## **Detailed Specifications & Technical Data**

#### **ENGLISH MEASUREMENT VERSION**



### 11700A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable



For more Information please call

1-800-Belden1



#### **General Description:**

Installation Temperature Range:

Operating Temperature Range:

Min. Bend Radius/Minor Axis:

Max. Recommended Pulling Tension:

**Bulk Cable Weight:** 

24 AWG Bonded-Pairs solid bare copper conductors, polyolefin insulation, PVC inner jacket, rip cord, industrial grade sunlight- and oil-resistant PVC outer jacket. Sequential marking at two foot intervals.

#### Usage (Overall) Suitable Applications: Industrial Ethernet Cable, Harsh Environments, EtherNet/IP™, 350MHz Enhanced Category 5e, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, CMX - Outdoor, RJ-45 Compatible, Extra Protection **Physical Characteristics (Overall)** Conductor AWG: # Pairs AWG Stranding Conductor Material Dia. (in.) Solid BC - Bare Copper 8 **Total Number of Conductors:** Insulation Insulation Material: Insulation Material Wall Thickness (in.) Dia. (in.) PO - Polyolefin **Inner Jacket** Inner Jacket Material: Inner Jacket Material Nom. Dia. (in.) PVC - Polyvinyl Chloride | .200 Inner Jacket Ripcord: **Outer Shield** Outer Shield Material: **Outer Shield Material** Unshielded **Outer Jacket Outer Jacket Material: Outer Jacket Material** Nom. Wall Thickness (in.) Industrial Grade PVC - Polyvinyl Chloride .035 Outer Jacket Ripcord: Yes **Overall Cable** Overall Nominal Diameter: 0.285 in. Pair Pair Color Code Chart: Number Color White/Blue Stripe & Blue White/Orange Stripe & Orange White/Green Stripe & Green White/Brown Stripe & Brown **Mechanical Characteristics (Overall)** Storage Temperature Range: -40°C To +85°C

-25°C To +75°C

-40°C To +75°C

35 lbs/1000 ft. 40 lbs.

0.290 in.

Page 1 of 3 10-30-2014

# **Detailed Specifications & Technical Data**





### 11700A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

| Applicable Specifications and Agency Complian  | nce (Overall)  |  |  |  |  |
|--|--|--|--|--|--|
| Applicable Specifications and Agency Compilal<br>Applicable Standards & Environmental Programs | ilice (Overall)  |  |  |  |  |
| NEC/(UL) Specification:  | CMR, CMX-Outdoor   |  |  |  |  |
| CEC/C(UL) Specification:   | CMR  |  |  |  |  |
| EU Directive 2011/65/EU (ROHS II):   | Yes  |  |  |  |  |
| Other Standards:   | ISO/IEC 11801 ed 2.1 (2008) Class D  |  |  |  |  |
| EU Directive 2000/53/EC (ELV):   | Yes  |  |  |  |  |
| EU Directive 2002/95/EC (RoHS):  | Yes  |  |  |  |  |
| EU RoHS Compliance Date (mm/dd/yyyy):  | 01/01/2004   |  |  |  |  |
| EU Directive 2002/96/EC (WEEE):  | Yes  |  |  |  |  |
| EU Directive 2003/11/EC (BFR):   | Yes  |  |  |  |  |
| CA Prop 65 (CJ for Wire & Cable):  | Yes  |  |  |  |  |
|  | Yes  |  |  |  |  |
| MII Order #39 (China RoHS):  | P-07-KA060005  |  |  |  |  |
| PMSHA Specification:   |  |  |  |  |  |
| Telecommunications Standards:  | Category 5e - TIA 568.C.2  |  |  |  |  |
| Other Specification: Applicable Patents:   | NEMA WC-63.1 Category 5e, Ethernet/IP™ compliant, UL verified to Category 5e |  |  |  |  |
| Country<br>www.belden.com/p  |  |  |  |  |  |
| lame Test  |  |  |  |  |  |
| UL Flame Test:   | UL1666 Vertical Riser  |  |  |  |  |
| CSA Flame Test:  | FT4  |  |  |  |  |
| uitability   |  |  |  |  |  |
| Suitability - Indoor:  | Yes  |  |  |  |  |
| Suitability - Outdoor:   | Yes  |  |  |  |  |
| Sunlight Resistance:   | Yes  |  |  |  |  |
| Oil Resistance:  | Yes  |  |  |  |  |
| Plenum/Non-Plenum  |  |  |  |  |  |
| Plenum (Y/N):  | No   |  |  |  |  |
| lectrical Characteristics (Overall)  |  |  |  |  |  |
| lom. Mutual Capacitance:  Capacitance (pF/ft)  15  |  |  |  |  |  |
| Maximum Capacitance Unbalance (pF/100 m):  | 66   |  |  |  |  |
| lominal Velocity of Propagation:  VP (%)  70   |  |  |  |  |  |
| Delay (ns/100 m) 510   |  |  |  |  |  |
| ax. Delay Skew: Delay Skew (ns/100 m) 25   |  |  |  |  |  |
| laximum Conductor DC Resistance: DCR @ 20°C (Ohm/100 m) 9                                      |  |  |  |  |  |
| lax. Operating Voltage - UL:  Voltage  300 V RMS   |  |  |  |  |  |
| laximum DCR Unbalanced: DCR Unbalance @ 20°C (%) 3   |  |  |  |  |  |

