 12 | Tan |
| 13 | White/Black |
| 14 | White/Red |
| 15 | White/Green |
| 16 | White/Orange |
| 17 | White/Blue |
| 18 | White/Brown |
| 19 | White/Yellow |
| 20 | White/Purple |

# Security and Alarm Cables

## Commercial Applications Unshielded

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Stranded (7x26) 1.2 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V<br>75°C | | NEC:<br>CMR<br>CEC:<br>CMG FT4 | | | | | 1.22 mm<br>18 AWG<br>(7x26) BC | 0.058 | 1.47 | Unshielded | | | see chart below |
|  <br>Rip Cord | | | | | | | | | | | | | |
| | **5300UE** | 2 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 8.6<br>9.5<br>9.5<br>17.0<br>18.1 | 3.9<br>4.3<br>4.3<br>7.7<br>8.2 | | | | | 0.161 | 4.09 | |
| | Also available in White or Black. | | | | | | | | | | | | |
| | **5301UE** | 3 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 12.6<br>24.9<br>24.9 | 5.7<br>11.3<br>11.3 | | | | | 0.171 | 4.34 | |
| | **5302UE** | 4 CDR | C-250<br>U-500<br>500<br>U-1000<br>1000 | C-76<br>U-152<br>152<br>U-305<br>305 | 7.5<br>16.5<br>16.1<br>32.0<br>32.0 | 3.4<br>7.5<br>7.3<br>14.5<br>14.5 | | | | | 0.188 | 4.78 | |
| | **5303UE** | 5 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 20.5<br>39.0<br>39.0 | 9.3<br>17.7<br>17.7 | | | | | 0.207 | 5.26 | |
| | **5304UE** | 6 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 26.0<br>51.1<br>52.0 | 11.8<br>23.2<br>23.6 | | | | | 0.226 | 5.74 | |
| | **5305UE** | 7 CDR | U-1000<br>1000 | U-305<br>305 | 51.1<br>52.0 | 23.2<br>23.6 | | | | | 0.226 | 5.74 | |
| | **5306UE** | 8 CDR | 500<br>1000 | 152<br>305 | 30.0<br>59.1 | 13.6<br>26.8 | | | | | 0.248 | 6.30 | |
| | **5307UE** | 9 CDR | 1000 | 305 | 66.1 | 30.0 | | | | | 0.269 | 6.83 | |
| | **5308UE** | 10 CDR | 500<br>1000 | 152<br>305 | 38.6<br>74.1 | 17.5<br>33.6 | | | | | 0.294 | 7.47 | |
| | **5309UE** | 12 CDR | 500<br>1000 | 152<br>305 | 47.6<br>90.2 | 21.6<br>40.9 | | | | | 0.314 | 7.98 | |
| | **530BUE** | 20 CDR | 1000 | 305 | 152.1 | 69.0 | | | | | 0.400 | 10.16 | |

BC = Bare Copper • DCR = DC resistance

### Color Code

| Cond. No. | Color |
|---|---|
| **1** | Black |
| **2** | Red |
| **3** | White |
| **4** | Green |
| **5** | Brown |
| **6** | Blue |
| **7** | Orange |
| **8** | Yellow |
| **9** | Purple |
| **10** | Grey |

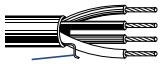
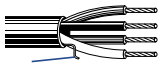
| Cond. No. | Color |
|---|---|
| **11** | Pink |
| **12** | Tan |
| **13** | White/Black |
| **14** | White/Red |
| **15** | White/Green |
| **16** | White/Orange |
| **17** | White/Blue |
| **18** | White/Brown |
| **19** | White/Yellow |
| **20** | White/Purple |

# Security and Alarm Cables

## Commercial Applications Unshielded

NEW GENERATION®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Stranded (7x26) 1.2 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 1.22 mm 18 AWG (7x26) BC | 0.068 | 1.72 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **4300UE** | 2 CDR | 328<br>1640 | 100<br>500 | 6.0<br>29.3 | 2.7<br>13.3 | | | | | 0.161 | 4.10 | |
| | **4301UE** | 3 CDR | 328<br>1640 | 100<br>500 | 7.7<br>38.4 | 3.5<br>17.4 | | | | | 0.161 | 4.10 | |
| | **4302UE** | 4 CDR | 328<br>1640 | 100<br>500 | 10.1<br>50.7 | 4.6<br>23.0 | | | | | 0.189 | 4.80 | |
| | **4303UE** | 5 CDR | 328<br>1640 | 100<br>500 | 12.1<br>60.4 | 5.5<br>27.4 | | | | | 0.209 | 5.30 | |
| | **4304UE** | 6 CDR | 328<br>1640 | 100<br>500 | 15.0<br>74.5 | 6.8<br>33.8 | | | | | 0.224 | 5.70 | |
| | **4306UE** | 8 CDR | 328<br>1640 | 100<br>500 | 18.5<br>92.6 | 8.4<br>42.0 | | | | | 0.248 | 6.30 | |
| | **4308UE** | 10 CDR | 328<br>1640 | 100<br>500 | 22.9<br>114.9 | 10.4<br>52.1 | | | | | 0.295 | 7.50 | |
| | **4309UE** | 12 CDR | 328<br>1640 | 100<br>500 | 27.1<br>135.8 | 12.3<br>61.6 | | | | | 0.315 | 8.00 | |
| **16 AWG** • Stranded (19x29) 1.5 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CMG FT4 | | | | | 1.47 mm 16 AWG (19x29) BC | 0.068 | 1.72 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **5200UE** | 2 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 11.5<br>13.0<br>12.6<br>24.0<br>25.1 | 5.2<br>5.9<br>5.7<br>10.9<br>11.4 | | | | | 0.184 | 4.67 | |
| | **5201UE** | 3 CDR | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 18.5<br>18.1<br>35.1<br>38.1 | 8.4<br>8.2<br>15.9<br>17.3 | | | | | 0.196 | 4.98 | |
| | **5202UE** | 4 CDR | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 23.6<br>22.9<br>45.0<br>47.0 | 10.7<br>10.4<br>20.4<br>21.3 | | | | | 0.216 | 5.49 | |
| | **5205UE** | 7 CDR | 1000 | 305 | 77.2 | 35.0 | | | | | 0.261 | 6.63 | |

BC = Bare Copper • DCR = DC resistance

### Color Code

| Cond. No. | Color |
|---|---|
| **1** | Black |
| **2** | Red |
| **3** | White |
| **4** | Green |

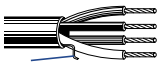
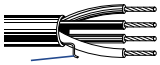
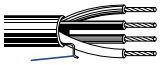
| Cond. No. | Color |
|---|---|
| **5** | Brown |
| **6** | Blue |
| **7** | Orange |
| **8** | Yellow |

| Cond. No. | Color |
|---|---|
| **9** | Purple |
| **10** | Grey |
| **11** | Pink |
| **12** | Tan |

# Security and Alarm Cables

## Commercial Applications Unshielded

NEW GENERATION®

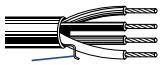
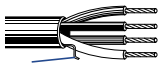
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 AWG** • Stranded (19x29) 1.5 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 1.47 mm 16 AWG (19x29) BC | 0.077 | 1.95 | Unshielded | | | |
|  Rip Cord | | | | | | | | | | | | | |
| | **4200UE** | 2 CDR | 328<br>1640 | 100<br>500 | 7.5<br>37.3 | 3.4<br>16.9 | | | | | 0.185 | 4.70 | Black, White |
| | **4201UE** | 3 CDR | 328<br>1640 | 100<br>500 | 9.9<br>49.8 | 4.5<br>22.6 | | | | | 0.197 | 5.00 | Black, White, Red |
| | **4202UE** | 4 CDR | 328<br>1640 | 100<br>500 | 13.2<br>65.7 | 6.0<br>29.8 | | | | | 0.217 | 5.50 | Black, White, Red, Green |
| **14 AWG** • Stranded (19x27) 1.9 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR FPLR CL3R | | | | | 1.85 mm 14 AWG (19x27) BC | 0.087 | 2.21 | Unshielded | | | |
|  Rip Cord | | | | | | | | | | | | | |
| | **5100UE** | 2 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 20.1<br>37.9<br>40.1 | 9.1<br>17.2<br>18.2 | | | | | 0.234 | 5.94 | Black, White |
| | Also available in Red for fire alarm (FPLR). | | | | | | | | | | | | |
| | **5101UE** | 3 CDR | 1000 | 305 | 56.2 | 25.5 | | | | | 0.249 | 6.32 | Black, White, Red |
| | **5102UE** | 4 CDR | 500<br>1000 | 152<br>305 | 38.6<br>73.2 | 17.5<br>33.2 | | | | | 0.276 | 7.01 | Black, White, Red, Green |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 1.85 mm 14 AWG (19x27) BC | 0.099 | 2.52 | Unshielded | | | |
|  Rip Cord | | | | | | | | | | | | | |
| | **4100UE** | 2 CDR | 328<br>1640 | 100<br>500 | 11.5<br>57.8 | 5.2<br>26.2 | | | | | 0.232 | 5.90 | Black, White |
| | **4101UE** | 3 CDR | 328<br>1640 | 100<br>500 | 15.4<br>76.9 | 7.0<br>34.9 | | | | | 0.248 | 6.30 | Black, White, Red |
| | **4102UE** | 4 CDR | 328<br>1640 | 100<br>500 | 20.5<br>103.0 | 9.3<br>46.7 | | | | | 0.276 | 7.00 | Black, White, Red, Green |

BC = Bare Copper • DCR = DC resistance

# Security and Alarm Cables

## Commercial Applications Unshielded

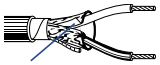
NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12 AWG** • Stranded (19x25) 2.4 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CL3R | | | | | 2.36 mm 12 AWG (19x25) BC | 0.107 | 2.72 | Unshielded | | | |
|  Rip Cord | | | | | | | | | | | | | |
| | **5000UE** | 2 CDR | 500<br>1000 | 152<br>305 | 29.1<br>57.1 | 13.2<br>25.9 | | | | | 0.268 | 6.81 | Black, White |
| | Also available in Red for fire alarm (FPLR). | | | | | | | | | | | | |
| | **5001UE** | 3 CDR | 1000 | 305 | 82.2 | 37.3 | | | | | 0.286 | 7.26 | Black, White, Red |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | IEC 60754-2 | | | | | 2.36 mm 12 AWG (19x25) BC | 0.118 | 3.00 | Unshielded | | | |
|  Rip Cord | | | | | | | | | | | | | |
| | **4000UE** | 2 CDR | 328<br>1640 | 100<br>500 | 16.5<br>83.1 | 7.5<br>37.7 | | | | | 0.268 | 6.80 | Black, White |
| | **4001UE** | 3 CDR | 1640 | 500 | 375.2 | 170.2 | | | | | 0.287 | 7.30 | Black, White, Red |

BC = Bare Copper • DCR = DC resistance

# Security and Alarm Cables
## Commercial Applications Shielded

NEW GENERATION®

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x32) 0.6 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5600FE** | NEC: CMR CEC: CMG FT4 | U-1000 1000 | U-305 305 | 11.0 9.9 | 5.0 4.5 | 0.61 mm 24 AWG (7x32) BC | 0.034 | 0.86 | Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.120 | 3.05 | see chart 12 (Tech Info Sectoion) |
|  Shorting Fold | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |

| Description | Part No. | No. of Cond. (CDR) | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD AWG | Nominal Conductor OD Section mm² | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 AWG** • Stranded (7x0.193) 0.6 mm Bare Copper • Overall Alufoil • Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • White Flame-Resistant PVC Jacket** (Color Code: see chart 11, Tech Info Section) | | | | | | | | | | | | | |
| 500V 70°C | | | | | | | | | | Overall Alufoil | | | - Alarm systems<br>- Antitrust systems<br>- Smoke survey<br>- Fire survey<br>- Industrial checks |
|  LiY (St) Y | | | | | | | | | | | | | |
| | **SEC0008** | 2 | 328 | 100 | 39.7 | 18.0 | (7x0.193) BC | 24 | 0.22 | | 0.150 | 3.80 | |
| | **SEC0009** | 4 | 328 | 100 | 61.7 | 28.0 | (7x0.193) BC | 24 | 0.22 | | 0.165 | 4.20 | |
| | **SEC0010** | 6 | 328 | 100 | 75.0 | 34.0 | (7x0.193) BC | 24 | 0.22 | | 0.181 | 4.60 | |
| | **SEC0011** | 8 | 328 | 100 | 97.0 | 44.0 | (7x0.193) BC | 24 | 0.22 | | 0.209 | 5.30 | |
| | **SEC0012** | 10 | 328 | 100 | 114.6 | 52.0 | (7x0.193) BC | 24 | 0.22 | | 0.228 | 5.80 | |
| | **SEC0013** | 12 | 328 | 100 | 136.7 | 62.0 | (7x0.193) BC | 24 | 0.22 | | 0.240 | 6.10 | |
| | **SEC0014** | 16 | 328 | 100 | 160.9 | 73.0 | (7x0.193) BC | 24 | 0.22 | | 0.276 | 7.00 | |
| | **SEC0015** | 2/2 | 328 | 100 | 83.8 | 38.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.193 | 4.90 | |
| | **SEC0016** | 4/2 | 328 | 100 | 97.0 | 44.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.205 | 5.20 | |
| | **SEC0017** | 6/2 | 328 | 100 | 114.6 | 52.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.232 | 5.90 | |
| | **SEC0018** | 8/2 | 328 | 100 | 141.1 | 64.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.256 | 6.50 | |
| | **SEC0019** | 10/2 | 328 | 100 | 158.7 | 72.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.264 | 6.70 | |
| | **SEC0020** | 12/2 | 328 | 100 | 172.0 | 78.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.272 | 6.90 | |
| | **SEC0021** | 2/2 | 328 | 100 | 97.0 | 44.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.205 | 5.20 | |
| | **SEC0022** | 4/2 | 328 | 100 | 114.6 | 52.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.220 | 5.60 | |
| | **SEC0023** | 6/2 | 328 | 100 | 132.3 | 60.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.244 | 6.20 | |
| | **SEC0024** | 8/2 | 328 | 100 | 143.3 | 65.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.252 | 6.40 | |
| | **SEC0025** | 10/2 | 328 | 100 | 158.7 | 72.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.264 | 6.70 | |
| | **SEC0026** | 12/2 | 328 | 100 | 174.2 | 79.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.283 | 7.20 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

| Description | Part No. | No. of Pairs | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **24 AWG** • Stranded (7x0.193) 0.6 mm Bare Copper • Mylar® Tape • Overall Alufoil • Color Coded | | | | | | | | | | | | | |
| **Thermoplastic M9 Insulation • White FRNC/LSNH Jacket** (Color Code: see chart below) | | | | | | | | | | | | | |
| 60/90V<br>70°C | | | | | | | | | | Overall<br>Alufoil | | | - Cables for anti-theft installations<br>- Cables for detection of smokes and fires<br>- To be used in public areas<br>(like banks, hospitals, big stores, hotels, theaters) |
|  | | | | | | | | | | | | | |
| LiH (St) H | | | | | | | | | | | | | |
| | **SEC0027** | 1 | 328 | 100 | 41.9 | 19.0 | (7x0.193) BC | 24 | 0.22 | | 0.157 | 4.00 | |
| | **SEC0028** | 2 | 328 | 100 | 66.1 | 30.0 | (7x0.193) BC | 24 | 0.22 | | 0.217 | 5.50 | |
| | **SEC0029** | 3 | 328 | 100 | 83.8 | 38.0 | (7x0.193) BC | 24 | 0.22 | | 0.228 | 5.80 | |
| | **SEC0030** | 4 | 328 | 100 | 105.8 | 48.0 | (7x0.193) BC | 24 | 0.22 | | 0.260 | 6.60 | |
| | **SEC0031** | 5 | 328 | 100 | 132.3 | 60.0 | (7x0.193) BC | 24 | 0.22 | | 0.295 | 7.50 | |
| | **SEC0032** | 6 | 328 | 100 | 149.9 | 68.0 | (7x0.193) BC | 24 | 0.22 | | 0.307 | 7.80 | |
| | **SEC0033** | 7 | 328 | 100 | 169.8 | 77.0 | (7x0.193) BC | 24 | 0.22 | | 0.319 | 8.10 | |
| | **SEC0034** | 8 | 328 | 100 | 194.0 | 88.0 | (7x0.193) BC | 24 | 0.22 | | 0.362 | 9.20 | |
| | **SEC0035** | 10 | 328 | 100 | 231.5 | 105.0 | (7x0.193) BC | 24 | 0.22 | | 0.382 | 9.70 | |
| | **SEC0036** | 11 | 328 | 100 | 269.0 | 122.0 | (7x0.193) BC | 24 | 0.22 | | 0.406 | 10.30 | |
| | **SEC0037** | 1/1 | 328 | 100 | 158.7 | 72.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.264 | 6.70 | |
| | **SEC0038** | 2/1 | 328 | 100 | 172.0 | 78.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.272 | 6.90 | |
| | **SEC0039** | 3/1 | 328 | 100 | 97.0 | 44.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.205 | 5.20 | |
| | **SEC0040** | 4/1 | 328 | 100 | 114.6 | 52.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.220 | 5.60 | |
| | **SEC0041** | 5/1 | 328 | 100 | 132.3 | 60.0 | (7x0.193) BC | 24 | 0.22 + 0.50 | | 0.244 | 6.20 | |
| | **SEC0042** | 1/1 | 328 | 100 | 97.0 | 44.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.260 | 6.60 | |
| | **SEC0043** | 2/1 | 328 | 100 | 119.0 | 54.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.283 | 7.20 | |
| | **SEC0044** | 3/1 | 328 | 100 | 145.5 | 66.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.307 | 7.80 | |
| | **SEC0045** | 4/1 | 328 | 100 | 158.7 | 72.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.323 | 8.20 | |
| | **SEC0046** | 5/1 | 328 | 100 | 172.0 | 78.0 | (7x0.193) BC | 24 | 0.22 + 0.75 | | 0.331 | 8.40 | |

BC = Bare Copper • DCR = DC resistance

Mylar® is a DuPont trademark.

### Color Code

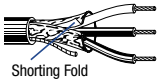
| Pair No. | Color |
|---|---|
| **1** | Red, Black |
| **2** | White/Blue, Blue |
| **3** | White/Orange, Orange |
| **4** | White/Green, Green |
| **5** | White/Brown, Brown |
| **6** | White/Grey, Grey |
| **7** | Red/Blue, Blue |
| **8** | Red/Orange, Orange |
| **9** | Red/Green, Green |
| **10** | Red/Brown, Brown |
| **11** | Red/Grey, Grey |

| Pair No. | Color |
|---|---|
| **12** | Black/Blue, Blue |
| **13** | Black/Orange, Orange |
| **14** | Black/Green, Green |
| **15** | Black/Brown, Brown |
| **16** | Black/Grey, Grey |
| **17** | Violet/Blue, Blue |
| **18** | Violet/Orange, Orange |
| **19** | Violet/Green, Green |
| **20** | Violet/Brown, Brown |
| **21** | Violet/Grey, Grey |

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CMG FT4 | | | | | 0.76 mm 22 AWG (7x30) BC | 0.040 | 1.01 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5500FE** | 2 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 5.5<br>6.6<br>6.6<br>11.9<br>11.9 | 2.5<br>3.0<br>3.0<br>5.4<br>5.4 | | | | | 0.130 | 3.30 | |
| | **5501FE** | 3 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 7.1<br>7.9<br>7.5<br>15.0<br>15.0 | 3.2<br>3.6<br>3.4<br>6.8<br>6.8 | | | | | 0.138 | 3.51 | |
| | **5502FE** | 4 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 8.6<br>9.5<br>9.5<br>18.1<br>18.1 | 3.9<br>4.3<br>4.3<br>8.2<br>8.2 | | | | | 0.152 | 3.86 | |
| | **5503FE** | 5 CDR | 1000 | 305 | 22.0 | 10.0 | | | | | 0.165 | 4.19 | |
| | **5504FE** | 6 CDR | C-500<br>U-500<br>U-1000<br>1000 | C-152<br>U-152<br>U-305<br>305 | 13.4<br>15.0<br>29.1<br>29.1 | 6.1<br>6.8<br>13.2<br>13.2 | | | | | 0.179 | 4.55 | |
| | **5506FE** | 8 CDR | U-500<br>U-1000<br>1000 | U-152<br>U-305<br>305 | 16.5<br>32.0<br>32.0 | 7.5<br>14.5<br>14.5 | | | | | 0.196 | 4.98 | |
| | **5508FE** | 10 CDR | U-500<br>U-1000<br>1000 | U-152<br>U-305<br>305 | 19.6<br>37.9<br>44.1 | 8.9<br>17.2<br>20.0 | | | | | 0.230 | 5.84 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

### Color Code

| Cond. No. | Color |
|---|---|
| 1 | Black |
| 2 | Red |
| 3 | White |
| 4 | Green |
| 5 | Brown |

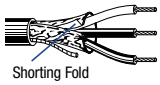
### Color Code

| Cond. No. | Color |
|---|---|
| 6 | Blue |
| 7 | Orange |
| 8 | Yellow |
| 9 | Purple |
| 10 | Grey |

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | |
| **22 AWG** • Stranded (7x30) 0.8 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 0.76 mm 22 AWG (7x30) BC | 0.049 | 1.25 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  Shorting Fold | | | | | | | | | | | | | |
| | **4500FE** | 2 CDR | 328<br>1640 | 100<br>500 | 4.0<br>19.6 | 1.8<br>8.9 | | | | | 0.130 | 3.30 | |
| | **4501FE** | 3 CDR | 328<br>1640 | 100<br>500 | 4.6<br>23.1 | 2.1<br>10.5 | | | | | 0.138 | 3.50 | |
| | **4502FE** | 4 CDR | 328<br>1640 | 100<br>500 | 6.0<br>29.3 | 2.7<br>13.3 | | | | | 0.154 | 3.90 | |
| | **4504FE** | 6 CDR | 328<br>1640 | 100<br>500 | 7.7<br>38.6 | 3.5<br>17.5 | | | | | 0.181 | 4.60 | |
| | **4506FE** | 8 CDR | 328<br>1640 | 100<br>500 | 9.7<br>48.7 | 4.4<br>22.1 | | | | | 0.197 | 5.00 | |
| | **4508FE** | 10 CDR | U-500<br>1000 | U-152<br>305 | 10.8<br>53.6 | 4.9<br>24.3 | | | | | 0.197 | 5.00 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

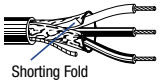
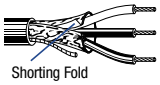
### Color Code

| Cond. No. | Color |
|---|---|
| **1** | Black |
| **2** | Red |
| **3** | White |
| **4** | Green |
| **5** | Brown |
| **6** | Blue |
| **7** | Orange |
| **8** | Yellow |
| **9** | Purple |
| **10** | Grey |

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Stranded (7x28) 1.0 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| **300V 75°C**  Shorting Fold | | NEC: CMR CEC: CMG FT4 | | | | | 0.96 mm 20 AWG (7x28) BC | 0.048 | 1.21 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
| | **5400FE** | 2 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 7.9<br>9.0<br>8.6<br>15.9<br>15.9 | 3.6<br>4.1<br>3.9<br>7.2<br>7.2 | | | | | 0.145 | 3.68 | |
| | **5401FE** | 3 CDR | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 11.0<br>10.6<br>20.9<br>20.9 | 5.0<br>4.8<br>9.5<br>9.5 | | | | | 0.153 | 3.89 | |
| | **5402FE** | 4 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 11.9<br>12.6<br>13.0<br>24.9<br>26.0 | 5.4<br>5.7<br>5.9<br>11.3<br>11.8 | | | | | 0.168 | 4.27 | |
| | **5403FE** | 5 CDR | U-1000<br>1000 | U-305<br>305 | 30.0<br>30.0 | 13.6<br>13.6 | | | | | 0.184 | 4.67 | |
| | **5405FE** | 7 CDR | U-1000<br>1000 | U-305<br>305 | 39.0<br>40.1 | 17.7<br>18.2 | | | | | 0.201 | 5.11 | |
| | **5407FE** | 9 CDR | 1000 | 305 | 51.1 | 23.2 | | | | | 0.236 | 5.99 | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| **300V 70°C**  Shorting Fold | | IEC 60754-2 | | | | | 0.96 mm 20 AWG (7x28) BC | 0.057 | 1.45 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
| | **4400FE** | 2 CDR | 328<br>1640 | 100<br>500 | 4.6<br>23.6 | 2.1<br>10.7 | | | | | 0.146 | 3.70 | |
| | **4401FE** | 3 CDR | 328<br>1640 | 100<br>500 | 6.0<br>30.0 | 2.7<br>13.6 | | | | | 0.154 | 3.90 | |
| | **4402FE** | 4 CDR | 328<br>1640 | 100<br>500 | 7.5<br>37.9 | 3.4<br>17.2 | | | | | 0.169 | 4.30 | |
| | **4403FE** | 5 CDR | 328<br>1640 | 100<br>500 | 4.6<br>23.6 | 2.1<br>10.7 | | | | | 0.185 | 4.70 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

### Color Code

| Cond. No. | Color |
|---|---|
| 1 | Black |
| 2 | Red |
| 3 | White |
| 4 | Green |
| 5 | Brown |

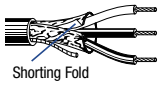
### Color Code

| Cond. No. | Color |
|---|---|
| 6 | Blue |
| 7 | Orange |
| 8 | Yellow |
| 9 | Purple |

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Stranded (7x26) 1.2 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V<br>75°C<br>  <br>Shorting Fold | | NEC:<br>CMR<br>CEC:<br>CMG FT4 | | | | | 1.22 mm<br>18 AWG<br>(7x26) BC | 0.058 | 1.47 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(24 AWG TC) | | | see chart below |
| | **5300FE** | 2 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 11.0<br>12.1<br>12.1<br>22.9<br>22.9 | 5.0<br>5.5<br>5.5<br>10.4<br>10.4 | | | | | 0.165 | 4.19 | |
| | **5301FE** | 3 CDR | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 15.4<br>15.0<br>30.0<br>30.0 | 7.0<br>6.8<br>13.6<br>13.6 | | | | | 0.175 | 4.45 | |
| | **5302FE** | 4 CDR | C-250<br>U-500<br>500<br>U-1000<br>1000 | C-76<br>U-152<br>152<br>U-305<br>305 | 8.8<br>19.0<br>20.5<br>35.9<br>37.0 | 4.0<br>8.6<br>9.3<br>16.3<br>16.8 | | | | | 0.192 | 4.88 | |
| | **5303FE** | 5 CDR | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 22.5<br>22.5<br>43.0<br>45.2 | 10.2<br>10.2<br>19.5<br>20.5 | | | | | 0.211 | 5.36 | |
| | **5304FE** | 6 CDR | U-500<br>500<br>1000 | U-152<br>152<br>305 | 28.4<br>26.0<br>57.1 | 12.9<br>11.8<br>25.9 | | | | | 0.230 | 5.84 | |
| | **5305FE** | 7 CDR | 1000 | 305 | 57.1 | 25.9 | | | | | 0.230 | 5.84 | |
| | **5306FE** | 8 CDR | 500<br>1000 | 152<br>305 | 32.0<br>64.2 | 14.5<br>29.1 | | | | | 0.270 | 6.86 | |
| | Also available in Natural. | | | | | | | | | | | | |
| | **5307FE** | 9 CDR | 1000 | 305 | 71.2 | 32.3 | | | | | 0.272 | 6.91 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

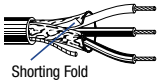
### Color Code

| Cond. No. | Color |
|---|---|
| **1** | Black |
| **2** | Red |
| **3** | White |
| **4** | Green |
| **5** | Brown |
| **6** | Blue |
| **7** | Orange |
| **8** | Yellow |
| **9** | Purple |

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Stranded (7x26) 1.2 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| **300V 70°C** | | IEC 60754-2 | | | | | 1.22 mm 18 AWG (7x26) BC | 0.068 | 1.72 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  Shorting Fold | | | | | | | | | | | | | |
| | **4300FE** | 2 CDR | 328<br>1640 | 100<br>500 | 7.1<br>35.5 | 3.2<br>16.1 | | | | | 0.165 | 4.20 | |
| | **4301FE** | 3 CDR | 328<br>1640 | 100<br>500 | 9.3<br>45.9 | 4.2<br>20.8 | | | | | 0.177 | 4.50 | |
| | **4302FE** | 4 CDR | 328<br>1640 | 100<br>500 | 11.7<br>58.2 | 5.3<br>26.4 | | | | | 0.193 | 4.90 | |
| | **4303FE** | 5 CDR | 328<br>1640 | 100<br>500 | 12.8<br>63.7 | 5.8<br>28.9 | | | | | 0.193 | 4.90 | |
| | **4304FE** | 6 CDR | 328<br>1640 | 100<br>500 | 16.5<br>82.7 | 7.5<br>37.5 | | | | | 0.228 | 5.80 | |
| | **4306FE** | 8 CDR | 328<br>1640 | 100<br>500 | 20.5<br>102.7 | 9.3<br>46.6 | | | | | 0.272 | 6.90 | |
| | **4307FE** | 9 CDR | 328<br>1640 | 100<br>500 | 22.0<br>110.2 | 10.0<br>50.0 | | | | | 0.283 | 7.20 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

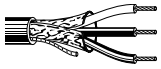
### Color Code

| Cond. No. | Color |
|---|---|
| **1** | Black |
| **2** | Red |
| **3** | White |
| **4** | Green |
| **5** | Brown |
| **6** | Blue |
| **7** | Orange |
| **8** | Yellow |
| **9** | Purple |

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

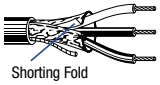
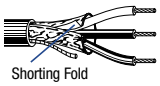
| Description | Part No. | No. of Cond. (CDR) | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Conductor OD | | Shielding Material Nom. DCR | Nominal OD | | Application |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | AWG | Section mm² | | inch | mm | |
| **18 AWG** • Stranded (32x0.20) 1.2 mm Bare Copper • Overall Alufoil • Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • White Flame-Resistant PVC Jacket** (Color Code: see chart 11, Tech Info Section) | | | | | | | | | | | | | |
| 500V | | | | | | | | | | Overall Alufoil | | | - Alarm systems<br>- Smoke survey<br>- Fire survey<br>- Industrial checks |
|  | | | | | | | | | | | | | |
| LiY (St) Y | **SEC0047** | 2 | 328 | 100 | 110.2 | 50.0 | (20x0.243) BC | 17 | 1.00 | | 0.220 | 5.60 | |
| | **SEC0048** | 3 | 328 | 100 | 132.3 | 60.0 | (20x0.243) BC | 17 | 1.00 | | 0.256 | 6.50 | |
| | **SEC0049** | 4 | 328 | 100 | 187.4 | 85.0 | (20x0.243) BC | 17 | 1.00 | | 0.276 | 7.00 | |
| | **SEC0050** | 5 | 328 | 100 | 220.5 | 100.0 | (20x0.243) BC | 17 | 1.00 | | 0.319 | 8.10 | |

BC = Bare Copper • DCR = DC resistance

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

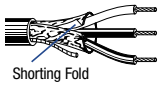
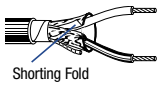
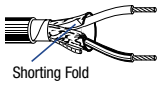
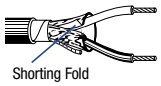
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 AWG** • Stranded (19x29) 1.5 mm Bare Copper • **Beldfoil®** Shield • 18 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V<br>75°C<br>  <br>Shorting Fold | | NEC:<br>CMR<br>CEC:<br>CMG FT4 | | | | | 1.47 mm<br>16 AWG<br>(19x29) BC | 0.068 | 1.72 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(18 AWG TC) | | | |
| | **5200FE** | 2 CDR | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 16.5<br>16.5<br>31.1<br>32.0 | 7.5<br>7.5<br>14.1<br>14.5 | | | | | 0.188 | 4.78 | Black, Red |
| | Also available in White. | | | | | | | | | | | | |
| | **5201FE** | 3 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 21.6<br>43.0<br>42.1 | 9.8<br>19.5<br>19.1 | | | | | 0.200 | 5.08 | Black, Red, White |
| | **5202FE** | 4 CDR | 500<br>1000 | 152<br>305 | 26.5<br>54.0 | 12.0<br>24.5 | | | | | 0.220 | 5.59 | Black, Red, White, Green |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V<br>70°C<br>  <br>Shorting Fold<br>1.23 mm² | | IEC<br>60754-2 | | | | | 1.47 mm<br>16 AWG<br>(19x29) BC | 0.077 | 1.95 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(18 AWG TC) | | | |
| | **4200FE** | 2 CDR | 328<br>1640 | 100<br>500 | 9.7<br>48.1 | 4.4<br>21.8 | | | | | 0.189 | 4.80 | Black, Red |
| | **4201FE** | 3 CDR | 328<br>1640 | 100<br>500 | 11.9<br>59.5 | 5.4<br>27.0 | | | | | 0.201 | 5.10 | Black, Red, White |
| | **4202FE** | 4 CDR | 328<br>1640 | 100<br>500 | 15.2<br>75.8 | 6.9<br>34.4 | | | | | 0.220 | 5.60 | Black, Red, White, Green |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Security and Alarm Cables

## Commercial Applications Shielded

NEW GENERATION®

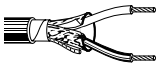
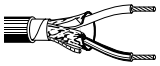
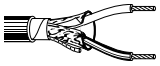
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14 AWG** • Stranded (19x27) 1.9 mm Bare Copper • **Beldfoil®** Shield • 16 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V<br>75°C | | NEC:<br>CL3R | | | | | 1.85 mm<br>14 AWG<br>(19x27) BC | 0.087 | 2.21 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(16 AWG TC) | | | |
|  <br>Shorting Fold | | | | | | | | | | | | | |
| | **5100FE** | 2 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 28.4<br>48.9<br>51.1 | 12.9<br>22.2<br>23.2 | | | | | 0.238 | 6.05 | Black, White |
| | **5101FE** | 3 CDR | 1000 | 305 | 66.1 | 30.0 | | | | | 0.253 | 6.43 | Black, White, Red |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V<br>70°C | **4100FE** | IEC<br>60754-2 | 328<br>1640 | 100<br>500 | 14.3<br>71.6 | 6.5<br>32.5 | 1.85 mm<br>14 AWG<br>(19x27) BC | 0.099 | 2.52 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(16 AWG TC) | 0.240 | 6.10 | Black, White |
|  <br>Shorting Fold | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **12 AWG** • Stranded (19x25) 2.4 mm Bare Copper • **Beldfoil®** Shield • 16 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V<br>75°C | **5000FE** | NEC:<br>CL3R | 500<br>1000 | 152<br>305 | 36.6<br>67.2 | 16.6<br>30.5 | 2.36 mm<br>12 AWG<br>(19x25) BC | 0.107 | 2.72 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(16 AWG TC) | 0.272 | 6.91 | Black, White |
|  <br>Shorting Fold | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V<br>70°C | **4000FE** | IEC<br>60754-2 | 328<br>1640 | 100<br>500 | 19.2<br>95.7 | 8.7<br>43.4 | 2.36 mm<br>12 AWG<br>(19x25) BC | 0.118 | 3.00 | Overall<br>Beldfoil®<br>+ Drain Wire<br>(16 AWG TC) | 0.272 | 6.90 | Black, White |
|  <br>Shorting Fold | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Security and Alarm Cables

Water-Blocked for Use in Underground Ducts
Unshielded and Shielded

NEW GENERATION®

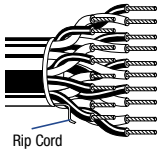
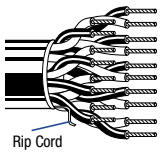
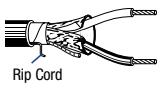
| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Stranded (7x26) 1.2 mm Tinned Copper • **Overall Water-Blocking Tape** • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C | **5300U1** | NEC: | U-500 | U-152 | 12.1 | 5.5 | 1.22 mm | 0.058 | 1.47 | Unshielded | 0.207 | 5.26 | Black, Red |
| | | CM | 500 | 152 | 13.4 | 6.1 | 18 AWG | | | | | | |
| | | CEC: | U-1000 | U-305 | 22.0 | 10.0 | (7x26) TC | | | | | | |
| | | CM FT1 | 1000 | 305 | 24.0 | 10.9 | | | | | | | |
|  Rip Cord | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm Tinned Copper • **Beldfoil®** Shield • **Overall Water-Blocking Tape** • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C | **5500F1** | NEC: | U-500 | U-152 | 9.0 | 4.1 | 0.76 mm | 0.058 | 1.47 | Overall Beldfoil® | 0.192 | 4.88 | Black, Red |
| | | CM | 500 | 152 | 9.0 | 4.1 | 22 AWG | | | | | | |
| | | CEC: | U-1000 | U-305 | 16.1 | 7.3 | (7x30) TC | | | | | | |
| | | CM FT1 | 1000 | 305 | 17.0 | 7.7 | | | | | | | |
|  | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **20 AWG** • Stranded (7x28) 1.0 mm Tinned Copper • **Beldfoil®** Shield • **Overall Water-Blocking Tape** • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C | **5400F1** | NEC: | U-500 | U-152 | 11.5 | 5.2 | 0.96 mm | 0.048 | 1.21 | Overall Beldfoil® | 0.206 | 5.23 | Black, Red |
| | | CM | 500 | 152 | 11.0 | 5.0 | 20 AWG | | | | | | |
| | | CEC: | U-1000 | U-305 | 20.9 | 9.5 | (7x28) TC | | | | | | |
| | | CM FT1 | 1000 | 305 | 20.9 | 9.5 | | | | | | | |
|  | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **18 AWG** • Stranded (7x26) 1.2 mm Tinned Copper • **Beldfoil®** Shield • **Overall Water-Blocking Tape** • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 105°C | **5300F1** | NEC: | U-500 | U-152 | 15.0 | 6.8 | 1.22 mm | 0.058 | 1.47 | Overall Beldfoil® | 0.222 | 5.64 | Black, Red |
| | | CM | 500 | 152 | 15.0 | 6.8 | 18 AWG | | | | | | |
| | | CEC: | U-1000 | U-305 | 29.1 | 13.2 | (7x26) TC | | | | | | |
| | | CM FT1 | 1000 | 305 | 30.0 | 13.6 | | | | | | | |
|  | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Security and Alarm Cables

## Commercial Applications Unshielded Twisted Pairs

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm Bare Copper • Twisted Pair • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CM FT4 | | | | | 0.76 mm 22 AWG (7x30) BC | 0.040 | 1.01 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **5541UE** | 2-Pair | U-1000<br>1000 | U-305<br>305 | 18.1<br>19.0 | 8.2<br>8.6 | | | | | 0.206 | 5.23 | |
| | **5542UE** | 3-Pair | U-500<br>U-1000<br>1000 | U-152<br>U-305<br>305 | 13.0<br>24.0<br>25.1 | 5.9<br>10.9<br>11.4 | | | | | 0.220 | 5.59 | |
| | **5543UE** | 4-Pair | U-1000<br>1000 | U-305<br>305 | 32.0<br>32.0 | 14.5<br>14.5 | | | | | 0.243 | 6.17 | |
| | **5547UE** | 9-Pair | 1000 | 305 | 70.1 | 31.8 | | | | | 0.334 | 8.48 | |
| **18 AWG** • Stranded (7x26) 1.2 mm Bare Copper • Twisted Pair • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CM FT4 | | | | | 1.22 mm 18 AWG (7x26) BC | 0.058 | 1.47 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **5341UE** | 2-Pair | U-1000<br>1000 | U-305<br>305 | 34.0<br>36.2 | 15.4<br>16.4 | | | | | 0.266 | 6.76 | |
| | **5342UE** | 3-Pair | U-1000<br>1000 | U-305<br>305 | 48.1<br>50.0 | 21.8<br>22.7 | | | | | 0.283 | 7.19 | |
| | **5343UE** | 4-Pair | 1000 | 305 | 67.2 | 30.5 | | | | | 0.320 | 8.13 | |
| | **5345UE** | 6-Pair | 1000 | 305 | 96.1 | 43.6 | | | | | 0.362 | 9.19 | |
| | **5347UE** | 9-Pair | 1000 | 305 | 140.2 | 63.6 | | | | | 0.434 | 11.02 | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **4341UE** | IEC 60754-2 | 328<br>1640 | 100<br>500 | 10.6<br>53.1 | 4.8<br>24.1 | 1.22 mm 18 AWG (7x26) BC | 0.058 | 1.47 | Unshielded | 0.264 | 6.70 | see chart below |
|  Rip Cord<br>2-Pair | | | | | | | | | | | | | |

BC = Bare Copper • DCR = DC resistance

### Color Code

| Pair No. | Color |
|---|---|
| 1 | Black, Red |
| 2 | Black, White |
| 3 | Black, Green |

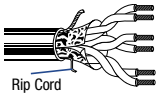
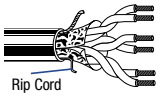
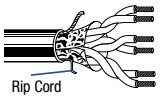
| Pair No. | Color |
|---|---|
| 4 | Black, Blue |
| 5 | Black, Yellow |
| 6 | Black, Brown |

| Pair No. | Color |
|---|---|
| 7 | Black, Orange |
| 8 | Black, White |
| 9 | Black, Green |

# Security and Alarm Cables

## Commercial Applications Shielded Twisted Pairs

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm BC • Twisted Pair • **Beldfoil®** Shield • 24 AWG TC Drain Wire • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CM FT4 | | | | | 0.76 mm 22 AWG (7x30) BC | 0.040 | 1.01 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **5541FE** | 2-Pair | U-500<br>U-1000<br>1000 | U-152<br>U-305<br>305 | 11.5<br>20.9<br>22.9 | 5.2<br>9.5<br>10.4 | | | | | 0.209 | 5.31 | |
| | **5542FE** | 3-Pair | U-1000<br>1000 | U-305<br>305 | 27.1<br>29.1 | 12.3<br>13.2 | | | | | 0.223 | 5.66 | |
| | **5543FE** | 4-Pair | 1000 | 305 | 34.0 | 15.4 | | | | | 0.246 | 6.25 | |
| | **5545FE** | 6-Pair | U-1000<br>1000 | U-305<br>305 | 46.1<br>48.1 | 20.9<br>21.8 | | | | | 0.278 | 7.06 | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | | | | | | 0.76 mm 22 AWG (7x30) BC | 0.049 | 1.25 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **4541FE** | 2-Pair | 328<br>1640 | 100<br>500 | 6.2<br>31.5 | 2.8<br>14.3 | | | | | 0.209 | 5.30 | |
| | **4542FE** | 3-Pair | 328<br>1640 | 100<br>500 | 7.7<br>39.0 | 3.5<br>17.7 | | | | | 0.224 | 5.70 | |
| | **4545FE** | 6-Pair | 328<br>1640 | 100<br>500 | 13.9<br>69.4 | 6.3<br>31.5 | | | | | 0.280 | 7.10 | |
| **20 AWG** • Stranded (7x28) 1.0 mm BC • Twisted Pair • **Beldfoil®** Shield • 24 AWG TC Drain Wire • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CM FT4 | | | | | 0.96 mm 20 AWG (7x28) BC | 0.048 | 1.21 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **5441FE** | 2-Pair | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 15.0<br>29.1<br>29.1 | 6.8<br>13.2<br>13.2 | | | | | 0.235 | 5.97 | |
| | **5442FE** | 3-Pair | U-1000<br>1000 | U-305<br>305 | 37.9<br>37.9 | 17.2<br>17.2 | | | | | 0.252 | 6.40 | |
| | **5445FE** | 6-Pair | 1000 | 305 | 72.1 | 32.7 | | | | | 0.323 | 8.20 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

