

7933A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable



For more Information
please call

1-800-Belden1

**General Description:**

24 AWG Bonded-Pairs solid bare copper conductors, polyolefin insulation, overall Beldfoil® shield (100% coverage) with drain wire, .030" industrial grade sunlight- and oil-resistant PVC jacket, drain wire. Sequential marking at two foot intervals.

Usage (Overall)**Suitable Applications:**

Industrial Ethernet, Harsh Environments, 200MHz Category 5e, M-12 Compatible, 100Base TX, 100BaseVG ANYLAN, 155A TM, 622A TM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, Noisy Environments, RJ-45 Compatible, EtherNet/IP

Physical Characteristics (Overall)**Conductor****AWG:**

| # Pairs | AWG | Stranding | Conductor Material |
|---------|-----|-----------|--------------------|
| 2 | 24 | Solid | BC - Bare Copper |

Total Number of Conductors:

4

Insulation**Insulation Material:**

| Insulation Material |
|---------------------|
| PO - Polyolefin |

Outer Shield**Outer Shield Material:**

| Outer Shield Trade Name | Type | Outer Shield Material | Coverage (%) |
|-------------------------|------|------------------------------|--------------|
| Beldfoil® | Tape | Aluminum Foil-Polyester Tape | 100 |

Outer Shield Drain Wire AWG:

| AWG | Stranding | Drain Wire Conductor Material |
|-----|-----------|-------------------------------|
| 24 | 7x32 | TC - Tinned Copper |

Outer Jacket**Outer Jacket Material:**

| Outer Jacket Material |
|---|
| Industrial Grade PVC - Polyvinyl Chloride |

Overall Cable

Overall Nominal Diameter:

5.969 mm

Pair**Pair Color Code Chart:**

| Number | Color |
|--------|------------------------------|
| 1 | White/Orange Stripe & Orange |
| 2 | White/Green Stripe & Green |

Mechanical Characteristics (Overall)

Storage Temperature Range:

-40°C To +85°C

Installation Temperature Range:

-25°C To +75°C

Operating Temperature Range:

-40°C To +75°C

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| | |
|-----------------------------------|--------------|
| Bulk Cable Weight: | 44.646 Kg/Km |
| Max. Recommended Pulling Tension: | 88.964 N |
| Min. Bend Radius/Minor Axis: | 12.700 mm |

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

| | |
|---------------------------------------|---|
| NEC/(UL) Specification: | CMR |
| CEC/C(UL) Specification: | CMR |
| EU Directive 2011/65/EU (ROHS II): | Yes |
| 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 |
| MII Order #39 (China RoHS): | Yes |
| Other Specification: | NEMA WC-63.1 Category 5e, UL verified to Category 5e, EtherNet/IP Compliant |

Applicable Patents:

| |
|------------------|
| Country |
| www.belden.com/p |

Flame Test

| | |
|------------------|--------------|
| UL Flame Test: | UL1666 Riser |
| CSA Flame Test: | FT4 |
| IEEE Flame Test: | 1202 |

Suitability

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

Plenum/Non-Plenum

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

Electrical Characteristics (Overall)

Nom. Mutual Capacitance:

| |
|--------------------|
| Capacitance (pF/m) |
| 49.215 |

| | |
|---|-----|
| Maximum Capacitance Unbalance (pF/100 m): | 150 |
|---|-----|

Nominal Velocity of Propagation:

| |
|--------|
| VP (%) |
| 70 |

Maximum Delay:

| |
|------------------|
| Delay (ns/100 m) |
| 538 @ 100MHz |

Max. Delay Skew:

| |
|-----------------------|
| Delay Skew (ns/100 m) |
| 45 |

Maximum Conductor DC Resistance:

METRIC MEASUREMENT VERSION

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DCR @ 20°C (Ohm/100 m)

9.38

Max. Operating Voltage - UL:

Voltage

300 V RMS

Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)

3

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) | Min. SRL (dB) |
|-------------|-----------------------------|----------------|------------------|---------------|-----------------|-------------|---------------|
| 1 | 2.0 | 65.3 | 62.3 | 63.0 | 60.0 | 20.0 | 23 |
| 4 | 4.1 | 56.3 | 53.3 | 51.0 | 49.0 | 23.6 | 23.0 |
| 8 | 5.8 | 51.8 | 48.8 | 46.0 | 43.0 | 25.4 | 24.5 |
| 10 | 6.5 | 50.3 | 47.3 | 43.0 | 41.0 | 26.0 | 25.0 |
| 16 | 8.2 | 47.3 | 44.3 | 39.0 | 36.0 | 26.0 | 25.0 |
| 20 | 9.3 | 45.8 | 42.8 | 36.5 | 33.5 | 26.0 | 25.0 |
| 25 | 10.4 | 44.3 | 41.3 | 33.9 | 30.9 | 25.5 | 24.3 |
| 31.25 | 11.7 | 42.9 | 39.9 | 31.0 | 28.0 | 25.0 | 23.6 |
| 62.5 | 17.0 | 38.4 | 35.4 | 22.0 | 19.0 | 23.5 | 21.5 |
| 100 | 22.0 | 35.3 | 32.3 | 14.0 | 11.0 | 22.5 | 20.1 |
| 155 | 28.1 | 32.5 | 29.5 | 4.4 | 1.4 | 15.8 | |
| 200 | 32.0 | 30.8 | 27.8 | 4.0 | 1.0 | 15.0 | |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Fitted Impedance | Min. ELFEXT (dB) | Min. PSELFEXT (dB) |
|-------------|------------------------------|------------------|------------------|--------------------|
| 1 | 100 ± 15 | 102.5 ± 7.5 | 63.8 | 60.8 |
| 4 | 100 ± 15 | 102.5 ± 7.5 | 51.7 | 48.7 |
| 8 | 100 ± 15 | 101 ± 6 | 45.7 | 42.7 |
| 10 | 100 ± 15 | 101 ± 6 | 43.8 | 40.8 |
| 16 | 100 ± 15 | 101 ± 6 | 39.7 | 36.7 |
| 20 | 100 ± 15 | 101 ± 6 | 37.7 | 34.7 |
| 25 | 100 ± 15 | 101 ± 6 | 35.8 | 32.8 |
| 31.25 | 100 ± 15 | 101 ± 6 | 33.9 | 30.9 |
| 62.5 | 100 ± 15 | 101 ± 6 | 27.8 | 24.8 |
| 100 | 100 ± 15 | 101 ± 6 | 23.8 | 20.8 |
| 155 | 100 ± 25 | 100 ± 15 | 19.9 | 16.9 |
| 200 | 100 ± 25 | 100 ± 15 | 17.7 | 14.7 |

Notes (Overall)

Notes: EtherNet IP is a trademark of ControlNet International Ltd. under license by DeviceNet Vendor Association, Inc. Operating Temperature subject to length de-rating.

Notes (Cont'd.):

Cable passes -40C Cold Bend per UL 1581. T568A Plug Compatible Part Number: R301603 T568B Plug Compatible Part Number: R301604

Put Ups and Colors:

| Item # | Putup | Ship Weight | Color | Notes | Item Desc |
|---------------|----------|-------------|----------|-------|----------------------|
| 7933A 0101000 | 1,000 FT | 33.000 LB | BLACK | C | 2 PR #24 PP FS FRPVC |
| 7933A 0102000 | 2,000 FT | 66.000 LB | BLACK | C | 2 PR #24 PP FS FRPVC |
| 7933A 1NH1000 | 1,000 FT | 33.000 LB | TEAL 1NH | C | 2 PR #24 PP FS FRPVC |

Notes:

C = CRATE REEL PUT-UP.

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