Page 2 of 3 10-30-2014

## **Detailed Specifications & Technical Data**

#### **ENGLISH MEASUREMENT VERSION**



### 11700A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

#### **Electrical Characteristics-Premise (Overall)**

#### Premise Cable Electrical Table 1:

| Freq. (MHz) | Max. Attenuation (dB/100 m) | Min. NEXT (dB) | Min. PSNEXT (dB) | Min. ACR (dB) | Min. PSACR (dB) | Min RL (dB) |
|-------------|-----------------------------|----------------|------------------|---------------|-----------------|-------------|
| 1           | 2.0                         | 65.3           | 65.3             | 63.3          | 63.3            | 20.0        |
| 4           | 4.0                         | 56.3           | 56.3             | 52.3          | 52.3            | 23.0        |
| 8           | 5.7                         | 51.8           | 51.8             | 46.1          | 46.1            | 24.5        |
| 10          | 6.4                         | 50.3           | 50.3             | 43.9          | 43.9            | 25.0        |
| 16          | 8.1                         | 47.3           | 47.3             | 39.1          | 39.1            | 25.0        |
| 20          | 9.2                         | 45.8           | 45.8             | 35.2          | 35.2            | 25.0        |
| 25          | 10.3                        | 44.3           | 44.3             | 34.1          | 34.1            | 24.3        |
| 31.25       | 11.6                        | 42.9           | 42.9             | 31.3          | 31.3            | 23.6        |
| 62.5        | 16.8                        | 38.4           | 38.4             | 21.6          | 21.6            | 21.5        |
| 100         | 21.7                        | 35.3           | 35.3             | 17.1          | 17.1            | 20.1        |
| 155         | 27.7                        | 32.5           | 32.5             | 4.7           | 4.7             | 19.0        |
| 200         | 32.0                        | 30.8           | 30.8             | 3.0           | 3.0             | 19.0        |
| 250         | 36.4                        | 29.3           | 29.3             | >0            | >0              | 18.0        |
| 300         | 40.5                        | 28.2           | 28.2             | >0            | >0              | 18.0        |
| 310         | 41.3                        | 27.9           | 27.9             |               |                 | 18.0        |
| 350         | 44.3                        | 27.2           | 27.2             |               |                 | 17.0        |

#### Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Fitted Impedance | Min. ELFEXT (dB) | Min. PSELFEXT (dB) |
|-------------|------------------------------|------------------|------------------|--------------------|
| 1           | 100 ± 12                     | 105 ± 10         | 63.8             | 60.8               |
| 4           | 100 ± 12                     | 100 ± 10         | 51.7             | 48.7               |
| 8           | 100 ± 12                     | 100 ± 10         | 45.7             | 42.7               |
| 10          | 100 ± 12                     | 100 ± 10         | 43.8             | 40.8               |
| 16          | 100 ± 12                     | 100 ± 10         | 39.7             | 36.7               |
| 20          | 100 ± 12                     | 100 ± 10         | 37.7             | 34.7               |
| 25          | 100 ± 15                     | 100 ± 10         | 35.8             | 32.8               |
| 31.25       | 100 ± 15                     | 100 ± 10         | 33.9             | 30.9               |
| 62.5        | 100 ± 15                     | 100 ± 10         | 27.8             | 24.8               |
| 100         | 100 ± 15                     | 100 ± 10         | 23.8             | 20.8               |
| 155         | 100 ± 18                     | 100 ± 10         | 19.9             | 16.9               |
| 200         | 100 ± 20                     | 100 ± 10         | 17.7             | 14.7               |
| 250         | 100 ± 20                     | 100 ± 10         | 15.8             | 12.8               |
| 300         | 100 ± 20                     | 100 ± 10         | 14.2             | 11.2               |
| 310         | 100 ± 20                     | 100 ± 10         | 13.9             | 10.9               |
| 350         | 100 ± 22                     | 100 ± 10         | 12.9             | 9.9                |

#### Notes (Overall)

Notes: EtherNet/IP is a trademark of ControlNet International, Ltd. under license by Open DeviceNet Vendor Association, Inc. Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. Outer Shield Separator Material: Polyester.

#### **Put Ups and Colors:**

| Item #         | Putup    | Ship Weight | Color       | Notes | Item Desc              |
|----------------|----------|-------------|-------------|-------|------------------------|
| 11700A 0021000 | 1,000 FT | 39.000 LB   | RED         | С     | 4 PR #24 PP FRPVC PVC  |
| 11700A 0061000 | 1,000 FT | 39.000 LB   | BLUE, LIGHT | С     | 4 PR #24 PP FR PVC PVC |
| 11700A 0081000 | 1,000 FT | 39.000 LB   | GRAY        | С     | 4 PR #24 PP FR PVC PVC |
| 11700A 0101000 | 1,000 FT | 39.000 LB   | BLACK       | С     | 4 PR #24 PP FR PVC PVC |
| 11700A 0103000 | 3,000 FT | 114.000 LB  | BLACK       | С     | 4 PR #24 PP FR PVC PVC |
| 11700A 1NH1000 | 1,000 FT | 39.000 LB   | TEAL 1NH    | С     | 4 PR #24 PP FRPVC PVC  |

C = CRATE REEL PUT-UP.

Revision Number: 8 Revision Date: 02-28-2014

© 2014 Belden, Inc All Rights Reserved

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described herein are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with EU RoHS (Directive 2002/65/EC, 27-Jan-2003). Material manufactured prior to the compliance date may be in stock at Belden facilities and in our Distributor's inventory. The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information, and belief at the date of its publication. The information provided in this Product Disclosure is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. This Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.