### Color Code

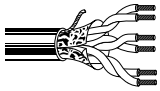
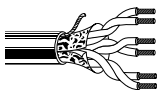
| Pair No. | Color |
|---|---|
| 1 | Black, Red |
| 2 | Black, White |
| 3 | Black, Green |

| Pair No. | Color |
|---|---|
| 4 | Black, Blue |
| 5 | Black, Yellow |
| 6 | Black, Brown |

# Security and Alarm Cables

## Commercial Applications Shielded Twisted Pairs

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Stranded (7x28) 1.0 mm BC • Twisted Pair • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 0.96 mm 20 AWG (7x28) BC | 0.057 | 1.45 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  | | | | | | | | | | | | | |
| | **4441FE** | 2-Pair | 328<br>1640 | 100<br>500 | 7.7<br>39.0 | 3.5<br>17.7 | | | | | 0.236 | 6.00 | |
| | **4445FE** | 6-Pair | 328<br>1640 | 100<br>500 | 18.7<br>93.3 | 8.5<br>42.3 | | | | | 0.323 | 8.20 | |
| **18 AWG** • Stranded (7x26) 1.2 mm BC • Twisted Pair • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Overall Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CM FT4 | | | | | 1.22 mm 18 AWG (7x26) BC | 0.058 | 1.47 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  | | | | | | | | | | | | | |
| | **5341FE** | 2-Pair | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 20.9<br>39.9<br>42.1 | 9.5<br>18.1<br>19.1 | | | | | 0.270 | 6.86 | |
| | **5342FE** | 3-Pair | 1000 | 305 | 52.0 | 23.6 | | | | | 0.275 | 6.99 | |
| | **5343FE** | 4-Pair | 1000 | 305 | 70.1 | 31.8 | | | | | 0.318 | 8.08 | |
| | **5345FE** | 6-Pair | 500<br>1000 | 152<br>305 | 52.7<br>103.2 | 23.9<br>46.8 | | | | | 0.373 | 9.47 | |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 1.22 mm 18 AWG (7x26) BC | 0.068 | 1.72 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | see chart below |
|  | | | | | | | | | | | | | |
| | **4341FE** | 2-Pair | 328<br>1640 | 100<br>500 | 13.7<br>68.6 | 6.2<br>31.1 | | | | | 0.264 | 6.70 | |
| | **4342FE** | 3-Pair | 1640 | 500 | 82.0 | 37.2 | | | | | 0.276 | 7.00 | |
| | **4343FE** | 4-Pair | 1640 | 500 | 103.0 | 46.7 | | | | | 0.319 | 8.10 | |
| | **4345FE** | 6-Pair | 1640 | 500 | 161.6 | 73.3 | | | | | 0.374 | 9.50 | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

### Color Code

| Pair No. | Color |
|---|---|
| **1** | Black, Red |
| **2** | Black, White |
| **3** | Black, Green |

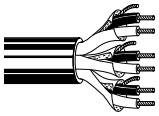
| Pair No. | Color |
|---|---|
| **4** | Black, Blue |
| **5** | Black, Yellow |
| **6** | Black, Brown |

# Security and Alarm Cables

## Commercial Applications Individually Shielded Twisted Pairs

NEW GENERATION®

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | |
| **22 AWG** • Stranded (7x30) 0.8 mm BC • Twisted Pair • Each Pair **Beldfoil®** Shielded • 24 AWG TC Drain Wire • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5543PE** | NEC: CMR CEC: CMG FT4 | 1000 | 305 | 55.1 | 25.0 | 0.76 mm 22 AWG (7x30) BC | 0.040 | 1.01 | Individual Beldfoil® + Drain Wire (24 AWG TC) | 0.303 | 7.70 | see chart below |



4-Pair

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

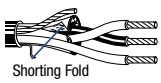
### Color Code

| Pair No. | Color |
|---|---|
| 1 | Black, Red |
| 2 | Black, White |
| 3 | Black, Green |
| 4 | Black, Blue |

# Security and Alarm Cables

## Commercial Applications, Individually Shielded Twisted Pairs plus Conductors

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded (7x30) 0.8 mm BC • Twisted Pair • Each Pair **Beldfoil®** Shielded • 24 AWG TC Drain Wire • With Additional Conductor(s) • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CMG FT4 | | | | | 0.76 mm 22 AWG (7x30) BC | 0.040 | 1.01 | Individual Beldfoil® + Drain Wire (24 AWG TC) | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5501GE** | 1 STP +1/C | U-1000 | U-305 | 16.1 | 7.3 | | | | | 0.171 | 4.34 | Black & Red (shielded pair), White |
| | **5502GE** | 1 STP +2/C | U-500<br>U-1000<br>1000 | U-152<br>U-305<br>305 | 9.9<br>19.0<br>19.0 | 4.5<br>8.6<br>8.6 | | | | | 0.186 | 4.72 | Black & Red (shielded pair), White, Green |
| | **5542GE** | 1 STP +2/TP | U-1000 | U-305 | 26.0 | 11.8 | | | | | 0.220 | 5.59 | Black & Red (shielded pair), Black & Red, Black & Green pairs |
| **Polyethylene Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | **4502GE** | IEC 60754-2 | 328<br>1640 | 100<br>500 | 6.0<br>30.0 | 2.7<br>13.6 | 0.76 mm 22 AWG (7x30) BC | 0.049 | 1.25 | Individual Beldfoil® + Drain Wire (24 AWG TC) | 0.185 | 4.70 | Black & Red (shielded pair), White, Green |
|  Shorting Fold | | | | | | | | | | | | | |
| 1 STP + 2/C | | | | | | | | | | | | | |
| **20 AWG** • Stranded (7x28) 1.0 mm BC • Twisted Pair • Each Pair **Beldfoil®** Shielded • 24 AWG TC Drain Wire • With Additional Conductor(s) • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: CMR CEC: CMG FT4 | | | | | 0.96 mm 20 AWG (7x28) BC | 0.042 | 1.06 | Individual Beldfoil® + Drain Wire (24 AWG TC) | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5401GE** | 1 STP +1/C | 1000 | 305 | 22.9 | 10.4 | | | | | 0.196 | 4.98 | Black & Red (shielded pair), White |
| | **5402GE** | 1 STP +2/C | U-1000 | U-305 | 26.0 | 11.8 | | | | | 0.200 | 5.08 | Black & Red (shielded pair), White, Green |
| **18 AWG** • Stranded (7x26) 1.2 mm BC • Twisted Pair • Each Pair **Beldfoil®** Shielded • 24 AWG TC Drain Wire • With Additional Conductor(s) • Numbered and Color Coded | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | |
| 300V 70°C | **5302GE** | NEC: CMR CEC: CMG FT4 | 1000 | 305 | 31.5 | 14.3 | 1.22 mm 18 AWG (7x26) BC | 0.058 | 1.47 | Individual Beldfoil® + Drain Wire (24 AWG TC) | 0.225 | 5.72 | Black & Red (shielded pair), White |
|  Shorting Fold | | | | | | | | | | | | | |
| 1 STP + 2/C | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • STP = Shielded Twisted Pair(s) • /C = Conductor(s) • DCR = DC resistance

# Security Coaxial Cables

Surveillance and CCTV Applications

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **H109A** • Solid 1.0 mm Bare Copper • **Copper-foil** • 55 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **5-Cell Gas-Injected Polyethylene Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **H109A00** | | 820 | 250 | 10.4 | 4.7 | 1.0 mm | 0.185 | 4.70 | Cu-foil | 0.262 | 6.65 | 75 | 80 % | 17.1 | 56.0 | 5 | 0.5 | 1.6 |
| | | | 1640 | 500 | 26.0 | 11.8 | Solid BC | | | + 55 % BC | | | | | | | 50 | 1.4 | 4.6 |
| | | | | | | | 41.0 Ω/km* | | | Braid | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | 26.0 Ω/km** | | | 15.0 Ω/km*** | | | | | | | 230 | 3.0 | 9.8 |
| | | | | | | | | | | 5.2 mm | | | | | | | 400 | 4.5 | 14.8 |
| | | | | | | | | | | | | | | | | | 800 | 5.9 | 19.2 |
| | | | | | | | | | | | | | | | | | 860 | 5.9 | 19.5 |
| 1.0/4.8 | | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | 1000 | 6.6 | 21.5 |
| | | | | 470-862 MHz: ≥ 20 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 15.0 mΩ/m | | | | | | | | | |
| | | | | 862-2150 MHz: ≥ 18 dB | | | | | | Pulling Tension: 55 N | | | | | | | | | |
| **H125A** • Solid 1.0 mm Bare Copper • **Duofoil®** • 40 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Brown, Black and White) | | | | | | | | | | | | | | | | | | | |
| 80°C | **H125A00** | | 328 | 100 | 10.4 | 4.7 | 1.0 mm | 0.189 | 4.80 | Duofoil® | 0.268 | 6.80 | 75 | 81 % | 16.8 | 55.0 | 5 | 0.5 | 1.8 |
| | | | 820 | 250 | 26.0 | 11.8 | Solid BC | | | + 40 % TC | | | | | | | 50 | 1.4 | 4.7 |
| | | | 1640 | 500 | 51.8 | 23.5 | 50.0 Ω/km* | | | Braid | | | | | | | 100 | 2.0 | 6.5 |
| | | | | | | | 23.0 Ω/km** | | | 27.0 Ω/km*** | | | | | | | 230 | 3.0 | 9.8 |
| | | | | | | | | | | | | | | | | | 400 | 3.9 | 12.9 |
| | | | | | | | | | | | | | | | | | 800 | 5.7 | 18.6 |
| | | | | | | | | | | | | | | | | | 860 | 5.9 | 19.3 |
| 1.0/4.8 | | | Return loss at | 5-470 MHz: ≥ 23 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | 1000 | 6.4 | 20.9 |
| | | | | 470-862 MHz: ≥ 20 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m | | | | | | | | | |
| | | | | 862-2150 MHz: ≥ 18 dB | | | | | | Pulling Tension: 55 N | | | | | | | | | |
| **H121A** • Solid 0.8 mm Bare Copper • **Duofoil®** • 40 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Polyethylene Insulation • PVC Jacket** (Brown, Black and White) | | | | | | | | | | | | | | | | | | | |
| 80°C | **H121A00** | | 328 | 100 | 15.1 | 6.9 | 0.8 mm | 0.138 | 3.50 | Duofoil® | 0.197 | 5.00 | 75 | 82 % | 16.5 | 54.0 | 5 | 0.5 | 1.7 |
| | | | 820 | 250 | 37.9 | 17.2 | Solid BC | | | + 40 % TC | | | | | | | 50 | 1.8 | 5.9 |
| | | | 1640 | 500 | 75.7 | 34.4 | 75.0 Ω/km* | | | Braid | | | | | | | 100 | 2.0 | 8.1 |
| | | | | | | | 35.0 Ω/km** | | | 40.0 Ω/km*** | | | | | | | 230 | 3.7 | 12.1 |
| | | | | | | | | | | 4.1 mm | | | | | | | 400 | 4.8 | 15.9 |
| | | | | | | | | | | | | | | | | | 800 | 6.9 | 22.7 |
| | | | | | | | | | | | | | | | | | 860 | 7.2 | 23.6 |
| 1.0/4.8 | | | Return loss at | 5-470 MHz: ≥ 20 dB | | | | | | Screening attenuation at 30-1000 MHz: ≥ 75 dB | | | | | | | 1000 | 7.8 | 25.6 |
| | | | | 470-862 MHz: ≥ 18 dB | | | | | | Transfer impedance at 5-30 MHz: ≤ 40.0 mΩ/m | | | | | | | | | |
| | | | | 862-2150 MHz: ≥ 16 dB | | | | | | Pulling Tension: 55 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper

Duofoil® see technical information page 23.13.

# Security Coaxial Cables

## Surveillance and CCTV Applications
## Shielded or Flooded for Use in Underground Ducts

NEW GENERATION®



| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **25 AWG** • Solid 0.5 mm Bare Copper • 94 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • PVC Jacket** (Brown, Red, Yellow, Green, Blue, White and Black) | | | | | | | | | | | | | | | | | | | |
| 75°C | **573945** | NEC: | U-1000 | U-305 | 15.0 | 6.8 | 0.46 mm | 0.085 | 2.16 | 94% BC | 0.146 | 3.71 | 75 | 80% | 16.9 | 55.4 | 1 | 0.5 | 1.5 |
| | | CM | 1000 | 305 | 14.1 | 6.4 | 25 AWG | | | Braid | | | | | | | 5 | 0.9 | 3.0 |
| | | CEC: | | | | | Solid BC | | | 18.4 Ω/km*** | | | | | | | 10 | 2.0 | 4.3 |
| | | CM FT1 | | | | | 101.7 Ω/km* | | | | | | | | | | 50 | 3.0 | 9.8 |
| | | | | | | | 83.3 Ω/km** | | | | | | | | | | 100 | 4.1 | 13.5 |
| | | | | | | | | | | | | | | | | | 200 | 6.0 | 19.7 |
| | | | | | | | | | | | | | | | | | 400 | 8.6 | 28.2 |
| Mini RG-59 | | | | | | | | | | | | | | | | | 700 | 11.6 | 38.1 |
| | | | Nominal Delay: 4.167 ns/m | | | | | | | Pulling Tension: 125 N | | | | | | | 900 | 13.5 | 44.3 |
| | | | | | | | | | | | | | | | | | 1000 | 14.5 | 47.6 |
| **Gas-Injected Foam PE Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **473945** | IEC | 328 | 100 | 4.6 | 2.1 | 0.46 mm | 0.085 | 2.16 | 95% BC | 0.146 | 3.70 | 75 | 80% | 16.9 | 55.4 | | | see above |
| | | 60754-2 | 1640 | 500 | 23.1 | 10.5 | 25 AWG | | | Braid | | | | | | | | | |
| | | | | | | | Solid BC | | | 18.4 Ω/km*** | | | | | | | | | |
| | | | | | | | 101.7 Ω/km* | | | | | | | | | | | | |
| | | | | | | | 83.3 Ω/km** | | | | | | | | | | | | |
| Mini RG-59 | | | | | | | | | | | | | | | | | | | |
| | | | Nominal Delay: 4.167 ns/m | | | | | | | Pulling Tension: 125 N | | | | | | | | | |
| **22 AWG** • Stranded (7x30) 0.8 mm Bare Copper • 95 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 75°C | **551945** | NEC: | U-1000 | U-305 | 33.1 | 15.0 | 0.76 mm | 0.140 | 3.56 | 95% BC | 0.232 | 5.89 | 75 | 78% | 17.3 | 56.8 | 1 | 0.3 | 1.0 |
| | | CM | 1000 | 305 | 30.0 | 13.6 | 22 AWG | | | Braid | | | | | | | 10 | 0.9 | 3.0 |
| | | CEC: | | | | | (7x30) BC | | | 8.5 Ω/km*** | | | | | | | 50 | 2.1 | 6.9 |
| | | CM FT1 | | | | | 49.2 Ω/km* | | | | | | | | | | 100 | 3.0 | 9.8 |
| | | | | | | | 40.7 Ω/km** | | | | | | | | | | 200 | 4.5 | 14.8 |
| | | | | | | | | | | | | | | | | | 400 | 6.6 | 21.7 |
| RG-59 | | | | | | | | | | | | | | | | | 700 | 8.9 | 29.2 |
| | | | Nominal Delay: 4.265 ns/m | | | | | | | Pulling Tension: 218 N | | | | | | | 900 | 10.1 | 33.1 |
| | | | | | | | | | | | | | | | | | 1000 | 10.9 | 35.8 |
| **Gas-Injected Foam PE Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **451945** | IEC | 328 | 100 | 8.2 | 3.7 | 0.76 mm | 0.140 | 3.56 | 95% BC | 0.232 | 5.90 | 75 | 78% | 17.3 | 56.8 | | | see above |
| | | 60754-2 | 1640 | 500 | 41.2 | 18.7 | 22 AWG | | | Braid | | | | | | | | | |
| | | | | | | | (7x30) BC | | | 8.5 Ω/km*** | | | | | | | | | |
| | | | | | | | 49.2 Ω/km* | | | | | | | | | | | | |
| | | | | | | | 40.7 Ω/km** | | | | | | | | | | | | |
| RG-59 | | | | | | | | | | | | | | | | | | | |
| | | | Nominal Delay: 4.265 ns/m | | | | | | | Pulling Tension: 218 N | | | | | | | | | |
| **20 AWG** • Solid 0.8 mm Bare Copper • 95 % Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • PVC Jacket** (White or Black) | | | | | | | | | | | | | | | | | | | |
| 75°C | **543945** | NEC: | U-500 | U-152 | 12.6 | 5.7 | 0.81 mm | 0.145 | 3.68 | 95% BC | 0.232 | 5.89 | 75 | 83% | 16.3 | 53.5 | 1 | 0.3 | 1.0 |
| | | CM | 500 | 152 | 13.2 | 6.0 | 20 AWG | | | Braid | | | | | | | 5 | 0.7 | 2.1 |
| | | CEC: | U-1000 | U-305 | 24.9 | 11.3 | Solid BC | | | 11.4 Ω/km*** | | | | | | | 10 | 2.0 | 3.0 |
| | | CM FT1 | 1000 | 305 | 31.1 | 14.1 | 32.8 Ω/km* | | | | | | | | | | 50 | 1.9 | 6.2 |
| | | | | | | | 21.4 Ω/km** | | | | | | | | | | 100 | 2.6 | 8.5 |
| | | | | | | | | | | | | | | | | | 200 | 3.6 | 11.8 |
| RG-59 | | | | | | | | | | | | | | | | | 400 | 5.0 | 16.4 |
| | | | | | | | | | | | | | | | | | 700 | 7.0 | 23.0 |
| | | | Nominal Delay: 3.97 ns/m | | | | | | | Pulling Tension: 218 N | | | | | | | 900 | 8.0 | 26.2 |
| | | | | | | | | | | | | | | | | | 1000 | 8.5 | 27.9 |

*DC loop resistance • **DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper

# Security Coaxial Cables

## Surveillance and CCTV Applications

## Shielded or Flooded for Use in Underground Ducts

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/100 ft. | Nominal Attenuation dB/100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Solid 0.8 mm Bare Copper • 95% Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **443945** | IEC 60754-2 | 328<br>1640 | 100<br>500 | 10.6<br>52.5 | 4.8<br>23.8 | 0.81 mm<br>20 AWG<br>Solid BC<br>32.8 Ω/km*<br>21.4 Ω/km** | 0.145 | 3.68 | 95% BC<br>Braid<br>11.4 Ω/km*** | 0.232 | 5.90 | 75 | 83% | 16.3 | 53.5 | 1<br>5<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.3<br>0.7<br>2.0<br>1.9<br>2.6<br>3.6<br>5.0<br>7.0<br>8.0<br>8.5 | 1.0<br>2.1<br>3.0<br>6.2<br>8.5<br>11.8<br>16.4<br>23.0<br>26.2<br>27.9 |
|  RG-59 | | | Nominal Delay: 3.97 ns/m | | | | | | | Pulling Tension: 218 N | | | | | | | | | |
| **18 AWG** • Solid 1.0 mm Bare Copper • 95% Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Foam PE Insulation • PVC Jacket** (White or Black) | | | | | | | | | | | | | | | | | | | |
| 75°C | **533945** | NEC:<br>CM<br>CEC:<br>CM FT1 | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 20.9<br>39.9<br>41.0 | 9.5<br>18.1<br>18.6 | 1.02 mm<br>18 AWG<br>Solid BC<br>20.9 Ω/km*<br>10.8 Ω/km** | 0.180 | 4.57 | 95% BC<br>Braid<br>10.1 Ω/km*** | 0.266 | 6.76 | 75 | 83% | 16.3 | 53.5 | 1<br>5<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.2<br>0.5<br>2.0<br>1.5<br>2.1<br>3.0<br>4.3<br>5.8<br>6.7<br>7.1 | 0.7<br>1.5<br>2.1<br>4.8<br>6.9<br>9.8<br>14.1<br>19.0<br>22.0<br>23.3 |
|  RG-6 | | | Nominal Delay: 4.003 ns/m | | | | | | | Pulling Tension: 507 N | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **433945** | IEC 60754-2 | 328<br>1640 | 100<br>500 | 13.4<br>67.2 | 6.1<br>30.5 | 1.02 mm<br>18 AWG<br>Solid BC<br>20.9 Ω/km*<br>10.8 Ω/km** | 0.180 | 4.57 | 95% BC<br>Braid<br>10.1 Ω/km*** | 0.266 | 6.75 | 75 | 83% | 16.3 | 53.5 | | | see above |
|  RG-6 | | | Nominal Delay: 4.003 ns/m | | | | | | | Pulling Tension: 507 N | | | | | | | | | |
| **14 AWG** • Solid 1.6 mm Bare Copper • 95% Bare Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 75°C | **513945** | NEC:<br>CM<br>CEC:<br>CM FT1 | 500<br>1000 | 152<br>305 | 52.5<br>98.1 | 23.8<br>44.5 | 1.63 mm<br>14 AWG<br>Solid BC<br>8.5 Ω/km*<br>4.6 Ω/km** | 0.280 | 7.11 | 95% BC<br>Braid<br>3.9 Ω/km*** | 0.405 | 10.29 | 75 | 84% | 16.1 | 52.8 | 1<br>10<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.2<br>0.4<br>0.9<br>1.3<br>1.9<br>2.9<br>4.1<br>4.8<br>5.2 | 0.6<br>1.1<br>3.0<br>4.3<br>6.2<br>9.5<br>13.5<br>15.7<br>17.1 |
|  RG-11 | | | Nominal Delay: 3.97 ns/m | | | | | | | Pulling Tension: 640 N | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **413945** | IEC 60754-2 | 500<br>1640 | 152<br>500 | 100.0<br>159.4 | 14.5<br>72.3 | 1.63 mm<br>14 AWG<br>Solid BC<br>8.5 Ω/km*<br>4.6 Ω/km** | 0.280 | 7.11 | 95% BC<br>Braid<br>3.9 Ω/km*** | 0.406 | 10.30 | 75 | 84% | 16.1 | 52.8 | | | see above |
|  RG-11 | | | Nominal Delay: 3.97 ns/m | | | | | | | Pulling Tension: 640 N | | | | | | | | | |

*DC loop resistance • **DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper

# Security Coaxial Cables

## Water-Blocked for Use in Underground Ducts

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | | Nominal Attenuation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | | | pF/ft. | pF/m | MHz | dB/ 100 Ft. | dB/ 100 m |
| **20 AWG** • Solid 0.8 mm Bare Copper • **Duobond® II** • 95 % Tinned Copper Braid • **CoreGuard®** | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • Black UV-Resistant PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 75°C | **5439W5** | NEC: | U-500 | U-152 | 17.4 | 7.9 | 0.81 mm | 0.145 | 3.68 | Duobond® II | 0.236 | 5.99 | 75 | 83 % | 16.3 | 53.5 | 1 | 0.3 | 1.0 |
| | | CM | 500 | 152 | 17.4 | 7.9 | 20 AWG | | | + 95 % TC | | | | | | | 5 | 0.6 | 2.1 |
| | | CEC: | U-1000 | U-305 | 34.0 | 15.4 | Solid BC | | | Braid | | | | | | | 10 | 2.0 | 2.9 |
| | | CM FT1 | 1000 | 305 | 34.0 | 15.4 | 32.8 Ω/km* | | | 8.2 Ω/km*** | | | | | | | 50 | 1.7 | 5.6 |
| | | | | | | | 24.6 Ω/km** | | | | | | | | | | 100 | 2.3 | 7.5 |
| | | | | | | | | | | | | | | | | | 200 | 3.4 | 11.2 |
| CoreGuard® | | | | | | | | | | | | | | | | | 400 | 4.7 | 15.4 |
| | | | | | | | | | | | | | | | | | 700 | 6.3 | 20.7 |
| RG-59 | | | Nominal Delay: 3.97 ns/m | | | | | | | Pulling Tension: 253 N | | | | | | | 900 | 7.3 | 24.0 |
| | | | | | | | | | | | | | | | | | 1000 | 7.8 | 25.6 |
| **18 AWG** • Solid 1.0 mm Bare Copper • **Duofoil®** • 60 % Aluminum Braid • **CoreGuard®** | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • Black UV-Resistant PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 75°C | **5339W5** | NEC: | U-500 | U-152 | 15.4 | 7.0 | 1.02 mm | 0.180 | 4.57 | Duofoil® | 0.270 | 6.86 | 75 | 83 % | 16.3 | 53.5 | 4 | 0.6 | 2.0 |
| | | CM | 500 | 152 | 15.4 | 7.0 | 18 AWG | | | + 60 % AL | | | | | | | 30 | 1.3 | 4.4 |
| | | CEC: | U-1000 | U-305 | 30.0 | 13.6 | Solid BC | | | Braid | | | | | | | 211 | 2.0 | 10.1 |
| | | CM FT1 | 1000 | 305 | 30.0 | 13.6 | 20.9 Ω/km* | | | 10.1 Ω/km*** | | | | | | | 270 | 3.5 | 11.5 |
| | | | | | | | 10.8 Ω/km** | | | | | | | | | | 300 | 3.7 | 12.1 |
| | | | | | | | | | | | | | | | | | 330 | 3.9 | 12.8 |
| CoreGuard® | | | | | | | | | | | | | | | | | 400 | 4.3 | 14.1 |
| | | | | | | | | | | | | | | | | | 450 | 4.6 | 15.0 |
| RG-6 | | | | | | | | | | | | | | | | | 550 | 5.1 | 16.7 |
| | | | | | | | | | | | | | | | | | 750 | 6.0 | 19.7 |
| | | | Nominal Delay: 3.97 ns/m | | | | | | | Pulling Tension: 302 N | | | | | | | 870 | 6.5 | 21.3 |
| | | | | | | | | | | | | | | | | | 1000 | 7.0 | 23.0 |

*DC loop resistance • **DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper • AL = Aluminum

Duofoil® and Duobond® II see technical information page 23.13.

# Security Coaxial Cables

CATV and MATV Applications Commercial or Schlage Systems

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Solid 1.0 mm Bare Copper • **Duofoil®** • 60 % Aluminum Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • PVC Jacket** (White or Black) | | | | | | | | | | | | | | | | | | | |
| 75°C | **5339B5** | NEC: | U-500 | U-152 | 17.4 | 7.9 | 1.02 mm | 0.180 | 4.57 | Duofoil® | 0.266 | 6.76 | 75 | 83% | 16.3 | 53.5 | 5 | 0.8 | 2.7 |
| | | CM | 500 | 152 | 15.4 | 7.0 | 18 AWG | | | + 60% AL | | | | | | | 55 | 1.6 | 5.3 |
| | | CEC: | U-1000 | U-305 | 34.0 | 15.4 | Solid BC | | | Braid | | | | | | | 211 | 2.0 | 10.1 |
| | | CM FT1 | 1000 | 305 | 35.1 | 15.9 | 20.9 Ω/km* | | | 10.1 Ω/km*** | | | | | | | 270 | 3.5 | 11.5 |
| | | | | | | | 10.8 Ω/km** | | | | | | | | | | 300 | 3.7 | 12.1 |
| | | | | | | | | | | | | | | | | | 330 | 3.9 | 12.8 |
| Series 6 RG-6 | | | | | | | | | | | | | | | | | 400 | 4.3 | 14.1 |
| | | | | | | | | | | | | | | | | | 450 | 4.6 | 15.0 |
| | | | | | | | | | | | | | | | | | 550 | 5.1 | 16.7 |
| | | | Also available in White. | | | | | | | Nominal Delay: 3.97 ns/m | | | | | | | 750 | 6.0 | 19.7 |
| | | | | | | | | | | Pulling Tension: 302 N | | | | | | | 870 | 6.5 | 21.3 |
| | | | | | | | | | | | | | | | | | 1000 | 7.0 | 23.0 |
| **Gas-Injected Foam PE Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **4339B5** | IEC | 328 | 100 | 11.9 | 5.4 | 1.02 mm | 0.180 | 4.57 | Duofoil® | 0.272 | 6.90 | 75 | 83% | 16.3 | 53.5 | | | see above |
| | | 60754-2 | 1640 | 500 | 59.3 | 26.9 | 18 AWG | | | + 63% BC | | | | | | | | | |
| | | IEC 332-1 | | | | | Solid BC | | | Braid | | | | | | | | | |
| | | | | | | | 20.9 Ω/km* | | | 10.1 Ω/km*** | | | | | | | | | |
| | | | | | | | 10.8 Ω/km** | | | | | | | | | | | | |
| Series 6 RG-6 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | Nominal Delay: 3.97 ns/m | | | | | | | | | |
| | | | | | | | | | | Pulling Tension: 302 N | | | | | | | | | |
| **18 AWG** • Solid 1.0 mm Bare Copper • **Quad Shield** | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • PVC Jacket** (White or Black) | | | | | | | | | | | | | | | | | | | |
| 75°C | **5339Q5** | NEC: | 500 | 152 | 19.0 | 8.6 | 1.02 mm | 0.180 | 4.57 | Duofoil® | 0.298 | 7.57 | 75 | 83% | 16.3 | 53.5 | | | see above |
| | | CM | U-1000 | U-305 | 35.9 | 16.3 | 18 AWG | | | + 60% AL | | | | | | | | | |
| | | CEC: | 1000 | 305 | 35.9 | 16.3 | Solid BC | | | Braid | | | | | | | | | |
| | | CM FT1 | | | | | 20.9 Ω/km* | | | Duofoil® | | | | | | | | | |
| | | | | | | | 10.8 Ω/km** | | | + 40% AL | | | | | | | | | |
| | | | | | | | | | | Braid | | | | | | | | | |
| Series 6 RG-6 | | | | | | | | | | 10.1 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | Nominal Delay: 3.97 ns/m | | | | | | | | | |
| | | | | | | | | | | Pulling Tension: 462 N | | | | | | | | | |
| **Gas-Injected Foam PE Insulation • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 70°C | **4339Q5** | IEC | 328 | 100 | 12.3 | 5.6 | 1.02 mm | 0.180 | 4.57 | Duofoil® | 0.299 | 7.60 | 75 | 83% | 16.3 | 53.5 | | | see above |
| | | 60754-2 | 1640 | 500 | 62.6 | 28.4 | 18 AWG | | | + 60% AL | | | | | | | | | |
| | | IEC 332-1 | | | | | Solid BC | | | Braid | | | | | | | | | |
| | | | | | | | 20.9 Ω/km* | | | Duofoil® | | | | | | | | | |
| | | | | | | | 10.8 Ω/km** | | | + 40% AL | | | | | | | | | |
| | | | | | | | | | | Braid | | | | | | | | | |
| Series 6 RG-6 | | | | | | | | | | 10.1 Ω/km*** | | | | | | | | | |
| | | | | | | | | | | Nominal Delay: 3.97 ns/m | | | | | | | | | |
| | | | | | | | | | | Pulling Tension: 462 N | | | | | | | | | |
| **18 AWG** • Solid 1.0 mm Bare Copper • **Duobond® (Schlage Systems)** • 60 % Aluminum Braid | | | | | | | | | | | | | | | | | | | |
| **Foam PE Insulation • Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 75°C | **5399B5** | NEC: | U-1000 | U-305 | 28.0 | 12.7 | 1.02 mm | 0.180 | 4.57 | Duobond® | 0.270 | 6.86 | 75 | 83% | 16.3 | 53.5 | 4 | 0.6 | 2.0 |
| | | CM | 1000 | 305 | 29.1 | 13.2 | 18 AWG | | | + 60% AL | | | | | | | 30 | 1.3 | 4.4 |
| | | CEC: | | | | | Solid BC | | | Braid | | | | | | | 211 | 2.0 | 10.1 |
| | | CM FT1 | | | | | 20.9 Ω/km* | | | 10.1 Ω/km*** | | | | | | | 270 | 3.5 | 11.5 |
| | | | | | | | 10.8 Ω/km** | | | | | | | | | | 300 | 3.7 | 12.1 |
| | | | | | | | | | | | | | | | | | 330 | 3.9 | 12.8 |
| Series 6 RG-6 | | | | | | | | | | | | | | | | | 400 | 4.3 | 14.1 |
| | | | | | | | | | | | | | | | | | 450 | 4.6 | 15.0 |
| | | | | | | | | | | | | | | | | | 550 | 5.1 | 16.7 |
| | | | | | | | | | | Nominal Delay: 3.97 ns/m | | | | | | | 750 | 6.0 | 19.7 |
| | | | | | | | | | | Pulling Tension: 302 N | | | | | | | 870 | 6.5 | 21.3 |
| | | | | | | | | | | | | | | | | | | 1000 | 7.0 | 23.0 |

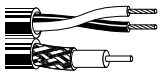
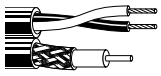
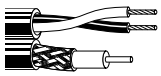
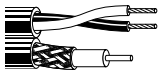
*DC loop resistance • **DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper • AL = Aluminum

Quad Shield = Duofoil Tape + 60 % Aluminum Braid + Duofoil Tape + 40 % Aluminum Braid
Duofoil® and Duobond® see technical information page 23.13.

# Security Composite Cables

## CCTV Plus Audio or Pan and Tilt CCTV Control Applications

NEW GENERATION®

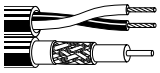
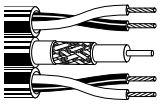
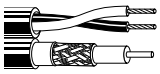
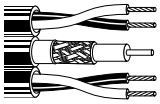
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Shielding Material | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component OD inch | Component OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite • **(1) Pair Unshielded** 18 AWG • **(1) Coax** Solid 0.8 mm Bare Copper • 95% Bare Copper Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Pairs) • Foam Insulation (Coax) • Black PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V 75°C | **549945** | NEC: CM CEC: CM FT1 | 500 1000 | 152 305 | 30.0 60.2 | 13.6 27.3 | Unshielded | 0.460 | 11.68 | 2x Data | 1-Pair 18 AWG 1.22 mm (7x26) BC | Unshielded | PVC 1.47 mm | PVC Black | 0.228 | 5.79 |
| | | | | | | | | | | 1x Coax | 20 AWG 0.8 mm Solid BC | 95% BC | Foam Polyolefin | PVC Black | 0.232 | 5.89 |
|  RG-59 | | | | | | | Color Code 1-Pair: Black and Red | | | | | | | | | |
| **PVC Insulation (Pairs) • Foam Insulation (Coax) • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | |
| 300V 70°C | **449945** | IEC 60754-2 | 328 1640 | 100 500 | 19.8 98.8 | 9.0 44.8 | Unshielded | 0.461 | 11.70 | 2x Data | 1-Pair 18 AWG 1.22 mm (7x26) BC | Unshielded | PE 1.47 mm | FRNC Grey | 0.228 | 5.79 |
| | | | | | | | | | | 1x Coax | 20 AWG 0.8 mm Solid BC | 95% BC | Foam PE | FRNC Grey | 0.232 | 5.90 |
|  RG-59 | | | | | | | Color Code 1-Pair: Black and Red | | | | | | | | | |
| Composite • **(1) Pair Unshielded** 18 AWG • **(1) Coax** Solid 1.0 mm Bare Copper • 95% Bare Copper Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Pairs) • Foam Insulation (Coax) • Black PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V 75°C | **539945** | NEC: CM CEC: CM FT1 | 500 1000 | 152 305 | 34.2 69.0 | 15.5 31.3 | Unshielded | 0.500 | 12.70 | 2x Data | 1-Pair 18 AWG 1.22 mm (7x26) BC | Unshielded | PVC 1.47 mm | PVC Black | 0.228 | 5.79 |
| | | | | | | | | | | 1x Coax | 18 AWG 1.0 mm Solid BC | 95% BC | Foam Polyolefin | PVC Black | 0.266 | 6.76 |
|  RG-6 Kötter approved | | | | | | | Color Code 1-Pair: Black and Red | | | | | | | | | |
| **PVC Insulation (Pairs) • Foam Insulation (Coax) • Grey FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | |
| 300V 70°C | **439945** | IEC 60754-2 | 328 1640 | 100 500 | 22.9 114.9 | 10.4 52.1 | Unshielded | 0.500 | 12.70 | 2x Data | 1-Pair 18 AWG 1.22 mm (7x26) BC | Unshielded | PE 1.47 mm | FRNC Grey | 0.228 | 5.79 |
| | | | | | | | | | | 1x Coax | 18 AWG 1.0 mm Solid BC | 95% BC | Foam PE | FRNC Grey | 0.268 | 6.80 |
|  RG-6 Kötter approved | | | | | | | Color Code 1-Pair: Black and Red | | | | | | | | | |

BC = Bare Copper • DCR = DC resistance

# Security Composite Cables

CCTV Plus Audio or Pan and Tilt CCTV Control Applications

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Shielding Material | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component Insulation OD inch | Component Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite • **(2) Conductor** 26 AWG • **(1) Coax** Solid 0.4 mm Bare Copper • Alu Triplex/Duplex • 72 %Tinned Copper Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Conductors) • Gas-Injected PE Insulation (Coax) • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| | **SEC0001** | | 328 | 100 | 11.7 | 5.3 | Unshielded | 0.252 | 6.40 | 1xData | 2 Conductor 26 AWG 0.50 mm (16x0.193) BC | Unshielded | PVC 1.90 mm | PVC | 0.062 | 1.57 |
|  | | | | | | | | | | 1xCoax | 21 AWG 0.41 mm Solid BC | Alu Triplex/Duplex 72% TC Braid | Foam Polyethylene | PVC | 0.142 | 3.60 |
| Composite • **(2) Conductor** 16 AWG • **(1) Coax** Solid 0.8 mm BC • Alu Triplex/Duplex • 55 %Tinned Copper Braid • **(2) Conductor** 26 AWG | | | | | | | | | | | | | | | | |
| **PVC Insulation (Conductors) • Gas-Injected PE Insulation (Coax) • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| | **SEC0002** | | 328 | 100 | 29.8 | 13.5 | Unshielded | 0.315 | 8.00 | 1xData | 2 Conductor 16 AWG 1.50 mm (30x0.25) BC | Unshielded | PE 3.50 mm | PVC | 0.101 | 2.56 |
|  | | | | | | | | | | 1xCoax | 20 AWG 0.81 mm Solid BC | Alu Triplex/Duplex 55% TC Braid | Foam Polyethylene | PVC | 0.142 | 3.60 |
| | | | | | | | | | | 1xControl | 2 Conductor 26 AWG 0.50 mm (16x0.20) BC | Unshielded | PE 3.50 mm | PVC | 0.062 | 1.57 |
| Composite • **(2) Conductor** 20 AWG • **(1) Coax** Solid 0.4 mm Bare Copper • Alu Triplex/Duplex • 72 %Tinned Copper Braid | | | | | | | | | | | | | | | | |
| **PVC Insulation (Conductors) • Gas-Injected PE Insulation (Coax) • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| | **SEC0003** | | 328 | 100 | 14.8 | 6.7 | Unshielded | 0.291 | 7.40 | 1xData | 2 Conductor 20 AWG 1.00 mm (32x0.20) BC | Unshielded | PVC 1.90 mm | PVC | 0.085 | 2.17 |
|  | | | | | | | | | | 1xCoax | 26 AWG 0.41 mm Solid BC | Alu Triplex/Duplex 72% TC Braid | Foam Polyethylene | PVC | 0.142 | 3.60 |
| Composite • **(2) Conductor** 24 AWG • **(1) Coax** Solid 0.4 mm BC • Alu Triplex/Duplex • 72 %Tinned Copper Braid • **(2) Conductor** 26 AWG | | | | | | | | | | | | | | | | |
| **PVC Insulation (Conductors) • Gas-Injected PE Insulation (Coax) • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| | **SEC0004** | | 328 | 100 | 13.4 | 6.1 | Unshielded | 0.260 | 6.60 | 1xData | 2 Conductor 24 AWG 0.22 mm (30x0.25) BC | Unshielded | PVC 1.90 mm | PVC | 0.045 | 1.15 |
|  | | | | | | | | | | 1xCoax | 26 AWG 0.41 mm Solid BC | Alu Triplex/Duplex 72% TC Braid | Foam Polyethylene | PVC | 0.142 | 3.60 |
| | | | | | | | | | | 1xControl | 2 Conductor 26 AWG 0.50 mm (16x0.20) BC | Unshielded | PE 3.50 mm | PVC | 0.062 | 1.57 |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Security Composite Cables

## CCTV PTZ Camera Cable

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Shielding Material | Nominal OD | | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component OD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | | | | | inch | mm |
| Composite • **(1) 2-Pair UTP** 24 AWG • **(2) 16 AWG** (19x29) 1.47 mm Tinned Copper Conductors | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation (Pairs) • PVC Insulation (Conductors) • PVC Jacket** (White or Black) | | | | | | | | | | | | | | | | |
| | **5284US** | NEC: | 500 | 152 | 25.5 | 11.6 | Unshielded | 0.426 | 10.80 | 1xData | 2-Pair UTP 24 AWG 0.50 mm Solid BC | Unshielded | Polyolefin | F-R PVC | 0.200 | 5.08 |
| | | CMR | 1000 | 305 | 44.0 | 20.0 | | | | | | | | | | |
| | | | | | | | | | | 2xPower | 2-Conductor 16 AWG 1.47 mm (19x29) TC | Unshielded | PVC 2.03 mm | PVC | 0.226 | 5.74 |
| Jacket sequentially marked. | | | | | | | | | | | | | | | | |
| Composite • **(1) 2-Pair UTP** 23 AWG • **(2) 16 AWG** (19x29) 1.47 mm Tinned Copper Conductors | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation (Pairs) • PVC Insulation (Conductors) • PVC Jacket** (White or Black) | | | | | | | | | | | | | | | | |
| | **5284UE** | NEC: | 500 | 152 | 22.5 | 10.2 | Unshielded | 0.233 | 5.92 | 1xData | 2-Pair UTP 23 AWG 0.60 mm Solid BC | Unshielded | Polyolefin 1.01 mm | – | – | – |
| | | CMR | 1000 | 305 | 44.0 | 20.0 | | | | | | | | | | |
| | | | | | | | | | | 2xPower | 2-Conductor 16 AWG 1.47 mm (19x29) TC | Unshielded | PP 1.96 mm | – | – | – |
| Jacket sequentially marked. | | | | | | | | | | | | | | | | |
| Composite • **(1) Cat 5e 4-Bonded-Pair UTP** 24 AWG • **(2) 16 AWG** (19x29) 1.47 mm Tinned Copper Conductors | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation (Pairs) • PVC Insulation (Conductors) • PVC Jacket** (White or Black) | | | | | | | | | | | | | | | | |
| | **5288US** | NEC: | 500 | 152 | 27.5 | 12.5 | Unshielded | 0.424 | 10.80 | 1xData | 4-Pair UTP 24 AWG 0.50 mm Solid BC | Unshielded | Polyolefin | F-R PVC | 0.198 | 5.03 |
| | | CMR | 1000 | 305 | 52.0 | 23.6 | | | | | | | | | | |
| | | | | | | | | | | 2xPower | 2-Conductor 16 AWG 1.47 mm (19x29) TC | Unshielded | PVC 2.03 mm | PVC | 0.226 | 5.74 |
| Jacket sequentially marked. | | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Security Composite Cables

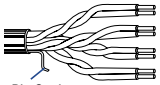
## CCTV Fixed and PTZ Camera Cable

NEW GENERATION®

### DataTwist® Cat 5e • 24 AWG • Solid 0.5 mm Bare Copper Conductors • Rip Cord

**Polyolefin Insulation • Flexible Matte Black PVC Jacket • Category 5e**

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | ACR dB/100m | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1583E** | | B-328 | B-100 | 6.1 | 2.8 | 0.51 mm | 0.035 | 0.90 | Non- | 0.197 | 5.00 | 1 | 2.1 | 62.0 | 60.2 | 61.0 | 63.2 | 20.0 |
| | | | U-1000 | U-305 | 18.7 | 8.5 | 24 AWG | | | Bonded-Pair | | | 4 | 4.0 | 53.0 | 49.3 | 49.0 | 52.3 | 23.0 |
| | | | 1000 | 305 | 18.7 | 8.5 | Solid BC | | | Unshielded | | | 8 | 5.7 | 49.0 | 43.1 | 43.0 | 46.1 | 24.5 |
| | | | 1640 | 500 | 30.9 | 14.0 | | | | U/UTP | | | 10 | 6.3 | 47.0 | 41.0 | 41.0 | 44.0 | 25.0 |
| | | | 3280 | 1000 | 61.7 | 28.0 | | | | | | | 16 | 8.0 | 44.0 | 36.2 | 37.0 | 39.2 | 25.0 |
| | | | | | | | | | | | | | 20 | 9.0 | 43.0 | 33.8 | 35.0 | 36.8 | 23.6 |
| | | | | | | | | | | | | | 25 | 10.1 | 41.0 | 31.2 | 33.0 | 34.2 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.4 | 40.0 | 28.5 | 31.0 | 31.5 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.5 | 35.0 | 18.8 | 25.0 | 21.8 | 21.5 |
| | | | | | | | | | | | | | 100 | 21.3 | 32.0 | 11.0 | 21.0 | 14.0 | 20.1 |



Rip Cord

4-Pair

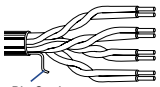
Input Impedance (Ω) 100 + 15%
500 m put-up available in Grey only.

