



Product: [11700A](#)

DataTuff® 5e, 4 Bonded-Pr #24 Sol BC, PO Ins, PVC Jkt, PVC Jkt, MSHA CMR

[Request Sample](#)

Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, PO Insulation, PVC Inner Jacket, PVC Outer Jacket, MSHA CMR

Technical Specifications

Product Overview

| | |
|------------------------|---|
| Suitable Applications: | outdoor, mining, exposure to abrasion, harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc. |
|------------------------|---|

Physical Characteristics (Overall)

Conductor

| AWG | Stranding | Material | Nominal Diameter | No. of Pairs |
|-----|-----------|------------------|------------------|--------------|
| 24 | Solid | BC - Bare Copper | 0.02 in | 4 |

| | |
|------------------------|---|
| Conductor Count: | 8 |
| Total Number of Pairs: | 4 |

Insulation

| Material | Nominal Diameter | Nominal Wall Thickness |
|------------|------------------|------------------------|
| Polyolefin | 0.035 in | 0.009 in |

| | |
|--------------|-----|
| Bonded-Pair: | Yes |
|--------------|-----|

Color Chart

| Number | Color |
|--------|------------------------------|
| 1 | White/Blue Stripe & Blue |
| 2 | White/Orange Stripe & Orange |
| 3 | White/Green Stripe & Green |
| 4 | White/Brown Stripe & Brown |

Inner Jacket Material

| Material | Nominal Diameter | Ripcord |
|--------------------------|------------------|---------|
| PVC - Polyvinyl Chloride | 0.2 in | Yes |

Outer Shield Material

| Material |
|-----------|
| No Shield |

Outer Jacket Material

| Material | Nominal Diameter | Nominal Wall Thickness | Ripcord |
|--------------------------|------------------|------------------------|---------|
| PVC - Polyvinyl Chloride | 0.285 in | 0.035 in | Yes |

Electrical Characteristics

Conductor DCR

| Max. Conductor DCR | Max. DCR Unbalance |
|--------------------|--------------------|
| 9 Ohm/1000ft | 3 % |

Capacitance

| Max. Capacitance Unbalance | Nom. Mutual Capacitance |
|----------------------------|-------------------------|
| 66 pF/ft | 15 pF/ft |

Delay

| Max. Delay | Max. Delay Skew | Nominal Velocity of Propagation (VP) [%] |
|-------------|-----------------|--|
| 510 ns/100m | 25 ns/100m | 70 % |

High Freq

| Frequency [MHz] | Max. Insertion Loss (Attenuation) | Min. NEXT [dB] | Min. PSNEXT [dB] | Min. ACR [dB] | Min. PSACR [dB] | Min. ACRF (ELFEXT) [dB] | Min. PSACRF (PSELFEXT) [dB] | Min. RL (Return Loss) [dB] | Max./Min. Input Impedance (unFitted) | Max./Min. Fitted Impedance |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------------------------------|----------------------------|
| 1 MHz | 2 dB/100m | 65.3 dB | 65.3 dB | 63.3 dB | 63.3 dB | 63.8 dB | 60.8 dB | 20 dB | 100 ± 12 Ohm | 105 ± 10 Ohm |
| 4 MHz | 4 dB/100m | 56.3 dB | 56.3 dB | 52.3 dB | 52.3 dB | 51.7 dB | 48.7 dB | 23 dB | 100 ± 12 Ohm | 100 ± 10 |
| 8 MHz | 5.7 dB/100m | 51.8 dB | 51.8 dB | 46.1 dB | 46.1 dB | 45.7 dB | 42.7 dB | 24.5 dB | 100 ± 12 Ohm | 100 ± 10 |
| 10 MHz | 6.4 dB/100m | 50.3 dB | 50.3 dB | 43.9 dB | 43.9 dB | 43.8 dB | 40.8 dB | 25 dB | 100 ± 12 Ohm | 100 ± 10 |
| 16 MHz | 8.1 dB/100m | 47.3 dB | 47.3 dB | 39.1 dB | 39.1 dB | 39.7 dB | 36.7 dB | 25 dB | 100 ± 12 Ohm | 100 ± 10 |
| 20 MHz | 9.2 dB/100m | 45.8 dB | 45.8 dB | 35.2 dB | 35.2 dB | 37.7 dB | 34.7 dB | 25 dB | 100 ± 12 Ohm | 100 ± 10 |
| 25 MHz | 10.3 dB/100m | 44.3 dB | 44.3 dB | 34.1 dB | 34.1 dB | 35.8 dB | 32.8 dB | 24.3 dB | 100 ± 15 Ohm | 100 ± 10 |
| 31.25 MHz | 11.6 dB/100m | 42.9 dB | 42.9 dB | 31.3 dB | 31.3 dB | 33.9 dB | 30.9 dB | 23.6 dB | 100 ± 15 Ohm | 100 ± 10 |
| 62.5 MHz | 16.8 dB/100m | 38.4 dB | 38.4 dB | 21.6 dB | 21.6 dB | 27.8 dB | 24.8 dB | 21.5 dB | 100 ± 15 Ohm | 100 ± 10 |
| 100 MHz | 21.7 dB/100m | 35.3 dB | 35.3 dB | 17.1 dB | 17.1 dB | 23.8 dB | 20.8 dB | 20.1 dB | 100 ± 15 Ohm | |
| 155 MHz | 27.7 dB/100m | 32.5 dB | 32.5 dB | 4.7 dB | 4.7 dB | 19.9 dB | 16.9 dB | 19 dB | 100 ± 18 Ohm | |
| 200 MHz | 32 dB/100m | 30.8 dB | 30.8 dB | 3 dB | 3 dB | 17.7 dB | 14.7 dB | 19 dB | 100 ± 20 Ohm | |
| 250 MHz | 36.4 dB/100m | 29.3 dB | 29.3 dB | 0 dB | 0 dB | 15.8 dB | 12.8 dB | 18 dB | 100 ± 20 Ohm | |
| 300 MHz | 40.5 dB/100m | 28.2 dB | 28.2 dB | 0 dB | 0 dB | 14.2 dB | 11.2 dB | 18 dB | 100 ± 20 Ohm | |
| 310 MHz | 41.3 dB/100m | 27.9 dB | 27.9 dB | | | 13.9 dB | 10.9 dB | 18 dB | 100 ± 20 Ohm | |
| 350 MHz | 44.3 dB/100m | 27.2 dB | 27.2 dB | | | 12.9 dB | 9.9 dB | 17 dB | 100 ± 22 Ohm | |

