



Product: [7945A](#)

DataTuff® Cat 6, 4 Bonded-Pair #23 Sol BC, PO Ins, OS, PVC Jkt, CMR, CMX-Outdoor

[Request Sample](#)

Product Description

Industrial Ethernet Cat 6, 4 Bonded-Pair 23AWG (Solid) Bare Copper, PO Insulation, Overall Beldfoil® Shield, PVC Outer Jacket, CMR, CMX-Outdoor

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | Outdoor, in cabinet, control center, mining, noisy environment, harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, PoE++, PoE+, PoE, etc. |
| Patent: | This product has one or more applicable patents. More information on patents can be found at https://www.belden.com/patents . |

Construction Details

Conductor

| Element | Size | Stranding | Material | No. of Elements |
|---------|--------|-----------|------------------|-----------------|
| Pair(s) | 23 AWG | Solid | BC - Bare Copper | 4 |

Insulation

| Material | Color Code |
|-----------------|--|
| PO - Polyolefin | White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown |

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

Outer Shield

| Shield Type | Material | Coverage | Drainwire Type |
|-------------|-------------------------|----------|------------------|
| Tape | Bi-Laminate (Alum+Poly) | 100% | 24 AWG (7x32) TC |

Outer Jacket

| Separator | Material | Nom. Diameter |
|------------------------------------|--------------------------|--------------------|
| Center Member (Patented X-Spline®) | PVC - Polyvinyl Chloride | 0.313 in (7.95 mm) |

| | |
|-----------------------------------|--------------------|
| Overall Cable Diameter (Nominal): | 0.313 in (7.95 mm) |
|-----------------------------------|--------------------|

Electrical Characteristics

Electricals

| Max. Conductor DCR | Max. Capacitance Unbalance |
|---------------------------|----------------------------|
| 93 Ohm/km (28 Ohm/1000ft) | 330 pF/ft |

Delay

| Max. Delay | Max. Delay Skew | Nom. Velocity of Prop. |
|-------------|-----------------|------------------------|
| 537 ns/100m | 45 ns/100m | 72% |

High Frequency

| 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) [Ohm] | Max./Min. Fitted Impedance [Ohm] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--|----------------------------------|
| 1 | 2.0 dB/100m | 74.3 | 72.3 | 72.3 | 70.3 | 67.8 | 64.8 | 20 | 100 ± 15 | 100 ± 15 |
| 4 | 3.8 dB/100m | 65.3 | 63.3 | 61.5 | 59.5 | 55.8 | 52.7 | 23 | 100 ± 15 | 100 ± 15 |
| 8 | 5.3 dB/100m | 60.8 | 58.8 | 55.4 | 53.4 | 49.7 | 46.7 | 24.5 | 100 ± 15 | 100 ± 15 |

| | | | | | | | | | | |
|-------|--------------|------|------|------|------|------|------|------|----------|----------|
| 10 | 6 dB/100m | 59.3 | 57.3 | 53.3 | 51.3 | 47.8 | 44.8 | 25 | 100 ± 15 | 100 ± 15 |
| 16 | 7.6 dB/100m | 56.2 | 54.3 | 48.7 | 46.7 | 43.7 | 40.7 | 25 | 100 ± 15 | 100 ± 15 |
| 20 | 8.5 dB/100m | 54.8 | 52.8 | 46.3 | 44.3 | 41.8 | 38.8 | 25 | 100 ± 15 | 100 ± 15 |
| 25 | 9.5 dB/100m | 53.3 | 51.3 | 43.8 | 41.8 | 39.8 | 36.8 | 24.3 | 100 ± 15 | 100 ± 15 |
| 31.25 | 10.7 dB/100m | 51.9 | 49.9 | 41.2 | 39.2 | 37.9 | 34.9 | 23.6 | 100 ± 15 | 100 ± 15 |
| 62.5 | 15.4 dB/100m | 47.4 | 45.4 | 32 | 30 | 31.9 | 28.9 | 21.5 | 100 ± 15 | 100 ± 15 |
| 100 | 19.8 dB/100m | 44.3 | 42.3 | 24.5 | 22.5 | 27.8 | 24.8 | 20.1 | 100 ± 15 | |
| 155 | 25.2 dB/100m | 41.5 | 39.5 | 16.3 | 14.3 | 23.9 | 20.9 | 18.8 | 100 ± 22 | |
| 200 | 29.0 dB/100m | 39.8 | 37.8 | 10.8 | 8.8 | 21.8 | 18.8 | 18 | 100 ± 22 | |
| 250 | 32.8 dB/100m | 38.3 | 36.3 | 5.5 | 3.5 | 19.8 | 16.8 | 17.3 | 100 ± 32 | |

Voltage

| |
|--------------------------|
| UL Voltage Rating |
| 300 V (CMR, CMX-Outdoor) |

Mechanical Characteristics

Temperature

| UL Temperature | Operating | Installation | Storage |
|----------------|----------------|----------------|----------------|
| 75°C | -40°C To +75°C | -25°C To +75°C | -40°C To +80°C |

Bend Radius

| |
|------------------------|
| Stationary Min. |
| 2.0 in (51 mm) |

| | |
|--------------------|--------------------------|
| Max. Pull Tension: | 25 lbs (11 kg) |
| Bulk Cable Weight: | 36 lbs/1000ft (54 kg/km) |

Standards and Compliance

| | |
|----------------------------------|---|
| Environmental Suitability: | Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance, Oil Resistance, Aerial |
| Flammability / Reaction to Fire: | UL1666 Riser |
| CPR Compliance: | CPR Euroclass: Eca; CPR UKCA Class: Eca |
| NEC / UL Compliance: | Article 800, CMR, CMX-Outdoor |
| CEC / C(UL) Compliance: | CMX-Outdoor;CMG |
| IEEE Compliance: | IEEE 802.3bt Type 1, Type 2, Type 3, Type 4 |
| NEMA Compliance: | ANSI/NEMA WC-66 |
| Data Category: | Category 6 |
| TIA/EIA Compliance: | ANSI/TIA-568.2-D Category 6 |
| ISO/IEC Compliance: | ISO/IEC 11801-1, IEC 61156-5 |
| European Directive Compliance: | EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), REACH, EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16 |
| UK Regulation Compliance: | UKCA Mark |
| APAC Compliance: | China RoHS II (GB/T 26572-2011) |

Product Notes

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|--------|---|
| Notes: | Operating temperatures are subject to length de-rating. Not intended for 600 V electrical power delivery. T568A Plug Compatible Part Number: R301603. T568B Plug Compatible Part Number: R301604 T568B Plug Compatible. |
|--------|---|

History

| | |
|----------------------|---|
| Update and Revision: | Revision Number: 0.17 Revision Date: 04-29-2024 |
|----------------------|---|

Part Numbers

Variants

| Item # |
|---------------|
| 7945A 0021000 |
| 7945A 0031000 |
| 7945A 0041000 |
| 7945A 0051000 |
| 7945A 0061000 |
| 7945A 0081000 |
| 7945A 0091000 |

7945A 0101000

7945A 0121000

7945A 1NH1000

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