Color Code: see chart below
Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

### DataTwist® Cat 5e+ • 24 AWG • Solid 0.5 mm Bare Copper Conductors • Rip Cord

**Polyolefin Insulation • PVC Jacket** (Red, Orange, Yellow, Green, White, Blue and Dark Grey)

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | ACR dB/100m | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1500A** | NEC: | A-1000 | A-305 | 26.0 | 11.8 | 0.51 mm | 0.035 | 0.89 | Non- | 0.190 | 4.83 | 1 | 2.0 | 65.3 | 63.3 | 60.8 | – | 20.0 |
| | | CM | 1000 | 305 | 22.9 | 10.4 | 24 AWG | | | Bonded-Pair | | | 4 | 4.0 | 56.3 | 52.3 | 48.7 | – | 23.0 |
| | | CEC: | | | | | Solid BC | | | Unshielded | | | 8 | 5.7 | 51.8 | 46.1 | 42.7 | – | 24.5 |
| | | CM | | | | | | | | U/UTP | | | 10 | 6.4 | 50.3 | 43.9 | 40.8 | – | 25.0 |
| | | | | | | | | | | | | | 16 | 8.1 | 47.3 | 39.1 | 36.7 | – | 25.0 |
| | | | | | | | | | | | | | 25 | 10.3 | 44.3 | 34.1 | 32.8 | – | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.6 | 42.9 | 31.3 | 30.9 | – | 23.6 |
| | | | | | | | | | | | | | 62.5 | 16.8 | 38.4 | 21.6 | 24.8 | – | 21.5 |
| | | | | | | | | | | | | | 100 | 21.7 | 35.3 | 17.1 | 20.8 | – | 20.1 |
| | | | | | | | | | | | | | 155 | 27.7 | 32.5 | 4.7 | 16.9 | – | 19.0 |
| | | | | | | | | | | | | | 200 | 32.0 | 30.8 | 3.0 | 14.7 | – | 19.0 |
| | | | | | | | | | | | | | 250 | 36.4 | 29.3 | – | 12.8 | – | 18.0 |
| | | | | | | | | | | | | | 300 | 44.3 | 27.2 | – | 9.9 | – | 17.0 |



Rip Cord

4-Pair

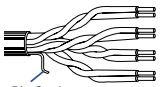
Input Impedance (Ω) 1-16: 100 + 12%
25-100: + 15%
155: + 18%
200-250: + 20%
350: + 22%

Color Code: see chart below
Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

### DataTwist® Cat 6 • 23 AWG • Solid 0.6 mm Bare Copper Conductors • Central Rod Filler • Rip Cord

**Polyolefin Insulation • PVC Jacket** (Red, Orange, Yellow, Green, White, Blue and Dark Grey)

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | ACR dB/100m | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **7881A** | NEC: | A-1000 | A-305 | 33.1 | 15.0 | 0.57 mm | 0.043 | 1.09 | Non- | 0.235 | 5.97 | 1 | 2.0 | 72.3 | 70.3 | 64.8 | – | 20.0 |
| | | CM | 1000 | 305 | 30.0 | 13.6 | 23 AWG | | | Bonded-Pair | | | 10 | 6.0 | 57.3 | 51.3 | 44.8 | – | 25.0 |
| | | CEC: | | | | | Solid BC | | | Unshielded | | | 20 | 8.5 | 52.8 | 44.3 | 38.7 | – | 25.0 |
| | | CMR FT4 | | | | | | | | U/UTP | | | 31.25 | 10.7 | 49.9 | 39.2 | 34.9 | – | 23.6 |
| | | | | | | | | | | | | | 62.5 | 15.4 | 45.4 | 30.0 | 28.8 | – | 21.5 |
| | | | | | | | | | | | | | 100 | 19.8 | 42.3 | 22.5 | 24.8 | – | 20.1 |
| | | | | | | | | | | | | | 200 | 29.0 | 37.8 | 8.8 | 18.7 | – | 18.0 |
| | | | | | | | | | | | | | 250 | 32.8 | 36.3 | 3.5 | 16.8 | – | 17.3 |



Rip Cord

4-Pair

Input Impedance (Ω) 1-100: 100 + 15%
200: + 22%
250: + 32%

Color Code: see chart below
Applicable industry standards: EN 50173, ISO/IEC 11801, TIA/EIA 568-B2

BC = Bare Copper • DCR = DC resistance

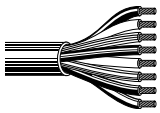
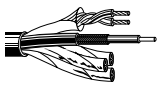
### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Security Composite Cables

## Video Control System Cables

NEW GENERATION®

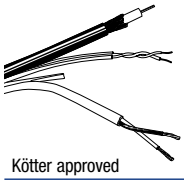
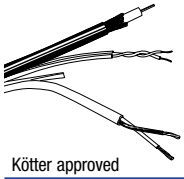
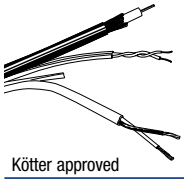
| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Shielding Material | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component Insulation OD inch | Component Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite • **(3) Conductor** 20 AWG • **(1) Coax** Solid 0.6 mm Bare Copper • 55% Tinned Copper Braid • **(9) Conductor** 20 AWG | | | | | | | | | | | | | | | | |
| **PVC Insulation (Conductors) • Gas-Injected PE Insulation (Coax) • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| | **SEC0005** | | 328 | 100 | 48.5 | 22.0 | Unshielded | 0.472 | 12.00 | Power | 3 Conductor 20 AWG 1.00 mm (20x0.243) BC | Unshielded | PVC | PVC | 0.085 | 2.17 |
|  | | | | | | | | | | Coax | 23 AWG 0.58 mm Solid BC | 55% TC Braid | PE 3.70 mm | PVC | 0.146 | 3.70 |
| | | | | | | | | | | Control | 9 Conductor 22 AWG 0.75 mm (22x0.193) BC | Unshielded | PVC | PVC | 0.070 | 1.77 |
| Composite • **(2) Conductor** 16 AWG • **(3) Pair** 28 AWG | | | | | | | | | | | | | | | | |
| **PVC Insulation • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| | **SEC0006** | | 328 | 100 | 26.5 | 12.0 | Unshielded | 0.374 | 9.50 | Power | 2 Conductor 16 AWG 1.50 mm (30x0.25) BC | Unshielded | PVC | PVC | 0.101 | 2.56 |
|  | | | | | | | | | | Control | 3-Pair 28 AWG 0.35 mm (11x0.193) BC | Unshielded | PVC | PVC | 0.056 | 1.42 |
| Composite • **(2) Conductor** 22 AWG • **(1) Coax** Solid 0.75 mm BC • 80% Tinned Copper Braid • **(6) Conductor** 26 AWG • **(3) Pair** 28 AWG | | | | | | | | | | | | | | | | |
| **PVC Insulation (Conductors) • Gas-Injected PE Insulation (Coax) • Grey PVC Jacket** | | | | | | | | | | | | | | | | |
| | **SEC0007** | | 328 | 100 | 36.4 | 16.5 | Unshielded | 0.421 | 10.70 | Power | 2 Conductor 22 AWG 0.75 mm (22x0.193) BC | Unshielded | PE | PVC | 0.070 | 1.77 |
|  | | | | | | | | | | Coax | 21 AWG 0.75 mm Solid BC | 80% TC Braid | PE | PVC | 0.134 | 3.40 |
| | | | | | | | | | | Data | 6 Conductor 26 AWG 0.50 mm (16x0.193) BC | Unshielded | PE | PVC | 0.062 | 1.57 |
| | | | | | | | | | | Control | 3-Pair 28 AWG 0.35 mm (11x0.193) BC | Unshielded | PE | PVC | 0.056 | 1.42 |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Security Composite Cables

## Banana Peel® PTZ Camera Cable Composite Cables Jacketless

NEW GENERATION®

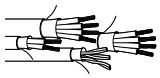
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Shielding Material | Nominal OD inch | Nominal OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component OD inch | Component OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite • **(1) Coax** 20 AWG 0.8 mm • **(1) Pair Unshielded** 23 AWG 0.6 mm • **(2) CDR Unshielded** 18 AWG 1.2 mm • **Banana Peel®** Unjacketed, Bonded to Central Spline | | | | | | | | | | | | | | | | |
| **PVC Insulation (Pairs) • Foam Insulation (Coax) • Black PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V 75°C | **500PTZ** | NEC: CMR CEC: CMG FT4 Shaft UL 1666 | 500 1000 | 152 305 | 36.8 71.2 | 17.5 32.3 | | 0.409 | 10.40 | Video | 1-Coax RG59/U 20 AWG 0.81 mm Solid BC | 95% BC | Foam Polyethylene 5.76 mm | F-R PV Black | 0.227 | 5.77 |
| | | | | | | | White, Blue | | | Control | 1-Pair 23 AWG 0.57 mm Solid BC | Unshielded | Polyolefin 1.04 mm | PVC Blue | 0.118 | 3.00 |
| | | | | | | | Red, Black | | | Power | 2-Conductor 18 AWG 1.22 mm (7x26) BC | Unshielded | PVC 2.20 mm | PVC White | 0.171 | 4.34 |
|  Kötter approved | | | | | | | | | | | | | | | | |
| Composite • **(1) Coax** 20 AWG 0.8 mm • **(1) Pair Shielded** 22 AWG 0.6 mm • 22 AWG Drain Wire • **(2) CDR Unshielded** 18 AWG 1.2 mm • **Banana Peel®** Unjacketed, Bonded to Central Spline | | | | | | | | | | | | | | | | |
| **PVC Insulation (Pairs) • Foam Insulation (Coax) • Black PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V 75°C | **501PTZ** | NEC: CMR CEC: CMG FT4 Shaft UL 1666 | 500 1000 | 152 305 | 41.0 76.1 | 18.6 34.5 | | 0.417 | 10.60 | Video | 1-Coax RG59/U 20 AWG 0.81 mm Solid BC | 95% BC | Foam Polyethylene 5.76 mm | F-R PV Black | 0.219 | 5.57 |
| | | | | | | | White/Blue Stripe, Blue | | | Control | 1-Pair 22 AWG 0.76 mm (7x30) BC | Overall Beldfoil® + Drain Wire (22 AWG TC) | Polyolefin 1.57 mm | PVC Blue | 0.177 | 4.50 |
| | | | | | | | Red, Black | | | Power | 2-Conductor 18 AWG 1.22 mm (7x26) BC | Unshielded | PVC 2.20 mm | PVC White | 0.171 | 4.34 |
|  Kötter approved | | | | | | | | | | | | | | | | |
| Composite • **(1) Coax** 20 AWG 0.8 mm • **(1) Pair Shielded** 18 AWG 1.2 mm • 20 AWG Drain Wire • **(2) CDR Unshielded** 18 AWG 1.2 mm • **Banana Peel®** Unjacketed, Bonded to Central Spline | | | | | | | | | | | | | | | | |
| **PVC Insulation (Pairs) • Foam Insulation (Coax) • Black PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V 75°C | **502PTZ** | NEC: CMR CEC: CMG FT4 Shaft UL 1666 | 500 1000 | 152 305 | 50.0 93.9 | 22.7 42.6 | | 0.453 | 11.50 | Video | 1-Coax RG59/U 20 AWG 0.81 mm Solid BC | 95% BC | Foam Polyethylene 5.76 mm | F-R PV Black | 0.219 | 5.57 |
| | | | | | | | White/Blue Stripe, Blue | | | Control | 1-Pair 18 AWG 1.24 mm (19x30) BC | Overall Beldfoil® + Drain Wire (20 AWG TC) | Polyolefin 2.03 mm | PVC Blue | 0.219 | 5.56 |
| | | | | | | | Red, Black | | | Power | 2-Conductor 18 AWG 1.22 mm (7x26) BC | Unshielded | PVC 2.20 mm | PVC White | 0.171 | 4.34 |
|  Kötter approved | | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Security Composite Cables

## Banana Peel® Access Control Composite Cables Jacketless

NEW GENERATION®

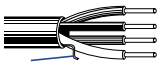
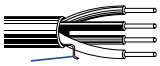
| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Shielding Material | Nominal OD | | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Component OD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | | | | | inch | mm |
| Composite • **4 CDR Beldfoil®** 18 AWG 1.22 mm • **3 Pair Beldfoil®** 22 AWG 0.8 mm • **2 CDR Beldfoil®** 22 AWG 0.8 mm • **4 CDR Beldfoil®** 22 AWG 0.8 mm • **Banana Peel®** Unjacketed, Bonded Central Spline | | | | | | | | | | | | | | | | |
| **PVC Insulation (Pairs) • Foam Insulation (Coax) • Black PVC Jacket** | | | | | | | | | | | | | | | | |
| 300V 75°C | **558AFS** | NEC: CMR CEC: CMG | 500 1000 | 152 305 | 58.4 108.0 | 26.5 49.0 | White, Black, Red, Green | 0.448 | 11.38 | Lock Power | 4-Conductor 18 AWG 1.22 mm (7x26) BC | Overall Beldfoil® | PVC 2.89 mm | PVC Grey | 0.202 | 5.13 |
|  Kötter approved | | | | | | | White & Green, Orange & Brown, Red & Black | | | Card Reader | 3-Pair 22 AWG 0.76 mm (7x30) BC | Overall Beldfoil® | PVC 1.25 mm | PVC Orange | 0.233 | 5.92 |
| | | | | | | | Black, Red | | | Door Contact | 2-Conductor 22 AWG 0.76 mm (7x30) BC | Overall Beldfoil® | PVC 2.00 mm | PVC White | 0.140 | 3.56 |
| | | | | | | | White, Black, Red, Green | | | Rex / Spare | 4-Conductor 22 AWG 0.76 mm (7x30) BC | Overall Beldfoil® | PVC 2.00 mm | PVC Blue | 0.161 | 4.09 |

BC = Bare Copper • DCR = DC resistance

# Fire Alarm Cables

## Commercial Applications
## Power-Limited Unshielded

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Solid 0.6 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V<br>75°C | | NEC:<br>FPLR<br>CEC:<br>CMG FT4 | | | | | 0.64 mm<br>22 AWG<br>Solid BC | 0.035 | 0.89 | Unshielded | | | see chart below |
|  <br>Rip Cord | | | | | | | | | | | | | |
| | **5522UL** | 4 CDR | C-500<br>U-1000<br>1000 | C-152<br>U-305<br>305 | 7.1<br>16.1<br>16.1 | 3.2<br>7.3<br>7.3 | | | | | 0.125 | 3.18 | |
| | **5542UL** | 6 CDR | C-500<br>U-1000 | C-152<br>U-305 | 10.1<br>20.9 | 4.6<br>9.5 | | | | | 0.168 | 4.27 | |
| **18 AWG** • Solid 1.0 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V<br>75°C | | NEC:<br>FPLR<br>CEC:<br>CMG FT4 | | | | | 1.02 mm<br>18 AWG<br>Solid BC | 0.050 | 1.27 | Unshielded | | | see chart below |
|  <br>Rip Cord | | | | | | | | | | | | | |
| | **5320UL** | 2 CDR | C-500<br>U-500<br>500<br>U-1000<br>1000 | C-152<br>U-152<br>152<br>U-305<br>305 | 7.9<br>9.0<br>9.0<br>18.1<br>17.0 | 3.6<br>4.1<br>4.1<br>8.2<br>7.7 | | | | | 0.151 | 3.84 | |
| | **5322UL** | 4 CDR | C-250<br>C-500<br>U-500<br>U-1000<br>1000 | C-76<br>C-152<br>U-152<br>U-305<br>305 | 7.1<br>13.2<br>15.4<br>30.0<br>30.0 | 3.2<br>6.0<br>7.0<br>13.6<br>13.6 | | | | | 0.176 | 4.47 | |
| | **5324UL** | 6 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 23.6<br>43.0<br>44.1 | 10.7<br>19.5<br>20.0 | | | | | 0.212 | 5.38 | |
| | **5326UL** | 8 CDR | 1000 | 305 | 61.1 | 27.7 | | | | | 0.230 | 5.84 | |
| | **5328UL** | 10 CDR | 1000 | 305 | 71.2 | 32.3 | | | | | 0.272 | 6.91 | |
| | **5329UL** | 12 CDR | 1000 | 305 | 83.1 | 37.7 | | | | | 0.281 | 7.14 | |

BC = Bare Copper • DCR = DC resistance

### Color Code

| Cond. No. | Color |
|---|---|
| 1 | Black |
| 2 | Red |
| 3 | Brown |

| Cond. No. | Color |
|---|---|
| 4 | Blue |
| 5 | Orange |
| 6 | Yellow |

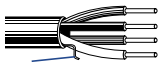
| Cond. No. | Color |
|---|---|
| 7 | Purple |
| 8 | Green |
| 9 | Red/Black |

| Cond. No. | Color |
|---|---|
| 10 | Red/White |
| 11 | Red/Green |
| 12 | Red/Blue |

# Fire Alarm Cables

## Commercial Applications
## Power-Limited Unshielded

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Solid 0.6 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | IEC 60754-2 | | | | | 1.02 mm 18 AWG Solid BC | 0.068 | 1.72 | Unshielded | | | see chart below |
|  Rip Cord | | | | | | | | | | | | | |
| | **4322UL** | 4 CDR | 328<br>1640 | 100<br>500 | 9.3<br>46.3 | 4.2<br>21.0 | | | | | 0.177 | 4.50 | |
| | **4324UL** | 6 CDR | 328<br>1640 | 100<br>500 | 13.0<br>65.0 | 5.9<br>29.5 | | | | | 0.213 | 5.40 | |

BC = Bare Copper • DCR = DC resistance

### Color Code

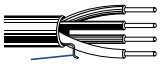
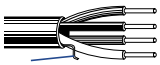
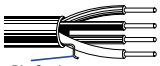
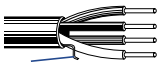
| Cond. No. | Color |
|---|---|
| **1** | Black |
| **2** | Red |
| **3** | Brown |

| Cond. No. | Color |
|---|---|
| **4** | Blue |
| **5** | Orange |
| **6** | Yellow |

# Fire Alarm Cables

## Commercial Applications
## Power-Limited Unshielded

NEW GENERATION®

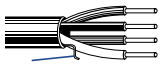
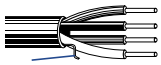
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 AWG** • Solid 1.3 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC; FPLR CEC: CMG FT4 | | | | | 1.29 mm 16 AWG Solid BC | 0.061 | 1.54 | Unshielded | | | |
|  Rip Cord | **5220UL** | 2 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 13.0<br>24.0<br>25.1 | 5.9<br>10.9<br>11.4 | | | | | 0.174 | 4.42 | Black, Red |
| | **5222UL** | 4 CDR | 1000 | 305 | 45.0 | 20.4 | | | | | 0.204 | 5.18 | Black, Red, Brown, Blue |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 1.29 mm 16 AWG Solid BC | 0.077 | 1.95 | Unshielded | | | |
|  Rip Cord | **4220UL** | 2 CDR | 328<br>1640 | 100<br>500 | 7.7<br>38.4 | 3.5<br>17.4 | | | | | 0.173 | 4.40 | Black, Red |
| | **4222UL** | 4 CDR | 1640 | 500 | 67.7 | 30.7 | | | | | 0.201 | 5.10 | Black, Red, Brown, Blue |
| **14 AWG** • Solid 1.6 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: FPLR CEC: CMG FT4 | | | | | 1.63 mm 14 AWG Solid BC | 0.077 | 1.96 | Unshielded | | | |
|  Rip Cord | **5120UL** | 2 CDR | 500<br>1000 | 152<br>305 | 19.0<br>38.1 | 8.6<br>17.3 | | | | | 0.213 | 5.41 | Black, Red |
| | **5122UL** | 4 CDR | 1000 | 305 | 70.1 | 31.8 | | | | | 0.251 | 6.38 | Black, Red, Brown, Blue |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 1.63 mm 14 AWG Solid BC | 0.085 | 2.15 | Unshielded | | | |
|  Rip Cord | **4120UL** | 2 CDR | 328<br>1640 | 100<br>500 | 11.2<br>56.0 | 5.1<br>25.4 | | | | | 0.213 | 5.40 | Black, Red |
| | **4122UL** | 4 CDR | 328<br>1640 | 100<br>500 | 19.8<br>99.9 | 9.0<br>45.3 | | | | | 0.252 | 6.40 | Black, Red, Brown, Blue |

BC = Bare Copper • DCR = DC resistance

# Fire Alarm Cables

## Commercial Applications
## Power-Limited Unshielded

NEW GENERATION®

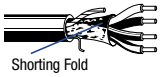
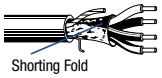
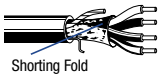
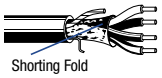
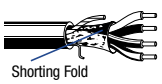
| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | |
| **12 AWG** • Solid 2.1 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5020UL** | NEC: FPLR CEC: CMG FT4 | 1000 | 305 | 55.1 | 25.0 | 2.05 mm 12 AWG Solid BC | 0.094 | 2.38 | Unshielded | 0.247 | 6.27 | Black, Red |
|  Rip Cord | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | **4020UL** | IEC 60754-2 | 1640 | 500 | 85.3 | 38.7 | 2.05 mm 12 AWG Solid BC | 0.107 | 2.72 | Unshielded | 0.248 | 6.30 | Black, Red |
|  Rip Cord | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |

BC = Bare Copper • DCR = DC resistance

# Fire Alarm Cables

## Commercial Applications
## Power-Limited Shielded

NEW GENERATION®

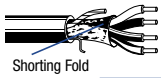
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Solid 0.6 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5522FL** | NEC: FPLR CEC: CMG FT4 | C-500 U-1000 1000 | C-152 U-305 305 | 9.0 19.0 19.0 | 4.1 8.6 8.6 | 0.64 mm 22 AWG Solid BC | 0.035 | 0.89 | Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.145 | 3.68 | Black, Red, Brown, Blue |
|  Shorting Fold | | | | | | | | | | | | | |
| 4 CDR | | | | | | | | | | | | | |
| **18 AWG** • Solid 1.0 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: FPLR CEC: CMG FT4 | | | | | 1.02 mm 18 AWG Solid BC | 0.050 | 1.27 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5320FL** | 2 CDR | C-500 U-500 500 U-1000 1000 | C-152 U-152 152 U-305 305 | 10.6 11.5 11.5 22.0 22.0 | 4.8 5.2 5.2 10.0 10.0 | | | | | 0.155 | 3.94 | Black, Red |
| | **5322FL** | 4 CDR | C-500 500 U-1000 1000 | C-152 152 U-305 305 | 15.4 16.5 32.0 34.0 | 7.0 7.5 14.5 15.4 | | | | | 0.170 | 4.32 | Black, Red, Brown, Blue |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | | IEC 60754-2 | | | | | 1.02 mm 18 AWG Solid BC | 0.060 | 1.52 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | Black, Red, Brown, Blue |
|  Shorting Fold | | | | | | | | | | | | | |
| | **4320FL** | 4 CDR | 328 1640 | 100 500 | 3.3 16.5 | 1.5 7.5 | | | | | 0.157 | 4.00 | |
| | **4322FL** | 4 CDR | 328 1640 | 100 500 | 3.7 18.1 | 1.7 8.2 | | | | | 0.169 | 4.30 | |
| **16 AWG** • Solid 1.3 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: FPLR CEC: CMG FT4 | | | | | 1.29 mm 16 AWG Solid BC | 0.061 | 1.54 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5220FL** | 2 CDR | 1000 | 305 | 29.1 | 13.2 | | | | | 0.178 | 4.52 | Black, Red |
| | **5222FL** | 4 CDR | 1000 | 305 | 50.0 | 22.7 | | | | | 0.208 | 5.28 | Black, Red, Brown, Blue |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | **4220FL** | IEC 60754-2 | 328 1640 | 100 500 | 8.8 44.5 | 4.0 20.2 | 1.29 mm 16 AWG Solid BC | 0.071 | 1.80 | Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.177 | 4.50 | Black, Red |
|  Shorting Fold | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Fire Alarm Cables

## Commercial Applications
## Power-Limited Shielded

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14 AWG** • Solid 1.6 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: FPLR CEC: CMG FT4 | | | | | 1.63 mm 14 AWG Solid BC | 0.077 | 1.96 | Overall Beldfoil® + Drain Wire (24 AWG TC) | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5120FL** | 2 CDR | 500<br>1000 | 152<br>305 | 22.0<br>43.0 | 10.0<br>19.5 | | | | | 0.217 | 5.51 | Black, Red |
| | **5122FL** | 4 CDR | 1000 | 305 | 79.1 | 35.9 | | | | | 0.255 | 6.48 | Black, Red, Brown, Blue |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | **4120FL** | IEC 60754-2 | 1640 | 500 | 64.4 | 29.2 | 1.63 mm 14 AWG Solid BC | 0.085 | 2.15 | Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.217 | 5.50 | Black, Red |
|  Shorting Fold | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **12 AWG** • Solid 2.0 mm Bare Copper • **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5020FL** | NEC: FPLR CEC: CMG FT4 | 1000 | 305 | 60.0 | 27.2 | 2.05 mm 12 AWG Solid BC | 0.094 | 2.38 | Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.251 | 6.38 | Black, Red |
|  Shorting Fold | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **Polyethylene Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C | **4020FL** | IEC 60754-2 | 1640 | 500 | 90.4 | 41.0 | 2.05 mm 12 AWG Solid BC | 0.107 | 2.72 | Overall Beldfoil® + Drain Wire (24 AWG TC) | 0.252 | 6.40 | Black, Red |
|  Shorting Fold | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Fire Alarm Cables

## Commercial Applications, Addressable Systems
## Power-Limited, Mid-Capacitance Unshielded and Shielded

NEW GENERATION®

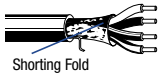
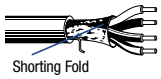
| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Solid 1.0 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5320UJ** | NEC: FPL | U-1000 | U-305 | 22.0 | 10.0 | 1.02 mm 18 AWG Solid BC | 0.055 | 1.40 | Unshielded | 0.206 | 5.23 | Black, Red |
|  Rip Cord | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **16 AWG** • Solid 1.3 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5220UJ** | NEC: FPL | 500<br>1000 | 152<br>305 | 16.1<br>32.0 | 7.3<br>14.5 | 1.29 mm 16 AWG Solid BC | 0.066 | 1.67 | Unshielded | 0.230 | 5.84 | Black, Red |
|  Rip Cord | | | | | | | | | | | | | |
| 2 CDR | | | | | | | | | | | | | |
| **18 AWG** • Solid 1.0 mm Bare Copper • Numbered and Color Coded • **Beldfoil®** Shield • Rip Cord | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: FPL | | | | | 1.02 mm 18 AWG Solid BC | 0.055 | 1.40 | Overall Beldfoil® | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5320FJ** | 2 CDR | U-1000<br>1000 | U-305<br>305 | 27.1<br>28.0 | 12.3<br>12.7 | | | | | 0.211 | 5.36 | Black, Red |
| | **5322FJ** | 4 CDR | 1000 | 305 | 43.0 | 19.5 | | | | | 0.240 | 6.10 | Black, Red, Brown, Blue |
| **16 AWG** • Solid 1.3 mm Bare Copper • Numbered and Color Coded • **Beldfoil®** Shield • Rip Cord | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | | NEC: FPL | | | | | 1.29 mm 16 AWG Solid BC | 0.066 | 1.67 | Overall Beldfoil® | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5220FJ** | 2 CDR | 500<br>U-1000<br>1000 | 152<br>U-305<br>305 | 18.1<br>35.1<br>37.0 | 8.2<br>15.9<br>16.8 | | | | | 0.235 | 5.97 | Black, Red |
| | **5222FJ** | 4 CDR | 1000 | 305 | 59.1 | 26.8 | | | | | 0.269 | 6.83 | Black, Red, Brown, Blue |

BC = Bare Copper • DCR = DC resistance

# Fire Alarm Cables

## Commercial Applications, Addressable Systems
## Power-Limited, Mid-Capacitance Unshielded and Shielded

NEW GENERATION®

| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths | | Standard Unit Weight | | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD | | Shielding Material Nom. DCR | Nominal OD | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ft. | m | lbs. | kg | | inch | mm | | inch | mm | |
| **14 AWG** • Solid 1.6 mm Bare Copper • Numbered and Color Coded • **Beldfoil®** Shield • Rip Cord | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5120FJ** | NEC: FPL | 1000 | 305 | 49.2 | 22.3 | 1.63 mm 14 AWG Solid BC | 0.084 | 2.14 | Overall Beldfoil® | 0.279 | 7.09 | Black, Red |
|  Shorting Fold 2 CDR Shielded | | | | | | | | | | | | | |
| **12 AWG** • Solid 2.1 mm Bare Copper • Numbered and Color Coded • **Beldfoil®** Shield • Rip Cord | | | | | | | | | | | | | |
| **Foam Polyethylene Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 300V 75°C | **5020FJ** | NEC: FPL | 1000 | 305 | 69.0 | 31.3 | 2.1 mm 12 AWG Solid BC | 0.084 | 2.14 | Overall Beldfoil® | 0.317 | 8.05 | Black, Red |
|  Shorting Fold 2 CDR | | | | | | | | | | | | | |

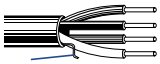
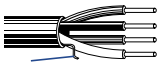
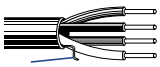
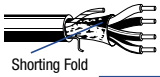
BC = Bare Copper • DCR = DC resistance

# Fire Alarm Cables

## NPLF Systems

## Non-Power-Limited Signaling Cable Unshielded and Shielded

NEW GENERATION®

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG** • Solid 1.0 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC/Nylon Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 150V 75°C | | NEC: NPLF | | | | | 1.02 mm 18 AWG Solid BC | 0.061 | 1.55 | Unshielded | | | |
|  Rip Cord | **5320UN** | 2 CDR | 500 1000 | 152 305 | 14.1 31.1 | 6.4 14.1 | | | | | 0.239 | 6.07 | Black, Red |
| | **5322UN** | 4 CDR | 500 1000 | 152 305 | 28.0 52.9 | 12.7 24.0 | | | | | 0.283 | 7.19 | Black, Red, Brown, Blue |
| **16 AWG** • Solid 1.3 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC/Nylon Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 150V 75°C | | NEC: NPLF | | | | | 1.29 mm 16 AWG Solid BC | 0.072 | 1.82 | Unshielded | | | |
|  Rip Cord | **5220UN** | 2 CDR | 500 1000 | 152 305 | 22.0 39.9 | 10.0 18.1 | | | | | 0.262 | 6.65 | Black, Red |
| | **5222UN** | 4 CDR | 1000 | 305 | 71.2 | 32.3 | | | | | 0.311 | 7.90 | Black, Red, Brown, Blue |
| **14 AWG** • Solid 1.6 mm Bare Copper • Numbered and Color Coded • Rip Cord | | | | | | | | | | | | | |
| **PVC/Nylon Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 150V 75°C | **5120UN** | NEC: NPLF | 500 1000 | 152 305 | 28.7 53.1 | 13.0 24.1 | 1.63 mm 14 AWG Solid BC | 0.085 | 2.16 | Unshielded | 0.299 | 7.59 | Black, Red |
|  Rip Cord 2 CDR | | | | | | | | | | | | | |
| **18 AWG** • Solid 1.0 mm Bare Copper • Numbered and Color Coded • **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire • Rip Cord | | | | | | | | | | | | | |
| **PVC/Nylon Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 150V 75°C | | NEC NPLF | | | | | 1.02 mm 18 AWG Solid BC | 0.061 | 1.55 | Overall Beldfoil® + Drain Wire (20 AWG TC) | | | |
|  Shorting Fold | **5320FN** | 2 CDR | 500 1000 | 152 305 | 15.4 35.1 | 7.0 15.9 | | | | | 0.243 | 6.17 | Black, Red |
| | **5322FN** | 4 CDR | 500 1000 | 152 305 | 31.1 57.1 | 14.1 25.9 | | | | | 0.287 | 7.29 | Black, Red, Brown, Blue |

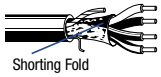
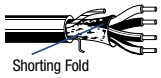
TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Fire Alarm Cables

## NPLF Systems

## Non-Power-Limited Signaling Cable Unshielded and Shielded

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 AWG** • Solid 1.3 mm Bare Copper • Numbered and Color Coded • **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire • Rip Cord | | | | | | | | | | | | | |
| **PVC/Nylon Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 150V 75°C | | NEC: NPLF | | | | | 1.29 mm 16 AWG Solid BC | 0.072 | 1.82 | Overall Beldfoil® + Drain Wire (20 AWG TC) | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5220FN** | 2 CDR | 500<br>1000 | 152<br>305 | 23.6<br>45.2 | 10.7<br>20.5 | | | | | 0.266 | 6.76 | Black, Red |
| | **5222FN** | 4 CDR | 500<br>1000 | 152<br>305 | 40.6<br>76.1 | 18.4<br>34.5 | | | | | 0.315 | 8.00 | Black, Red, Brown, Blue |
| **14 AWG** • Solid 1.6 mm Bare Copper • Numbered and Color Coded • **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire • Rip Cord | | | | | | | | | | | | | |
| **PVC/Nylon Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 150V 75°C | | NEC: NPLF | | | | | 1.63 mm 14 AWG Solid BC | 0.085 | 2.16 | Overall Beldfoil® + Drain Wire (20 AWG TC) | | | |
|  Shorting Fold | | | | | | | | | | | | | |
| | **5120FN** | 2 CDR | 500<br>1000 | 152<br>305 | 32.0<br>61.1 | 14.5<br>27.7 | | | | | 0.303 | 7.70 | Black, Red |
| | **5122FN** | 4 CDR | 500<br>1000 | 152<br>305 | 50.7<br>102.3 | 23.0<br>46.4 | | | | | 0.348 | 8.84 | Black, Red, Brown, Blue |
| **12 AWG** • Solid 2.1 mm Bare Copper • Numbered and Color Coded • **Beldfoil®** Shield • 20 AWG Tinned Copper Drain Wire • Rip Cord | | | | | | | | | | | | | |
| **PVC/Nylon Insulation • Red PVC Jacket** | | | | | | | | | | | | | |
| 150V 75°C | **5020FN** | NEC: FPL | 500<br>1000 | 152<br>305 | 43.0<br>83.1 | 19.5<br>37.7 | 2.05 mm 12 AWG Solid BC | 0.102 | 2.58 | Overall Beldfoil® + Drain Wire (20 AWG TC) | 0.337 | 8.56 | Black, Red |
|  Shorting Fold<br>2 CDR | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Circuit Integrity & Fire Protection Cables

## Commercial Applications

## Power-Limited Shielded

NEW GENERATION®

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **17 AWG** • Solid 1.13 mm Plain Annealed Copper to BS6360 • Circuit Protection Conductor • Mica/Glass Fire Barrier • Aluminum/Polyester Taped Screen • Drain Wire | | | | | | | | | | | | | |
| **XL Polyolefin FROH Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C  1.0 mm² | | IEC 331 | | | | | 1.13 mm 17 AWG Solid Plain Annealed Copper BS6360 + Circuit Protection | 0.115 | 2.93 | Mica/Glass Fire Barrier Overall Alu/PE foil FROH + Drain Wire | | | |
| | **4K20FX** | 2 CDR | 328<br>1640 | 100<br>500 | 21.2<br>105.8 | 9.6<br>48.0 | | | | | 0.313 | 7.96 | Black, Red |
| | **4K21FX** | 3 CDR | 328<br>1640 | 100<br>500 | 25.4<br>126.8 | 11.5<br>57.5 | | | | | 0.331 | 8.41 | Black, Red, Yellow |
| | **4K22FX** | 4 CDR | 328<br>1640 | 100<br>500 | 28.4<br>142.2 | 12.9<br>64.5 | | | | | 0.361 | 9.17 | Black, Red, Yellow, Blue |
| **15 AWG** • Solid 1.38 mm Plain Annealed Copper to BS6360 • Circuit Protection Conductor • Mica/Glass Fire Barrier • Aluminum/Polyester Taped Screen • Drain Wire | | | | | | | | | | | | | |
| **XL Polyolefin FROH Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C  1.5 mm² | | IEC 331 | | | | | 1.38 mm 15 AWG Solid Plain Annealed Copper BS6360 + Circuit Protection | 0.126 | 3.20 | Mica/Glass Fire Barrier Overall Alu/PE foil FROH + Drain Wire | | | |
| | **4L20FX** | 2 CDR | 328<br>1640 | 100<br>500 | 26.2<br>131.2 | 11.9<br>59.5 | | | | | 0.335 | 8.50 | Black, Red |
| | **4L21FX** | 3 CDR | 328<br>1640 | 100<br>500 | 33.3<br>166.4 | 15.1<br>75.5 | | | | | 0.354 | 8.99 | Black, Red, Yellow |
| | **4L22FX** | 4 CDR | 328<br>1640 | 100<br>500 | 37.7<br>188.5 | 17.1<br>85.5 | | | | | 0.387 | 9.82 | Black, Red, Yellow, Blue |
| | **4L25FX** | 7 CDR | 328<br>1640 | 100<br>500 | 57.8<br>288.8 | 26.2<br>131.0 | | | | | 0.469 | 11.90 | Black, Red, Yellow, Blue, Black, Red, Yellow |
| **13 AWG** • Solid 1.78 mm Plain Annealed Copper to BS6360 • Circuit Protection Conductor • Mica/Glass Fire Barrier • Aluminum/Polyester Taped Screen • Drain Wire | | | | | | | | | | | | | |
| **XL Polyolefin FROH Insulation • Red FRNC/LSNH Jacket** | | | | | | | | | | | | | |
| 300V 70°C  2.5 mm² | | IEC 331 | | | | | 1.78 mm 13 AWG Solid Plain Annealed Copper BS6360 + Circuit Protection | 0.149 | 3.79 | Mica/Glass Fire Barrier Overall Alu/PE foil FROH + Drain Wire | | | |
| | **4N20FX** | 2 CDR | 328<br>1640 | 100<br>500 | 36.2<br>180.8 | 16.4<br>82.0 | | | | | 0.381 | 9.68 | Black, Red |
| | **4N21FX** | 3 CDR | 328<br>1640 | 100<br>500 | 49.2<br>245.8 | 22.3<br>111.5 | | | | | 0.412 | 10.46 | Black, Red, Yellow |
| | **4N22FX** | 4 CDR | 328<br>1640 | 100<br>500 | 56.9<br>255.7 | 25.8<br>116.0 | | | | | 0.467 | 11.85 | Black, Red, Yellow, Blue |

Alu = Aluminum • PE = Polyester • DCR = DC resistance

BELDEN
SENDING ALL THE RIGHT SIGNALS

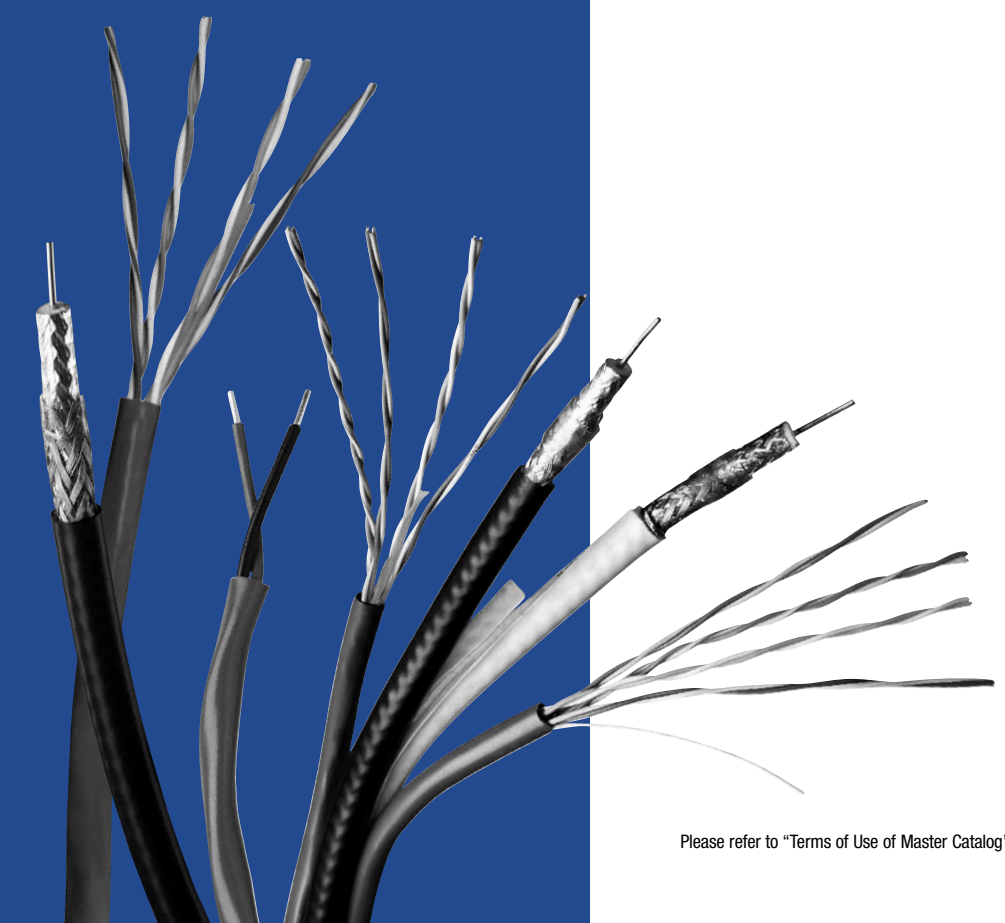
RESIDENTIAL



# 21 Residential Cables

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Please refer to “Terms of Use of Master Catalog” on page 23.22.

# Introduction

RESIDENTIAL

### A House is More than a Home.

The intelligent home is here – a living, working, entertaining, learning place. Cables tie the whole experience together providing high quality, superior performance, proven reliability and wide choice to meet all the needs of changing technology and the demands of the discerning consumer.

### Key Applications

- Home office
- Audio/video
- Climate control
- Window shade automation
- Lighting

### Special Features

Every Belden cable (and connector) is subject to the industry's most rigorous quality control process.

- **High-Performance, Easy-to-Install Cables and Connectors**
  Individual or single application cables are available for any data, video, audio, control or security need, including:
  - Category 5e UTP and optical fiber cables for multimedia, voice, video and data use.
  - Coax cables for HDTV, DBS, CATV, SVHS, CCTV, S-Video, SPIF and cable modem applications.
  - High-conductivity (oxygen-free) speaker cables for audio distribution.
  - Paired, unshielded cables for control applications.
  - Non-category, Cat 5e and Cat 6 low skew performance UTP cables for video signals over twisted pair cables.
  - One-piece connectors and tools that facilitates fast and easy cable connection.

- **Belden also Offers Several Different Composite Cables.**
  Composite cables simplify a multiple use installation by combining Belden data cables, coaxial cables, paired and multi-conductor cables and fiber optic cables in a single-pull product.

