

Operating Temperature Range:

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

| 1-900-Belden Concerned Pears solid bare copper conductors, polyolefin insulation, overall Beldfoil® shield (100% coverage) with drain wire, 030° industrial grade sunlight- and ol-resistant PVC jacket, drain wire. Sequential marking at two foot intervals. Usage Overall Suitable Applications: Industrial Ethernet, Harsh Environments, 200Mtr Category Se, M-12 Compatible, 100BaaevG ANTAN, 156A TI, 200BaevG ANTAN, 156A | | For more Information please call |
|--|--|--|
| 24 AWG Bonded-Pairs solid bare copper conductors, polyolefin insulation, overall Beldfoli® 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) Industrial Ethernat, Harsh Environments, 200MHz Category 5a, M-12, Cmp3698/C AVYLM1 (156, TM, 162, TM, 167, NM, 162, AES), RS-100, Jacket, Marking, AES), RS-12, Cmp3698/C AVYLM1 (156, TM, 162, AES), RS-422, Noisy Environments, RJ-45 Compatible, EtherNet/IP Physical Characteristics (Overall) Conductor AWG: # Fairs AWG Stranding Conductor Material 2 24 Sold BC - Bare Copper Total Number of Conductors: 4 Insulation Material: Conductor AWG Stranding Conductor Material 2 Outer Shield Material Coverage (%) Outer Shield Material Outer Shield Material Outer Shield Material Voeverall Coble Outer Shield Material Voeveral Coble Outer Shield Material Voeveral Coble Voeral Coble | | 1-800-Belden1 |
| coverage) with drain wire, 0.30° 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 Compositive Video, AES/EB, Ugital Audio, AES51, RS-422, Noisy Environments, RJ-45 Compatible, EtherNet/IP Physical Characteristics (Overall) Conductor AWG: F Pairs AWG Stranding Conductor Material 2 24 Solid BC - Bare Copper Total Number of Conductors: 4 Insulation Insulation Material: PO-Polyolefin Outer Shield Outer Shield Material: Outer Shield Material: Outer Shield Material: Outer Shield Trate Name Type Outer Shield Material 24 7x32 TC - Tinned Copper Outer Shield Drain Wire Coductor Material 24 7x32 TC - Tinned Copper Outer Shield Material: Outer Jacket Materia: Outer Jacket Materia: O | General Description: | |
| Suitable Applications: Industrial Ethernet, Harsh Environments, 200MHz Category 5e, M-12 Compatible, 100Base TX, 100Baser XX, 100Baser VX, NUTXAN, 155A TM, 622A TM, NTSCIPAL Component or Composite Video, AES/EDU Digital Audio, AES51, RS-422, Noisy Environments, RJ-45 Compatible, EtherNet/IP Physical Characteristics (Overall) Conductor Conductor AWG: If Pairs AWG Stranding Conductor Material 24 Solid Total Number of Conductors: 4 Insulation Insulation Insulation Material PO - Polyolefin Coverage (%) Outer Shield Monterial: Outer Shield Tape Auminum Foil-Polyester Tape 100 Outer Shield Information Material: Coverage (%) Bedrolifs Tape Auminum Foil-Polyester Tape 100 Outer Shield Information Material: Coverage (%) Bedrolifs Tape Auminum Foil-Polyester Tape 100 Outer Shield Information Batterial: Coverage (%) Outer Jacket Material: Coverage (%) Outer Jacket Material: Stranding Drain Wire Conductor Material Outer Jacket Material: Coverage (%) Outer Jacket Material: Stranding Drain Wire Augeria Outer Jacket Material: Coverage Cover Polymyrin Chindie Outer Jacket Material: Stranding Polymer Polymeria | coverage) with drain wire, .030" industrial grad | |
| Compatible, 100Base US ANVLAN, 155A TM, 622A TM, NTSC/PAL Component or Composite Video, AESS1, RS-422, Noisy Environments, RJ-45 Compatible, EtherNet/IP Physical Characteristics (Overall) Conductor AWC: # Pairs AWG Stranding Conductor Material 2 | Usage (Overall) | |
| Conductor AWG: # Pairs AWG Stranding Conductor Material 2 24 Solid BC - Bare Copper Total Number of Conductors: 4 Insulation Insulation Insulation Material: Insulation Material: Insulation Material: Insulation Material: Outer Shield Outer Shield Material: Outer Shield Drain Wire Outer Shield Material Coverage (%) Beldfoli® Tape [Aluminum Foil-Polyester Tape 100 Outer Shield Drain Wire AWG: AWG Stranding Drain Wire Conductor Material 24 Tx32 TC - Tinned Copper Outer Jacket Outer Jacket Material: Outer Jacket Material: Euler Jacket Material: Outer Jacket Material: 5.969 mm Pair Pair Pair Pair Pair Color Code Chart: 5.969 mm Number Color 1 1 While/Grange Stripe & Orange 2 While/Grange Stripe & Orange 2 While/Grange Stripe & Orange 2 While/Grange Stripe & Orange | Suitable Applications: | Compatible, 100Base TX, 100BaseVG ANYLAN, 155A TM, 622A TM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, |