Voltage

| UL Voltage Rating |
|-------------------|
| 300 V RMS |

Temperature Range

| | |
|--------------------------|----------------|
| Installation Temp Range: | -25°C To +75°C |
| UL Temp Rating: | 60°C |
| Storage Temp Range: | -40°C To +85°C |
| Operating Temp Range: | -40°C To +75°C |

Mechanical Characteristics

| | |
|----------------------------------|---------------|
| Bulk Cable Weight: | 35 lbs/1000ft |
| Max Recommended Pulling Tension: | 40 lbs |
| Min Bend Radius/Minor Axis: | 0.29 in |

Standards

| | |
|-------------------------------|--|
| NEC/(UL) Specification: | CMR, CMX-Outdoor |
| CEC/C(UL) Specification: | CMR |
| ISO/IEC Compliance: | Other Standards |
| CPR Euroclass: | Eca |
| Data Category: | Category 5e |
| Telecommunications Standards: | Category 5e - TIA 568C.2 |
| Other Specification: | NEMA WC-63.1 Category 5e, Ethernet/IP™ compliant, UL verified to Category 5e |

Applicable Environmental and Other Programs

| | |
|------------------------------------|-------------------------------|
| EU Directive 2000/53/EC (ELV): | Yes |
| EU Directive 2003/11/EC (BFR): | Yes |
| EU Directive 2011/65/EU (ROHS II): | Yes |
| EU Directive 2012/19/EU (WEEE): | Yes |
| EU Directive 2015/863/EU: | Yes |
| EU Directive Compliance: | EU Directive 2003/11/EC (BFR) |

| | |
|---------------------------------------|------------|
| EU RoHS Compliance Date (yyyy-mm-dd): | 2004-01-04 |
| MII Order #39 (China RoHS): | Yes |

Suitability

| | |
|------------------------------------|-----|
| Suitability - Indoor: | Yes |
| Suitability - Oil Resistance: | Yes |
| Suitability - Outdoor: | Yes |
| Suitability - Sunlight Resistance: | Yes |

Flammability, LS0H, Toxicity Testing

| | |
|-----------------------|-----------------------|
| UL Flammability: | UL1666 Vertical Riser |
| CSA Flammability: | FT4 |
| ISO/IEC Flammability: | IEC 60332-1-2 |
| UL voltage rating: | 300 V RMS |

Plenum/Non-Plenum

| | |
|---------------|----|
| Plenum (Y/N): | No |
|---------------|----|

Part Number

Variants

| Item # | Color | Putup Type | Length | UPC |
|----------------|-------|------------|----------|--------------|
| 11700A 0101000 | Black | Reel | 1,000 ft | 612825107705 |
| 11700A 0103000 | Black | Reel | 3,000 ft | 612825107712 |
| 11700A 0061000 | Blue | Reel | 1,000 ft | 612825107682 |
| 11700A 0081000 | Gray | Reel | 1,000 ft | 612825107699 |
| 11700A 0021000 | Red | Reel | 1,000 ft | 612825107675 |
| 11700A 1NH1000 | Teal | Reel | 1,000 ft | 612825107729 |

| | |
|-----------|---|
| Footnote: | C - CRATE REEL PUT-UP. |
| Patent: | https://www.belden.com/resources/patents |

Product Notes

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|--------|--|
| Notes: | US Patent #'s 5, 606, 151; 5, 734, 126. 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. |
|--------|--|

History

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| Update and Revision: | Revision Number: 0.292 Revision Date: 04-28-2020 |
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