  Installation of these cables means that residential properties will be 'future-proof' – ready to embrace the next generation of home entertainment and new technology. This makes a property more saleable and more attractive to the buyer.

- **Time-tested and Preferred in other Industries**
  Many Belden Residential cables in this catalog have been long-standing leaders in other industries such as:
  - Computer Networks
    Where Belden offers the most innovative cables and the leading data cable technology worldwide.
  - Broadcast
    Where network studios prefer Belden over any other cable for picture-perfect quality and professional audio technicians demand Belden for crystal-clear audio quality.
  - Broadband CATV
    Where Belden Duobond® Plus (tri-shield) cables have consistently outperformed the more elaborate quad-shielded cables.
  - Alarm/Security
    Where Belden has been a favorite among installers for many years.

  Now, these industry-leading and time-tested cables are available, along with many new innovations, for wiring the home of the 21st Century...only from Belden.

- **Better Design and Better Performance**
  Some unique high performance technologies are used in the manufacture of the various cables, including:
  - Bonded-Pair Data Cables to Provide the Assurance of Installable Performance™
    With patented bonded-pair design, the cables are able to withstand the rigors of a typical installation without any degradation in performance. This means, for example, that the Cat 5e cable will not only meet the Cat 5e specifications before installation but, more importantly, it will continue to meet them after installation.
  - Coax Cables with Belden's Exclusive Duobond® Plus Shielding
    Duobond® Plus consists of a Duofoil® II (foil tape) surrounded by an 80% braid and an outer layer of foil with a shorting fold. This unique construction provides optimum shielding effectiveness.
  - Composite Cables – Without a Jacket
    Belden Banana Peel® composite cables feature a patent-pending design that eliminates the need for an overall jacket, making the cables easy to handle, identify, pull and terminate. All that is necessary is to peel the cables off the center spline. These cables are increasingly used for multiple installations in new homes.

- **BNC and RCA Connectors**
  One-piece BNC and RCA connectors feature a solid, one-piece brass and nickel-plated construction with gold-plated center pins. They are recommended for mini hi-res video cables:
  - 1277R-1280R
  - 1281R
  - 1281S3-S6

  To ensure proper connection an easy-to-use compression tool and a stripping tool is available.

- **Multimedia Control Cable**
  1502R is a multimedia touch panel control cable for modern audio-video (A/V) and building management systems. When used in conjunction with a touch panel control, these cables improve user comfort and convenience, security and personal enjoyment.

- **Enhanced Sound Performance**
  The copper conductors of Brilliance low cap OFHC speaker cable have been manufactured using an upright shaft manufacturing process. The result of this process is a high-conductivity copper conductor that is inherently free of impurities. Exceptional sound clarity is also achieved by using polyolefin insulation, a much better dielectric than traditional PVC. The low capacitance of this insulation material provides the cable with a superior high frequency response and the facility for extended distance runs.

# Introduction

RESIDENTIAL

- **Easy Installation**
  Easy installation features include the following:
  - Brightly colored jackets for easy identification
  - Print legends that facilitate location identification (Room 12345, Zone ABCDE)
  - Cable jackets with ascending/descending sequential markings at 0.6 m intervals
  - Extremely flexible, easy-to-pull constructions (highly stranded conductors; PVC)

## Brilliance® VideoTwist® UTP Cables

To meet the new video/data UTP requirements, Belden has designed a new series of cables. High resolution videos require high performance cables that have low signal skew and low return loss. Typically, these systems use bundled coax for the cable interconnection. Increasingly, however, system designers are turning to unshielded twisted pair (UTP) transmission equipment to distribute component RGB video because UTP is cheaper than coax. UTP cables also mean that the same cable can be used for premise LAN wiring – eliminating the need for two separate cables.

Brilliance VideoTwist® UTP cables offer the best low skew and return loss performance in the marketplace and are designed for quality video applications – plus they meet applicable TIA/EIA standards for data transmissions. The cables dramatically reduce installation costs but retain the appearance, feel and familiarity of a standard category twisted pair cable.

| | Nominal Skew (ns/100 m) | Video Transmisson Distance* ft. | m |
|---|---|---|---|
| Typical UTP Data Cables | 25 - 45 | 370 - 520 | 112 - 158 |
| RGB Coax Cables | 15.0 | 850 | 259 |
| VideoTwist® 7987 | 2.2 | 5900 | 1798 |
| VideoTwist® 7988 | 9.0 | 1475 | 450 |
| VideoTwist® 7989 | 10.0 | 1300 | 396 |

* Based on Broadcast standard of 40nd maximum total skew and the use of amplification equipment.

## Security

Belden's answer to this challenge is a broad line of security cables which can be found in the New Generation section 20 in this catalog.

## Everything you Need for the Intelligent Home

These structured cabling products for the intelligent home are all brought to you by Belden – the most innovative and trusted manufacturer in the cable industry. Belden offers the most comprehensive, time-tested and proven products for cabling the home.

## Availability

Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a Residential cable in this catalog section that meets your technical requirements, see our U.S. Master Catalog or contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

## Corresponding Literature

**Product Bulletins**

NP185: Multimedia control cables (1502R)
NP212: Brilliance® VideoTwist® UTP low skew cables
NP229: BNC and RNC connectors
NP232: Brilliance® low cap OFHC speaker cables

# Composite Data, Audio, Video, Security and Control Cables

## Banana Peel® Jacketless Cables

## Category 5e

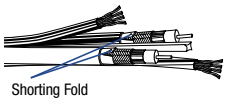
RESIDENTIAL

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal Insulation OD inch | Nominal Insulation OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Core OD inch | Core OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Composite • **(2) Cat 5e** 4-Bonded-Pair UTP 24 AWG • **(2) Series 6 Coax** with **Duobond® Plus** (Bonded Tri-Shield) • **Banana Peel® Unjacketed,** Bonded to Central Spline

**Polyolefin Insulation (Pairs) • Gas-Injected FPE Insulation (Coax) • F-R PVC Jacket • No Overall Jacket**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7876S** | NEC: CMR CEC: CMG FT4 | 500<br>1000 | 152<br>305 | 63.1<br>119.0 | 28.6<br>54.0 | | 0.550 | 13.97 | 2xData | 4-Pair UTP Bonded-Pairs 24 AWG 0.5 mm Solid BC | Unshielded | Polyolefin | F-R PVC (1) Blue (1) Green | 0.204 | 5.18 |
| | | | | | | | | | 2xCoax | Series 6 18 AWG 1.0 mm Solid BC | Duobond® Plus + 77% AL Braid + AL Foil w/shorting fold | Gas-Injected Foam Polyethylene | F-R PVC (1) Black (1) White | 0.275 | 6.99 |



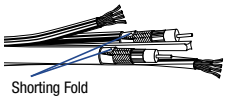
Shorting Fold

Third party verified to TIA/EIA-568-B.2, Category 5e
U.S. Patents 7,049,523; 5,606,151; 5,734,126.
Coax sweep tested to 3.0 GHz and jacket sequentially marked.
Coax shield effectiveness 125 dB @ 1 GHz is better than quad shield.

Composite • **(2) Cat 5e** 4-Bonded-Pair UTP 24 AWG • **(2) Series 6 Coax** with **Duobond® Plus (1) 2-Fiber LANlite®** • **Banana Peel® Unjacketed,** Bonded to Central Spline

**Polyolefin Insulation (Pairs) • Gas-Injected FPE Insulation (Coax) • F-R PVC Jacket • No Overall Jacket**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7878S** | NEC: CMR OF CEC: CMG OF FT4 | 500<br>1000 | 152<br>305 | 70.8<br>136.9 | 32.1<br>62.1 | | 0.595 | 15.11 | 2xData | 4-Pair UTP Bonded-Pairs 24 AWG 0.5 mm Solid BC | Unshielded | Polyolefin | F-R PVC (1) Blue (1) Green | 0.204 | 5.18 |
| | | | | | | | | | 2xCoax | Series 6 18 AWG 1.0 mm Solid BC | Duobond® Plus + 77% AL Braid + AL Foil w/shorting fold | Gas-Injected Foam Polyethylene | F-R PVC (1) Black (1) White | 0.275 | 6.99 |
| | | | | | | | | | 2xFiber LANlite® | Gigabit Ethernet 62.5µ/125µ/900µ (core/clad/coating) Tight-Buffered | | PVC (1) Blue (1) Orange | F-R PVC (1) Orange | 0.175 | 4.45 |



Shorting Fold

Third party verified to TIA/EIA-568-B.2, Category 5e
U.S. Patents 7,049,523; 5,606,151; 5,734,126.
Coax sweep tested to 3.0 GHz and jacket sequentially marked.
Coax shield effectiveness 125 dB @ 1 GHz is better than quad shield.

BC = Bare Copper • AL = Aluminum • DCR = DC resistance

Duobond® Plus see technical information page 23.13.

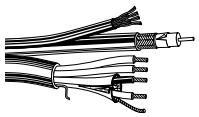
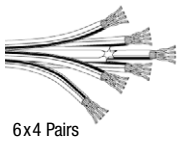
### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Composite Data, Audio, Video, Security and Control Cables

## Banana Peel® Jacketless Cables
## Category 5e

RESIDENTIAL

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal Insulation OD inch | Nominal Insulation OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Core OD inch | Core OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite • **(1) NanoSkew™** 4-Non-Bonded-Pair UTP 24 AWG • **(1) RG59 Coax** with **Duofoil® (1) 1502R** • **Banana Peel® Unjacketed,** Bonded to Central Spline | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation (Pairs) • Gas-Injected FPE Insulation (Coax) • Polyolefin Insulation (Control) • F-R PVC Jacket • No Overall Jacket** | | | | | | | | | | | | | | | | |
| | **YR48902** | NEC<br>CMR OF<br>CEC<br>CMG OF FT4 | 1000 | 305 | 132.3 | 60.0 | | 0.595 | 15.11 | 1xData<br>7987R | 4-Pair UTP<br>Non-Bonded-Pairs<br>24 AWG<br>0.5 mm<br>Solid BC | Unshielded | Polyolefin | F-R PVC | 0.195<br>Blue | 4.95 |
|  | | | | | | | | | | 1xCoax<br>1505A | 0.8 mm<br>20 AWG<br>Solid BC | Duofoil®<br>100%<br>95% TC<br>Braid | Gas-Injected<br>HPDE | F-R PVC<br>Black | 0.233 | 5.92 |
| | | | | | | | | | | 1xControl<br>1502R | 1-Pair<br>22 AWG<br>0.8 mm<br>(7x30) TC<br>2 Conductors<br>18 AWG<br>1.2 mm<br>(16x30) TC | Unshielded | Foam HPDE | F-R PVC<br>Green | 0.250 | 6.35 |
| | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e<br>Coax sweep tested to 2.25 GHz and jacket sequentially marked. | | | | | | | | | |
| **(6) Cat 5e** 4-Bonded-Pair UTP 24 AWG • Solid 0.5 mm BC • Rip Cord • **Banana Peel® Unjacketed,** Bonded to Central Spline | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Numbered F-R PVC Jackets (Light Blue or Grey) • No Overall Jacket** | | | | | | | | | | | | | | | | |
| | **1700S6** | CMR<br>CMG | 500<br>1000 | 152<br>305 | 77.6<br>149.3 | 35.2<br>67.7 | | 0.600 | 15.24 | 6xData | 4-Pair UTP<br>Bonded-Pairs<br>24 AWG<br>0.5 mm<br>Solid BC | Unshielded | Polyolefin | F-R PVC | 0.204 | 5.18 |
|  6x4 Pairs | | | | | | | 1-20 MHz Ohm 100 + 12%<br>21-100 MHz + 15%<br>101-155 MHz + 18%<br>156-310 MHz + 20%<br>311-350 MHz + 22% | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

Duofoil® see technical information page 23.13.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Composite Data, Audio, Video, Security and Control Cables

## Siamese Cables

## Category 5e and Category 5

RESIDENTIAL

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Color Code | Nominal Insulation OD inch | Nominal Insulation OD mm | Component | Description | Shielding Material & Nom. DCR | Insulation Material & Colors | Component Jacket Material & Colors | Core OD inch | Core OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Composite • **(1) Cat 5e** 4-Bonded-Pair UTP 24 AWG • **(1) Series 6 Coax** with **Duobond® Plus** Bonded Tri-Shield | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation (Pairs) • Gas-Injected FPE Insulation (Coax) • Overall Green F-R PVC Jacket** | | | | | | | | | | | | | | | | |
| | **7911A** | NEC:<br>CMR<br>CEC:<br>CMG FT4 | 500<br>1000 | 152<br>305 | 35.1<br>60.0 | 15.9<br>27.2 | | 0.275<br>x<br>0.529 | 6.99<br>x<br>13.44 | 1 x Data | 4-Pair UTP<br>Bonded-Pairs<br>24 AWG<br>0.5 mm<br>Solid BC | Unshielded | Polyolefin | F-R PVC<br>(1) Green | 0.200 | 5.08 |
| | | | | | | | | | | 1 x Coax | Series 6<br>18 AWG<br>1.0 mm<br>Solid BC | Duobond® Plus<br>+ 77% AL<br>Braid<br>+ AL Foil<br>w/shorting fold | Gas-Injected<br>Foam<br>Polyethylene | F-R PVC<br>(1) Green | 0.275 | 6.99 |
| | | | | | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5e<br>Coax sweep tested to 3.0 GHz and jacket sequentially marked.<br>Coax shield effectiveness 125 dB @ 1 GHz is better than quad shield. | | | | | |
| Composite • **(1) Cat 5** 4-Pair UTP 24 AW**G** • **(4) 14 AWG** (19x27) 1.85 mm Bare Copper Conductors | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation (Pairs) • PVC Insulation (Conductors) • Overall Green F-R PVC Jacket** | | | | | | | | | | | | | | | | |
| | **7952A** | NEC:<br>CMR<br>CEC:<br>CMG FT4 | 500 | 152 | 58.0 | 26.3 | | 0.289<br>x<br>0.535 | 7.34<br>x<br>13.59 | 1 x Data | 4-Pair UTP<br>24 AWG<br>0.5 mm<br>Solid BC | Unshielded | Polyolefin | F-R PVC<br>(1) Blue | 0.216 | 5.49 |
| | | | | | | | | | | 4 x CDR<br>4 x 1.93 mm² | Series 6<br>14 AWG<br>1.85 mm<br>(19x27) BC | Unshielded | PVC<br>Red<br>White<br>Green<br>Black | – | 0.104 | 2.64 |
| | | | | | | | | | | | Third party verified to TIA/EIA-568-B.2, Category 5<br>Jacket sequentially marked. | | | | | |

Shorting Fold

Siamese Construction

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100 m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100 m | Min. PSUM ELFEXT dB/100 m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cat 5e • 24 AWG • Unbonded-Pairs** • Solid 0.5 mm BC • Overall **Beldfoil®** Shield • Rip Cord • **24 AWG TC Drain Wire • Overall TC Braid** | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Grey Jacket** | | | | | | | | | | | | | | | | | | | |
| | **1668ES** | B-164<br>1000<br>1640 | B-50<br>305<br>500 | 10.6<br>64.4<br>105.8 | 4.8<br>29.2<br>48.0 | 0.51 mm<br>24 AWG<br>Solid BC | 0.043 | 1.10 | Non-<br>Bonded-Pair<br>Overall Beldfoil®<br>+ Drain Wire<br>(24 AWG TC)<br>+ Overall<br>TC Braid<br>SF/UTP | 0.248 | 6.30 | 1<br>4<br>8<br>10<br>16<br>20<br>25<br>31.25<br>62.5<br>100 | 2.1<br>4.0<br>5.7<br>6.3<br>8.0<br>9.0<br>10.1<br>11.4<br>16.5<br>21.3 | 62.0<br>53.0<br>49.0<br>47.0<br>44.0<br>43.0<br>41.0<br>40.0<br>35.0<br>32.0 | 60.2<br>49.3<br>43.1<br>41.0<br>36.2<br>33.8<br>31.2<br>28.5<br>18.8<br>11.0 | 61.0<br>49.0<br>43.0<br>41.0<br>37.0<br>35.0<br>33.0<br>31.0<br>25.0<br>21.0 | 100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15<br>100 ± 15 | 20.0<br>23.0<br>24.5<br>25.0<br>25.0<br>25.0<br>24.3<br>23.6<br>21.5<br>20.1 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | Color Code: see chart below<br>Applicable industry standards: EN 50173, ISO/IEC 11801 | | | | | | | | |

Rip Cord

8-Pair, Twin

TC = Tinned Copper • BC = Bare Copper • AL = Aluminum • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance

Duobond® Plus see technical information page 23.13.

### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Composite Data, Audio, Video, Security and Control Cables

## Multimedia Control Cables

RESIDENTIAL

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Shielding Material | Nominal Insulation OD inch | Nominal Insulation OD mm | Component | Description | Shielding Material & Nom. DCR | Jacket Material & Colors | Insulation OD inch | Insulation OD mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control • **(1) Data** 22 AWG Stranded (7x30) 0.8 mm TC • Twisted Pair with **Beldfoil®** Shield • 24 AWG TC Drain Wire • **(2) Power** 18 AWG (16x30) TC Unshielded Pair • Rip Cord | | | | | | | | | | | | | | | | |
| **HDFPE Insulation (Data) • F-R PVC Insulation (Power) • F-R PVC Jacket** (Black, White and Aqua) | | | | | | | | | | | | | | | | |
| 300V 75°C | **1502R** | NEC: CMR CEC: CMG FT4 | 500<br>1000 | 152<br>305 | 20.1<br>44.1 | 9.1<br>20.0 | – | Beldfoil® | 0.250 | 6.35 | 1x Data | 1-Pair 22 AWG 0.8 mm (7x30) TC | Overall Beldfoil® 100% + Drain Wire (24 AWG TC) | HDFPE Blue White | – | – |
| | | | | | | | | | | | 1x Power | 2 Conductors 18 AWG 1.2 mm (16x30) TC | Unshielded | F-R-PVC Red Black | – | – |
| Rip Cord | | | | | | | | | | | | | | | | |
| 1 STP + 2 CDR | | | | | | | | | | | | | | | | |
| Sequential footing marking every 0.6 m. | | | | | | | | | | | | | Pulling Tension: 266 N | | | |

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Solid 0.6 mm Bare Copper • Twisted Pair | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • White FRNC/LSNH Jacket** | | | | | | | | | | | | | | | | | | | |
| 80°C | **7701NH** | IEC 33203C BS 7655 | 1000<br>1640 | 305<br>500 | 10.6<br>17.6 | 4.8<br>8.0 | 0.64 mm 22 AWG Solid BC | 0.046 | 1.17 | Unshielded | 0.138 | 3.50 | 100 | 68% | 14.0 | 46.0 | 0.772<br>1<br>4<br>10<br>16<br>20 | 0.4<br>0.5<br>0.9<br>1.5<br>1.9<br>2.1 | 1.3<br>1.5<br>3.1<br>4.9<br>6.3<br>6.9 |
| Color Code: White/Blue and Blue/White | | | | | | | | | | | | | | | | | | | |
| LonWorks | | | | | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance

# Composite Data, Audio, Video, Security and Control Cables

## Multimedia Control Cables

RESIDENTIAL

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20 AWG** • Solid 0.8 mm Bare Copper • Twisted Pair • Plastic Foil • 26 AWG Bare Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Green F-R PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 70°C | **YE00820** | NEC: | 100 | 30 | 11.5 | 5.2 | 0.81 mm | 0.056 | 1.43 | Overall | 0.276 | 7.00 | – | 73 | CDR/CDR | 30.0 | 100.0 | Red, Black |
| | | CMR | 500 | 152 | 57.3 | 26.0 | 20 AWG | | | Alu-foil | | | | | CDR/SCR | 91.0 | 300.0 | White, Yellow |
| | | CEC: | 1000 | 305 | 114.6 | 52.0 | Solid BC | | | + Drain Wire | | | | | | | | |
| | | CMR FT4 | | | | | | | | (26 AWG BC) | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| EIB/KNX | | | | | | | | | | | | | | | | | | |
| | | | Pulling Tension: 50 N | | | | | | | | | | | | | | | |
| **PVC Insulation • Green F-R LSNH/FRNC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 70°C | **YE00906** | NEC: | 100 | 30 | 12.3 | 5.6 | 0.81 mm | 0.063 | 1.60 | Overall | 0.283 | 7.20 | – | 73 | CDR/CDR | 30.0 | 100.0 | Red, Black |
| | | CMR | 500 | 152 | 61.7 | 28.0 | 20 AWG | | | Alu-foil | | | | | CDR/SCR | 91.0 | 300.0 | White, Yellow |
| | | CEC: | 1000 | 305 | 123.5 | 56.0 | Solid BC | | | + Drain Wire | | | | | | | | |
| | | CMR FT4 | | | | | | | | (26 AWG BC) | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| EIB/KNX | | | | | | | | | | | | | | | | | | |
| | | | Pulling Tension: 50 N | | | | | | | | | | | | | | | |
| **16 AWG** • Stranded (19x29) 1.5 mm Tinned Copper • Twisted Pair | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Chrome PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V 60°C UL AWM Style 2598 | **8471** | NEC: | U-500 | U-152 | 21.0 | 9.5 | 1.47 mm | 0.105 | 2.67 | Unshielded | 0.274 | 6.96 | – | – | CDR/CDR | 30.0 | 100.0 | Black, White |
| | | CMG | 500 | 152 | 20.0 | 9.1 | 16 AWG | | | | | | | | | | | |
| | | CEC: | U-1000 | U-305 | 41.0 | 18.6 | (19x29) TC | | | | | | | | | | | |
| | | CMG FT4 | 1000 | 305 | 43.0 | 19.5 | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| LonWorks | | | | | | | | | | | | | | | | | | |
| | | | Pulling Tension: 271 N | | | | | | | | | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Brilliance® VideoTwist®

## Low Skew UTP Cables for Video Transmission Category and Non-Category Styles

RESIDENTIAL

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Freq. MHz | Max. Atten. dB/100m | Min. PSUM NEXT dB | Min. PSUM ACR dB/100m | Min. PSUM ELFEXT dB/100m | Input Imp. (Ω) | Min. RL dB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NanoSkew™ • 24 AWG Non-Bonded-Pair** • Solid 0.5 mm BC • Twisted Pair • **Skew 2.2 ns/100 m** Nominal • Rip Cord • Non-Category Style | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Maroon PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V RMS | **7987R** | NEC: | U-1000 | U-305 | 22.0 | 10.0 | 0.51 mm | 0.038 | 0.97 | Non- | 0.195 | 4.95 | 1 | 2.0 | – | – | – | 100 ± 15 | 15.0 |
| | | CMR | U-1640 | U-500 | 36.2 | 16.4 | 24 AWG | | | Bonded-Pair | | | 4 | 4.1 | – | – | – | – | – |
| | | CEC: | | | | | Solid BC | | | Unshielded | | | 8 | 5.8 | – | – | – | – | – |
| | | CMG | | | | | | | | UTP | | | 10 | 6.5 | – | – | – | – | – |
| | | | | | | | | | | | | | 16 | 8.2 | – | – | – | – | – |
| | | | | | | | | | | | | | 20 | 9.3 | – | – | – | – | – |
| | | | | | | | | | | | | | 25 | 10.4 | – | – | – | – | – |
| | | | | | | | | | | | | | 31.25 | 11.7 | – | – | – | – | – |
| | | | | | | | | | | | | | 62.5 | 17.0 | – | – | – | – | – |
| | | | | | | | | | | | | | 100 | 22.0 | – | – | – | – | – |
| | | | | | | | | | | | | | 155 | 28.1 | – | – | – | – | – |
| | | | | | | | | | | | | | 200 | 32.0 | – | – | – | – | – |
| | | | | | | | | | | | | | 250* | 36.4 | – | – | – | – | – |
| | | | | | | | | | | | | | 350* | 44.8 | – | – | – | – | – |
| Rip Cord | | | | | | | | | | | | | | | | | | | |
| 4-Pair | | | | | | | | | | | | | | | | | | | |
| | | Color Code: see chart below | | | | | | | | | | | | | | | | | |
| **NanoSkew™ • Category 5e • 24 AWG Bonded-Pair** • Solid 0.5 mm Bare Copper • **Skew 9.0 ns/100 m** Nominal • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Green PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V RMS | **7988R** | NEC: | U-1000 | U-305 | 22.0 | 10.0 | 0.51 mm | 0.038 | 0.97 | Bonded-Pair | 0.204 | 5.18 | 1 | 2.0 | 65.3 | 60.3 | 60.8 | 100 ± 15 | 20.0 |
| | | CMR | U-1640 | U-500 | 36.2 | 16.4 | 24 AWG | | | Unshielded | | | 4 | 4.1 | 53.3 | 49.2 | 48.7 | 100 ± 15 | 23.0 |
| | | CEC: | | | | | Solid BC | | | UTP | | | 8 | 5.8 | 48.8 | 43.0 | 42.7 | 100 ± 15 | 24.5 |
| | | CMG FT4 | | | | | | | | | | | 10 | 6.5 | 47.3 | 40.8 | 40.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 8.2 | 44.3 | 36.0 | 36.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 9.3 | 42.8 | 33.5 | 34.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 10.4 | 41.3 | 30.9 | 32.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 11.7 | 39.9 | 28.2 | 30.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 17.0 | 35.4 | 18.4 | 24.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 22.0 | 32.3 | 10.3 | 20.8 | 100 ± 15 | 20.1 |
| | | | | | | | | | | | | | 155 | 28.1 | 29.5 | 2.0 | 16.9 | 100 ± 25 | 15.8 |
| Rip Cord | | | | | | | | | | | | | 200 | 32.4 | 27.8 | 1.0 | 14.7 | 100 ± 25 | 15.0 |
| 4-Pair | | | | | | | | | | | | | | | | | | | |
| | | Color Code: see chart below | | | | | | | | | | | | | | | | | |
| **NanoSkew™ • Category 6 • 23 AWG Bonded-Pairs** • Solid 0.6 mm Bare Copper • **Skew 10.0 ns/100 m** Nominal • Rip Cord | | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • Blue PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| 300V RMS | **7989R** | NEC | 1000 | 305 | 32.0 | 14.5 | 0.57 mm | 0.042 | 1.06 | Bonded-Pair | 0.365 | 9.27 | 1 | 2.0 | 72.3 | 70.3 | 64.8 | 100 ± 15 | 20.0 |
| | | CMR | 1640 | 500 | 52.5 | 23.8 | 23 AWG | | | Unshielded | x | x | 4 | 3.8 | 63.3 | 59.5 | 52.7 | 100 ± 15 | 23.0 |
| | | CEC | | | | | Solid BC | | | UTP | 0.165 | 4.19 | 8 | 5.3 | 58.8 | 53.4 | 46.7 | 100 ± 15 | 24.5 |
| | | CMR FT4 | | | | | | | | | | | 10 | 6.0 | 57.3 | 51.3 | 44.8 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 16 | 7.6 | 54.3 | 46.7 | 40.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 20 | 8.5 | 52.8 | 44.3 | 38.7 | 100 ± 15 | 25.0 |
| | | | | | | | | | | | | | 25 | 9.5 | 51.4 | 41.8 | 36.8 | 100 ± 15 | 24.3 |
| | | | | | | | | | | | | | 31.25 | 10.7 | 49.9 | 39.2 | 34.9 | 100 ± 15 | 23.6 |
| | | | | | | | | | | | | | 62.5 | 15.4 | 45.4 | 30.0 | 28.8 | 100 ± 15 | 21.5 |
| | | | | | | | | | | | | | 100 | 19.8 | 42.3 | 22.5 | 24.8 | 100 ± 15 | 20.1 |
| Rip Cord | | | | | | | | | | | | | 155 | 25.2 | 39.5 | 14.3 | 20.9 | 100 ± 22 | 18.8 |
| 4-Pair | | | | | | | | | | | | | 200 | 29.0 | 37.8 | 8.8 | 18.7 | 100 ± 22 | 18.0 |
| MediaTwist™ Construction | | | | | | | | | | | | | 250 | 32.8 | 36.3 | 3.5 | 16.8 | 100 ± 32 | 17.3 |
| | | Color Code: see chart below | | | | | | | | | | | | | | | | | |

BC = Bare Copper • ACR = Attenuation Crosstalk Ratio • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • DCR = DC resistance
* Values provided for information only.

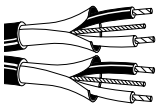
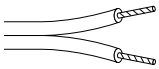
### Color Code

| Pair No. | Color |
|---|---|
| 1 | White/Blue Stripe, Blue |
| 2 | White/Orange Stripe, Orange |
| 3 | White/Green Stripe, Green |
| 4 | White/Brown Stripe, Brown |

# Home Cinema Audio Cables

## High-Conductivity (Oxygen-Free) Copper Speaker Cables

RESIDENTIAL

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 AWG** • Stranded Conductors (19x34) 0.8 mm TC • Dual Twisted Pair • Individual **Beldfoil®** Shield • 24 AWG Tinned Copper Drain Wire | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • PVC Jacket in Zip-Cord Construction** (Red and Green, Red and Black, Red and Violet or Red and Grey) | | | | | | | | | | | | | | | | | | |
| 150V RMS 60°C | **1504A** | NEC: CM CEC: CM | U-1000 2000 | U-305 610 | 32.0 63.9 | 14.5 29.0 | 0.79 mm 22 AWG (19x34) TC | 0.010 | 0.25 | Individual Beldfoil® + Drain Wire (24 AWG TC) | 0.143 x 0.286 | 3.63 x 7.26 | 45 | – | CDR/CDR CDR/SCR | 57.0 100.0 | 187.0 328.0 | Black, Red |
|  2-Pair | | | | | | | | | | | | | | | | | | |
| | | | 610 m put-up available in Red and Grey or Red and Green only. The jacket and shield are bonded so both can be removed with automatic stripping equipment. Drain wire is inside foil shield. | | | | | | | | Pulling Tension: 111 N | | | | | | | |
| **16 AWG** • Stranded (26x30) 1.5 mm High-Conductivity (Oxygen-Free) Tinned and Bare Copper | | | | | | | | | | | | | | | | | | |
| **PVC Insulation • Clear PVC Jacket** | | | | | | | | | | | | | | | | | | |
| 300V RMS 60°C | **9716** | | U-1000 1000 | U-305 305 | 27.1 26.0 | 12.3 11.8 | 1.5 mm 16 AWG (26x30) TC/BC | 0.027 | 0.69 | Unshielded | 0.115 x 0.230 | 2.92 x 5.84 | 13 | – | – | – | – | Transparent |
|  2 CDR 2x1.5 mm² | | | | | | | | | | | | | | | | | | |
| | | | Parallel Zip Construction | | | | | | | | Pulling Tension: 347 N | | | | | | | |
| **Low Cap • 16 AWG** • Stranded (65x34) 1.5 mm Oxygen-Free High-Conductivity Bare Copper • Conductors Cabled | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Green, Blue, Grey, White and Black) | | | | | | | | | | | | | | | | | | |
| | **1307A** | NEC: CMR, CL3R CEC: CMG FT 4 | U-500 1000 | U-152 305 | 15.0 29.1 | 6.8 13.2 | 1.5 mm 16 AWG (65x34) BC | 0.013 | 0.32 | Unshielded | 0.210 | 5.33 | – | – | CDR/CDR | 19.9 | 65.3 | Black, Red |
|  2 CDR 2x1.5 mm² | | | For audio use only. 305 m put-ups not available in Blue or Green. Suitable for direct burial applications. White and Black jackets are sunlight-resistant. | | | | | | | | Brightly colored jackets for easy identification. Print legends that incorporate location information (room 12345, zone ABCDE). Cable jackets with ascending/descending sequential markings at 0.6 m intervals. Extremely flexible, easy-to-pull constructions (highly stranded conductors; PVC jackets) | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Green, Blue, Grey, White and Black) | | | | | | | | | | | | | | | | | | |
| | **1308A** | NEC: CMR, CL3R CEC: CMG FT 4 | U-500 1000 | U-152 305 | 26.5 54.0 | 12.0 24.5 | 1.5 mm 16 AWG (65x34) BC | 0.013 | 0.32 | Unshielded | 0.270 | 6.86 | – | – | CDR/CDR | 19.9 | 65.3 | Black, Red |
|  4 CDR 4x1.5 mm² | | | For audio use only. 305 m put-ups not available in Blue or Green. Suitable for direct burial applications. White and Black jackets are sunlight-resistant. | | | | | | | | Brightly colored jackets for easy identification. Print legends that incorporate location information (room 12345, zone ABCDE). Cable jackets with ascending/descending sequential markings at 0.6 m intervals. Extremely flexible, easy-to-pull constructions (highly stranded conductors; PVC jackets) | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

# Home Cinema Audio Cables

## High-Conductivity (Oxygen-Free) Copper Speaker Cables

RESIDENTIAL

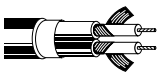
| Description | Part No. | UL NEC / C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Low Cap • 14 AWG** • Stranded (105x34) 1.9 mm Oxygen-Free High-Conductivity Bare Copper • Conductors Cabled | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Green, Blue, Grey, White and Black) | | | | | | | | | | | | | | | | | | |
| | **1309A** | NEC:<br>CMR, CL3R<br>CEC:<br>CMG FT4 | U-500<br>2000 | U-152<br>610 | 22.5<br>46.1 | 10.2<br>20.9 | 1.85 mm<br>14 AWG<br>(105x34) BC | 0.015 | 0.39 | Unshielded | 0.264 | 6.71 | – | – | CDR/CDR | 20.5 | 67.3 | Black, Red |
| | 2 CDR<br>2x2.1 mm² | For audio use only.<br>305 m put-ups not available in Blue or Green.<br>Suitable for direct burial applications.<br>White and Black jackets are sunlight-resistant. | | | | | | | | Brightly colored jackets for easy identification.<br>Print legends that incorporate location information (room 12345, zone ABCDE).<br>Cable jackets with ascending/descending sequential markings at 0.6 m intervals.<br>Extremely flexible, easy-to-pull constructions (highly stranded conductors; PVC jackets) | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Green, Blue, Grey, White and Black) | | | | | | | | | | | | | | | | | | |
| | **1310A** | NEC:<br>CMR, CL3R<br>CEC:<br>CMG FT4 | 500<br>1000 | 152<br>305 | 41.4<br>84.0 | 18.8<br>38.1 | 1.85 mm<br>14 AWG<br>(105x34) BC | 0.015 | 0.39 | Unshielded | 0.319 | 8.10 | – | – | CDR/CDR | 20.5 | 67.3 | Black, Red |
| | 4 CDR<br>4x2.1 mm² | For audio use only.<br>305 m put-ups not available in Blue or Green.<br>Suitable for direct burial applications.<br>White and Black jackets are sunlight-resistant. | | | | | | | | Brightly colored jackets for easy identification.<br>Print legends that incorporate location information (room 12345, zone ABCDE).<br>Cable jackets with ascending/descending sequential markings at 0.6 m intervals.<br>Extremely flexible, easy-to-pull constructions (highly stranded conductors; PVC jackets) | | | | | | | |
| **Low Cap • 12 AWG** • Stranded (165x34) 2.4 mm Oxygen-Free High-Conductivity Bare Copper • Conductors Cabled | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Grey, White and Black) | | | | | | | | | | | | | | | | | | |
| | **1311A** | NEC:<br>CMR, CL3R<br>CEC:<br>CMG FT 4 | U-500<br>500<br>1000 | U-152<br>152<br>305 | 36.6<br>36.6<br>74.1 | 16.6<br>16.6<br>33.6 | 2.41 mm<br>12 AWG<br>(165x34) BC | 0.018 | 0.46 | Unshielded | 0.352 | 8.94 | – | – | CDR/CDR | 22.3 | 73.2 | Black, Red |
| | 2 CDR<br>2x3.2 mm² | For audio use only.<br>305 m put-ups not available in Blue or Green.<br>Suitable for direct burial applications.<br>White and Black jackets are sunlight-resistant. | | | | | | | | Brightly colored jackets for easy identification.<br>Print legends that incorporate location information (room 12345, zone ABCDE).<br>Cable jackets with ascending/descending sequential markings at 0.6 m intervals.<br>Extremely flexible, easy-to-pull constructions (highly stranded conductors; PVC jackets) | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Grey, White and Black) | | | | | | | | | | | | | | | | | | |
| | **1312A** | NEC:<br>CMR, CL3R<br>CEC:<br>CMG FT 4 | 500<br>1000 | 152<br>305 | 66.6<br>132.1 | 30.2<br>59.9 | 2.41 mm<br>12 AWG<br>(165x34) BC | 0.018 | 0.46 | Unshielded | 0.423 | 10.74 | – | – | CDR/CDR | 22.3 | 73.2 | Black, Red |
| | 4 CDR<br>4x3.2 mm² | For audio use only.<br>305 m put-ups not available in Blue or Green.<br>Suitable for direct burial applications.<br>White and Black jackets are sunlight-resistant. | | | | | | | | Brightly colored jackets for easy identification.<br>Print legends that incorporate location information (room 12345, zone ABCDE).<br>Cable jackets with ascending/descending sequential markings at 0.6 m intervals.<br>Extremely flexible, easy-to-pull constructions (highly stranded conductors; PVC jackets) | | | | | | | |
| **Low Cap • 10 AWG** • Stranded (259x34) 3.0 mm Oxygen-Free High-Conductivity Bare Copper • Conductors Cabled | | | | | | | | | | | | | | | | | | |
| **Polyolefin Insulation • PVC Jacket** (Grey, White and Black) | | | | | | | | | | | | | | | | | | |
| | **1313A** | NEC:<br>CMR, CL3R<br>CEC:<br>CMG FT 4 | 500<br>1000 | 152<br>305 | 55.1<br>109.1 | 25.0<br>49.5 | 2.97 mm<br>10 AWG<br>(259x34) BC | 0.026 | 0.66 | Unshielded | 0.428 | 10.87 | – | – | CDR/CDR | 23.2 | 76.1 | Black, Red |
| | 2 CDR<br>2x5.2 mm² | For audio use only.<br>305 m put-ups not available in Blue or Green.<br>Suitable for direct burial applications.<br>White and Black jackets are sunlight-resistant. | | | | | | | | Brightly colored jackets for easy identification.<br>Print legends that incorporate location information (room 12345, zone ABCDE).<br>Cable jackets with ascending/descending sequential markings at 0.6 m intervals.<br>Extremely flexible, easy-to-pull constructions (highly stranded conductors; PVC jackets) | | | | | | | |

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance • CDR = Capacitance between conductors

# Home Cinema Video Cables

## Low Loss HDTV/SDI Digital Coax and SVHS Coax

RESIDENTIAL

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **28.5 AWG** • Solid 0.3 mm Bare Copper • **Duobond®** • 95 % Tinned Copper Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • PVC Jacket** (Brown, Red, Orange, Yellow, Green, Blue, Violet, Grey, White and Black) | | | | | | | | | | | | | | | | | | | |
| DigiTruck® SDI/HDTV Digital Video 75°C | **179DT** | NEC: CMR CEC: CMG FT4 | 500<br>1000 | 152<br>305 | 5.0<br>8.0 | 2.3<br>3.6 | 0.31 mm<br>28.5 AWG<br>Solid BC<br>379.2 Ω/km*<br>350.0 Ω/km** | 0.056 | 1.42 | Duobond®<br>+ 95 % TC<br>Braid<br>29.2 Ω/km*** | 0.100 | 2.54 | 75 | 77 % | 17.5 | 57.4 | 1<br>5<br>10<br>67.5<br>71.5<br>100<br>135<br>270<br>360<br>540<br>720<br>750<br>1000<br>1500<br>2000<br>2250<br>3000 | 1.2<br>1.9<br>2.4<br>5.9<br>6.0<br>6.9<br>7.9<br>10.8<br>12.5<br>15.4<br>17.9<br>18.3<br>21.3<br>26.3<br>30.8<br>32.8<br>38.3 | 3.9<br>6.1<br>7.8<br>19.3<br>19.6<br>22.6<br>25.8<br>35.4<br>41.0<br>50.5<br>58.7<br>60.0<br>69.9<br>86.3<br>101.1<br>107.6<br>125.7 |
|  Mini Video Patch 0.3/1.4 | | | Guaranteed Return Loss: -21dB Min.<br>152 m put-up available in Black only. | | | | | | | Nominal Delay: 4.331 ns/m<br>Pulling Tension: 66 N<br>100% Sweep tested to 3 GHz. | | | | | | | | | |
| **22 AWG** • Stranded (7x29) 0.8 mm Bare Compacted Copper • 95 % Tinned Copper Double Braid | | | | | | | | | | | | | | | | | | | |
| **Gas-Injected Foam HDPE Insulation • PVC Jacket** (Matte Black, Red, Green, Blue, Yellow, White, Orange and Violet) | | | | | | | | | | | | | | | | | | | |
| High-Flex SDI/HDTV Video Patch 75°C | **1505F** | NEC: CM CEC: CM | 1000 | 305 | 45.0 | 20.4 | 0.76 mm<br>22 AWG<br>(7x29) BCC<br>47.8 Ω/km*<br>40.0 Ω/km** | 0.145 | 3.68 | Double Braid<br>95 % TC<br>Braid<br>7.8 Ω/km*** | 0.242 | 6.15 | 75 | 80 % | 17.0 | 55.7 | 1<br>3.6<br>10<br>71.5<br>135<br>270<br>360<br>540<br>720<br>750<br>1000<br>1500<br>2250<br>3000 | 0.2<br>0.5<br>0.9<br>2.5<br>3.5<br>5.1<br>6.0<br>7.4<br>8.7<br>8.9<br>10.5<br>13.3<br>16.9<br>20.3 | 0.7<br>1.6<br>2.9<br>8.2<br>11.5<br>16.7<br>19.7<br>24.3<br>28.5<br>29.2<br>34.4<br>43.6<br>55.4<br>66.6 |
|  SPDIF, FBAS, Composite Video, Audio 0.8/3.7 | | | Return loss at 5-3000 MHz: ≥ 15 dB<br>100 % Sweep tested: 5 Mhz to 3 GHz<br>Compacted conductor combines impedance uniformity of solid conductors and "nick-resistance" of stranded conductor. | | | | | | | Nominal Delay: 4.265 ns/m<br>Pulling Tension: 400 N | | | | | | | | | |
| **High-Flex S-video • 30 AWG** • Stranded (7x38) 0.3 mm Tinned Copper • 90 % Tinned Copper Serve | | | | | | | | | | | | | | | | | | | |
| **Foam HDPE Insulation • Matte Black PVC Jacket (Inner PVC Jackets Color Code: Black and Yellow)** | | | | | | | | | | | | | | | | | | | |
| Round Construction | **1808A** | 2 Coax | U-500<br>500<br>U-1000<br>1000 | U-152<br>152<br>U-305<br>305 | 14.5<br>16.5<br>31.0<br>33.0 | 6.6<br>7.5<br>14.1<br>15.0 | 0.31 mm<br>30 AWG<br>(7x38) TC<br>352.6 Ω/km*<br>328.0 Ω/km** | 0.058 | 1.47 | Serve<br>90 % TC<br>24.6 Ω/km*** | 0.255 | 6.48 | 75 | 78 % | 17.3 | 56.7 | 1<br>5<br>10<br>30<br>50<br>100<br>200<br>400<br>700<br>900<br>1000 | 0.6<br>1.4<br>2.1<br>3.8<br>5.1<br>7.6<br>11.3<br>16.9<br>23.3<br>26.9<br>28.6 | 2.0<br>4.6<br>6.9<br>12.5<br>16.7<br>24.9<br>37.1<br>55.4<br>76.4<br>88.3<br>93.8 |
|  | | | Return loss at 5-3000 MHz: ≥ 15 dB | | | | | | | Nominal Delay: 4.265 ns/m<br>Pulling Tension: 52 N | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper • BC = Bare Copper • BCC = Bare Compacted Copper

Duobond® see technical information page 23.13.