| 2 24 Solid BC - Bare Copper Total Number of Conductors: 4 Insulation Material: Insulation Material: Insulation Material: Insulation Material: Insulation Material: Outer Shield Material: Coverage (%) Beldfoll® Tape Aluminum Foil-Polyester Tape 100 Outer Shield Drain Wire AWG: Version Wire Conductor Material 24 7.4 7.4 T.2 T.2 T.2 Version Material: Industrial Grade PVC - Polyeinyl Chloride Outer Jacket Material Outer Jacket Material Outer Jacket Material Industrial Grade PVC - Polyinyl Chloride Sing mm Pair Polor Pair Color Code Chart: Sing mm Industrial Grade Stripe & Grange Industrie & Grange I White/Grange Stripe & Grange I White/Gra | Conductor | |
| Insulation Material: Insulation Material: PO - Polyolefin Outer Shield Material: 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: Industrial Grade PVC - Polyvinyl Chloride Overall Cable Overall Nominal Diameter: 5.969 mm Pair Pair Pair Color Code Chart: Number Color 1 White/Orange Stripe & Orange 2 White/Green Stripe & Orange 2 White/Green Stripe & Orange Pair | _ | |
| Insulation Material: PO - Polyolefin Outer Shield Beldfoli® Tape Aluminum Foil-Polyester Tape 100 Outer Shield Trade Name Type Outer Shield Material Outer Shield Trade Name Type Outer Shield Material Outer Shield Trade Name Type Outer Shield Material AWG Stranding Drain Wire Conductor Material 24 7x32 TC - Tinned Copper Outer Jacket Muter Jacket Material Industrial Grade PVC - Polyvinyl Chloride Overall Cable Overall Nominal Diameter: 5.969 mm Pair Pair Pair Color Code Chart: <u>Number Color</u> 1 <u>Vinite/Grange Stripe & Orange</u> 2 <u>Vinite/Grange Stripe & Orange</u> Material Stripe & Orange Stripe & Orange | Total Number of Conductors: | 4 |
| 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 Pair Color Code Chart: Number Color 1 White/Orange Stripe & Orange 2 White/Green Stripe & Green | Insulation Material: Insulation Material PO - Polyolefin Outer Shield Outer Shield Material: Outer Shield Trade Name Type Outer Shield Material | |
| 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 | | r Tape 100 |
| Outer Jacket Material: Outer Jacket Material Industrial Grade PVC - Polyvinyl Chloride Overall Cable Overall Nominal Diameter: 5.969 mm Pair Pair Color Code Chart: <u>Number Color</u> 1 White/Orange Stripe & Orange 2 White/Green Stripe & Green | AWG Stranding Drain Wire Conductor Material | |
| Overall Nominal Diameter: 5.969 mm Pair Pair Color Code Chart: Number Color 1 1 White/Orange Stripe & Orange 2 White/Green Stripe & Green | Outer Jacket Material: Outer Jacket Material | |
| Number Color 1 White/Orange Stripe & Orange 2 White/Green Stripe & Green Mechanical Characteristics (Overall) | | 5.969 mm |
| | Number Color 1 White/Orange Stripe & Orange | |
| | Mechanical Characteristics (Overall) | |
| Storage remperature kange: -40°C 10 +85°C | Storage Temperature Range: | -40°C To +85°C |
| Installation Temperature Range: -25°C To +75°C | Installation Temperature Range: | -25°C To +75°C |

-40°C To +75°C

Detailed Specifications & Technical Data



METRIC MEASUREMENT VERSION

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

| 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 Con | |
| Applicable Standards & Environmental Progra | |
| 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 Skow: | |
| Max. Delay Skew: Delay Skew (ns/100 m) 45 | |
| Maximum Conductor DC Resistance: | |



METRIC MEASUREMENT VERSION

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

DCR @ 20°C (Ohm/100 m) 9.38

0.00

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:

| • • | | • | | · · · · |
|-------|----------|-------------|------|---------|
| 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 Assoication, 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 | С | 2 PR #24 PP FS FRPVC |
| 7933A 0102000 | 2,000 FT | 66.000 LB | BLACK | С | 2 PR #24 PP FS FRPVC |
| 7933A 1NH1000 | 1,000 FT | 33.000 LB | TEAL 1NH | С | 2 PR #24 PP FS FRPVC |

Notes:

C = CRATE REEL PUT-UP.



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

Revision Number: 9 Revision Date: 07-19-2016

© 2020 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 2002/95/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.