# Home Cinema Video Cables

## Multicore Cables

RESIDENTIAL

| Description | Part No. | UL NEC/ C(UL)CEC Type IEC | Standard Lengths ft. | Standard Lengths m | Standard Unit Weight lbs. | Standard Unit Weight kg | Conductor (Stranding) Diameter Nom. DCR | Nominal Insulation OD inch | Nominal Insulation OD mm | Shielding Material Nom. DCR | Nominal OD inch | Nominal OD mm | Nom. Imp. (Ω) | Nom. Vel. of Prop. | Nominal Capacitance pF/ft. | Nominal Capacitance pF/m | Nominal Attenuation MHz | Nominal Attenuation dB/ 100 ft. | Nominal Attenuation dB/ 100 m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **25 AWG** • Solid 0.5 mm Tinned Copper • **Duobond®** • 95 % Tinned Copper Interlocked Serve (Coaxes) | | | | | | | | | | | | | | | | | | | |
| **FPFA Insulation • Overall Matte Black PVC Jacket** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 60°C | | NEC: CMR CEC: CMG | | | | | 0.46 mm 25 AWG Solid TC 129.3 Ω/km* 111.6 Ω/km** | 0.074 | 1.88 | Duobond® 95 % TC Serve 17.7 Ω/km*** | | | 75 | 80 % | 17.0 | 55.8 | 1 | 0.5 | 1.7 |
| | | | | | | | | | | | | | | | | | 5 | 1.2 | 3.8 |
| | | | | | | | | | | | | | | | | | 50 | 3.7 | 12.1 |
| | | | | | | | | | | | | | | | | | 100 | 4.9 | 16.1 |
| | | | | | | | | | | | | | | | | | 200 | 6.7 | 22.0 |
| | | | | | | | | | | | | | | | | | 400 | 9.5 | 31.2 |
| | | | | | | | | | | | | | | | | | 750 | 13.4 | 44.0 |
| Miniature 0.5/1.9 | | | | | | | | | | | | | | | | | 900 | 15.0 | 49.2 |
| | | | | | | | | | | | | | | | | | 1000 | 15.8 | 51.8 |
| | | | | | | | | | | | | | | | | | 3000 | 31.2 | 102.4 |
| | | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **1277R** | 3 Coax | 500 | 152 | 25.5 | 11.6 | | | | | 0.320 | 8.13 | | | | | | | 400 N |
| | | | 1000 | 305 | 48.0 | 21.8 | | | | | | | | | | | | | |
| | **1278R** | 4 Coax | 250 | 76 | 21.8 | 9.9 | | | | | 0.351 | 8.92 | | | | | | | 489 N |
| | | | 500 | 152 | 31.5 | 14.3 | | | | | | | | | | | | | |
| | | | 1000 | 305 | 60.0 | 27.2 | | | | | | | | | | | | | |
| | **1279R** | 5 Coax | 500 | 152 | 40.5 | 18.4 | | | | | 0.403 | 10.24 | | | | | | | 578 N |
| | | | 1000 | 305 | 80.0 | 36.3 | | | | | | | | | | | | | |
| | **1280R** | 6 Coax | 500 | 152 | 44.0 | 20.0 | | | | | 0.423 | 10.74 | | | | | | | 601 N |
| | | | 1000 | 305 | 87.0 | 39.5 | | | | | | | | | | | | | |
| | Nominal Delay: 4.068 ns/m<br>Color Code: see chart below | | | | | | | | | | | | | | | | | | |
| **25 AWG** • Solid 0.5 mm TC • **Duobond®** • 95 % TC Interlocked Serve (Coaxes) • **Banana Peel® Unjacketed,** Bonded to Central Spline | | | | | | | | | | | | | | | | | | | |
| **Foam HDPE Insulation • PVC Jacket in Colors** | | | | | | | | | | | | | | | | | | | |
| HDTV/SDI Digital Video 75°C | | NEC: CMR CEC: CMG | | | | | 0.46 mm 25 AWG Solid TC 129.3 Ω/km* 111.6 Ω/km** | 0.074 | 1.88 | Duobond® 95 % TC Serve 17.7 Ω/km*** | 0.114 | 2.90 | 75 | 80 % | 17.0 | 55.8 | | | see above |
| Miniature 0.5/1.9 | | | | | | | | | | | | | | | | | | | Pulling Tension: |
| | **1281S3** | 3 Coax | 500 | 152 | 17.0 | 7.7 | | | | | 0.246 | 6.25 | | | | | | | 400 N |
| | | | 1000 | 305 | 31.0 | 14.1 | | | | | | | | | | | | | |
| | **1281S4** | 4 Coax | 500 | 152 | 23.5 | 10.7 | | | | | 0.275 | 6.99 | | | | | | | 489 N |
| | | | 1000 | 305 | 44.0 | 20.0 | | | | | | | | | | | | | |
| | **1281S5** | 5 Coax | 250 | 76 | 16.0 | 7.3 | | | | | 0.308 | 7.82 | | | | | | | 578 N |
| | | | 500 | 152 | 28.5 | 12.9 | | | | | | | | | | | | | |
| | | | 1000 | 305 | 55.0 | 24.9 | | | | | | | | | | | | | |
| | **1281S6** | 6 Coax | 500 | 152 | 33.5 | 15.2 | | | | | 0.342 | 8.69 | | | | | | | 601 N |
| | | | 1000 | 305 | 68.0 | 30.8 | | | | | | | | | | | | | |
| | Nominal Delay: 4.068 ns/m<br>100 % Sweep tested. 5 MHz to 850 MHz. Patent pending.<br>Color Code: see chart below | | | | | | | | | | | | | | | | | | |

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • TC = Tinned Copper
Duobond® see technical information page 23.13.

### Color Code

| Cond. | Color |
|---|---|
| 1 | Red |
| 2 | Green |

| Cond. | Color |
|---|---|
| 3 | Blue |
| 4 | Yellow |

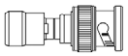
| Cond. | Color |
|---|---|
| 5 | Black |
| 6 | White |

# Tools and Accessories

## For Mini Hi-Res Coaxial Cables

RESIDENTIAL

| Description | Part No. | UL NEC/C(UL)CEC Type IEC | Pieces | | Standard Unit Weight | | AWG of Cable | Cable Retention Force | | Body Material/Plating | Center Pin Retention | | Nom. Imp. (Ω) | Current Rating | Insertion Loss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Carton | Box | lbs. | kg | | > lbs. | > kg | | inch | mm | | | |
| **One-Piece-Connector** • Male BNC • 25 AWG (Mini RG-59) • 2-stud Bayonet Lock • Solid, One-Piece-Brass with **Gold-Plated Center Pins** • **Patent Pending Viewing Window** | | | | | | | | | | | | | | | |
| **Gold-Plated Construction** | | | | | | | | | | | | | | | |
| **300V RMS** | **1B25A** | | *100 | 10 | 3.8 | 1.7 | 25 AWG | 40.0 | 18.1 | Nickel Brass Compression Gold-Plated Center Pin ( > 0.01 mm Gold on Beryllium Cu) | 0.331 | 0.150 | 75 | 5 amp | < 0.1 dB @ 1 GHz |



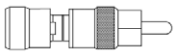
* Stand packages cannot be broken. Including termination instructions.

Return loss at RFI: > 100 dB 5-1000 MHz: ≥ 20 dB

Frequency Range: DC-3.0 GHz (dependent upon cable limitations)
Can be used with video multicores 127xR and 1281Sx.

**One-Piece-Connector** • RCA • 25 AWG (Mini RG-59) • Solid, One-Piece-Brass with **Gold-Plated Center Pins** • **Patent Pending Viewing Window**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Gold-Plated Construction** | | | | | | | | | | | | | | | |
| **300V RMS** | **1R25A** | | *100 | 10 | 3.3 | 1.5 | 25 AWG | 40.0 | 18.1 | Nickel Brass Compression Gold-Plated Center Pin | 0.331 | 0.150 | N/A | 2 amp | < 0.1 dB @ 1 GHz |



* Stand packages cannot be broken. Including termination instructions.

Return loss at 5-1000 MHz: ≥ 20 dB

Frequency Range: DC-3.0 GHz (dependent upon cable limitations)
Can be used with video multicores 127xR and 1281Sx.

**Stripping Tool** • 3-Cut • 25 AWG (Mini RG-59)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Cable Preparation Tool** | | | | | | | |
| | **HCST** | 1 | 1 | 0.8 | 0.4 | 25 AWG | |



Can be used with video-multicores 127xR and 1281Sx.

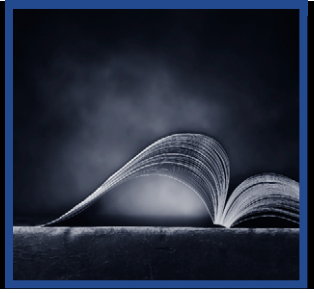
**Compression Tool** • BNC/RCA die • 25 AWG (Mini RG-59)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Easy-to-Use Compression Tool** | | | | | | | |
| | **HCCT** | 1 | 1 | 1.8 | 0.8 | 25 AWG | |



Can be used with video-multicores 127xR and 1281Sx.

BELDEN
SENDING ALL THE RIGHT SIGNALS



# 22 Glossary of Terms




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# Glossary of Terms

**5-Mil Copper** — Solid Copper Shield. Provides added electrical protection.

**802.14** — IEEE's Cable TV MAC and PHY Protocol Working Group.

**10GBASE-T** — IEEE standard for 10 Gigabit Ethernet transmission over copper.

**10GX®** — Belden's most advanced end-to-end UTP structured cabling system delivering guaranteed performance of 625 MHz and data-rates of 10 Gb/s.

**A** — Ampere.

**ABR** — Available Bit Rate.

**Abrasion Resistance** — Ability of a wire, cable or material to resist surface wear.

**Abrasion Stripper** — More accurately described as "buffing stripper," which is a motorized device for removing flat cable insulation by means of one or two buffing wheels that melt the insulation and brush it away from the conductors.

**AC** — Alternating current. Electric current that alternates or reverses polarity in a cyclical manner (e.g. 60 Hz AC power).

**Accelerated Aging** — A test that simulates long time environmental conditions in a relatively short time.

**ACMC** — Alien Crosstalk Margin Computation is the Pass/Fail criteria to determine if a channel complies with 10GBASE-T Alien noise requirements.

**ACR** — Attenuation Crosstalk Ratio. The difference between attenuation and crosstalk, measured in dB, at a given frequency. Important characteristic in networking transmission to assure that signal sent down a twisted pair is stronger at the receiving end of the cable than are any interference signals imposed on that same pair by crosstalk from other pairs.

**ADSL** — Asymmetric Digital Subscriber Line.

**AES/EBU** — Informal name of a digital audio standard established jointly by the AES (Audio Engineering Society) and EBU (European Broadcast Union) organizations.

**AF** — Audio frequency.

**AFEXT** — Alien far-end crosstalk loss is a measure of the unwanted signal coupling from near-end disturbing channel pairs into a disturbed pair of a neighboring channel or part thereof, measured at the far-end.

**Air Core** — Cables that are not gel filled.

**Air-Gap Dielectric** — A coaxial design in which a monofilament of plastic holds the center conductor in place in a hollow plastic tube allowing the remainder of the dielectric to be air. Typical velocities of up to 84% can be achieved in this design.

**Alien crosstalk** — A measure of the unwanted signal coupling between cabling or components in close proximity.

**Alloy** — A combination of two or more different polymers/metals. Usually combined to make use of different properties of each polymer/metal.

**Alpeth** — Coated Aluminum Polyethylene. Basic sheath.

**Alternating Current (AC)** — Electric current that alternates or reverses polarity in a cyclical manner (e.g. 60 Hz AC power).

**AM** — Amplitude modulation.

**Ambient** — Conditions that exist in the environment of the cable. Conditions existing at a test or operating location prior to energizing equipment (e.g. ambient temperature).

**American Wire Gage (AWG)** — A standard for expressing wire diameter. As the AWG number gets smaller, the wire diameter gets larger.

**Ampacity** — Current handling capability expressed in amperes. The maximum current a conductor can carry without being heated beyond a safe limit.

**Ampere** — A standard unit of current. Defined as the amount of current that flows when one volt of electromotive force (EMF) is applied across one ohm of resistance. One ampere of current is produced by one coulomb of charge passing a point in one second.

**Amplitude** — The magnitude of a current or voltage. It can be the maximum, minimum, average or RMS value of an alternating current (AC) signal. These four magnitudes are the same for a direct current (DC) signal.

**Analog** — Representation of data by continuously variable quantities as opposed to a finite number of discrete quantities in digital.

**Analog Signal** — An electrical signal which varies continuously, not having discrete values. Analog signals are copies or representations of other waves in nature. An analog audio signal, for instance, is a representation of the pressure waves which make up audible sound.

**ANEXT** — Alien near-end crosstalk loss is a measure of the unwanted signal coupling from near-end disturbing channel pairs into a disturbed pair of a neighboring channel or part thereof, measured at the near-end.

**Anneal** — To soften and relieve strains in any solid material, such as metal or glass, by heating to just below its melting point and then slowly cooling it. Annealing generally lowers the tensile strength of the material, while improving its flex life and flexibility.

**ANSI** — American National Standards Institute.

**ASP** — Aluminum Steel Polyethylene. Provides mechanical and electrical protection.

**ASTM** — The American Society for Testing and Materials, a standards organization which suggests test methods, definitions and practices.

**Asynchronous Transfer Mode** — The SONET standard for a packet switching technique which uses packets of a fixed length.

**ATM** — Asynchronous Transfer Mode.

**Attenuation** — The decrease in magnitude of a signal as it travels through any transmitting medium, such as a cable or circuitry. Attenuation is usually expressed logarithmically as the ratio of the original and decreased signal amplitudes. It is usually expressed in decibels (dB).

**Audio** — A term used to describe sounds within the range of human hearing (20 Hz to 20 kHz). Also used to describe devices which are designed to operate within this range.

**Audio Frequency** — Frequencies within the range of human hearing (approximately 20 Hz to 20 kHz).

**Augmented Category 6** — TIA standard for a cabling system and components specified to 500MHz to support 10GBASE-T and other high frequency applications.

**AWG** — American Wire Gage. A wire diameter specification. The smaller the AWG number, the larger the wire diameter.

**AWM** — Appliance Wiring Material. A UL designation for a type of wire.

**Backbone** — The cable used to connect all systems of a multi-level distributed system to an intermediate system.

**Backshell** — Housing on a connector that covers the area where the cable conductors connect to the connector contacts. It can be a metal housing providing continuity of the shield through IDC connectors.

**Balanced Line** — A cable having two identical conductors which carry voltages opposite in polarity, but equal in magnitude with respect to ground, suitable for differential signal transmission.

**Balun** — Balanced to unbalanced (Bal-un) transformer used to connect an unbalanced transmission line (i.e. coaxial cable) to a balanced system or cable, or vice versa. It can also provide impedance transformation, as 300 ohm balanced to 75 ohm unbalanced.

**Bandwidth** — The difference between the upper and lower limits of a given band of frequencies. It is expressed in Hertz. The range of frequencies that a transmitted communications signal occupies or that a receiving system can accept. For example, it takes more bandwidth to download a photograph in a second than to download a page of text. Virtual reality and three-dimensional audio/visual presentations require even more.

**Baud** — Rate of digital transmission equal to the reciprocal of the time of one output signaling element.

**Bel** — A unit that represents the logarithm of the ratio of two levels. One bel equals the base 10 logarithm of the ratio of two power levels. It is also equal to the base 10 logarithm of square of the ratio of two voltage or current levels, provided the impedances are the same at the two levels. (See *dB*.)

**Belden** — A leading manufacturer of the specialty wire, cable and fiber products needed for new applications in data, audio, video and voice signal transmission, among other things.

**Belflex®** — A premium hybrid matte-finish jacket material that exhibits superior flexibility at low temperatures along with resistance compared to standard PVC jacketing materials.

**Beldfoil®** — Belden trademark for highly effective electrostatic shield of reinforced metallic foil.

# Glossary of Terms

**Beldsol™** — Solderable Belden magnet wire combining insulating films of polyurethane for excellent dielectric characteristics and nylon for mechanical protection.

**Bend Loss** — A form of increased attenuation caused by (a) having an optical fiber curved around a restrictive radius of curvature or (b) microbends caused by minute distortions in the fiber imposed by externally induced perturbations.

**Bend Radius** — Radius of curvature that a flat, round fiber optic or metallic cable can bend without any adverse effects.

**Binder** — A tape or thread used for holding assembled cable components in place.

**Bit** — One binary digit.

**Bit Error Rate** — The number of errors occurring in a system per unit of time (e.g. bits per second).

**Bits Per Second** — The number of binary bits that can be transmitted per second (bps), i.e. Mb/s (Mega = million), Gb/s (Giga = billion).

**BNC** — Abbreviation for "Bayonet Neil-Concelman." A coaxial cable connector used extensively in video and RF applications and named for its inventors.

**Bonded** — 1) Adhesive application of a metallic shielding tape to the dielectric of a coaxial cable to improve electrical performance and ease of connector installation. Also refers to adhesive application of a metallic shielding tape to the jacket of a cable. 2) Steel is bonded to polyethylene with a copolymer adhesive. All Stalpeth and some ASP cables are bonded. Provides extra strength to jacket, primarily used in underground applications.

**Bonded ASP** — Aluminum Steel Polyethylene where the steel is bonded to polyethylene for strength. Filled cables for use in ducts.

**Bonding** — The method used to produce good electrical contact between metallic parts of any device. Used extensively in automobiles and aircraft to prevent static buildup. Also refers to the connectors and straps used to bond equipment.

**Booster** — An amplifier inserted into a cable to increase the signal amplitude in order to compensate for signal loss due to attenuation. This extends the transmission range of the cable. Transformers may be employed to boost AC voltages. The term booster is also applied to amplifiers used in television receiving antenna systems.

**BPS** — Bits per second. (See *Bits Per Second*)

**BPSK** — Binary Phase Sift Keying. A type of digital transmission where two phases of the signal are possible to represent binary one and zero.

**Braid** — A group of textile or metallic filaments interwoven to form a tubular flexible structure which may be applied over one or more wires or flattened to form a strap.

**Braid Angle** — The angle between a strand of wire in a braid shield and the longitudinal axis (i.e. axis along the length of the center) of the cable it is wound around.

**Breakdown Voltage** — The voltage at which the insulation between two conductors will fail and allow electricity to conduct or "arc."

**Breakout** — The point at which a conductor or conductors are separated from a multi-conductor cable to complete circuits at various points along the main cable.

**BRI** — Basic Rate Interface ISDN.

**Broadband** — The technique used to multiplex multiple networks on a single cable without interfering with each other. Technologies that allow you to transmit or receive higher volumes of data at higher speeds.

**Buffer** — A protective coating over an optical fiber.

**Buffing Stripper** — A motorized device for removing flat cable insulation by means of one or two buffing wheels that melt the insulation and brush it away from the conductors. Also called Abrasion Stripper.

**Bunch Strand** — Conductors twisted together with the same lay and direction without regard to geometric pattern.

**Buried** — Cables that are required to go underground.

**Bus-bar Wire** — Uninsulated tinned copper wire used as a common lead.

**Butyl Rubber** — A synthetic rubber with good electrical insulating properties.

**Byte** — A group of eight adjacent binary digits (8 bits).

**C** — Capacitance (electrical). Celsius (temperature).

**Cable** — A group of individually insulated conductors or subcomponents twisted helically.

**Cable Modem** — A device that enables you to hook up your PC to a local cable TV line and receive data at much faster rates than telephone modems and ISDN lines. A strong competitor to DSL telephone service.

**Cabling** — The grouping or twisting together of two or more insulated conductors or subcomponents to form a cable.

**CACSP** — Coated Aluminum, Coated Steel, Polyethylene. Provides additional strength and protection.

**California Proposition 65 (Prop 65)** — Refers to the California Proposition 65 Consent Judgement for wire & cable manufacturers (San Francisco Superior Court nos. 312962 and 320342). ***Compliant Products*** have less than 300 ppm of lead (by weight) in their outer surface layer. ***Exempt Products*** are those that are infrequently handled, manufactured before September 2003, distributed/sold outside the State of California, internal components not normally accessible to the consumer, or contain Prop 65 substances as part of the internal conductor or other component not normally accessible to the consumer. Contact Belden Customer Service or visit www.belden-emea.com for product specific details.

**Canadian Electrical Code (CEC)** — Canadian version of the U.S. National Electrical Code (NEC).

**CAP** — Carrierless Amplitude Phase Modulation.

**Capacitance** — The ability of a dielectric material between conductors to store energy when a difference of potential exists between the conductors. The unit of measurement is the farad. Cable capacitance is usually measured in picofarads (pF).

**Capacitive Crosstalk** — Cable crosstalk or interference resulting from the coupling of the electrostatic field of one conductor upon one or more others.

**Capacitive Reactance** — The opposition to alternating current due to the capacitance of a capacitor, cable or circuit. It is measured in ohms and is equal to 1/(2*pi*f*C) where pi is approximately 3.1416, f is the frequency in Hz and C is the capacitance in farads.

**Capacitor** — Two conducting surfaces separated by a dielectric material. The capacitance is determined by the area of the surfaces, type of dielectric and spacing between the conducting surfaces.

**Carrier Strip** — Also referred to as substrate. A film that is on one side of a laminated flat cable.

**CASPIC** — Coated Aluminum, Coated Steel.

**Category** — Rating of a local area network (LAN) cable established by TIA/EIA to indicate the level of electrical performance.

**Category Cables** — Belden manufactures Category 3 to 7 cables, all high performance twisted pair data cables. The higher the category number, the greater the bandwidth. Category 7 is currently the highest performance telecommunication wire available. Ours is certified to applicable UL standards.

**CATV** — Abbreviation for Community Antenna Television. Cable TV.

**CB** — Citizens band.

**CBR** — Constant Bit Rate.

**CCTV** — Closed-circuit television.

**Cellular Polyethylene** — Expanded or "foam" polyethylene, consists of individual closed cells of inert gas suspended in a polyethylene medium. The result is a desirable reduction of the dielectric constant compared to solid polyethylene, which decreases attenuation and increases the velocity of propagation.

**Center-to-Center Distance** — Pitch. Nominal distance from center-to-center of adjacent conductors within a cable. When conductors are flat, pitch is usually measured from the reference edge of a conductor to the reference edge of the adjacent conductor.

**Channel** — The horizontal cable including the workstation outlet and patch panel in the telecommunications closet plus a maximum combined length of up to ten meters of patch cable at each end (maximum length of 100 meters).

**Characteristic Impedance** — In a transmission cable of infinite length, the ratio of the applied voltage to the resultant current at the point the voltage is applied. Or the impedance which makes a transmission cable seem infinitely long, when connected across the cable's output terminals.

**Chrominance Signal** — The portion of a video signal that contains the color information.

**Circuit** — A system of conducting media designed to pass an electric current.

# Glossary of Terms

**Circular Mil** — Area of a wire that is one-thousandth of an inch (0.001 inch, one mil) in diameter. This area is pi/4 of a square mil. The circular mil area (CMA, cmil) equals the diameter in mils squared. By knowing the CMA of various conductors, they can be used to determine what conductivity and gage size various combinations will produce.

**Cladding** — A low refractive index material that surrounds the core of an optical fiber causing the transmitted light to travel down the core and protects against surface contaminant scattering or a layer of metal applied over another. Cladding is often chosen to improve conductivity or to resist corrosion.

**CO** — Central Office.

**Coaxial Cable** — A cylindrical transmission line composed of a conductor centered inside a metallic tube or shield, separated by a dielectric material, and usually covered by an insulating jacket. Used by cable TV companies to distribute signals to homes and businesses. Also used by telephone companies in some applications and by cellular telephone, radio and television installations.

**Coil Effect** — The inductive effect exhibited by a spiral-wrapped shield, especially above audio frequencies.

**Color Code** — A system of different colors or stripes used to identify components of cables such as individual conductors or groups of conductors.

**COLS** — Commercial Online Service.

**Component Video** — The unencoded output of a camera, video tape recorder, etc., whereby each red, green, and blue video signal is transmitted down a separate cable (usually coax) to improve picture quality. Can also refer to a video system where the luminance and chrominance video components are kept separate.

**Composite Cable** — Cable having conductors with two or more AWG sizes or more than one cable type.

**Composite Video** — The encoded output of a camera, video tape recorder, etc., whereby the red, green and blue video signals are combined with the synchronizing, blanking and color burst signals and are transmitted simultaneously down one cable.

**Concentric Stranding** — A group of uninsulated wires twisted together and containing a center core with subsequent layers spirally wrapped around the core with alternating lay directions to form a single conductor.

**Conductivity** — The ability of a material to allow electrons to flow, measured by the current per unit of voltage applied. It is the reciprocal of resistivity and is measured in siemens (S) or mhos.

**Conductor** — A substance, usually metal, used to transfer electrical energy from point to point.

**Conduit** — A tube of metal or plastic through which wire or cable can be run. Used to protect the wire or cable and, in the case of metal conduit, to contain the fire of a burning wire or cable.

**Connector** — A device designed to allow electrical flow from one wire or cable to a device on another cable. A connector will allow interruption of the circuit or the transfer to another circuit without any cutting of wire or cable or other preparation.

**Copperweld®** — Trademark of Copperweld Steel Co. for copper-clad steel conductor.

**Cord** — A very flexible insulated cable.

**Core** — The light conducting central portion of an optical fiber with a refractive index higher than that of the cladding. The center of a cable construction. Most often applies to a coaxial cable, where the core is the center conductor and the dielectric material applied to it.

**CoreGuard®** — PE grease flooding over the braid in a coax cable to resist water migration in outdoor applications.

**Corona** — The ionization of gasses about a conductor that results when the potential gradient reaches a certain value.

**Coupling** — The transfer of energy (without direct electrical contact) between two or more cables or components of a circuit.

**Coverage** — How well a metal shield covers the underlying surface. Measured in percent.

**CPE** — Chlorinated polyethylene can be used as either a thermoplastic or thermoset. It is a tough chemical- and oil-resistant material and makes an excellent jacket for industrial control cable. As a thermoset, it can be used as an oil-resistant cord jacket. Other outstanding properties include low water absorption and superior crush resistance, which are important attributes in industrial control applications.

**CPS** — Abbreviation for cycles per second. This term has been replaced by Hertz is common usage.

**CPU** — Central Processing Unit.

**Crosstalk** — A type of interference caused by signals from one pair or cable being coupled into adjacent pairs or cables. Can occur with audio, data or RF signals.

**CRT** — Cathode Ray Tube.

**CSA** — Abbreviation for Canadian Standards Association, the Canadian version of the Underwriters Laboratories.

**CSMA/CD** — Carrier Sense Multiple Access/Collision Detection.

**CSR** — Customer Service Representative.

**CUPIC** — Copper.

**Current Carrying Capacity** — The maximum current a conductor can carry without being heated beyond a safe limit. Ampacity.

**Current Loop** — A two wire transmit/receive interface.

**Current, Alternating (AC)** — Electric current that alternates or reverses polarity in a cyclical manner (e.g. 60 Hz AC power).

**Current, Direct (DC)** — Electrical current whose electrons flow in one direction only and is generally constant.

**Cut-through Resistance** — A test to determine the ability of a material to withstand the application of blades or sharp edges without being cut.

**D1** — A component digital video recording format that conforms to the CCIR-601 standard. Records on 19 mm magnetic tape. (Often used incorrectly to indicate component digital video.)

**D2** — A composite digital video recording format. Records on 19 mm magnetic tape.

**D3** — A composite digital video recording format. Records on 1/2 inch (12.7 mm) magnetic tape.

**Daisy Chain** — A cable assembly with three or more termination areas.

**Datalene®** — Belden trademark for foam polyolefin.

**DAVIC** — Digital Audio Video Council.

**dB** — Decibel.

**DBS** — Direct Broadcast Satellite.

**DC** — Direct current.

**DC Resistance** — See *Resistance*.

**Decibel (dB)** — A decibel is one-tenth of a bel and is equal to 10 times the logarithm of the power ratio, 20 times the log of the voltage ratio, or 20 times the log of the current ratio. Decibels are also used to express acoustic power, such as the apparent level of a sound. The decibel can express an actual level only when comparing with some definite reference level that is assumed to be zero dB.

**Delay Line** — A transmission line or equivalent device designed to delay a wave or signal for a specific length of time.

**DEPIC** — Dual Expanded Plastic Insulated Conductor (Foam Skin). Decreases outside diameter of cable.

**Derating Factor** — A multiplier used to reduce the current carrying capacity of conductors in more adverse environments, such as higher temperature, or where multiple conductors are together in one conduit.

**DES** — Data Encryption Standard.

**DHCP** — Dynamic Host Configuration Protocol.

**Dielectric** — An insulating (nonconducting) medium. It is the insulating material between conductors carrying a signal in a cable. In coaxial cables it is between the center conductor and the outer conductor. In twisted pair cables it is the insulation between conductors plus any surrounding air or other material.

**Dielectric Breakdown** — Any change in the properties of a dielectric that causes it to become conductive. Normally a catastrophic failure of an insulation because of excessive voltage.

**Dielectric Constant** — Also called relative permittivity. That property of a dielectric which determines the amount of electrostatic energy that can be stored by the material when a given voltage is applied to it. Actually, the ratio of the capacitance of a capacitor using the dielectric to the capacitance of an identical capacitor using a vacuum (which has a dielectric constant of 1) as a dielectric. A number which indicates the quality of a material to resist holding an electrical charge when placed between two conductors.

**Dielectric Heating** — The heating of an insulating material when placed in a radio-frequency field, caused by internal losses during the rapid polarization reversal of molecules in the material.

# Glossary of Terms

**Dielectric Loss** — The power dissipated in a dielectric as the result of the friction produced by molecular motion when an alternating electric field is applied.

**Dielectric Strength** — The voltage an insulation can withstand before it breaks down. Usually expressed as volts per mil.

**Dielectric Withstand Voltage** — The voltage an insulation can withstand before it breaks down. Usually expressed as volts per mil.

**Digital Signal** — An electrical signal which possesses two distinct states (on/off, positive/negative).

**Dispersion** — The cause of bandwidth limitations in an optical fiber. Dispersion causes a broadening of input pulses along the length of the fiber. Two major types are (a) mode dispersion caused by differential optical path lengths in a multimode fiber, and (b) material dispersion caused by a differential delay of various wavelengths of light in a wave guide material.

**Distortion** — Any undesired change in a wave form or signal.

**Distribution Cable** — In a CATV system, the transmission cable between the distribution amplifier and the drop cable.

**Disturbed Conductor** — A conductor that receives energy generated by the field of another conductor or an external source, e.g. the quiet line.

**DMT** — Discrete Multitone.

**DOCSIS** — Data Over Cable Service Interface Specification™. Defines interface requirements for cable modems involved in high-speed data distribution over cable television system networks.

**Drain Wire** — A non-insulated wire in contact with parts of a cable, usually the shield, and used in the termination to that shield and as a ground connection.

**Drop Cable** — In a CATV system, the transmission cable from the distribution cable to a dwelling.

**DSL** — Digital Subscriber Line. A technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines. A DSL line can carry both data and voice signals, with the data part of the line remaining continuously connected. Currently competes with the cable modem in bringing broadband services to homes and small businesses.

**Duobond® II** — Belden trademark for a laminated shielding tape consisting of heat sensitive adhesive, aluminum foil, polyester or polypropylene and aluminum foil.

**Duobond Plus®** — Belden trademark for a foil/braid/foil connection with a shorting fold in the outermost shield.

**Duofoil®** — Belden trademark for a shield in which metallic foil is applied to both sides of a supporting plastic film.

**DVB** — Digital Video Broadcasting.

**E** — Voltage (electromotive force).

**Earth** — British terminology for zero-reference ground.

**Edge Margin** — Margin.

**EFP** — Electronic Field Production. Video production for commercials, television shows and other non-news purposes done outside the studio.

**EIA** — Electronic Industries Association (formerly RMA or RETMA).

**Elastomer** — Any material that will return to its original dimensions after being stretched or distorted.

**Electromagnetic** — Referring to the combined electric and magnetic fields caused by electron motion through conductors.

**Electromagnetic Coupling** — The transfer of energy by means of a varying magnetic field. Inductive coupling.

**Electron Volt** — A measure of the energy gained by an electron passing through an electric field produced by one volt.

**Electrostatic** — Pertaining to static electricity or electricity at rest. An electric charge, for example.

**Electrostatic Coupling** — The transfer of energy by means of a varying electrostatic field. Capacitive coupling.

**ELFEXT** — Equal Level Far End Crosstalk (dB). A subtraction of attenuation from FEXT. By subtracting the attenuation, ELFEXT negates the effects of attenuation on the interference as it propagates down the cable, thus bringing it to an equal level.

**Elongation** — The increase in length of a wire or cable caused by longitudinal tension.

**EMF** — Electromotive force (voltage).

**EMI** — Electromagnetic Interference.

**End of Life Vehicle (ELV)** — Refers to EU directive 2000/53/EC (18-SEPT-2000), which bans the use of certain substances in automobiles. This would require the use of a HMF or RoHS compliant cable.

**Energy** — The capability of doing work.

**Energy Dissipation** — Loss of energy from a system due to the conversion of work energy into an undesirable form, usually heat. Dissipation of electrical energy occurs when current flows through a resistance.

**ENG** — Electronic News Gathering.

**EPDM** — Ethylene-propylene-diene monomer rubber. A chemically cross-linked elastomer with good electrical insulating properties and excellent flexibility at high and low temperatures. It has good insulation resistance and dielectric strength, as well as excellent abrasion resistance and mechanical properties. EPDM has better cut-through resistance than silicone rubber, which it replaces in some applications.

**EPR** — Ethylene-propylene copolymer rubber. A material with good electrical insulating properties.

**Equilay** — More than one layer of helically laid wires with the length of the lay the same for each layer.

**ETP** — Abbreviation for a copper refining process called Electrolytic Tough Pitch. This process produces a conductor that is 99.95% pure copper (per ASTM B115) resulting in high conductivity.

**eV** — Electron volt.

**Expanded Polyethylene** — Expanded or "foam" polyethylene, consists of individual closed cells of inert gas suspended in a polyethylene medium, resulting in a desirable reduction of the dielectric constant.

**Extruded Cable** — Conductors are simultaneously insulated and the cable is formed by a continuous extrusion process.

**f** — Frequency.

**Farad** — A unit of capacity that will store one coulomb of electrical charge when one volt of electrical pressure is applied.

**FAS** — Fire Alarm and Signal Cable, CSA (Canadian Standards Association) Cable Designation.

**FAQ** — Frequently Asked Question.

**FCFC** — Abbreviation for flat conductor flat cable.

**FDDI** — Fiber Distributed Data Interface.

**FEC** — Forward Error Correction.

**Feedback** — Energy that is extracted from a high-level point in a circuit and applied to a lower level. Positive feedback reduces the stability of a device and is used to increase the sensitivity or produce oscillation in a system. Negative feedback, also called inverse feedback, increases the stability of a system as the feedback improves stability and fidelity.

**Feeder Cable** — In a CATV system, the transmission cable from the head end (signal pickup) to the trunk amplifier. Also called a trunk cable.

**FEP** — Fluorinated ethylene-propylene. A thermoplastic material with good electrical insulating properties and chemical and heat resistance.

**Ferrous** — Composed of and/or containing iron. A ferrous metal exhibits magnetic characteristics.

**FEXT** — Far End Crosstalk. Crosstalk induced on the pairs, measured at the far end of the cable, referenced to the near end input signal. Usually expressed in decibels (dB).

**Fiber** — A single, separate optical transmission element characterized by core and cladding.

**Fiber Optics** — Light transmission through optical fibers for communication and signaling. A technology that transmits information as light pulses along a glass or plastic fiber. Optical fiber carries much more information than conventional copper wire and is generally not subject to interference. Most telephone company long-distance lines are optical fiber. See RUS 1755.900.

**Fiber to the home (FTTH)** — A technology that provides voice, data and video services from the phone company's branch office to local customers over an all-fiber optic link. Still in its infancy, FTTH technology is substantially more expensive and labor-intensive to install and maintain than competing technologies.

**Field** — An area through which electric and/or magnetic lines of force pass.

**Filled** — Cables that are gel filled.

# Glossary of Terms

**Fillers** — Non-conducting components cabled with the insulated conductors or optical fibers to impart roundness, flexibility, tensile strength or a combination of all three to the cable.

**Flamarrest®** — Belden trademark for a plenum grade chloride-based thermoplastic jacketing material with low smoke and low flame spread properties; more flexible than traditional fluorocopolymer jacket materials. Cables jacketed with Flamarrest meet the ANSI/NFPA Standard 2621-985 (UL-910) Flame Test.

**Flame Resistance** — The ability of a material not to fuel a flame once the source of heat is removed.

**Flat Cable** — Also referred to as planar and/or ribbon cable. Any cable with two or more parallel conductors in the same plane encapsulated by insulating material.

**Flat Conductor** — A conductor with a width-to-thickness ratio of arbitrarily 5 to 1 or greater.

**Flat Conductor Cable** — A flat cable with a plurality of flat conductors.

**Flex Life** — The qualification of the number of times a cable may bend before breaking.

**Flexibility** — The ability of a cable to bend in a short radius. The ability of a cable to lay flat or conform to a surface as with microphone cables.

**FlexPoint PCB** — Belden's patent-pending 10GX® Module design which reduces the compensation circuitry's time delay, ensuring stable high performance and enabling transmission rates of 625 MHz and data-rates of 10Gb/s.

**Floating** — Referring to a circuit which has no connection to ground.

**Fluorocopolymer** — Generic term for PVDF.

**FM** — Frequency modulation.

**Foam Polyethylene** — Expanded or "foam" polyethylene, consists of individual closed cells of inert gas suspended in a polyethylene medium, resulting in a desirable reduction of the dielectric constant.

**FPFA** — Foam Perfluoroalkoxy

**FR-TPE** — FR-TPE, flame retarded thermoplastic elastomer, is a rubber-like plastic that has properties similar to rubber yet is processed as a thermoplastic. It is used as the insulation and jacket in an all TPE construction which meets UL 13 and 1277 industrial cable requirements. It has good electrical properties, abrasion resistance, colorability and flame retardance. This compound is ideal for cold weather applications.

**FREP** — Flame retardant ethylene propylene is a special flame retardant version of EPDM rubber. It is designed for use as an industrial control insulation and has excellent electrical characteristics, deformation resistance and also meets the flame retardant needs of industrial control cables.

**Frequency** — The number of times a periodic action occurs in one second. Measured in Hertz.

**Frequency Response** — The amplitude versus frequency characteristics of a device. Also may refer to the range of frequencies over which the device operates within prescribed performance.

**Frequency, Power** — Normally, the 50 or 60 Hz power used to operate most AC powered equipment. The frequency of AC power supplied by electric utilities companies.

**FSK** — Frequency Shift Keying.

**FTTC** — Fiber-to-the-Curb.

**Gage** — The physical diameter of a wire. A standard for expressing wire diameter. As the AWG number gets smaller, the wire diameter gets larger.

**Gain** — The increase of voltage, current, or power over a standard or previous reading. Usually expressed in decibels (dB).

**Geosol** — A solderable, extra tough film insulation developed by Belden for use in geophysical cables and miniature cables.

**Giga** — One billion.

**Gigahertz (GHz)** — A unit of frequency equal to one billion Hz.

**GND** — Ground.

**Gopher** — Gopher Resistant Copper Alloy. Provides shield and added protection in a single layer.

**GOPIC** — Gopher.

**Graded-Index** — A type of optical fiber in which the refractive index of the core is in the form of a parabolic curve, decreasing toward the cladding. This type of fiber provides high bandwidth capabilities.

**Ground** — An electrical connection between a circuit and the earth. Also refers to a conductor connected to earth. In some instances, can refer to a central metallic point designated as having zero potential.

**Ground Conductor** — A conductor in a transmission cable or line that is grounded.

**Ground Loop** — A completed circuit between shielded pairs of a multiple pair created by random contact between shields. An undesirable circuit condition in which interference is created by ground currents when grounds are connected at more than one point.

**Ground Potential** — The potential of the earth. A circuit, terminal, or chassis is said to be at ground potential when it is used as a reference point for other potentials in the system.

**H** — Symbolic designation for magnetic field intensity. Abbreviation for henrys (unit of inductance).

**Halar®** — A Solvay Solexis trademark for thermoplastic fluoropolymer material with excellent chemical resistance, electrical properties, thermal characteristics and impact resistance.

**Haloarrest® I** — Haloarrest I is a non-halogenated flame retarded thermoplastic polyolefin with excellent low smoke and flame properties. It is used as a jacket over the XLPE insulated singles (non-XHHW), and the entire construction meets the UL 13 and 1277 specifications as a non-halogenated PLTC/TC cable. Haloarrest I meets the European Specifications on acid gas evolution and % Halogen content. This jacket can also be used with XHHW conductors for wet ratings.

**Harness** — A flat cable or group of cables, usually with many breakouts with the wire ends prepared for termination or terminated to connectors and ready to install.

**HDSL** — High bit-rate Digital Subscriber Line.

**Headroom** — The amount by which a cable ACR exceeds the specified requirements. The TIA/EIA-568B standard specifies a minimum of 10 dB of ACR for Category 5e certification at 100 MHz.

**Heavy Metal Free (HMF)** — General term for a product or material that does not contain restricted heavy metals, such as Lead or Cadmium. See also Restriction of Hazardous Substances.

**Henry** — Unit of inductance (H) that will produce a voltage drop of one volt when the current changes at the rate of one ampere per second.

**Hertz (Hz)** — Unit of frequency equal to one cycle per second.

**Heterogeneous Insulation** — A cable insulating system composed of two or more layers of different insulating materials.

**HF** — High Frequency. International Telecommunication Union designation for the 3 to 30 MHz band of frequencies.

**HFC** — Hybrid Fiber/Coaxial.

**High Frequency** — International Telecommunication Union designation for the 3 to 30 MHz band of frequencies.

**Homogeneous Insulation** — A complete cable insulation structure whose components cannot be identified as layers of different materials.

**Hook-Up Wire** — Single conductor wire with various types of insulation.

**Horizontal Cable** — Cable used between the workstation outlet and the telecommunications closet. Limited to 90 meters maximum per TIA/EIA-568B.1.

**HSCDS** — High-Speed Cable Data Service.

**HTML** — Hypertext Markup Language.

**HTTP** — Hypertext Transfer Protocol.

**Hum** — Term used to describe noise in a audio, video or other system that comes from 60 Hz power or its harmonic(s). So named for the low-frequency humming sound produced in audio systems. Usually hum is the result of undesired coupling from a 60 Hz source or of inadequate filtering of the DC output of an AC input power supply.

**Hypalon®** — A DuPont trade name for a synthetic rubber (chlorosulfonated polyethylene) used as insulating and jacketing material for wire and cable.

**I** — Symbol used to designate current.

**I/O Interconnection** — Input/Output interface to the outside world.

**$I^2R$** — Formula for power in watts, where I = current in amperes, R = resistance in ohms.

**ICEA** — Insulated Cable Engineers Association.

# Glossary of Terms

**IDC** — Insulation Displacement Connector. Type of connector where contact is made to the cable conductor(s) by cutting through the individual conductor's insulation. The conductor does not need to have its insulation removed prior to connection. Flat cable often uses IDCs to simultaneously connect all conductors.

**IDSL** — ISDN Digital Subscriber Line.

**IEEE** — Institute of Electrical and Electronic Engineers.

**IETF** — Internet Engineering Task Force.

**IF** — Intermediate Frequency.

**IFB** — Interrupted Feedback (Foldback). A monitoring scheme often used in television where the feed of program audio to an on-air person can be interrupted with directions, cues or other information. Usually integrated into the intercom system.

**IGMP** — Internet Group Management Protocol.

**Impedance** — The total opposition that a circuit offers to the flow of alternating current or any other varying current at a particular frequency.

**Impedance Match** — A condition whereby the impedance of a particular circuit, cable or component is the same as the impedance of the circuit, cable or device to which it is connected.

**Impedance Matching Stub** — A section of transmission line or pair of conductors cut to match the impedance of a load. Also called matching stub.

**Impedance Matching Transformer** — A transformer designed to match the impedance of one circuit to that of another.

**Impedance, Characteristic** — In a transmission cable of infinite length, the ratio of the applied voltage to the resultant current at the point the voltage is applied. Or the impedance which makes a transmission cable seem infinitely long, when connected across the cable's output terminals.

**Impedance, High** — Generally, the area of 25,000 ohms or higher.

**Impedance, Low** — Generally, the area of 1 through 600 ohms.

**Index Edge** — Reference Edge.

**Inductance** — The property of wire which stores electrical current in a magnetic field around the wire. By coiling wire, the effect can be intensified. It is measured in Henrys.

**Induction** — The phenomenon of a voltage, magnetic field or electrostatic charge being produced in an object from the source of such fields.

**Induction Heating** — Heating a conducting material by placing it in a rapidly changing magnetic field. The changing field induces electric currents in the material and losses account for the resultant heat.

**Inductive Crosstalk** — Crosstalk resulting from the coupling of the electromagnetic field of one conductor upon another.

**Injection Laser Diode** — Sometimes called the semiconductor diode. A laser in which the lasing occurs at the junction of N-type and P-type semiconductor materials.

**INMS** — Integrated Network Management System.

**Input** — A signal (or power) which is applied to a piece of electric apparatus or the terminals on the apparatus to which a signal or power is applied.

**Insertion Loss** — A measure of the attenuation of a cable and/or component(s) by determining the output of a system before and after the device is inserted into the system.

**Insulation** — A material having good dielectric properties which is used to separate close electrical components, such as cable conductors and circuit components.

**Insulation Displacement Connector (IDC)** — A mass termination connector for flat cable with contacts that displace the conductor insulation to complete termination.

**Insulation Stress** — The molecule separation pressure caused by a potential difference across an insulator. The practical stress on insulation is expressed in volts per mil.

**Interface** — The region where two systems or a major and a minor system meet and interact with each other.

**Interference** — Disturbances of an electrical or electromagnetic nature that introduce undesirable responses into other electronic equipment.

**Intermediate Frequency** — A frequency to which a signal is converted for ease of handling. Receives its name from the fact that it is an intermediate step between the initial and final conversion or detection stages.

**Ionization** — The formation of ions. Ions are produced when polar compounds are dissolved in a solvent and when a liquid, gas, or solid is caused to lose or gain electrons due to the passage of an electric current.

**Ionization Voltage** — The potential at which a material ionizes. The potential at which an atom gives up an electron.

**IP** — Internet Protocol.

**IPCDN** — IP Over Cable Data Network working group of the IETF.

**IR** — Insulation Resistance.

**IR Drop** — The designation of a voltage drop in terms of current and resistance. (See also *Voltage Drop*.)

**IRC** — Inter Relay Chat.

**IRS** — Ignition Radiation Suppression.

**Integrated Services Digital Network** — An alternative to telephone modems that allows digital transmission over ordinary telephone copper wire and other media. Home and business users can get highly graphic Web pages more quickly through ISDN adapters than through dial-up connections.

**ISO** — International Standards Organization.

**Isolation** — The ability of a circuit or component to reject interference, usually expressed in dB.

**ISP** — Internet Service Provider.

**ITFS** — Instructional Television Fixed Service.

**ITU** — International Telecommunications Union.

**Jacket** — Pertaining to wire and cable, the outer protective covering that may also provide additional insulation.

**Jumper** — A short length of conductor or flat cable used to make a connection between terminals or around a break in a circuit or between circuit boards.

**kB** — Kilobyte.

**keV** — 1000 electron volts.

**Kilo** — One thousand.

**KPSI** — Tensile strength in thousands of pounds per square inch.

**kV** — Kilovolt (1000 volts).

**kVA** — Kilo Volt-ampere. One thousand volt-amperes (VA). (See also *VA*.)

**kW** — Kilowatt.

**L** — Symbol for inductance.

**Laminated Cable** — Insulated or uninsulated wires which are encapsulated by two sheets of laminate material to maintain a predetermined pitch.

**LAN** — Local Area Network. A data network connecting any number of users, intended to serve a small area. A group of computers and associated devices that shares a common communications line and typically shares the resources of a single processor or server within a small geographic area.

**Laser** — A coherent source of light with a narrow beam and a narrow spectral bandwidth (about 2 nm).

**Lay** — The length measured along the axis of a wire or cable required for a single strand (in stranded wire) or conductor (in cable) to make one complete turn about the axis of the conductor or cable. In a twisted pair cable, the lay length is the distance it takes for the two wires to completely twist around each other.

**Lay Direction** — The direction of the progressing spiral twist in a cable while looking along the axis of the cable away from the observer. The lay direction can be either left or right.

**Lead Dress** — The placement or routing of wiring and component leads in an electrical circuit.

**Lead Free** — Unless otherwise specified, a homogeneous material containing less than 300ppm of lead (Pb) which is not intentionally added. See also *Heavy Metal Free*.

**Lead-in** — The cable that provides the path for RF energy between the antenna and the receiver or transmitter.

**Leakage** — The undesirable passage of current over the surface of or through an insulator.

**LEC** — Local Exchange Carrier.

**Level** — A measure of the difference between a quantity or value and an established reference.

**LF** — Low frequency. International Telecommunication Union designation for the 30 to 300 kHz band of frequencies.

# Glossary of Terms

**Light Emitting Diode (LED Source)** — A semiconductor device that emits incoherent light formed by the P-N junction. Light intensity is roughly proportional to electrical current flow.

**Limpness** — The ability of a cable to lay flat or conform to a surface as with microphone cables. The ability of a cable to bend in a short radius.

**Line Drop** — A voltage loss occurring between any two points in a power or transmission line. Such loss or drop is due to the resistance, reactance or leakage of the line. (See also *Voltage Drop* and *IR Drop*.)

**Line Equalizer** — A reactance (inductance and/or capacitance) connected in series with a transmission line to alter the frequency-response characteristics of the line.

**Line Level** — Refers to the output voltage level of a piece of electronic equipment. Usually expressed in decibels (e.g. 0 dBV).

**Line Voltage** — The value of the potential existing on a supply or power line.

**LMDS** — Local Multipoint Distribution Service

**Load** — A device that consumes power from a source and uses that power to perform a function.

**Loaded Line** — A transmission line that has lumped elements (inductance or capacitance) added at uniformly spaced intervals. Loading is used to provide a given set of characteristics to a transmission line.

**Loading** — A transmission line that has lumped elements (inductance or capacitance) added at uniformly spaced intervals. Loading is used to provide a given set of characteristics to a transmission line.

**Local Area Network** — A data network connecting any number of users, intended to serve a small area. (See also *LAN*.)

**Long-wire Antenna** — An antenna conductor length in excess of one-half of a wavelength.

**Loss** — Energy or signal lost without accomplishing useful work.

**Lossy** — Having high losses resulting in efficiency.

**Low Frequency** — International Telecommunication Union designation for the 30 to 300 kHz band of frequencies.

**Luminance Signal** — The portion of the composite video signal that represents the brightness or the black and white information.

**m** — Prefix for milli or one-thousandth.

**M** — Mutual inductance. The abbreviation for mega or 1 million. And also indicates 1000 (one thousand) feet in the wire industry. Lower case m is for milli or one-thousandth. (See also *m*.)

**M′** — Notation representing 1000 feet.

**mA** — milliampere (one-thousandth of an ampere).

**MAC** — Media Access Control (layer of OSI Reference Model).

**MAN** — Metropolitan Area Network.

**Manufacturing Automation Protocol** — A manufacturing automation protocol based on IEEE 802.4 standards.

**MAP** — Manufacturing Automation Protocol.

**Margin** — Distance between reference edge of cable and nearest edge of first conductor or center of first conductor.

**Mass-Termination** — The process of simultaneously terminating all conductors in a single operation.

**Matrix IDC™** — Belden's patent pending 10GX® Module IDC design which reduces the ANEXT between pairs of adjacent modules by 15dB, enabling transmission rates of 625 MHz and data rates of 10Gb/s.

**Matte Finish PVC** — A special formulation of PVC which very closely looks and feels like rubber.

**MATV** — Abbreviation for Master Antenna Television.

**MB** — Megabyte.

**Mb/s** — Mega bits per second. The number of bits, in millions, transmitted per second.

**MCNS** — Multimedia Cable Network System Partners Ltd.

**MDS** — Multipoint Distribution System.

**Mega** — Prefix meaning million.

**Megahertz (MHz)** — Unit of frequency equal to one million Hertz.

**Metropolitan Area Network (MAN)** — A data network intended to serve the area of a city or an area of similar size.

**mfd** — Microfarad (one-millionth of a farad). Modern abbreviation is µF (lower case Greek *mu* followed by F).

**Mho** — The unit of conductance equal to the reciprocal of the unit of resistance (ohm).

**MHz** — Megahertz. (See also *Megahertz*.)

**Micro** — Prefix meaning one-millionth.

**Microfarad** — One-millionth of a farad (µf, µfd, mf and mfd are common abbreviations).

**Micromicrofarad** — One-millionth of a microfarad (µµf, µµfd, mmf, mmfd are common abbreviations). Modern usage is picofarad (pF).

**Micron** — Millionth of a meter. (µ is a common abbreviation).

**Microphonics** — Noise caused by mechanical excitation of a system component. In a single-conductor microphone cable, for example, microphonics can be caused by the shield rubbing against the dielectric as the cable is flexed.

**Mil** — A unit of length equal to one thousandth of an inch (0.001).

**Milli** — Prefix meaning one-thousandth.

**Mitigation** — Strategies or methods to improve Alien Crosstalk performance in the field for 10G transmission over installed-base cabling.

**Mode** — A single electromagnetic wave traveling in an optical fiber.

**Modem** — Modulator-Demodulator. Device that converts signals in one form to another form compatible with another kind of equipment.

**Modulation** — Altering the characteristics of a carrier wave to convey information. Modulation techniques include amplitude frequency, phase, plus many other forms of on-off digital coding.

**Molded Cable** — Cable assemblies with molded connectors on one or both ends.

**Mono Filament** — A single strand filament as opposed to a braided or twisted filament.

**MSO** — Multiple System Operator. Cable TV term referring to companies that operate multiple cable TV systems in numerous cities.

**MTP** — Simple Mail Transfer Protocol.

**Multi-Conductor Cable** — Cable with more than one conductor.

**Multiplex** — A technique for putting two or more signals into a single channel.

**Mutual Capacitance** — Effective capacitance between two conductors when the effects of the other conductors and shield, if present, are removed.

**mV** — Millivolt (one-thousandth of a volt).

**mW** — Milliwatt (one-thousandth of a watt).

**Mylar®** — DuPont trademark for polyethylene terephtalate (polyester) film.

**N** — Type of coaxial connector named after its inventor, Paul Neil of Bell Labs. Also the symbol for Newton.

**Nano** — One-billionth.

**Nanometer (nm)** — One billionth of a meter.

**Nanosecond** — One billionth of a second.

**NAP** — Network Access Point.

**National Electrical Code (NEC)** — A publication of the National Fire Protection Association (NFPA) which outlines requirements for electrical wiring and building construction.

**NBR** — Butadiene-acrylonitrile copolymer rubber, a material with good oil and chemical resistance.

**NEC** — National Electrical Code.

**NEMA** — National Electrical Manufacturers Association.

**Neoprene** — A synthetic rubber with good resistance to oil, chemical, and flame. Also called polychloroprene.

**Network** — A method of data communications between computers.

**NEXT** — Near-end Crosstalk. Crosstalk induced on the pairs, measured at the end near the transmitter. Usually expressed in decibels (dB).

**NFPA** — National Fire Protection Association.

**Nibble** — One half byte (4 bits).

# Glossary of Terms

**NOC** — Network Operations Center.

**Noise** — In a cable or circuit, any extraneous signal which tends to interfere with the signal normally present in or passing through the system.

**Non-Paired Cable** — Cable with two or more cabled conductors that are not in a paired configuration.

**Non-Plenum** — A description for a cable that does not meet the requirements of NFPA 262 (UL 910) CMP flame test. Such a cable cannot be installed in an area that is used for air return (plenum).

**Notch** — The removal of the web section between conductors of a flat cable to aid in stripping, slitting and termination.

**NTSC** — National Television System Committee. Organization that formulated standards for the current U.S. color television system. This system is used in most countries of the Americas and in other parts of the world. It was designed to be compatible with the existing monochrome TV sets, so that they would not become obsolete. Color televisions would also be able to receive monochrome transmissions. NTSC uses a 3.579545 MHz subcarrier whose phase varies with the instantaneous hue of the televised color and whose amplitude varies with the instantaneous saturation of the color. NTSC employs 525 lines per frame, 29.97 frames per second and 59.94 fields per second.

**Numerical Aperture (NA)** — A measure of the angular acceptance for a fiber. It is approximately the sine of the half-angle of the acceptance cone.

**Nylon** — An abrasion-resistant thermoplastic with good chemical resistance.

**OFDM** — Orthogonal Frequency Division Multiplexing.

**OFHC** — Abbreviation for oxygen-free, high conductivity copper. It has 99.95% minimum copper content and an average annealed conductivity of 101% compared to standard copper.

**Ohm** — The unit of electrical resistance. The value of resistance through which a potential difference of one volt will maintain a current of one ampere.

**Ohm's Law** — Stated E=IR, I=E/R or R=E/I. The current I in a circuit is directly proportional to the voltage E, and inversely proportional to the resistance R.

**Optical Waveguide Fiber** — A transparent filament of high refractive index core and low refractive index cladding that transmits light.

**OSI** — Open System Interconnect (Model for networking protocols).

**OSS** — Operations Support Systems.

**Output** — The useful power or signal delivered by a circuit or device.

**Ozone** — Extremely reactive form of oxygen, normally occurring around electrical discharges and present in the atmosphere in small but active quantities. In sufficient concentrations it can break down certain rubber insulations under tension (such as a bent cable).

**Paired Cable** — Cable with conductors cabled in groups of two.

**PAL** — Phase Alternation Line. PAL is a European color TV system featuring 625 lines per frame, 25 frames and 50 fields per second. Used mainly in Europe, China, Malaysia, Australia, New Zealand, the Middle East, and parts of Africa. PAL-M is a Brazilian color TV system with 525 lines per frame, 30 frames and 60 fields per second.

**Parallel Circuit** — A circuit in which the identical voltage is presented to all components, with current dividing among the components according to the resistances or the impedances of the components.

**Parallel Digital** — Digital information that is transmitted in parallel form. The digits are sent on separate conductors rather than sequentially on one transmission line (serial). Often used informally to refer to parallel digital television signals.

**PASP** — Polyethylene Aluminum Steel Polyethylene. Provides additional lightning and gopher protection.

**Patchcord** — A flexible piece of cable terminated at both ends with plugs. Used for interconnecting circuits on a patchboard, in a wiring closet or at the work area.

**PC** — Personal Computer.

**PE** — Polyethylene.

**Peak** — The maximum instantaneous value of a varying current or voltage.

**Peel Strength** — The force necessary to separate two adjacent conductors of a bonded or laminated flat cable.

**Periodicity** — The uniformly spaced cable impedance variations that result in addition of the reflections of a signal. The distance between them is the half wavelength of the most affected frequency. Multiples of that frequency are also affected. Even very slight variations, which appear over and over in a construction or installation, can have major effects on signal integrity because of periodicity.

**Permanent Link** — The horizontal cable including the workstation outlet and patch panel in the telecommunications closet plus two meters of cable at each end for testing. Limited to a maximum of 90 meters in TIA/EIA-568B.1.

**PFA** — Perfluoroalkoxy.

**Phase** — An angular relationship between waves.

**Phase Shift** — A change in the phase relationship between two alternating quantities.

**Photodetector (Receiver)** — Converts light energy to electrical energy. The silicone photo diode is most commonly used for relatively fast speeds and good sensitivity in the 0.75 micron to 0.95 micron wavelength region. Avalanche photodiodes (APD) combine the detection of optical signals with internal amplification of photo-current. Internal gain is realized through avalanche multiplication of carriers in the junction region. The advantage in using an APD is its higher signal-to-noise ratio, especially at high bit rates.

**PHY** — Physical (layer of OSI Reference Model). (See also *Physical Layer*.)

**Physical Layer** — The actual portion of a network that is used to physically connect computers of a network and over which the data is transmitted — the cable.

**PIC** — Plastic Insulated Conductor. Provides strong insulation.

**Pickup** — Any device which is capable of transforming a measurable quantity of intelligence (such as sound) into relative electrical signals (e.g. a microphone).

**Pico** — One-trillionth.

**Picofarad** — One trillionth of a farad. A micromicrofarad. Abbreviated pF in modern usage or mmF in earlier usage.

**Pin-diode** — A photodetector used to convert optical signals to electrical signals in a receiver. (See also *Photodetector*.)

**Pitch** — Nominal distance from center-to-center of adjacent conductors within a cable. When conductors are flat, pitch is usually measured from the reference edge of a conductor to the reference edge of the adjacent conductor. Spacing.

**Planar Cable** — Also referred to as flat and/or ribbon cable. Any cable with two or more parallel conductors in the same plane encapsulated by insulating material.

**Plastic** — High polymeric substances, including both natural and synthetic products that are capable of flowing under heat and pressure, called thermoplastics. Unlike rubber and other thermoset compounds, plastics can be remelted and reused.

**Plasticizer** — A chemical added to plastics to make them softer and more flexible.

**Plenum** — A compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system. A description for a cable that passes the NFPA 262 (UL-910) CMP flame test requirements.

**Plug** — A male housing with male or female contacts.

**Point-to-Point Wiring** — Wiring that consists of continuous conductors terminated at each end to circuit destination.

**Polarization** — The orientation of a flat cable or a rectangular connector (e.g. for gray flat cable), the colored edge indicating the number one conductor.

**Polybutadiene** — A type of synthetic rubber often blended with other synthetic rubbers to improve their properties.

**Polyethylene (PE)** — A thermoplastic material having excellent electrical properties. Low dielectric constant, a stable dielectric constant over all frequencies, very high insulation resistance. In terms of flexibility, polyethylene can be rated stiff to very hard, depending on molecular weight and density – low density being the most flexible and the high-density, high-molecular weight formulation being very hard. Moisture resistance is rated excellent.

**Polymer** — A substance made of many repeating chemical units or molecules. The term polymer is often used in place of plastic, rubber or elastomer.

**Polyolefin** — Any of the polymers and copolymers of the ethylene family of hydrocarbons, such as polyethylene and polypropylene.

# Glossary of Terms

**Polypropylene (PP)** — A thermoplastic similar to polyethylene but stiffer and having a higher softening point (temperature). This material is primarily used as an insulation material. Typically, it is harder than polyethylene. This makes it suitable for thin wall insulations. The dielectric constant is 2.25 for solid and 1.55 for cellular designs.

**Polyurethane (PUR)** — Broad class of polymers noted for good abrasion and solvent resistance. Can be in solid or cellular form. This thermoplastic material is used primarily as a cable jacket material. It has excellent oxidation, oil, and ozone resistance. Some formulations also have good flame resistance. It is a hard material with excellent abrasion resistance. It has outstanding memory properties, making it an ideal jacket material for retractile cords.

**Polyvinyl Chloride (PVC)** — A general purpose thermoplastic used for wire and cable insulation and jackets.

**Portable Cordage** — Cable with two or more twisted conductors for flexible applications. Also called flexible cord.

**POTS** — Plain Old Telephone Service. Sometimes used in discussions of new telephone technologies in which the question of whether and how existing voice transmission for ordinary telephone communication can be accommodated. For example, DSL and ISDN provide part of their channels for POTS, while using most of their bandwidth for digital data transmission.

**Potting** — Sealing by filling with a substance to exclude moisture.

**Power** — The amount of work per unit of time. Usually expressed in watts. Power equals the product of voltage and current (P = V x I).

**Power Loss** — The difference between the total power delivered to a circuit, cable or device and the power delivered by that device to a load.

**Power Ratio** — The ratio of power appearing at the load to the input power.

**PP** — Polypropylene.

**PPP** — Point-to-Point Protocol.

**Precision Video** — Video coaxial cables having very tight electrical tolerances in impedance, velocity of propagation, attenuation and return loss. Used in high quality applications such as live broadcast in network studios and pre- or post-production facilities.

**Premise Cabling** — Refers to the entire cabling system used for voice, data, video and power on a user's premise. For Local Area Networks, the cabling of choice includes unshielded twisted pairs (UTP), fiber optic and coaxial cables. Of these, the UTP market is the largest, with greatest demand for cables with four pairs that meet certain standards of performance, such as Category 5 and Category 5e.

**PRI** — Primary Rate Interface ISDN.

**Prop 65** — See *California Proposition 65*.

**Propagation Delay** — Time required for a signal to pass from the input to the output of a device.

**PSAELFEXT** — Power sum alien equal level far-end crosstalk is a computation of the unwanted signal coupling between pairs in cabling in close proximity from multiple transmit signals at the near-end into another pair measured at the far-end, and relative to the received signal level.

**PSAFEXT** — Power sum alien far-end crosstalk loss is a computation of the unwanted signal coupling between pairs in cabling in close proximity from multiple transmit signals at the near-end into another pair measured at the far-end.

**PSANEXT** — Power sum alien near-end crosstalk loss is a computation of the unwanted signal coupling between pairs in cabling in close proximity from multiple transmit signals at the near-end into a pair measured at the near-end.

**Pseudo Random NRZ** — A wave form of binary signals that may be used in a computer system. It is called NRZ, Non-Return to Zero, because the voltage does not return to zero after each bit.

**PSTN** — Public Switched Telephone Network.

**Pulse** — A current or voltage which changes abruptly from one value to another and back to the original value in a finite length of time. Used to describe one particular variation in a series of wave motions.

**Put-up** — Packaging of finished wire or cable.

**PVC** — Polyvinyl Chloride. (See also *Polyvinyl Chloride*.)

**PVDF** — Polyvinylidene Fluoride.

**QAM** — Quandrature Amplitude Modulation.

**QOS** — Quality of Service.

**QPSK** — Quaternary Phase Shift Keying or Quadrature PSK.

**Quad** — A four conductor cable. Also called star quad.

**R** — Symbol for resistance.

**Radio Frequency (RF)** — Radio Frequency. Includes frequencies from a few kilohertz to several gigahertz. Used to transmit information from point to point over the airwaves or cable.

**RAM** — Random Access Memory.

**Rated Temperature** — The maximum temperature at which an electric component can operate for extended periods without loss of its basic properties.

**Rated Voltage** — The maximum voltage at which an electric component can operate for extended periods without undue degradation or safety hazard.

**RDC** — Regional Data Center.

**Reactance** — A measure of the combined effects of capacitance and inductance on an alternating current. The amount of such opposition varies with the frequency of the current. The reactance of a capacitor decreases with an increase in frequency; the opposite occurs with an inductance.

**Receiver** — A unit that converts an RF signal to another type of signal (e.g. radio, television). Also refers to an electronic package that converts light energy to electrical energy in a fiber optic system. (See also *Photodetector*.)

**Receptacle** — A female housing with male or female contacts.

**Reference Edge** — Edge of cable or conductor from which measurements are made, such as in flat cable. Sometimes indicated by a thread, identification stripe or printing. Conductors are usually identified by their sequential position from the reference edge, with number one conductor closest to this edge.

**Reflection** — The change in direction (or return) of waves striking a surface. For example, electromagnetic energy reflections can occur at an impedance mismatch or variation in a transmission line, causing standing waves.

**Reflection Loss** — The part of a signal which is lost due to reflection of power at a line discontinuity.

**Refractive Index** — The ratio of light velocity in a vacuum to its velocity in the transmitting medium.

**Registration** — Alignment of one object with relation to another. In flat cables it involves aligning conductors with contacts or solder pads. Also called register.

**Repeater** — A receiver and transmitter combination used to regenerate an attenuated signal.

**Resistance** — In DC circuits, the opposition a material offers to current flow, measured in ohms. In AC circuits, resistance is the real component of impedance, and may be higher than the value measured at DC.

**Resonance** — An AC circuit condition in which inductive and capacitive reactances interact to cause a minimum or maximum circuit impedance.

**Restricted Flame Retardants** — Refers to the EU directive 2003/11/EC (6-FEB-2003), which bans the use of Penta- and Octa- BDE compounds. Belden is currently using these substances in certain CPE jacket materials only, and plans to phase out usage by January 2006.

**Restriction of Hazardous Substances (RoHS)** — Refers to the EU directive 2002/95/EC (27-JAN-2003) which bans the use of certain substances as of July 2006. The following items are of primary concern in cables, namely: Asbestos and its compounds, Cadmium and its compounds, Chromium VI and its compounds, Lead and its compounds, Mercury and its compounds, and Polybrominated Biphenyls (pbbs) and their ethers/oxides (PBDEs, PBBEs). Contact Belden Customer Service or visit www.belden-emea.com for product specific details.

**Retractile Cord** — A cord having specially treated insulation or jacket so that it will retract like a spring. Retractability may be added to all or part of a cord's length.

**Return Loss** — Measure of signal reflections from a cable or device with a fixed, standard reference impedance on the measuring equipment. Expressed in decibels (dB).

**RF** — Radio Frequency.

**RFI** — Radio Frequency Interference.

**RFP** — Request for Proposals.

**RG/U** — RG is the abbreviation for radio guide, a military designation for a coaxial cable, and U stands for universal.

# Glossary of Terms

**RGB** — Abbreviation for the three parts of color video signal: red, green and blue. Also refers to multi-coaxial cables carrying these signals.

**Ribbon Cable** — A flat cable made with parallel round conductors in the same plane. Also referred to as planar and/or flat cable. Any cable with two or more parallel conductors in the same plane encapsulated by insulating material.

**Ringing Out** — The process of locating or identifying specific conductor paths by means of passing a current through selected conductors.

**Riser** — The system of pathways that are provided to run riser cables from one floor to another.

**RJ-45** — Modular telecommunications connector.

**RL** — Return Loss.

**RMS** — Root-mean-square.

**Rope Strand** — A conductor composed of groups of twisted strands.

**Round Conductor Flat Cable (RCFC)** — A cable made with parallel round conductors in the same plane.

**Routing** — The path followed by a cable or conductor.

**RSVP** — Resource Reservation Protocol.

**RTP** — Real-Time Transport Protocol.

**Rubber (Wire Insulation)** — A general term used to describe wire insulations made of thermosetting elastomers, such as natural or synthetic rubbers, neoprene, Hypalon® butyl rubber and others.

**RUS 1755.900 (*aka* PE90)** — A specification for fiber optic cables currently in high demand by the telecommunications industry. Only a handful of U.S. manufacturers can produce fiber optic cables to this specification. Belden is one of them.

**S-CDMA** — Synchronous Code Division Multiple Access.

**S-HDSL** — Single-pair High bit-rate Digital Subscriber Line.

**SAE** — Society of Automotive Engineers.

**SBR** — A copolymer of styrene and butadiene. Also GR-S or Buna-S. Most commonly used type of synthetic rubber.

**ScTP** — Screened Twisted Pair. Premise network cable with an overall foil shield.

**SDI** — Serial Digital Interface.

**SDSL** — Symmetric Digital Subscriber Line.

**SEALPIC** — Aluminum Shield. Sealed Aluminum.

**Self-extinguishing** — The characteristic of a material that extinguishes its own flame after the igniting flame is removed.

**Self-Support** — Undulated core with aluminum, polyethylene and a support strand. For aerial use.

**Semiconductor** — In wire industry terminology, a material possessing electrical conductivity that falls somewhere between that of conductors and insulators. Usually made by adding carbon particles to an insulator. Not the same as semiconductor materials such as silicone, germanium, etc. Used for making transistors and diodes.

**Semi-Solid Dielectric** — A coaxial design in which a monofilament of plastic holds the center conductor in place in a hollow plastic tube allowing the remainder of the dielectric to be air. Typical velocities of up to 84% can be achieved in this design.

**Separator** — Pertaining to wire and cable, a layer of insulating material such as textile, paper, Mylar®, etc., which is placed between a conductor and its dielectric, between a cable jacket and the components it covers, or between various components of a multiple-conductor cable. It can be utilized to improve stripping qualities, flexibility or can offer additional mechanical or electrical protection to the components it separates.

**Serial Digital** — Digital information that is transmitted in serial form. SDI informally refers to serial digital television signals that conform to the SMPTE 259M standard.

**Serial Digital Interface** — Informally refers to serial digital television signals that conform to the SMPTE 259M standard.

**Series Circuit** — A circuit in which the components are arranged end to end to form a single path for current.

**Serve Shield** — A metallic shield consisting of several strands of wire, helically wound and laid parallel around a cable core in only one direction, as opposed to the two directions with interleaving of a braid shield.

**Shannon Capacity** — A theoretical calculation of the maximum available data-rate for a channel.

**Sheath** — Pertaining to wire and cable, the outer protective covering, also called jacket, that may also provide additional insulation.

**Shield** — A tape, serve or braid (usually copper, aluminum or other conductive material) placed around or between electric circuits or cables or their components, to prevent signal leakage or interference.

**Shield Coverage** — The optical percentage of a cable actually covered by shielding material.

**Shield Effectiveness** — The relative ability of a shield to screen out undesirable interference or prevent signal leakage out of the cable. Frequently confused with the term shield coverage.

**Shield Percentage** — The percentage of physical area of a circuit or cable actually covered by shielding material.

**Shielded Armored** — Types of Shield: Aluminum, Aluminum/Steel and Copper. Cables that require some sort of shield.

**Signal** — Any visible or audible indication which can convey information. Also, the information conveyed through a communication system.

**Signal Conductor** — A conductor in a transmission cable or line that carries electrical signals.

**Signal to Noise Ratio** — Ratio of desired signal to undesired signal (noise) that is often expressed in decibels. Commonly used interchangeably with Attenuation Crosstalk Ratio (ACR) – the difference between attenuation and crosstalk, measured in decibels (dB), at a given frequency. Important characteristic in networking transmission to assure that signal sent down a twisted pair is stronger at the receiving end of the cable than are any interference signals imposed on that same pair by crosstalk from other pairs.

**Silicone** — A material made from silicone and oxygen. Can be in thermosetting elastomer or liquid form. The thermosetting elastomer form is noted for high heat resistance. This is a very soft thermoset insulation. It has excellent electrical properties plus ozone resistance, low moisture absorption, weather resistance, and radiation resistance. It typically has low mechanical strength and poor scuff resistance.

**Single-mode Fiber** — An optical fiber wave guide in which only one mode will propagate. The fiber has a very small core diameter of approximately 8 micro meters. It permits signal transmission at extremely high bandwidths and is generally used with laser diodes.

**Single-ended** — Unbalanced, such as grounding one side of a circuit or transmission line.

**Sinusoidal** — Varying in proportion to the sine of an angle or time function. Ordinary alternating current is sinusoidal.

**SIS** — Single conductor having synthetic thermosetting insulation of heat-resistant, moisture-resistant, flame-retarding grade. Also made with chemically cross-linked polyethylene insulation. Used for switched wiring only.

**Skew Rays** — A ray that does not intersect the fiber axis. Generally, a light ray that enters the fiber core at a very high angle.

**Skin Effect** — The tendency of alternating current to travel only on the surface of a conductor as its frequency increases.

**SMA** — Subminiature A connector commonly used in VHF, UHF, RF and microwave applications.

**SMB** — Subminiature B connector snap-mount connector.

**SMC** — Subminiature C connector.

**Snake Cable** — A name given to individually shielded or individually shielded and jacketed, multi-pair audio cables. Used in the connection of multi-channel line level audio equipment.

**SNMP** — Simple Network Management Protocol.

**SNR** — Signal to Noise Ratio.

**SONET** — Synchronous Optical Network.

**Source** — The device from which a signal is marked into a cable. The device (usually LED or laser) used to convert an electrical information-carrying signal into a corresponding optical signal for transmission by an optical wave guide.

**Spacing** — The distance between the centers of two adjacent conductors. Pitch.

**Span** — The distance between the center of the first conductor and the center of the last conductor in a flat cable.

**Spectral Bandwidth** — The difference between wavelengths at which the radiant intensity of illumination is half its peak intensity.

**Spectrum** — Frequencies that exist in a continuous range and have a common characteristic. A spectrum may be inclusive of many spectrums (e.g. the electromagnetic radiation spectrum includes the light spectrum, radio spectrum, infrared spectrum, etc.).

# Glossary of Terms

**Speed of Light (c)** — Approximately 2.998 x $10^8$ meters per second.

**SpiralFlex™** — Belden's patent-pending cable design for the 10GX® Cable which increases randomization and pair separation, enabling transmission rates of 625 MHz and data-rates of 10Gb/s.

**Splitter** — A device that sends the signal from one source to two or more receiving devices by allocating a portion of the signal to each receiver (e.g. cable TV splitter). A device that divides a high bandwidth signal into two or more lower bandwidth signals, each carrying a selected frequency range. Users connected to a DSL line, for example, may have a splitter installed at their home or business to divide the incoming signal into low frequencies to send to their phone and high frequencies for data to the computer.

**SRL** — Structural Return Loss.

**Stalpeth (DUCTPIC)** — Aluminum steel bonded to the polyethylene jacket. Helps minimize jacket damage.

**Standing Wave** — The stationary pattern of waves produced by two waves of the same frequency traveling in opposite directions on the same transmission line. The existence of voltage and current maxima and minima along a transmission line is a result of reflected energy from an impedance mismatch.

**Standing Wave Ratio (SWR)** — A ratio of the maximum amplitude to the minimum amplitude of a standing wave stated in current or voltage amplitudes. (See also *Standing Wave*.)

**Star Quad** — Term given to 4-conductor microphone cables where the conductors are spiraled together, which, when connected in an x configuration, greatly increases common mode noise rejection.

**Static Charge** — An electrical charge that is bound to an object. An unmoving electrical charge.

**Stay Cord** — A component of a cable, usually of high tensile strength, used to anchor the cable ends at their points of termination and keep any pull on the cable from being transferred to the electrical conductors.

**Step Insulated** — Process of applying insulation in two layers. Typically used in shielded networking cables such that the outer layer of insulation can be removed and remaining conductor and insulation can be terminated in a RJ-45 type connector.

**Step-index Fiber** — An optical fiber in which the core is of a uniform refractive index with a sharp decrease in the index of refraction at the core/cladding interface.

**STP** — Shielded Twisted Pair(s).

**Strain Gage** — A device for determining the amount of strain (change in dimensions) when a stress is applied.

**Strand** — A single uninsulated wire.

**Stranded Conductor** — A conductor composed of several strands or groups of uninsulated wires.

**Strip** — To remove insulation from a cable or wire.

**Stripping Groove** — The controlled thinning of the lamination between two conductors in a flat cable to allow easy hand separation. Tear feature.

**Structural Return Loss** — Magnitude of the internal cable reflections, measured in decibels (dB), relative to the actual cable impedance, not the system impedance. Measure of signal reflections caused by the structure of the cable without the additional reflections from any impedance mismatch between the cable and the measuring equipment. Measure of internal cable reflections using a reference impedance in the measuring equipment that is adjusted to the nominal or average impedance of the cable. (See also *Return Loss*.)

**Surge** — A temporary and relatively large increase in the voltage or current in an electric circuit or cable. Also called transient.

**S-Video** — Transmission method for video in which the two parts of the signal, the chrominance and luminance, are sent on separate transmission lines to provide better picture quality.

**Sweep Test** — Testing a characteristic of a cable or device across a range of frequencies. In cable, it usually implies return loss or structural return loss. (See also *Return Loss* or *Structural Return Loss*.)

**TCP/IP** — Transmission Control Protocol/Internet Protocol.

**TDMA** — Time Division Multiple Access.

**Tear Feature** — The controlled thinning of the lamination between two conductors in a flat cable to allow easy hand separation.

**Teflon®** — DuPont Company trademark for fluorocarbon resins.

**Tefzel®** — DuPont Company trademark for a ETFE. Fluorocopolymer thermoplastic material which has excellent electrical properties, heat resistance, chemical resistance, toughness, radiation resistance and flame resistance.

**Temperature Rating** — The maximum temperature at which the insulating material or cable may be used in continuous operation without change in its basic properties.

**Tensile Strength** — The pull stress required to break a bare wire.

**TFE** — Tetrafluoroethylene. A thermoplastic material with good electrical insulating properties and chemical and heat resistance.

**Thermal Rating** — The temperature range in which a material will perform its function without undue degradation.

**Thermoplastic** — A material which will soften, flow or distort appreciably when subjected to sufficient heat and pressure. Examples are polyvinyl chloride and polyethylene.

**Thermoset** — A material which will not soften, flow or distort appreciably when subjected to heat and pressure. Vulcanizable. Examples are rubber and neoprene.

**TIA** — Telecommunications Industry Association. Body which authored the TIA/EIA-568-B Commercial Building Telecommunications Wiring Standard in conjunction with EIA.

**TIA/EIA-568-B** — Commercial Building Telecommunications Wiring Standard defines a generic telecommunications wiring system for commercial buildings that will support a multi-product, multi-vendor environment. It also provides direction for the design of telecommunications products for commercial enterprises.

**Tinsel** — A type of electrical conductor composed of a number of tiny threads, each thread having a fine, flat ribbon of copper or other metal closely spiraled about it. Used for small size cables requiring limpness and extra-long flex life.

**Topcoated Wire** — Conductor produced by applying a layer of tin over a stranded bare copper conductor holding the strands together allowing easier soldering and preventing the fraying of strands.

**TP-PMD** — Twisted Pair-Physical Medium Dependent.

**Transducer** — A device for converting one form of energy to another, such as mechanical energy to electrical energy.

**Transfer Impedance** — For a specified cable length, transfer impedance relates to a current on one surface of a shield to the voltage drop generated by this current on the opposite surface of the shield. Transfer impedance is used to determine shield effectiveness against both ingress and egress of interfering signals. Cable shields are normally designed to reduce the transfer ofinterference – hence, shields with lower transfer impedance are more effective than shields with higher transfer impedance.

**Transmission Line** — An arrangement of two or more conductors, such as a coaxial cable or a waveguide used to transfer signal energy from one location to another.

**Transmission Line Cable** — Two or more conductors placed within a dielectric material in such a way as to control the electrical characteristics.

**Transmitter** — Equipment that generates RF or electrical signals for transmission through the air or space or over a transmissions line. Also refers to the electronic package that converts electrical energy to light energy in a fiber optic system.

**Triad Cable** — Cable with three twisted conductors.

**Triaxial Cable** — A cable construction having a conductor and two isolated braid shields, all insulated from each other. A coaxial cable with a second braid applied over an inner jacket and an outer jacket applied over the outer braid. Commonly used in television camera systems.

**Triboelectric Noise** — Noise generated in a shielded cable due to variations in capacitance between the shield and conductors as the cable is flexed.

**Trunk Cable** — In a CATV system, the transmission cable from the head end (signal pickup) to the trunk amplifier. Also called a feeder cable.

**Turn-key** — A contractual arrangement in which one party designs and installs a system and turns over the keys to another party who will operate the system.

**TVRO** — TV Receive only.

# Glossary of Terms

**Twin-lead** — A transmission line having two parallel conductors separated by insulating material. Line impedance is determined by the diameter and spacing of the conductors and the insulating material and is usually 300 ohms for television receiving antennas.

**Twinax Cable** — Cable with two twisted conductors with established electrical properties (one pair = two conductors sharing a common axis = twinax).

**Twisted Pair** — Two lengths of insulated conductors twisted together. The traditional method for connecting home and many business computers to the telephone company. Gets its name because two insulated copper wires are twisted together, both of which are needed for each connection. In commercial environments, performance of data transmission can be improved by adding a composite tape to the wire. This is known as shielded twisted pair.

**Two-pair Premise Wiring** — Refers to the two pairs of voice grade (low bandwidth) twisted pair wire installed in most homes since the 1950s. The extra pair makes it possible for you to add another line when you need it.

**UHF** — Ultra High Frequency. International Telecommunications Union designation for the 300 to 3000 MHz band of frequencies.

**UL** — Underwriters Laboratories. A nonprofit organization which tests and verifies construction and performance of electronic parts and equipment, including wire and cable.

**UM** — Unsoldered Mechanical Protection. Additional steel and polyethylene over inner polyethylene jacket. Provides additional mechanical protection.

**Unbalanced Line** — A transmission line in which voltages on the two conductors are unequal with respect to ground. A coaxial cable is a common type of unbalanced line.

**Unilay** — A conductor with more than one layer of helically laid wires with the direction of lay and length of lay the same for all layers.

**UTP** — Unshielded Twisted Pair(s).

**V** — Volt. (See also *Volt*.)

**VA** — Volt-ampere. Measure of apparent power in a reactive circuit found by multiplying the voltage by the current.

**VC/MTM** — Variable Constellation/Multi-Tone Modulation.

**VDSL** — Very high bit rate Digital Subscriber Line.

**Velocity of Propagation (VP)** — The transmission speed of electrical energy in a length of cable compared to speed of light in free space. Usually expressed as a percentage.

**VHF** — Very High Frequency. International Telecommunications Union designation for the 30 to 300 MHz band of frequencies.

**VHS** — Abbreviation for Video Home System.

**Video** — Pertaining to picture information in a television system.

**VLF** — Very Low Frequency. International Telecommunications Union designation for the 3 to 30 kHz band of frequencies.

**Volt** — A unit of electromotive force.

**Voltage** — Electrical potential of electromotive force expressed in volts.

**Voltage Drop** — The voltage developed across a component or conductor by the current flow through the resistance or impedance of the component or conductor.

**Voltage Rating** — The highest voltage that may be continuously applied to a cable construction in conformance with standards or specifications.

**Voltage Standing Wave Ratio** — Ratio of maximum voltage of the standing wave to the minimum voltage of the standing wave. (See also *Standing Wave Ratio*.)

**VSWR** — Voltage Standing Wave Ratio.

**VW-1** — A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test, formerly designed FR-1.

**W** — Symbol for watt or wattage.

**Wall Thickness** — The thickness of an insulation or jacket.

**WAN** — Wide Area Network.

**Watt** — A unit of electrical power.

**Wave Form** — A graphical representation of a varying quantity. Usually, time is represented on the horizontal axis, and the current or voltage value is represented on the vertical axis.

**Wavelength** — The distance between positive peaks of a signal. As the frequency increases, and waves get closer together, the wavelength decreases.

**WCS** — Wireless Communications Service.

**Wire** — A conductor, either bare or insulated.

**Wireless** — Really a misnomer. Belden makes a variety of cables needed to build the transmitting infrastructure required to support wireless devices. Wireless is a technology that allows a device (phone, pager or satellite dish) to be unconnected from the transmission point of a voice, video or data signal. The transmission infrastructure required to support such wireless devices is a wired platform of transmission towers and stations that communicate point to point and to telephone central offices.

**X** — Symbol for reactance.

**X-Bar™** — The X-Bar is a plastic device that is used for installing 10GX® Cable onto a 10GX Module, optimizing the termination process and practically eliminating performance variation due to termination variances.

**XLPE** — Cross-linked polyethylene is a thermoset and is cross-linked by radiation, thermally, or by moisture. XLPE offers a wide range of operating temperatures, excellent deformation, abrasion, and flame resistance. XLPE can be formulated with halogenated or non-halogenated flame retardant packages. Some grades are also rated XHHW-2 which offers excellent wet electrical properties.

**XLR** — A multi-pin audio connector (typically 3 pins) used in microphone, line level and snake cable audio connections.

**XPE-PVC** — Expanded Polyethylene-Polyvinyl Chloride. Fire retardant.

**Z** — Symbol for impedance.



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## Notes

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# 23 Technical Information



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The information, graphs, tables and illustrations presented in this section are provided to assist Belden customers with the selection of the most appropriate cable for their application. For further assistance, contact Belden technical support at: +31-77-3875-414.

# Conductor

## Table 1: Solid Copper Wire, American Wire Gage

| Gage (AWG) | Nominal OD | | | Nominal Circular MIL Area | Nominal Weight | | Nominal Resistance @ 68°F (20°C) | |
|---|---|---|---|---|---|---|---|---|
| | inch | mm | $mm^2$ | | lbs./1000 ft. | kg/km | Ω/1000 ft. | Ω/km |
| **40** | 0.0031 | 0.079 | 0.005 | 9.61 | 0.02993 | 0.04 | 1080.0 | 3542.40 |
| **39** | 0.0035 | 0.089 | 0.006 | 12.20 | 0.03774 | 0.06 | 847.8 | 2780.78 |
| **38** | 0.0040 | 0.102 | 0.008 | 15.72 | 0.04759 | 0.07 | 648.6 | 2127.41 |
| **37** | 0.0045 | 0.114 | 0.010 | 19.83 | 0.0613 | 0.09 | 512.1 | 1679.69 |
| **36** | 0.0050 | 0.127 | 0.013 | 25.00 | 0.07568 | 0.11 | 414.8 | 1360.54 |
| **35** | 0.0056 | 0.142 | 0.016 | 31.52 | 0.09542 | 0.14 | 331.0 | 1085.68 |
| **34** | 0.0063 | 0.160 | 0.020 | 39.75 | 0.1203 | 0.18 | 260.9 | 855.75 |
| **33** | 0.0071 | 0.180 | 0.025 | 50.13 | 0.1517 | 0.23 | 206.9 | 678.63 |
| **32** | 0.0080 | 0.203 | 0.032 | 63.21 | 0.1913 | 0.28 | 164.1 | 538.25 |
| **31** | 0.0089 | 0.226 | 0.040 | 79.7 | 0.2413 | 0.36 | 130.1 | 426.73 |
| **30** | 0.0100 | 0.254 | 0.051 | 100.5 | 0.3042 | 0.45 | 103.2 | 338.50 |
| **29** | 0.0113 | 0.287 | 0.064 | 126.7 | 0.3836 | 0.57 | 81.83 | 268.40 |
| **28** | 0.0126 | 0.320 | 0.080 | 159.8 | 0.4837 | 0.72 | 64.90 | 212.87 |
| **27** | 0.0142 | 0.361 | 0.102 | 201.5 | 0.6100 | 0.91 | 51.47 | 168.82 |
| **26** | 0.0159 | 0.404 | 0.127 | 253.0 | 0.7692 | 1.14 | 40.81 | 133.86 |
| **25** | 0.0179 | 0.455 | 0.163 | 320.4 | 0.9699 | 1.44 | 32.37 | 106.17 |
| **24** | 0.0201 | 0.511 | 0.203 | 404.0 | 1.223 | 1.82 | 25.67 | 84.20 |
| **23** | 0.0226 | 0.574 | 0.259 | 511.5 | 1.542 | 2.29 | 20.36 | 66.78 |
| **22** | 0.0253 | 0.643 | 0.322 | 640.4 | 1.945 | 2.89 | 16.14 | 52.94 |
| **21** | 0.0285 | 0.724 | 0.412 | 812.1 | 2.452 | 3.65 | 12.80 | 41.98 |
| **20** | 0.0320 | 0.813 | 0.514 | 1020.0 | 3.092 | 4.60 | 10.15 | 33.29 |
| **19** | 0.0359 | 0.912 | 0.653 | 1200.0 | 3.899 | 5.80 | 8.051 | 26.41 |
| **18** | 0.0403 | 1.02 | 0.816 | 1620.0 | 4.917 | 7.32 | 6.385 | 20.94 |
| **17** | 0.0453 | 1.15 | 1.039 | 2050.0 | 6.200 | 9.22 | 5.064 | 16.61 |
| **16** | 0.0508 | 1.29 | 1.300 | 2583.0 | 7.818 | 11.63 | 4.016 | 13.17 |
| **15** | 0.0571 | 1.45 | 1.651 | 3260.0 | 9.858 | 14.67 | 3.184 | 10.44 |
| **14** | 0.0641 | 1.63 | 2.070 | 4107.0 | 12.43 | 18.49 | 2.525 | 8.28 |
| **13** | 0.0720 | 1.83 | 2.630 | 5178.0 | 15.68 | 23.33 | 2.003 | 6.57 |
| **12** | 0.0808 | 2.05 | 3.290 | 6530.0 | 19.77 | 29.41 | 1.588 | 5.21 |
| **11** | 0.0907 | 2.30 | 4.155 | 8234.0 | 24.92 | 37.08 | 1.260 | 4.13 |
| **10** | 0.1019 | 2.60 | 5.230 | 10380.0 | 31.43 | 46.76 | 0.9989 | 3.28 |

* AWG 10 through 30 per UL Subject 13.

Information from National Bureau of Standards Copper Wire Tables – Handbook 100.

### Unparalleled Performance

Belden is one of only a very few cable manufacturers to draw and anneal its own conductors. This is a time-consuming process, but it allows us to ensure signal integrity, as well as proper physical characteristics.

In addition, the standards under which we design and manufacture our fiber optic cabling are among the strictest in the industry. The result is a comprehensive offering of products which give unparalleled performance and can satisfy your most demanding operating and environmental challenges.

## Conductor

Table 2: Stranded Copper Wire, American Wire Gage

| Gage (AWG) | Stranding (Nom. AWG) | Min. Average CD of Strand | Approximate OD | | | ASTM Min. Circular MIL Area | Min. Weight | | Max. Resistance @ 68°F (20°C) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | inch | mm | $mm^2$ | | lbs./1000 ft. | kg/km | Ω/1000 ft. | Ω/km |
| **36** | 7x44 | 0.0019 | 0.006 | 0.152 | 0.014 | 25 | 0.076 | 0.11 | 414.8 | 1360.54 |
| **34** | 7x42 | 0.0024 | 0.0075 | 0.191 | 0.022 | 39.7 | 0.121 | 0.18 | 260.9 | 855.75 |
| **32** | 7x40 | 0.0030 | 0.0093 | 0.236 | 0.034 | 64 | 0.195 | 0.29 | 164.1 | 538.25 |
| | 19x44 | 0.0018 | 0.010 | 0.254 | 0.039 | 64 | 0.195 | 0.29 | 164.1 | 538.25 |
| **30** | 7x38 | 0.0038 | 0.012 | 0.305 | 0.056 | 100 | 0.304 | 0.45 | 112.0 | 367.36 |
| | 19x42 | 0.0023 | 0.012 | 0.305 | 0.060 | 100 | 0.304 | 0.45 | 112.0 | 367.36 |
| **28** | 7x36 | 0.0048 | 0.015 | 0.381 | 0.071 | 159 | 0.484 | 0.72 | 70.7 | 231.90 |
| | 19x40 | 0.0029 | 0.016 | 0.406 | 0.093 | 159 | 0.484 | 0.72 | 70.7 | 231.90 |
| **27** | 7x35 | 0.0054 | 0.017 | 0.432 | 0.111 | 202 | 0.614 | 0.91 | 55.6 | 182.37 |
| **26** | 7x34 | 0.0060 | 0.019 | 0.483 | 0.140 | 253 | 0.770 | 1.15 | 44.4 | 145.63 |
| | 10x36 | 0.0050 | 0.021 | 0.533 | 0.127 | 253 | 0.770 | 1.15 | 44.4 | 145.63 |
| | 19x38 | 0.0036 | 0.020 | 0.508 | 0.153 | 253 | 0.770 | 1.15 | 44.4 | 145.63 |
| **24** | 7x32 | 0.0076 | 0.024 | 0.610 | 0.226 | 404 | 1.229 | 1.83 | 27.7 | 90.86 |
| | 10x34 | 0.0064 | 0.024 | 0.610 | 0.200 | 404 | 1.229 | 1.83 | 27.7 | 90.86 |
| | 19x36 | 0.0046 | 0.024 | 0.610 | 0.239 | 404 | 1.229 | 1.83 | 27.7 | 90.86 |
| | 42x40 | 0.0031 | 0.023 | 0.584 | 0.201 | 404 | 1.229 | 1.83 | 27.7 | 90.86 |
| **22** | 7x30 | 0.0096 | 0.030 | 0.762 | 0.352 | 640 | 1.947 | 2.90 | 17.5 | 57.40 |
| | 19x34 | 0.0058 | 0.031 | 0.787 | 0.380 | 640 | 1.947 | 2.90 | 17.5 | 57.40 |
| | 26x36 | 0.0050 | 0.030 | 0.762 | 0.327 | 640 | 1.947 | 2.90 | 17.5 | 57.40 |
| **20** | 7x28 | 0.0126 | 0.038 | 0.965 | – | 1020 | 3.103 | 4.62 | 10.9 | 35.75 |
| | 10x30 | 0.0101 | 0.037 | 0.940 | 0.612 | 1020 | 3.103 | 4.62 | 10.9 | 35.75 |
| | 19x32 | 0.0073 | 0.037 | 0.940 | 0.612 | 1020 | 3.103 | 4.62 | 10.9 | 35.75 |
| | 26x34 | 0.0063 | 0.036 | 0.914 | 0.520 | 1020 | 3.103 | 4.62 | 10.9 | 35.75 |
| | 42x36 | 0.0049 | 0.038 | 0.965 | – | 1020 | 3.103 | 4.62 | 10.9 | 35.75 |
| **18** | 7x26 | 0.0152 | 0.048 | 1.22 | 0.891 | 1620 | 4.93 | 7.33 | 6.92 | 22.70 |
| | 16x30 | 0.0101 | 0.047 | 1.19 | 0.808 | 1620 | 4.93 | 7.33 | 6.92 | 22.70 |
| | 19x30 | 0.0092 | 0.049 | 1.24 | 0.957 | 1620 | 4.93 | 7.33 | 6.92 | 22.70 |
| | 42x34 | 0.0062 | 0.047 | 1.19 | 0.819 | 1620 | 4.93 | 7.33 | 6.92 | 22.70 |
| | 65x36 | 0.0050 | 0.047 | 1.19 | – | 1620 | 4.93 | 7.33 | 6.92 | 22.70 |
| **16** | 7x24 | 0.0192 | 0.060 | 1.52 | 1.420 | 2580 | 7.85 | 11.68 | 4.35 | 14.27 |
| | 19x29 | 0.0117 | 0.058 | 1.47 | 1.216 | 2580 | 7.85 | 11.68 | 4.35 | 14.27 |
| | 26x30 | 0.0100 | 0.059 | 1.50 | 1.310 | 2580 | 7.85 | 11.68 | 4.35 | 14.27 |
| | 65x34 | 0.0063 | 0.059 | 1.50 | 1.300 | 2580 | 7.85 | 11.68 | 4.35 | 14.27 |
| | 105x36 | 0.0050 | 0.059 | 1.50 | 1.365 | 2580 | 7.85 | 11.68 | 4.35 | 14.27 |
| **14** | 7x22 | 0.0242 | 0.076 | 1.93 | – | 4110 | 12.50 | 18.60 | 2.73 | 8.95 |
| | 19x26 | 0.0147 | 0.071 | 1.80 | – | 4110 | 12.50 | 18.60 | 2.73 | 8.95 |
| | 42x30 | 0.0099 | 0.075 | 1.91 | – | 4110 | 12.50 | 18.60 | 2.73 | 8.95 |
| | 105x34 | 0.0063 | 0.075 | 1.91 | – | 4110 | 12.50 | 18.60 | 2.73 | 8.95 |
| **12** | 7x20 | 0.0305 | 0.096 | 2.44 | 3.610 | 6530 | 19.86 | 29.55 | 1.71 | 5.61 |
| | 19x25 | 0.0185 | 0.093 | 2.36 | 3.070 | 6530 | 19.86 | 29.55 | 1.71 | 5.61 |
| | 65x30 | 0.0100 | 0.095 | 2.41 | 3.270 | 6530 | 19.86 | 29.55 | 1.71 | 5.61 |
| | 165x34 | 0.0063 | 0.095 | 2.41 | 3.300 | 6530 | 19.86 | 29.55 | 1.71 | 5.61 |
| **10** | 37x26 | 0.0167 | 0.115 | 2.92 | 4.710 | 10380 | 31.58 | 46.98 | 1.08 | 3.54 |
| | 65x28 | 0.0126 | 0.120 | 3.05 | – | 10380 | 31.58 | 46.98 | 1.08 | 3.54 |
| | 105x30 | 0.0099 | 0.118 | 3.00 | – | 10380 | 31.58 | 46.98 | 1.08 | 3.54 |

* AWG 10 through 30 per UL subject 13.

Belden has standardized on the stranded conductors used in the design of all Belden products.

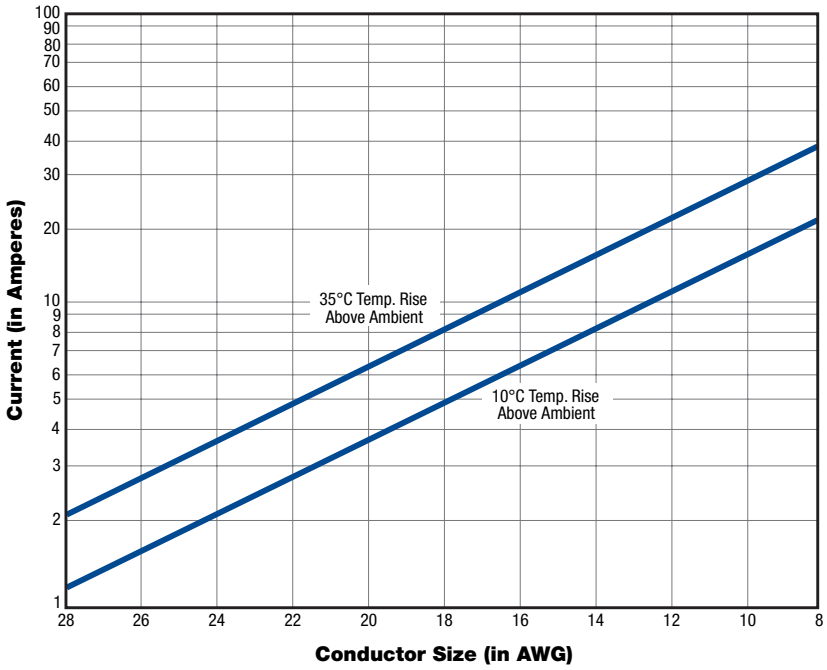
# Conductor

## Table 3: Current Ratings for Belden Electronic Cables

The maximum continuous current rating for an electronic cable is limited by conductor size, number of conductors contained within the cable, maximum temperature rating of the cable, and environmental conditions such as ambient temperature and air flow. To use the current capacity chart, first determine conductor size, temperature rating, and number of conductors from the applicable product description for the cable of interest.

Next, find the current value on the chart for the proper temperature rating and conductor size. To calculate the maximum current rating/conductor, multiply the chart value by the appropriate conductor factor. The chart assumes cable is surrounded by still air at an ambient temperature of 25°C. Current values are in RMS amperes and are valid for copper conductors only. For conditions other than specified, contact Belden technical support at +31-77-3875-414.

Note: Current ratings are intended as general guidelines for low power electronic communications and control applications. Current ratings for power applications generally are set by regulatory agencies such as UL, CSA, NEC, and others.




**Current Rating**

| No. of Conductors* | Factor |
|---|---|
| **1** | 1.6 |
| **2 to 3** | 1.0 |
| **4 to 5** | 0.8 |
| **6 to 15** | 0.7 |
| **16 to 30** | 0.5 |

* Do not count shields unless used as conductor.

# Conductor

## Table 4: Metric/Imperial/AWG Equivalents (Square Millimeters/Square Inches/Circular Mils/AWG)

| mm² | sq. in. | Circular mils | AWG |
|---|---|---|---|
| 1000 | 1.550 | 1974000 | |
| 975 | 1.511 | 1924700 | |
| 950 | 1.472 | 1875300 | |
| 925 | 1.434 | 1826000 | |
| 900 | 1.395 | 1776600 | |
| 875 | 1.356 | 1727300 | |
| 850 | 1.317 | 1677900 | |
| 825 | 1.279 | 1628600 | |
| 800 | 1.240 | 1579200 | |
| 775 | 1.201 | 1529900 | |
| 750 | 1.163 | 1480500 | |
| 725 | 1.124 | 1431200 | |
| 700 | 1.085 | 1381800 | |
| 675 | 1.046 | 1332500 | |
| 650 | 1.008 | 1283100 | |
| 625 | 0.969 | 1233800 | |
| 600 | 0.930 | 1184400 | |
| 575 | 0.891 | 1135100 | |
| 550 | 0.853 | 1085700 | 1000 MCM |
| 525 | 0.814 | 1036400 | |
| 500 | 0.775 | 987000 | |
| 475 | 0.736 | 937700 | |
| 450 | 0.698 | 888300 | |
| 425 | 0.659 | 839000 | |
| 400 | 0.620 | 789600 | 750 MCM |
| 375 | 0.581 | 740300 | |
| 350 | 0.542 | 690900 | |
| 325 | 0.504 | 641600 | 600 MCM |
| 300 | 0.465 | 592200 | |
| 275 | 0.426 | 542900 | 500 MCM |
| 250 | 0.388 | 493500 | |
| 225 | 0.349 | 444200 | 350 MCM |
| 200 | 0.310 | 394800 | |
| 185 | – | – | |
| 175 | 0.271 | 345500 | 300 MCM |
| 150 | 0.233 | 296100 | |
| 125 | 0.1938 | 246800 | |
| 120 | – | 211600 | 4/0 |
| 100 | 0.1550 | 197400 | |
| 95 | 0.1472 | 187530 | |
| 90 | 0.1395 | 177660 | |
| – | – | 167800 | 3/0 |
| 85 | 0.1317 | 167790 | |
| 80 | 0.1240 | 157920 | |
| 75 | 0.1163 | 148050 | |
| 70 | 0.1085 | 138180 | |
| – | – | 133100 | 2/0 |
| 65 | 0.1008 | 128310 | |
| 60 | 0.0930 | 118440 | |
| 55 | 0.0853 | 108570 | |
| – | – | 105600 | 1/0 |
| 50 | 0.0775 | 98700 | |
| 45 | 0.0698 | 88830 | |
| – | – | 83690 | 1 |
| 40 | 0.0620 | 78960 | |
| 35 | 0.0542 | 69090 | |
| – | – | 66360 | 2 |
| 30 | 0.0465 | 59220 | |
| – | – | 52620 | 3 |
| 25 | 0.0388 | 49350 | |
| – | – | 41740 | 4 |
| 20.0 | 0.0310 | 39480 | |
| 19.5 | 0.0302 | 38490 | |
| 19.0 | 0.0294 | 37510 | |
| 18.5 | 0.0287 | 36520 | |
| 18.0 | 0.0279 | 35530 | |
| 17.5 | 0.0271 | 34550 | |
| 17.0 | 0.0264 | 33560 | |
| – | – | 33090 | 5 |
| 16.5 | 0.0256 | 32560 | |
| 16.0 | 0.0248 | 31580 | 6 |
| 15.5 | 0.0240 | 30600 | |
| 15.0 | 0.0233 | 29610 | |
| 14.5 | 0.0225 | 28620 | |
| 14.0 | 0.0217 | 27640 | |
| 13.5 | 0.0209 | 26650 | |
| – | – | 26420 | |
| 13.0 | 0.0201 | 25660 | |
| 12.5 | 0.0194 | 24680 | |
| 12.0 | 0.0186 | 23690 | |
| 11.5 | 0.0178 | 22700 | |
| 11.0 | 0.0171 | 21710 | |
| – | – | 20820 | 7 |
| 10.5 | 0.0163 | 20730 | |
| 10.0 | 0.0155 | 19740 | |
| 9.5 | 0.01472 | 18753 | |
| 9.0 | 0.01395 | 17766 | |
| 8.5 | 0.01317 | 16779 | |
| – | – | 16510 | 8 |
| 8.0 | 0.01240 | 15792 | |
| 7.7 | 0.01163 | 14805 | |
| 7.0 | 0.01085 | 13818 | |
| – | – | 13090 | 9 |
| 6.5 | 0.01008 | 12831 | |
| 6.0 | 0.00930 | 11844 | |
| 5.5 | 0.00853 | 10857 | |
| – | – | 10380 | 10 |
| 5.00 | 0.00775 | 9870 | |
| 4.75 | 0.00736 | 9377 | |
| 4.50 | 0.00698 | 8883 | |
| 4.25 | 0.00659 | 8390 | |
| – | – | 8230 | 11 |
| 4.00 | 0.00620 | 7896 | |
| 3.75 | 0.00581 | 7403 | |
| 3.50 | 0.00542 | 6909 | |
| – | – | 6530 | 12 |
| 3.25 | 0.00504 | 6416 | |
| 3.00 | 0.00465 | 5922 | |
| 2.75 | 0.00426 | 5429 | |
| 2.63 | – | 5180 | 13 |
| 2.50 | 0.00388 | 4935 | |
| 2.25 | 0.00349 | 4422 | |
| – | – | 4110 | 14 |
| 2.00 | 0.00310 | 3948 | |
| 1.75 | 0.00271 | 3455 | |
| 1.65 | – | 3260 | 15 |
| 1.50 | 0.00233 | 2961 | |
| – | – | 2580 | 16 |
| 1.25 | 0.00194 | 2468 | |
| – | – | 2050 | 17 |
| 1.00 | 0.00155 | 1974 | |
| 0.90 | 0.00140 | 1777 | |
| – | – | 1620 | 18 |
| 0.75 | 0.00116 | 1481 | |
| 0.70 | 0.00109 | 1382 | |
| 0.65 | – | 1290 | 19 |
| 0.60 | 0.00093 | 1184 | |
| – | – | 1029 | 20 |
| 0.50 | 0.000775 | 987 | |

| To Convert: | Multiply by: |
|---|---|
| Inches to millimeters | 25.4 |
| Millimeters to inches | 0.03937 |

# Insulations and Jackets
Overview

### Insulations

Belden expends a great amount of time and effort to formulate its own insulations. As a result, Belden insulations provide superior performance under a variety of hostile environmental conditions.

Among the insulations we utilize are:

- **Polyethylene**
- **Polyvinyl Chloride (PVC)**
- **Polypropylene**

Also available are:

- **Datalene®**
  For computer and data transmission. Datalene is crush resistant, lightweight, and offers good performance characteristics over a wide range of temperatures.
- **Teflon® Insulated Plenum & High-temperature Cables**
  For data communications, instrumentation/control, and other commercial and industrial applications. Plenum cables eliminate the need for conduit and reduce installation time.

### Jackets

Belden electronic cables are manufactured in a wide selection of jacketing materials.

- **Polyvinyl Chloride**
- **Polyethylene**
- **Polyurethane**
- **Teflon®**
- **Tefzel®**
- **Neoprene**
- **EPDM**
- **Silicone rubber**
- **Natural rubber**

Special compounds and variations of standard compounds are used as well.

Teflon® and Tefzel® are DuPont trademarks.

# Insulations and Jackets

## Typical Characteristics of Popular Insulation and Jacketing Compounds

### EPDM

EPDM (ethylene-propylene-diene elastomer) is a chemically cross-linked elastomer with excellent flexibility at low and high temperatures (-55°C to 150°). It has good insulation resistance and dielectric strength, as well as excellent abrasion resistance and mechanical properties. EPDM also has better cut-through resistance than silicone rubber, which it replaces in some applications.

EPDM is compatible with most varnishes, but after the dip and bake cycle varnish tends to adhere to the insulation (because EPDM, unlike some rubber insulations, does not exude oils or waxes). As lead wires are pulled apart for termination, the varnish cracks, sometimes breaking the insulation.

To resolve this problem, a stearic solution is applied to the lead wire during the put-up process. This ensures that rigid varnish does not cause EPDM insulation to rupture when the wire is terminated.

Field evaluations by numerous users reveal that the coated EPDM has excellent varnish resistance at least equal to synthetic elastomers, cross-link polyethylene, or silicone glass braid in dip and bake systems.

### Neoprene

The temperature range of this material can vary from -55°C to 90°C. The actual range would depend on the formulation used. Neoprene is both oil-resistant and sunlight-resistant, making it ideal for many outdoor applications. The most stable colors are Black, Dark Brown, and Gray. The electrical properties are not as good as other insulation materials. Because of this, thicker insulation should be used. Typical designs where this material is used are lead wire insulation and cable jackets.

### Polyethylene (Solid and Foamed)

A very good insulation in terms of electrical properties. Low dielectric constant, a stable dielectric constant over all frequencies, very high insulation resistance. In terms of flexibility, polyethylene can be rated stiff to very hard, depending on molecular weight and density – low density being the most flexible, with high-density, high-molecular weight formulation being very hard. Moisture resistance is rated excellent. Black and specially formulated colored versions have excellent weather resistance. The dielectric constant is 2.3 for solid insulation and typically 1.64 for foam designs. Flame retardant formulations are available with dielectric constants ranging from about 1.7 for foam flame retardant to 2.58 for solid flame retardant polyethylene.

### Polypropylene (Solid and Foam)

Similar in electrical properties to polyethylene. This material is primarily used as an insulation material. Typically, it is harder than polyethylene. This makes it suitable for thin wall insulations. UL maximum temperature rating may be 60°C, 80°C or 105°C. The dielectric constant is 2.25 for solid and typically 1.55 for foam designs.

### Polyurethane

This material is used primarily as a cable jacket material. It has excellent oxidation, oil, and ozone resistance. Some formations also have good flame resistance. It is a hard material with excellent abrasion resistance. It has outstanding “memory” properties, making it an ideal jacket material for retractile cords.

### PVC

Sometimes referred to as vinyl or polyvinylchloride. Extremely high or low temperature properties cannot be found in one formulation. Certain formulations may have -55°C to 105°C rating. Other common vinyls may have -20°C to 60°C. There are many formulations for the variety of different applications. The many varieties of PVC also differ in pliability and electrical properties. The price range can vary accordingly. Typical dielectric constant values can vary from 3.5 to 6.5.

### Rubber

The description of rubber normally includes natural rubber and SBR compounds. Both of these materials can be used for insulations and jackets. There are many formulations of these basic materials. Each formulation is for a specific application. Some formulations are suitable for -55°C minimum, while others are suitable for 75°C maximum.

### Silicone

This is a very soft insulation which has a temperature range from -80°C to 200°C. It has excellent electrical properties plus ozone resistance, low moisture absorption, weather resistance, and radiation resistance. It typically has low mechanical strength and poor scuff resistance.

### Teflon®

This material has excellent electrical properties, temperature range and chemical resistance. It is not suitable where subjected to nuclear radiation and does not have good high voltage characteristics. FEP Teflon® is extrudable in a manner similar to PVC and polyethylene. This means that long wire and cable lengths are available. TFE Teflon® is extrudable in a hydraulic ram type process. Lengths are limited due to amount of material in the ram, thickness of the insulation, and preform size. TFE must be extruded over a silver- or nickel-coated wire. The nickel- and silver-coated designs are rated 260°C and 200°C maximum, respectively. The cost of Teflon® is approximately 8 to 10 times more per weight unit than that of PVC.

Teflon® is a DuPont trademark.

## Insulations and Jackets

Table 5: Comparative Properties of **Plastic** Insulating and Jacketing Compounds

| Properties | PVC | LDPE | Cellular Polyethy-lene | HDPE | Polypro-pylene | Cellular Polypro-pylene | PUR | Nylon | CPE | LSNH | FEP Teflon® |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oxidation Resistance** | E | E | E | E | E | E | E | E | E | E | O |
| **Heat Resistance** | G-E | G | G | E | E | E | G | E | E | G-E | O |
| **Oil Resistance** | F | G-E | G | G-E | F | F | E | E | E | G | E |
| **Low-temperature Flexibility** | P-G | E | E | E | P | P | G | G | E | F-G | O |
| **Weather, Sun Resistance** | G-E | E | E | E | E | E | G | E | E | G | O |
| **Ozone Resistance** | E | E | E | E | E | E | E | E | E | E | E |
| **Abrasion Resistance** | F-G | G | F | E | F-G | F-G | O | E | E-O | F-G | E |
| **Electrical Properties** | F-G | E | E | E | E | E | P | P | E | G | E |
| **Flame Resistance** | E | P | P | P | P | P | P | P | E | E | E |
| **Nuclear Radiation Resistance** | F | G-E | G | G-E | F | F | G | F-G | O | F | P |
| **Water Resistance** | F-G | E | E | E | E | E | P-G | P-F | O | G | E |
| **Acid Resistance** | G-E | G-E | G-E | E | E | E | F | P-F | E | P-F | E |
| **Alkali Resistance** | G-E | G-E | G-E | E | E | E | F | E | E | G | E |
| **Aliphatic Hydrocarbons Resistance** (Gasoline, Kerosene, etc.) | P | G-E | G | G-E | P-F | P | P-G | G | E | F | E |
| **Aromatic Hydrocarbons Resistance** (Benzol, Toluol, etc.) | P-F | P | P | P | P-F | P | P-G | G | G-E | P-F | E |
| **Halogenated Hydrocarbons Resistance** (Degreaser Solvents) | P-F | G | G | G | P | P | P-G | G | E | P | E |
| **Alcohol Resistance** | P-F | E | E | E | E | E | P-G | P | E | G | E |
| **Underground Burial** | P-G | G | N/A | E | N/A | N/A | G | P | E-O | F | E |

CPE = Chlorinated Polyethylene • HDPE = High-density Polyethylene • LDPE = Low-density Polyethylene • PUR = Polyurethane • LSNH = Low-smoke Non-halogen • FEP = Fluorinated Ethylene-Propylene • P = Poor • F = Fair • G = Good • E = Excellent • O = Outstanding

These ratings are based on average performance of general purpose compounds.
Any given property can usually be improved by the use of selective compounding.

Teflon® is a DuPont trademark.

## Insulations and Jackets

Table 6: Comparative Properties of **Fluoropolymer** Insulating and Jacketing Compounds

| Properties | FEP Teflon® | Tefzel® (ETFE) | PTFE Teflon® |
|---|---|---|---|
| **Oxidation Resistance** | O | E | O |
| **Heat Resistance** | O | E | O |
| **Oil Resistance** | O | E | E-O |
| **Low-temperature Flexibility** | O | E | O |
| **Weather, Sun Resistance** | O | E | O |
| **Ozone Resistance** | E | E | O |
| **Abrasion Resistance** | E | E | O |
| **Electrical Properties** | E | E | E |
| **Flame Resistance** | O | G | E |
| **Nuclear Radiation Resistance** | P-G | E | P |
| **Water Resistance** | E | E | E |
| **Acid Resistance** | E | E | E |
| **Alkali Resistance** | E | E | E |
| **Aliphatic Hydrocarbons Resistance** (Gasoline, Kerosene, etc.) | E | E | E |
| **Aromatic Hydrocarbons Resistance** (Benzol, Toluol, etc.) | E | E | E |
| **Halogenated Hydrocarbons Resistance** (Degreaser Solvents) | E | E | E |
| **Alcohol Resistance** | E | E | E |
| **Underground Burial** | E | E | E |

FEP = Fluorinated Ethylene-Propylene • ETFE = Ethylene Tetrafluoroethylene • PTFE = Polytetrafluoroethylene
P = Poor • F = Fair • G = Good • E = Excellent • O = Outstanding

These ratings are based on average performance of general purpose compounds.
Any given property can usually be improved by the use of selective compounding.

Teflon® and Tefzel® are DuPont trademarks.

## Insulations and Jackets

Table 7: Comparative Properties of **Rubber** Insulations

| Properties | Rubber | Neoprene | Hypalon® (Chlorosulfonated Polyethylene) | EPDM (Ethylene-Propylene-Diene Elastomer) | Silicone |
|---|---|---|---|---|---|
| **Oxidation Resistance** | F | G | E | E | E |
| **Heat Resistance** | F | G | E | E | O |
| **Oil-resistance** | P | G | G | P | F-G |
| **Low-temperature Flexibility** | G | F-G | F | G-E | O |
| **Weather, Sun Resistance** | F | G | E | E | O |
| **Ozone Resistance** | P | G | E | E | O |
| **Abrasion Resistance** | E | G-E | G | G | P |
| **Electrical Properties** | G | P | G | E | G |
| **Flame Resistance** | P | G | G | P | F-G |
| **Nuclear Radiation Resistance** | F | F-G | E | G | E |
| **Water Resistance** | G | E | E | G-E | G-E |
| **Acid Resistance** | F-G | G | E | G-E | F-G |
| **Alkali Resistance** | F-G | G | E | G-E | F-G |
| **Aliphatic Hydrocarbons Resistance** (Gasoline, Kerosene, etc.) | P | G | F | P | P-F |
| **Aromatic Hydrocarbons Resistance** (Benzol, Toluol, etc.) | P | P-F | F | F | P |
| **Halogenated Hydrocarbons Resistance** (Degreaser Solvents) | P | P | P-F | P | P-G |
| **Alcohol Resistance** | G | F | G | P | G |

P = Poor • F = Fair • G = Good • E = Excellent • O = Outstanding

These ratings are based on average performance of general purpose compounds.
Any given property can usually be improved by the use of selective compounding.

Hypalon® is a DuPont trademark.

## Insulations and Jackets

Table 8: Nominal Temperature Range for Various Insulating and Jacketing Compounds

| Compound | Normal Low | Normal High | Special Low | Special High |
|---|---|---|---|---|
| **Chlorosulfonated Polyethylene (Hypalon®)** | -20°C | 90°C | -40°C | 105°C |
| **EPDM (Ethylene-Propylene-Diene Monomer)** | -55°C | 105°C | – | 150°C |
| **Neoprene** | -20°C | 60°C | -55°C | 90°C |
| **Polyethylene (Solid and Foamed)** | -60°C | 80°C | – | – |
| **Polypropylene (Solid and Foamed)** | -40°C | 105°C | – | – |
| **Rubber** | -30°C | 60°C | -55°C | 75°C |
| **FEP Teflon®** | -70°C | 200°C | – | – |
| **PVC** | -20°C | 80°C | -55°C | 105°C |
| **Silicone** | -80°C | 150°C | – | 200°C |
| **Tefzel®** | -65°C | 150°C | – | – |
| **PTFE Teflon®** | -70°C | 260°C | – | – |
| **CPE** | -35°C | 90°C | -45°C | 105°C |

Hypalon®, Teflon® and Tefzel® are DuPont trademarks.

# Shielding and Armoring
## Overview

### Innovative Leadership

The evolution of technology maintains steady demand for sophisticated cable shielding. Belden meets that demand with innovative shielding and shield effectiveness testing methods to supply you with high quality, dependable cable.

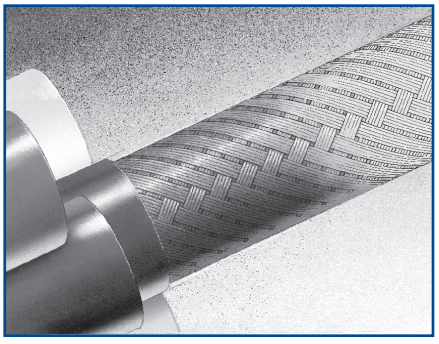
With the creation of trademarked shield designs and patented test methods, Belden has earned a reputation for innovation and leadership that is unequaled in the wire and cable industry. In addition, Belden offers the broadest line of shielded multi-conductor, coaxial and flat cable in the industry.

Several unique Belden innovations are utilized across a wide range of shielding applications:

- **Beldfoil®**
  The first aluminum/polyester foil developed for use as a cable shield. Provides 100% shield coverage for optimum protection.
- **Duofoil®**
  Consists of an aluminum-poly-aluminum laminate wrapped around the cable's dielectric core. Provides 100% physical coverage, and improves shield reliability and flex life.

Belden also utilizes a number of innovative techniques to apply shielding to multi-conductor and paired cables:

- **"French Braid" Shields**
  Belden's patented "French Braid" shield is a double spiral (double serve shield) with the two spirals tied together by one weave.



Belden's patented "French Braid" shield.

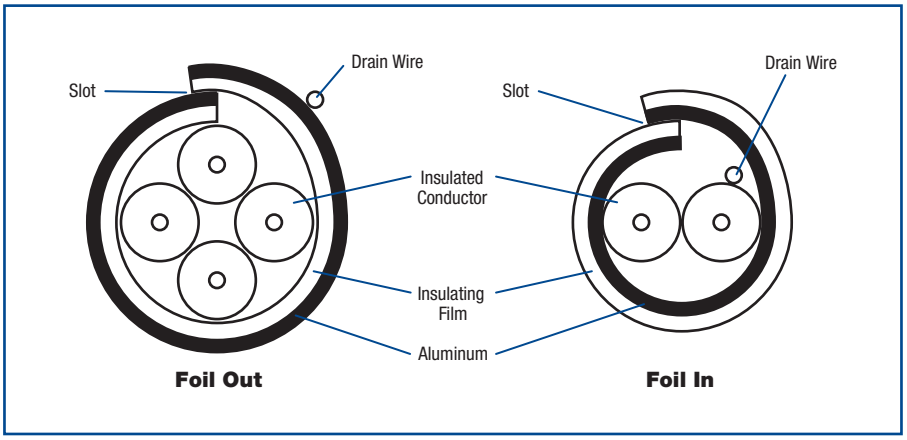



Figure 1: Foil shield configurations without shorting folds.

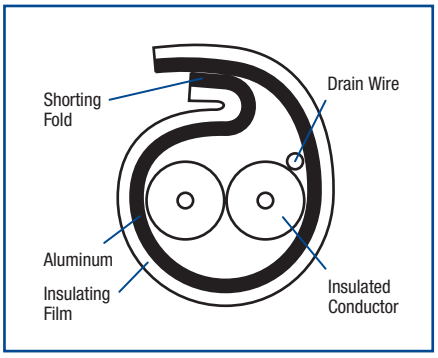



Figure 2: Foil shield configurations with shorting fold.

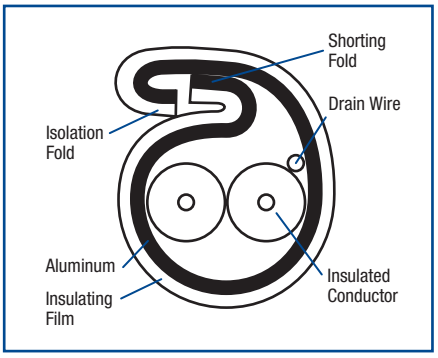



Figure 3: Foil shield with Z-fold reduces crosstalk in multi-pair applications.

- **Shorting Fold**
  Belden uses a shorting fold technique to maintain metal-to-metal contact for improved high frequency performance. Without the shorting fold, a slot is created through which signals can leak and cause interference. (See figures 1 and 2 above.)

- **Z-Fold®**
  Belden improves on the traditional shorting fold by employing a Z-Fold designed for use in multi-pair applications to reduce crosstalk. The Z-Fold (see figure 3) combines an isolation and a shorting fold. The shorting fold provides metal-to-metal contact while the isolation fold keeps shields from shorting to one another in multi-pair, individually shielded cables.

The use of either a shorting fold or a Z-Fold increases the foil shield's range of effectiveness to higher frequencies.

# Shielding and Armoring

## Characteristics of Belden Shield Types and Armor Styles

### Foil Shields

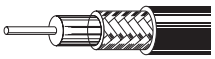
Foil shields consist of aluminum foil laminated to a polyester or polypropylene film. The film gives the shield mechanical strength and bonus insulation. Foil shields provide 100% cable coverage, necessary for electrostatic shield protection. Because of their small size, foil shields are commonly used to shield individual pairs of multi-pair data cables to reduce crosstalk. They have less weight, bulk and cost less than spiral or braid shields and are generally more effective than braid shields in RF ranges. Foil shields are more flexible than braid but have a shorter flex life than spiral or braid.



Drain wires are used with foil shields to make termination easier and to ground electrostatic discharges. The shortcomings in using the foil shield include higher dc resistance and lower mechanical strength than braid or spiral shields.

### Braid Shields

A braid shield consists of groups of tinned or bare copper or aluminum strands, one set woven in a clockwise direction and interwoven with another set in a counter-clockwise direction.



Braid shields provide superior structural integrity, while maintaining good flexibility and flex life. These shields are ideal for minimizing low frequency interference and have lower DC resistance than foil. Braid shields are effective at audio, as well as RF ranges. Generally, the higher the braid coverage, the more effective the shield. However, the trade-off between cost and braid coverage must be considered. Typical braid coverages are between 80% and 95%. Coverage of 100% is unattainable with a braid shield. Other features to consider when choosing a braid shield are the weave angle, strand diameter, number of carriers (strand groups) and the number of ends (strands).

Braid shields are generally bulkier and heavier than other shields and, in some cases, harder to terminate because the braid may be combed out and pigtailed.

### Spiral/Serve Shields

A spiral/serve shield consists of wire (usually copper) wrapped in a spiral around the inner cable core.



Superior flexibility and flex life, ease of termination and up to 97% coverage are the advantages of spiral shields. They are best suited for audio applications. As a rule, spiral shields are not effective above the audio frequency range due to the coil effect produced by the inductance of served wire strands.

### "French Braid" Shields

Belden's patented "French Braid" shield is a double spiral (double serve shield) with the two spirals tied together by one weave. This construction provides improved flex life over standard spiral shields, improved flexibility over conventional braid shields, and lower levels of microphonic or triboelectric noise than either spiral or conventional braid shields.



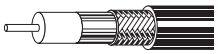
### Combination Shields

Combination shields consist of more than one layer of shielding. They provide maximum shield efficiency across the frequency spectrum. The combination foil/braid shield combines the advantages of 100% foil coverage, plus the strength and low DC resistance of the braid.

Belden has also developed a number of shielding configurations for use with broadband coaxial cables.

- **Duobond®**
  Duobond is essentially the same construction as Duofoil® (a laminated tape of foil/film/foil), but with an extra layer of adhesive bonding the foil shield to the dielectric core. This foil shield provides 100% coverage and insures maximum shield protection.

- **Duobond II (Foil/Braid)**
  Combines Duobond with an outer braid, applied for greater protection against interference and to increase the overall tensile strength.



- **Duobond III (Tri-Shield)**
  Utilizes the Duobond II design (foil/braid) plus a surrounding layer of Duofoil. The extra foil layer improves shield reliability and provides an additional interference barrier.



- **Duobond Plus®**
  Features foil/braid/foil construction with a shorting fold in the outermost foil. This fold prevents a slot opening from being created in the shield, thereby preventing signal egress or ingress.




- **Duobond IV (Quad Shield)**
  Offers an extra layer of braid shield (foil/braid/foil/braid) for improved strength and durability.



Other combination shields are available such as the foil/braid/foil/braid used on the Ethernet cables, braid/braid or foil/spiral.

### Armoring

Belden's innovative technology delivers maximum effectiveness to meet the performance requirements of a wide range of applications.

Belden also has the capability to protect electronic, instrumentation, and control cables with interlocking steel or aluminum armor.

# Shielding and Armoring

## Shield Types Application Guide, Table 9: Relative Cost Comparison of Shield Types
## Table 10: Shield Performance Ratings

### Shield Types Application Guide

#### Choose a Foil Shield…

- For protection against capacitive (electric field) coupling where shield coverage is more important than low DC resistance.
- When possible sources of interference include TV signals, crosstalk from other circuits, radio transmitters, fluorescent lights or computing equipment.
- For MATV, CATV, video, networking, computer I/O cables in office, industrial or commercial environments where ambient EMI levels are low.

#### Choose a Braid Shield…

- For superior performance against diffusion coupling, where low DC resistance is important, and to a lesser extent, capacitive and inductive coupling.
- When possible sources of interference exhibit low impedance characteristics, such as motor control circuits and switches which operate inductive loads.
- For computer to terminal interconnect for process, instrumentation or control applications.

#### Choose a Spiral Shield…

- For functional shielding against diffusion and capacitive coupling at audio frequencies only.
- When possible sources of interference are power lines and fluorescent lights.
- For applications when flexibility and flex life are major concerns, such as microphone and audio cables and retractile cords.

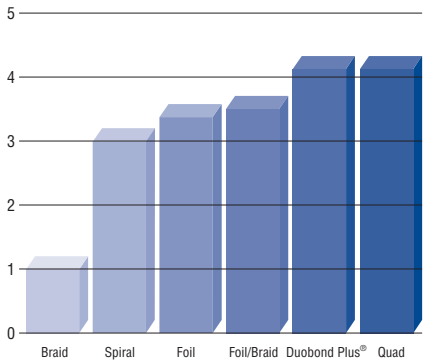
#### Choose a Combination Shield…

- For shielding against high frequency radiated emissions coupling and ESD. Combines the low resistance of braid and 100% coverage of foil shields.
- When possible sources of interference include radio transmitters, TV stations, printed circuit boards, back planes, motor control circuits and computing equipment.
- For video, CATV, MATV, networking, computer I/O cables and computer-aided manufacturing applications.

### Table 9: Relative Cost Comparison

Relative cost comparisons are based on coaxial cable. Chart shows relative shield cost as one component of the total cost of the cable.

These cost ratings may change depending on the physical construction of the cable.




### Table 10: Shield Performance Comparison Chart

| Properties | Cable Shield Ratings* | | | | |
|---|---|---|---|---|---|
| | Braid (95% Coverage) | Spiral | Foil | Foil/Braid | Foil/Braid/Foil Duobond Plus® |
| **Frequency: DC** | | | | | |
| Capacitive | A | AA | AAA | AAA | AAA |
| Diffusion | AAA | A | C | AAA | AAA |
| Diffusion/Inductive | – | – | – | – | – |
| Diffusion/Inductive/Capacitive | – | – | – | – | – |
| **Frequency: 15 kHz** | | | | | |
| Capacitive | A | AA | AAA | AAA | AAA |
| Diffusion | AAA | B | C | AAA | AAA |
| Diffusion/Inductive | AA | C | A | AA | AAA |
| Diffusion/Inductive/Capacitive | – | – | – | – | – |
| **Frequency: 10 MHz to 1000 MHz** | | | | | |
| Capacitive | A | AA | AAA | AAA | AAA |
| Diffusion | – | – | – | – | – |
| Diffusion/Inductive | B | C | A | AA | AAA |
| Diffusion/Inductive/Capacitive | B | C | A | AA | AAA |

* Although ratings shown in table 10 are based on shielded coaxial cable test results, these ratings also pertain to shielded multi-conductor and flat cable where shield types are available.

Note: Shield effectiveness decreases as frequency increases. Therefore, ratings in one frequency category do not imply equal shield effectiveness in other frequency categories.

| Shield Rating Key | |
|---|---|
| **AAA** | Best |
| **AA** | Better |
| **A** | Good |
| **B** | Functional |
| **C** | Unsatisfactory |
| **–** | Not applicable |

# Metric Conversions

Table 11: Temperature Conversion Chart and Formula
Table 12: Distance and Weight Conversion Formulas, Table 13: RG Types

### Table 11: Temperature Conversion Chart

| °C ⟷ °F | | °C ⟷ °F | | °C ⟷ °F | |
|---|---|---|---|---|---|
| 210 | 410 | 125 | 257 | 40 | 104 |
| 205 | 401 | 120 | 248 | 35 | 95 |
| 200 | 392 | 115 | 239 | 30 | 86 |
| 195 | 383 | 110 | 230 | 25 | 77 |
| 190 | 374 | 105 | 221 | 20 | 68 |
| 185 | 365 | 100 | 212 | 15 | 59 |
| 180 | 356 | 95 | 203 | 10 | 50 |
| 175 | 347 | 90 | 194 | 5 | 41 |
| 170 | 338 | 85 | 185 | 0 | 32 |
| 165 | 329 | 80 | 176 | -5 | 23 |
| 160 | 320 | 75 | 167 | -10 | 14 |
| 155 | 311 | 70 | 158 | -15 | 5 |
| 150 | 302 | 65 | 149 | -20 | -4 |
| 145 | 293 | 60 | 140 | -25 | -13 |
| 140 | 284 | 55 | 131 | -30 | -22 |
| 135 | 275 | 50 | 122 | -35 | -31 |
| 130 | 266 | 45 | 113 | -40 | -40 |

**Temp. Conversion Formulas**

$$°C = \frac{5}{9}(°F - 32)$$

$$°F = \frac{9}{5}°C + 32$$

### Table 12: Conversion Chart

| To Convert Imperial to Metric | | | |
|---|---|---|---|
| inch | mm | x 25.4 | # |
| ft. | m | : 0.3048 | # |
| mi | km | x 1.6093 | ▲ |
| lbs. | kg | x 0.4536 | ▲ |
| lbs./100 ft. | kg/km | x 1.488 | ▲ |
| **To Convert Metric to Imperial** | | | |
| mm | inch | : 25.4 | # |
| m | ft. | x 0.3048 | # |
| km | mi | x 0.6214 | ▲ |
| kg | lbs. | x 2.204 | ▲ |
| kg/km | lbs./100 ft. | x 0.67197 | ▲ |

# = Exact value
▲ = Approximate value
x = multiply by
: = devide by

### Table 13: RG Types

For example RG-59 is a common type of coaxial cable used in a wide variety of professional and commercial applications. The term RG itself is quite generic and refers to a wide variety of cable designs, which differ from one another in shielding characteristics, center conductor material, and dielectric type.

RG was originally a military spec, but is now obsolete; in practice, the term RG is generally used to refer to coaxial cables with 50, 75 or 93 Ohm characteristic impedance and a center conductor as follows:

| Type | CDR (mm approx) | Impedance Ohm |
|---|---|---|
| RG-6 | 1 | 75 |
| RG-8 | 1.5 - 2.7 | 75 |
| RG-11 | 1.6 | 75 |
| RG-58 | 0.7 - 1.2 | 75 |
| RG-58 | 0.7 - 4.5 | 50 |
| RG-59 | 0.6 - 0.8 | 75 |
| RG-62 | 0.6 | 93 |
| RG-401 | 1.6 | 50 |
| RG-402 | 0.9 | 50 |
| RG-405 | 0.5 | 50 |

# Metric Conversions

## Table 14: Conductor Size Equivalents (Square Millimeters/Square Inches/Circular Mils/AWG)

| mm² | sq. in. | Circular mils | AWG |
|---|---|---|---|
| 1000 | 1.550 | 1974000 | |
| 975 | 1.511 | 1924700 | |
| 950 | 1.472 | 1875300 | |
| 925 | 1.434 | 1826000 | |
| 900 | 1.395 | 1776600 | |
| 875 | 1.356 | 1727300 | |
| 850 | 1.317 | 1677900 | |
| 825 | 1.279 | 1628600 | |
| 800 | 1.240 | 1579200 | |
| 775 | 1.201 | 1529900 | |
| 750 | 1.163 | 1480500 | |
| 725 | 1.124 | 1431200 | |
| 700 | 1.085 | 1381800 | |
| 675 | 1.046 | 1332500 | |
| 650 | 1.008 | 1283100 | |
| 625 | 0.969 | 1233800 | |
| 600 | 0.930 | 1184400 | |
| 575 | 0.891 | 1135100 | |
| 550 | 0.853 | 1085700 | 1000 MCM |
| 525 | 0.814 | 1036400 | |
| 500 | 0.775 | 987000 | |
| 475 | 0.736 | 937700 | |
| 450 | 0.698 | 888300 | |
| 425 | 0.659 | 839000 | |
| 400 | 0.620 | 789600 | 750 MCM |
| 375 | 0.581 | 740300 | |
| 350 | 0.542 | 690900 | |
| 325 | 0.504 | 641600 | 600 MCM |
| 300 | 0.465 | 592200 | |
| 275 | 0.426 | 542900 | 500 MCM |
| 250 | 0.388 | 493500 | |
| 225 | 0.349 | 444200 | 350 MCM |
| 200 | 0.310 | 394800 | |
| 185 | – | – | |
| 175 | 0.271 | 345500 | 300 MCM |
| 150 | 0.233 | 296100 | |
| 125 | 0.1938 | 246800 | |
| 120 | – | 211600 | 4/0 |
| 100 | 0.1550 | 197400 | |
| 95 | 0.1472 | 187530 | |
| 90 | 0.1395 | 177660 | |
| – | – | 167800 | 3/0 |
| 85 | 0.1317 | 167790 | |
| 80 | 0.1240 | 157920 | |
| 75 | 0.1163 | 148050 | |
| 70 | 0.1085 | 138180 | |
| – | – | 133100 | 2/0 |
| 65 | 0.1008 | 128310 | |
| 60 | 0.0930 | 118440 | |
| 55 | 0.0853 | 108570 | |
| – | – | 105600 | 1/0 |
| 50 | 0.0775 | 98700 | |
| 45 | 0.0698 | 88830 | |
| – | – | 83690 | 1 |
| 40 | 0.0620 | 78960 | |
| 35 | 0.0542 | 69090 | |
| – | – | 66360 | 2 |
| 30 | 0.0465 | 59220 | |
| – | – | 52620 | 3 |
| 25 | 0.0388 | 49350 | |
| – | – | 41740 | 4 |
| 20.0 | 0.0310 | 39480 | |
| 19.5 | 0.0302 | 38490 | |
| 19.0 | 0.0294 | 37510 | |
| 18.5 | 0.0287 | 36520 | |
| 18.0 | 0.0279 | 35530 | |
| 17.5 | 0.0271 | 34550 | |
| 17.0 | 0.0264 | 33560 | |
| – | – | 33090 | 5 |
| 16.5 | 0.0256 | 32560 | |
| 16.0 | 0.0248 | 31580 | 6 |
| 15.5 | 0.0240 | 30600 | |
| 15.0 | 0.0233 | 29610 | |
| 14.5 | 0.0225 | 28620 | |
| 14.0 | 0.0217 | 27640 | |
| 13.5 | 0.0209 | 26650 | |
| – | – | 26420 | |
| 13.0 | 0.0201 | 25660 | |
| 12.5 | 0.0194 | 24680 | |
| 12.0 | 0.0186 | 23690 | |
| 11.5 | 0.0178 | 22700 | |
| 11.0 | 0.0171 | 21710 | |
| – | – | 20820 | 7 |
| 10.5 | 0.0163 | 20730 | |
| 10.0 | 0.0155 | 19740 | |
| 9.5 | 0.01472 | 18753 | |
| 9.0 | 0.01395 | 17766 | |
| 8.5 | 0.01317 | 16779 | |
| – | – | 16510 | 8 |
| 8.0 | 0.01240 | 15792 | |
| 7.7 | 0.01163 | 14805 | |
| 7.0 | 0.01085 | 13818 | |
| – | – | 13090 | 9 |
| 6.5 | 0.01008 | 12831 | |
| 6.0 | 0.00930 | 11844 | |
| 5.5 | 0.00853 | 10857 | |
| – | – | 10380 | 10 |
| 5.00 | 0.00775 | 9870 | |
| 4.75 | 0.00736 | 9377 | |
| 4.50 | 0.00698 | 8883 | |
| 4.25 | 0.00659 | 8390 | |
| – | – | 8230 | 11 |
| 4.00 | 0.00620 | 7896 | |
| 3.75 | 0.00581 | 7403 | |
| 3.50 | 0.00542 | 6909 | |
| – | – | 6530 | 12 |
| 3.25 | 0.00504 | 6416 | |
| 3.00 | 0.00465 | 5922 | |
| 2.75 | 0.00426 | 5429 | |
| 2.63 | – | 5180 | 13 |
| 2.50 | 0.00388 | 4935 | |
| 2.25 | 0.00349 | 4422 | |
| – | – | 4110 | 14 |
| 2.00 | 0.00310 | 3948 | |
| 1.75 | 0.00271 | 3455 | |
| 1.65 | – | 3260 | 15 |
| 1.50 | 0.00233 | 2961 | |
| – | – | 2580 | 16 |
| 1.25 | 0.00194 | 2468 | |
| – | – | 2050 | 17 |
| 1.00 | 0.00155 | 1974 | |
| 0.90 | 0.00140 | 1777 | |
| – | – | 1620 | 18 |
| 0.75 | 0.00116 | 1481 | |
| 0.70 | 0.00109 | 1382 | |
| 0.65 | – | 1290 | 19 |
| 0.60 | 0.00093 | 1184 | |
| – | – | 1029 | 20 |
| 0.50 | 0.000775 | 987 | |

| To Convert: | Multiply by: |
|---|---|
| Inches to millimeters | 25.4 |
| Millimeters to inches | 0.03937 |

# Belden Color Code Charts

### Color Code Chart 1

| Cond. | Color |
|---|---|
| 1 | Black |
| 2 | White |
| 3 | Red |
| 4 | Green |
| 5 | Brown |
| 6 | Blue |
| 7 | Orange |
| 8 | Yellow |
| 9 | Purple |
| 10 | Grey |
| 11 | Pink |
| 12 | Tan |

18 gage conductors in cables 8446 through 8449 are black and white.

### Color Code Chart 2 and 2R – ICEA (Insulated Cable Engineers Association) Standard*

| Cond. | Color |
|---|---|
| 1 | Black |
| 2 | White |
| 3 | Red |
| 4 | Green |
| 5 | Brown |
| 6 | Blue |
| 7 | White/Black Stripe |
| 8 | Red/Black Stripe |
| 9 | Green/Black Stripe |
| 10 | Orange/Black Stripe |
| 11 | Blue/Black Stripe |
| 12 | Black/White Stripe |
| 13 | Red/White Stripe |
| 14 | Green/White Stripe |
| 15 | Blue/White Stripe |
| 16 | Black/Red Stripe |
| 17 | White/Red Stripe |
| 18 | Orange/Red Stripe |
| 19 | Blue/Red Stripe |
| 20 | Red/Green Stripe |
| 21 | Orange/Green Stripe |
| 22 | Black/White/Red |
| 23 | White/Black/Red |
| 24 | Red/Black/White |
| 25 | Green/Black/White |
| 26 | Orange/Black/White |
| 27 | Blue/Black/White |
| 28 | Black/Red/Green |
| 29 | White/Red/Green |
| 30 | Red/Black/Green |
| 31 | Green/Black/Orange |
| 32 | Orange/Black/Green |
| 33 | Blue/White/Orange |
| 34 | Black/White/Orange |
| 35 | White/Red/Orange |
| 36 | Orange/White/Blue |
| 37 | White/Red/Blue |
| 38 | Black/White/Green |
| 39 | White/Black/Green |
| 40 | Red/White/Green |
| 41 | Green/White/Blue |
| 42 | Orange/Red/Green |
| 43 | Blue/Red/Green |
| 44 | Black/White/Blue |
| 45 | White/Black/Blue |
| 46 | Red/White/Blue |
| 47 | Green/Orange/Red |
| 48 | Orange/Red/Blue |
| 49 | Blue/Orange/Red |
| 50 | Black/Orange/Red |

* 2= Spiral Stripe • 2R= Ring Band Striping

### Color Code Chart 3 for Paired Cables (Belden Standard)

| Cond. | Color |
|---|---|
| 1 | Black & Red |
| 2 | Black & White |
| 3 | Black & Green |
| 4 | Black & Blue |
| 5 | Black & Yellow |
| 6 | Black & Brown |
| 7 | Black & Orange |
| 8 | Red & White |
| 9 | Red & Green |
| 10 | Red & Blue |
| 11 | Red & Yellow |
| 12 | Red & Brown |
| 13 | Red & Orange |
| 14 | Green & White |
| 15 | Green & Blue |
| 16 | Green & Yellow |
| 17 | Green & Brown |
| 18 | Green & Orange |
| 19 | White & Blue |
| 20 | White & Yellow |
| 21 | White & Brown |
| 22 | White & Orange |
| 23 | Blue & Yellow |
| 24 | Blue & Brown |
| 25 | Blue & Orange |
| 26 | Brown & Yellow |
| 27 | Brown & Orange |
| 28 | Orange & Yellow |
| 29 | Purple & Orange |
| 30 | Purple & Red |
| 31 | Purple & White |
| 32 | Purple & Green |
| 33 | Purple & Blue |
| 34 | Purple & Yellow |
| 35 | Purple & Brown |
| 36 | Purple & Black |
| 37 | Grey & White |

### Color Code Chart 4 for Paired Cables

| Pair No. | Color Combination |
|---|---|
| 1 | White & Blue |
| 2 | White & Orange |
| 3 | White & Green |
| 4 | White & Brown |
| 5 | White & Grey |
| 6 | Red & Blue |
| 7 | Red & Orange |
| 8 | Red & Green |
| 9 | Red & Brown |
| 10 | Red & Grey |
| 11 | Black & Blue |
| 12 | Black & Orange |
| 13 | Black & Green |
| 14 | Black & Brown |
| 15 | Black & Grey |
| 16 | Yellow & Blue |
| 17 | Yellow & Orange |
| 18 | Yellow & Green |
| 19 | Yellow & Brown |
| 20 | Yellow & Grey |
| 21 | Purple & Blue |
| 22 | Purple & Orange |
| 23 | Purple & Green |
| 24 | Purple & Brown |
| 25 | Purple & Grey |

### Color Code Chart 5 for Paired Cables (Western Electric Standard)

| Pair No. | Color Combination |
|---|---|
| 1 | White/Blue Stripe & Blue/White Stripe |
| 2 | White/Orange Stripe & Orange/White Stripe |
| 3 | White/Green Stripe & Green/White Stripe |
| 4 | White/Brown Stripe & Brown/White Stripe |
| 5 | White/Grey Stripe & Grey/White Stripe |
| 6 | Red/Blue Stripe & Blue/Red Stripe |
| 7 | Red/Orange Stripe & Orange/Red Stripe |
| 8 | Red/Green Stripe & Green/Red Stripe |
| 9 | Red/Brown Stripe & Brown/Red Stripe |
| 10 | Red/Grey Stripe & Grey/Red Stripe |
| 11 | Black/Blue Stripe & Blue/Black Stripe |
| 12 | Black/Orange Stripe & Orange/Black Stripe |
| 13 | Black/Green Stripe & Green/Black Stripe |
| 14 | Black/Brown Stripe & Brown/Black Stripe |
| 15 | Black/Grey Stripe & Grey/Black Stripe |
| 16 | Yellow/Blue Stripe & Blue/Yellow Stripe |
| 17 | Yellow/Orange Stripe & Orange/Yellow Stripe |
| 18 | Yellow/Green Stripe & Green/Yellow Stripe |
| 19 | Yellow/Brown Stripe & Brown/Yellow Stripe |
| 20 | Yellow/Grey Stripe & Grey/Yellow Stripe |
| 21 | Purple/Blue Stripe & Blue/Purple Stripe |
| 22 | Purple/Orange Stripe & Orange/Purple Stripe |
| 23 | Purple/Green Stripe & Green/Purple Stripe |
| 24 | Purple/Brown Stripe & Brown/Purple Stripe |
| 25 | Purple/Grey Stripe & Grey/Purple Stripe |

# Belden Color Code Charts

### Color Code Chart 6

| Position No. | Color |
|---|---|
| 1 | Brown |
| 2 | Red |
| 3 | Orange |
| 4 | Yellow |
| 5 | Green |
| 6 | Blue |
| 7 | Purple |
| 8 | Grey |
| 9 | White |
| 10 | White/Black |
| 11 | White/Brown |
| 12 | White/Red |
| 13 | White/Orange |
| 14 | White/Yellow |
| 15 | White/Green |
| 16 | White/Blue |
| 17 | White/Purple |
| 18 | White/Grey |
| 19 | White/Black/Brown |
| 20 | White/Black/Red |
| 21 | White/Black/Orange |
| 22 | White/Black/Yellow |
| 23 | White/Black/Green |
| 24 | White/Black/Blue |

### Color Code Chart 7 for Snake Cables

| Pair No. | Color Combination |
|---|---|
| 1 | Brown |
| 2 | Red |
| 3 | Orange |
| 4 | Yellow |
| 5 | Green |
| 6 | Blue |
| 7 | Purple |
| 8 | Grey |
| 9 | White |
| 10 | Black |
| 11 | Tan |
| 12 | Pink |
| 13 | Grey/Brown Stripe |
| 14 | Grey/Red Stripe |
| 15 | Grey/Orange Stripe |
| 16 | Grey/Yellow Stripe |
| 17 | Grey/Green Stripe |
| 18 | Grey/Blue Stripe |
| 19 | Grey/Purple Stripe |
| 20 | Grey/Grey Stripe |

| Pair No. | Color Combination |
|---|---|
| 21 | Grey/White Stripe |
| 22 | Grey/Black Stripe |
| 23 | Grey/Tan Stripe |
| 24 | Grey/Pink Stripe |
| 25 | Blue/Brown Stripe |
| 26 | Blue/Red Stripe |
| 27 | Blue/Orange Stripe |
| 28 | Blue/Yellow Stripe |
| 29 | Blue/Green Stripe |
| 30 | Blue/Blue Stripe |
| 31 | Blue/Purple Stripe |
| 32 | Blue/Grey Stripe |
| 33 | Blue/White Stripe |
| 34 | Blue/Black Stripe |
| 35 | Blue/Tan Stripe |
| 36 | Blue/Pink Stripe |
| 37 | Lime/Brown Stripe |
| 38 | Lime/Red Stripe |
| 39 | Lime/Orange Stripe |
| 40 | Lime/Yellow Stripe |

| Pair No. | Color Combination |
|---|---|
| 41 | Lime/Green Stripe |
| 42 | Lime/Blue Stripe |
| 43 | Lime/Purple Stripe |
| 44 | Lime/Grey Stripe |
| 45 | Lime/White Stripe |
| 46 | Lime/Black Stripe |
| 47 | Lime/Tan Stripe |
| 48 | Lime/Pink Stripe |
| 49 | Aqua/Brown Stripe |
| 50 | Aqua/Red Stripe |
| 51 | Aqua/Orange Stripe |
| 52 | Aqua/Yellow Stripe |
| 53 | Aqua/Green Stripe |
| 54 | Aqua/Blue Stripe |
| 55 | Aqua/Purple Stripe |
| 56 | Aqua/Grey Stripe |
| 57 | Aqua/White Stripe |
| 58 | Aqua/Black Stripe |
| 59 | Aqua/Tan Stripe |
| 60 | Aqua/Pink Stripe |

### Color Code Chart 8 for DataTwist® Cables (Modified Western Electric)

| Pair No. | Color Combination |
|---|---|
| 1 | White/Blue Stripe & Blue |
| 2 | White/Orange Stripe & Orange |
| 3 | White/Green Stripe & Green |
| 4 | White/Brown Stripe & Brown |
| 5 | White/Grey Stripe & Grey |
| 6 | Red/Blue Stripe & Blue/Red Stripe |
| 7 | Red/Orange Stripe & Orange/Red Stripe |
| 8 | Red/Green Stripe & Green/Red Stripe |

| Pair No. | Color Combination |
|---|---|
| 9 | Red/Brown Stripe & Brown/Red Stripe |
| 10 | Red/Grey Stripe & Grey/Red Stripe |
| 11 | Black/Blue Stripe & Blue/Black Stripe |
| 12 | Black/Orange Stripe & Orange/Black Stripe |
| 13 | Black/Green Stripe & Green/Black Stripe |
| 14 | Black/Brown Stripe & Brown/Black Stripe |

| Pair No. | Color Combination |
|---|---|
| 15 | Black/Grey Stripe & Grey/Black Stripe |
| 16 | Yellow/Blue Stripe & Blue/Yellow Stripe |
| 17 | Yellow/Orange Stripe & Orange/Yellow Stripe |
| 18 | Yellow/Green Stripe & Green/Yellow Stripe |
| 19 | Yellow/Brown Stripe & Brown/Yellow Stripe |
| 20 | Yellow/Grey Stripe & Grey/Yellow Stripe |

| Pair No. | Color Combination |
|---|---|
| 21 | Purple/Blue Stripe & Blue/Purple Stripe |
| 22 | Purple/Orange Stripe & Orange/Purple Stripe |
| 23 | Purple/Green Stripe & Green/Purple Stripe |
| 24 | Purple/Brown Stripe & Brown/Purple Stripe |
| 25 | Purple/Grey Stripe & Grey/Purple Stripe |

### Color Code Chart 9: IBM RISC System/6000

| Cond. | Color |
|---|---|
| 1 | White over Blue |
| 2 | White over Orange |
| 3 | White over Green |
| 4 | White over Brown |
| 5 | White over Grey |
| 6 | White over Red |
| 7 | White over Yellow |

| Pair No. | Color Combination |
|---|---|
| 1 | White over Blue & Blue over White |
| 2 | White over Orange & Orange over White |
| 3 | White over Green & Green over White |

### Color Code Chart 10 for Fiber Optics*

| Position No. | Color |
|---|---|
| 1 | Blue |
| 2 | Orange |
| 3 | Green |
| 4 | Brown |
| 5 | Grey |
| 6 | White |
| 7 | Red |

| Position No. | Color |
|---|---|
| 8 | Black |
| 9 | Yellow |
| 10 | Purple |
| 11 | Rose |
| 12 | Aqua |

* per TIA/EIA 598-A

# Belden Color Code Charts

### Chart 11: VDE 47100

| Core No. | Color |
|---|---|
| 1 | White |
| 2 | Brown |
| 3 | Green |
| 4 | Yellow |
| 5 | Grey |
| 6 | Pink |
| 7 | Blue |
| 8 | Red |
| 9 | Black |
| 10 | Violet |
| 11 | Grey/Pink |
| 12 | Red/Blue |
| 13 | White/Grey |
| 14 | Brown/Green |
| 15 | White/Yellow |
| 16 | Yellow/Brown |
| 17 | White/Grey |
| 18 | Grey/Brown |
| 19 | White/Pink |
| 20 | Pink/Brown |
| 21 | White/Blue |

| Core No. | Color |
|---|---|
| 22 | Brown/Blue |
| 23 | White/Red |
| 24 | Brown/Red |
| 25 | White/Black |
| 26 | Brown/Black |
| 27 | Grey/Green |
| 28 | Yellow/Green |
| 29 | Pink/Green |
| 30 | Yellow/Pink |
| 31 | Green/Blue |
| 32 | Yellow/Blue |
| 33 | Green/Red |
| 34 | Yellow/Red |
| 35 | Green/Black |
| 36 | Yellow/Black |
| 37 | Grey/Blue |
| 38 | Pink/Blue |
| 39 | Grey/Red |
| 40 | Pink/Red |
| 41 | Grey/Black |
| 42 | Pink/Black |

| Core No. | Color |
|---|---|
| 43 | Blue/Black |
| 44 | Red/Black |
| 45 | White/Brown/Black |
| 46 | Yellow/Green/Black |
| 47 | Grey/Pink/Black |
| 48 | Red/Blue/Black |
| 49 | White/Green/Black |
| 50 | Brown/Green/Black |
| 51 | White/Yellow/Black |
| 52 | Yellow/Brown/Black |
| 53 | White/Grey/Black |
| 54 | Grey/Brown/Black |
| 55 | White/Pink/Black |
| 56 | Pink/Brown/Black |
| 57 | White/Blue/Black |
| 58 | Brown/Blue/Black |
| 59 | White/Red/Black |
| 60 | Brown/Red/Black |
| 61 | Black/White |

### Chart 12: UNEL 00722

| Core No. | Color |
|---|---|
| 2 | Brown, Blue |
| 3 | Brown, Blue, Green/Yellow |
| 4 | Brown, Black, Blue, Green/Yellow |
| 5 | Brown, Blue, Black, Black, Green/Yellow |

# Halogen-Free Standards

Our halogen-free cables meet the most important international standards. Moreover Belden selected halogen-free jacketing materials are suitable for outdoor use like direct burial.

In comparison to products containing halogens (like PVC), these halogen-free materials offers considerable advantages in case of a fire:

- Less impairment to vision
- Minimal toxic gases
- No release of highly caustic acids
- More safety for man, nature and materials.

Belden's halogen-free cables are both FRNC (= Flame-Retardant, Non-Corrosive ) and LSNH (= Low-Smoke, Non-Halogen).

In the event of a fire, low halogen cables can burn extremely fiercely. In addition, a forced air flow intended to cool equipment can provide a continuous supply of oxygen, thus "feeding" the fire. Where this air flow has a HVAC function, fire and toxic smoke may be distributed to other parts of the building.

### Beyond Zero Halogen

Where there is a risk of fire and/or smoke being propagated and spread throughout a building, there is an additional risk of corrosive and toxic damage. Recent research has demonstrated that several cables in common use may in fact propagate fire and smoke extremely rapidly. These include cables with a fire rating, including low smoke and low halogen. In a number of actual fires, severe structural damage has occurred.

### Products Tested for Public Safety

It goes without saying that where public safety is concerned, there can be no shortcuts. Safety standards are high to ensure minimum damage to life, property and the environment. When it comes to cables, make sure you specify the best products for safety. So you can be confident of performance and quality – even in the event of a calamity.

Belden cables offer the quality and reliability consistent with your long-term needs. And to ensure top performance. Belden cables are available with extended fire ratings. Belden has developed these cables in response to the industry's growing demand for halogen free cables with acid free, non toxic and low smoke density which are also flame and fire retardant.

The test designation (and its meaning) would be one of the following:

**IEC 60754-1**
The cable must be designed with halogen-free plastics. This has an additional advantage: no formation of toxic gases.

**IEC 60754-2**
This test determines the level of corrosion by combustion of insulation-bedding and sheathing compounds. A minimum of 1000 mg (±5 mg) of insulating or sheathing compound should be heated in a furnace, 500 - 600 mm long, to a temperature of 935°C.

**IEC 60332-3C** (Test on Fire Behavior on Cable Bundles)
The cables should be flamed/torched from a distance of 75 mm by a propane gas burner. The test duration is 20 min. The test is passed if the flames extinguish by themselves and when no part of the samples is affected above a 2.5 m height from the burner.

**IEC 60332-1**
A sample of 600 mm is burnt with a flame of a propane gas burner. The test is passed, if the sample has not burnt or when the flames extinguish by themselves and the affected part of the sample which is located the farest from the bottom edge of the burner has not reached the opposite edge of the sample.

**IEC 61034-1**
The measurement system (27 $m^3$ chamber) consists of a light source (a standardized 100 W halogen lamp) and a selenium or silicon photo-electric cell, both installed at a height of 2.15 m. A rectangular tray filled with 1 litre of alcohol provides the fire source. A ventilator ensures an even distribution of smoke. The number of test samples depends on the outer diameter. The light intensity is recorded by a plotter. The test is passed if the level of light transmission is not lower than 60%.

| Specification | International IEC | Europe CENELEC | Germany VDE | Switzerland SEV | Spain UNE | Italy CEI | France NF | United Kingdom BS | Others |
|---|---|---|---|---|---|---|---|---|---|
| **Material Properties** | | | | | | | | | |
| Quantity of halogen (halogen-free) | IEC 60754-1 | EN 50267-2-1 | VDE 0482, Teil 267 | TP 20B/ 3C 3.4.5 | UNE EN 50267-2-1 | CEI 20-37-2 | NFC 20-454 | -/- | -/- |
| Toxicity index (no toxic gases) | IEC 60754-1 | EN 50305 | -/- | -/- | UNE EN 50267-2-1 | CEI 20-37-7 | NFC 20-454 | -/- | NES 713 |
| Degree of Acidity (no corrosive gases) | IEC 60754-2 | EN 50267-2-2 | VDE 0482, Teil 267 | TP 20B/ 3C 3.4.4/3.4.5 | UNE EN 50267-2-3 | -/- | NFC 20-454 | BS 6425 Part 2 | -/- |
| **Fire Performance** | | | | | | | | | |
| Fire retardant (no flame propagation) | IEC 60332-3C IEC 60333-3 | EN 50265-2-1 (HD405.3) | VDE 0482, Teil 266-2-4 | TP 20B/ 3C 3.4.1.3 | UNE 20423-3 UNE 20427 | CEI 20-22-3 | NFC 32070-C1 | BS 4066 Part 3 | -/- |
| Flame retardant | IEC 60332-1 | EN 50265-2-1 (HD405.1/2) | VDE 0482, Teil 265-2-1 | TP 20B/ 3C 3.4.1.1 | UNE EN 50265-2-1 | -/- | -/- | BS 4066 Part 1 | -/- |
| Low smoke density | IEC 61034-1 | EN 50268-2-1 | VDE 0482, Teil 268 | TP 20B/ 3C 3.4.3 | UNE EN 50268 | CEI 20-37-5 | -/- | BS 7622 Part 1 | -/- |

# Environmental Regulations and Compliance

### Heavy Metal Free, RoHS and Prop 65

Over the past several years, increased attention has been placed upon the potential environmental impacts of electronic products. Both voluntary and regulatory measures have been taken to address some of these concerns. Already in place are California Proposition 65 and the European Union End-of-Life Vehicle (ELV) and Flame Retardant Directives. Since July 2006 the European Union Restriction on Hazardous Substances (RoHS) Directive is in place and restricts the use of heavy metal substances (Lead, for example) in electronic products. There are also several states and countries currently considering their own legislation on this topic.

The use of materials that are environmentally friendly is of growing concern to Belden, its customers and to the global community since January 2006. Belden is engaged in a world-wide project to integrate into its product designs and supplier requirements a formalized program to restrict the use of these materials. The following list of materials represents examples of substances that Belden is eliminating or reducing in certain applications:

- Asbestos and its compounds
- Cadmium and its compounds
- Chromium VI and its compounds
- Lead and its compounds
- Mercury and its compounds
- Polybrominated biphenyls (PBBs) and their ethers/oxides (PBDEs, PBBEs)
- Di-(2-ethylhexly)phthalate (DEHP)
- Penta-, Octa-BDE brominated flame retardants

As a result of this project, many of Belden's products are now, heavy metal free and meet the requirements of both RoHS and California Proposition 65. Please consult the Glossary of Terms section, contact Belden customer service or visit www.belden-emea.com for more specific product details and current compliance information.

### RoHS Compliance

Unless so marked, cables in this catalog do not contain any of the following restricted substances, as an intentional additive, and is therefore compliant with European Directive 2002/95/EC (RoHS), European Directive 2000/53/EC (ELV), European Directive 2003/11/EC (BFR), European Directive 2002/96/EC (WEEE), and California Proposition 65 Consent Judgement for Wire & Cable Manufactures [San Francisco Superior Court Nos. 312962 and 320342] (Prop 65).

For customer convenience, Belden products that are in compliance with these directives contain the identification "ROHS" within the text of the jacket surface printing and also an environmentally friendly logo (as shown at right) on package labeling.

| Substance | Maximum Concentration* |
|---|---|
| Lead | 0.03% |
| Mercury | 0.10% |
| Hexavalent Chromium | 0.10% |
| PBB, PBDE** | 0.10% |
| Cadmium | 0.01% |

* Per homogeneous material, as trace or contaminate amount.
** Some Belden cables may contain Decabromodiphynyl Oxide/Ether (PBDE) as a flame retardant. This substance is currently exempt from RoHS.

In addition, Belden products do not contain asbestos and its compounds or Di-(2-ethylhexly)phthalate (DEHP).

This determination is based upon information obtained from sources which Belden believes are reliable, and from random sample testing at the Belden Engineering Center; however, the information is provided without any representation of warranty, expressed or implied, regarding accuracy or correctness. Belden does not specifically run any analysis on our raw materials or end product to measure for these substances.

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# Cable Packaging

Belden, a recognized leader in state-of-the-art packaging design, has introduced a variety of packaging styles and options for the convenience of our customers:

## UnReel®

A wide variety of Belden cable and plenum cable is available in Belden's UnReel cardboard dispenser.

Belden UnReel is a unique packaging/dispensing system developed to save time, cut costs and labor, and eliminate the need for dereeling equipment.

Lightweight and more economical than conventional drums or reels, UnReel dispensers have pre-punched handles for easy, individual transport as well as rectangular boxes for easy pallet delivery and storage. Unreeled cable pays out smoothly and evenly with no kinking, twisting, or backlashing. It also rolls out 60% faster per hour than conventionally packaged cable.

UnReel ships, stores and dispenses in one carton, which – since its introduction – has always been fully recyclable and biodegradable. Look for the letter "U" in the put-up ("length") description.

## Coil Package

New Generation cables are available in a coil package. These revolutionary coils come in an easy-to handle standard package size so pallet loading is uniform. In addition, the densely packaged coil requires less shelf space, truck space or cage space. In addition, because there is no box and no spool, far less waste and clean-up are required after use.

This is the most tangle-proof package available and, because the wire pulls from the middle you only have to handle the weight of the length of wire between you and the coil. This is a great advantage over the conventional spool where it is necessary to pull the whole weight of the package to get it spinning and, once spinning, the spool does not stop. Often assistance is required to stop for payouts from tangling. With coils, no assistance is required and there is no tangling. In addition, five coils can be stacked and pulled in parallel through their common centre.

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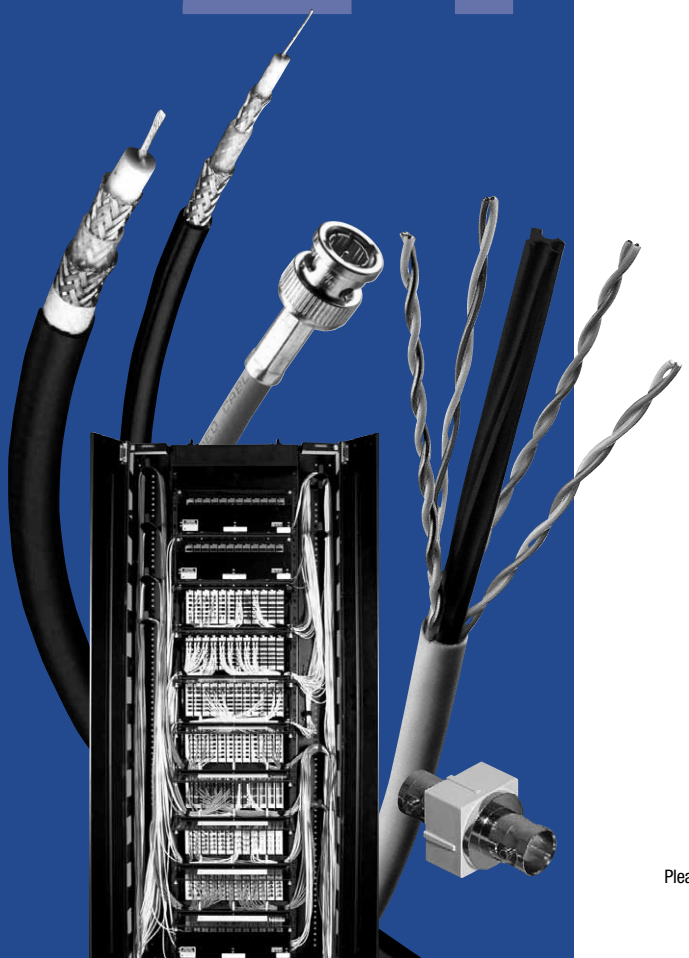
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## Notes

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www.belden-emea.com

## EUROPE/MIDDLE EAST/AFRICA

**The Netherlands**
**Division Headquarters – Europe, Middle East, Africa**
Visiting address:
Edisonstraat 9
5928 PG Venlo
The Netherlands
Postal address:
P.O. Box 9
5900 AA Venlo
The Netherlands
**Phone: +31-77-3878-555**
Fax: +31-77-3878-488
venlo.salesinfo@belden.com

**France**
Immeuble le Cesar
20, Place Louis Pradel
69001 Lyon
France
**Phone: +33-472-109-990**
Fax: +33-478-298-409
lyon.salesinfo@belden.com

**Germany**
**HEW-KABEL**
Gewerbegebiet Klingsiepen 12
51688 Wipperfürth
Germany
**Phone: +49-2267-683-0**
Fax: +49-2267-2203
wipperfuerth.sales@hew-kabel.com

**Italy**
Centro Direzionale Colleoni
Palazzo Cassiopea Ingr 3
Via Paracelso, 26
20041 Agrate Brianza (MI)
Italy
**Phone: +39-039-656-0911**
Fax: +39-039-656-0929
milano.salesinfo@belden.com

**United Kingdom**
3000 Manchester Business Park
Aviator Way
Manchester M22 5TG
United Kingdom
**Phone: +44-161-266-1115**
Fax: +44-161-266-1339
manchester.salesinfo@belden.com

**Africa/Middle East**
Dubai Internet City
Building One, Office 216
P.O. Box 500158
Dubai
United Arab Emirates
**Phone: +97-14-391-0490**
Fax: +97-14-391-8775
dubai.salesinfo@belden.com

## UNITED STATES

**Division Headquarters – Americas**
2200 U.S. Highway 27 South
Richmond, IN 47374
United States
**Phone: +1-765-983-5200**
Toll-Free: +1-800-235-3361
Fax: +1-765-983-5294
info@belden.com
web: www.belden.com

793 Fort Mill Highway
Fort Mill, SC 29715
United States
**Phone: +1-803-802-1450**
Fax: +1-803-802-1440
info@belden.com

## CANADA

**Cobourg**
130 Willmott Street
Cobourg, Ontario K9A 4M3
Canada
**Phone: +1-905-372-8713**
Fax: +1-905-372-6291
salescobourg@belden.com

**Montreal**
2345 Boulevard des Sources
Pointe Claire, Quebec H9R 5Z3
Canada
**Phone: +1-800-681-6131**
Fax: +1-514-822-7968
ibdn.info@belden.com

## ASIA/PACIFIC

**Australia**
Level 10
369 Royal Parade
Parkville, Victoria 3052
Australia
**Phone: +61-3-9341-0900**
Fax: +61-3-9347-8274
australia.sales@belden.com

**Beijing**
Rm 1015
Office Tower Beijing Capital Times Square
No. 88 West Changan Ave.
Beijing 100031
People's Republic of China
**Phone: +86-10-8391-5181-3**
Fax: +86-10-8391-5186
hongkong.sales@belden.com

**Hong Kong**
Unit 4401, 44F
Cosco Tower
Grand Millennium Plaza
183 Queen's Road Central
Hong Kong
**Phone: +852-2955-0128**
Fax: +852-2907-6933
hongkong.sales@belden.com

**India**
15th Floor, Tower B
Unitech Cyberpark
Sector 39, Gurgaon 122001
Haryana, India
**Phone: +91-124-4509999**
Fax: +91-124-4509900
india.sales@belden.com

**Malaysia**
Suite C315, 3rd Floor
Central Tower
Wisma Consplant 1
No. 2, Jalan SS 16/4
47500 Subang Jaya
Selangor Darul Ehsan
Malaysia
**Phone: +603-5638-5897**
Fax: +603-5637-8917
malaysia.sales@belden.com

**Shanghai**
Unit 2605
Harbour Ring Plaza
18 Xi Zang Zhong Road
Shanghai 200001
People's Republic of China
**Phone: +86-21-5385-3355**
Fax: +86-21-6249-0879
hongkong.sales@belden.com

**Singapore**
101 Thomson Road
#21-01 United Square
Singapore 307591
**Phone: +65-6251-8211**
Fax: +65-6251-5010
singapore.sales@belden.com

## MEXICO/CARIBBEAN/SOUTH AMERICA

**Regional Office**
6100 Hollywood Boulevard
Suite 110
Hollywood, Florida 33024
United States
**Phone: +1-954-987-5044**
Fax: +1-954-987-8022
salesla@belden.com

**Mexico**
Insurgentes Sur 800, Piso 9
Colonia del Valle
03100 Mexico, D.F.
Mexico
**Phone: +52-55-5523-7733**
Fax: +52-55-5528-8077
salesmex@belden.com

**South America**
Av. Rebouças, 1923 - 4 Andar
05401-300 Sao Paulo, SP
Brasil
**Phone: +5511-3061-3099**
Fax: +5511-3061-3752
salesla@belden.com

**Belden Technical Support +31-77-3875-414 or techsupport.venlo@belden.com**

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