



Product: [7953A](#)

DataTuff® 6, 4 Bonded-Pr #23 Sol BC, PO Ins, OS, PVC Jkt, PVC Jkt, MSHA, CMX-Outdoor 600V AWM 21047

[Request Sample](#)

Product Description

Industrial Ethernet Cat 6, 4 Bonded-Pair 23AWG (Solid) Bare Copper, PO Insulation, Overall Beldfoil® Shield, PVC Inner Jacket, PVC Outer Jacket, MSHA, CMX-Outdoor 600V AWM 21047

Technical Specifications

Product Overview

| | |
|------------------------|---|
| Print Legend: | 7953A BELDEN VERIFIED (UL) CAT 6 4PR23 E108998-M CMR-CMX OUTDOOR OR C(UL) CMG----ISO/IEC11801 CAT 6 --- 300V PATENTED OIL/SUN RES FT4 IEEE 1202 123456 FT |
| Suitable Applications: | outdoor, in cabinet with high volt devices, such as motor control center, mining, noisy environment, harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc. |

Physical Characteristics (Overall)

Conductor

| Element | AWG | Stranding | Material | No. of Pairs |
|-----------|-----|-----------|------------------|--------------|
| | 23 | Solid | BC - Bare Copper | 4 |
| No Ground | | | | |

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

Insulation

| Material | Nominal Diameter | Nominal Wall Thickness |
|------------|------------------|------------------------|
| Polyolefin | 0.043 in | 0.01 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 | Nominal Wall Thickness | Ripcord |
|--------------------------|------------------|------------------------|---------|
| PVC - Polyvinyl Chloride | 0.258 in | 0.02 in | Yes |

Outer Shield Material

| Type | Material | Material Trade Name | Coverage [%] | Drainwire Material | Drainwire AWG | Drainwire Construction n x D |
|------|-------------|---------------------|--------------|--------------------|---------------|------------------------------|
| Tape | Alum / Poly | Beldfoil® | 100% | TC - Tinned Copper | 24 | 7x32 |

Outer Jacket Material

| Material | Nominal Diameter | Nominal Wall Thickness | Ripcord |
|--------------------------|------------------|------------------------|---------|
| PVC - Polyvinyl Chloride | 0.335 in | 0.03 in | No |

Electrical Characteristics

Conductor DCR

| Max. Conductor DCR | Max. DCR Unbalance |
|--------------------|--------------------|
| 8.2 Ohm/1000ft | 3 % |

Capacitance

| Max. Capacitance Unbalance | Nom. Mutual Capacitance |
|----------------------------|-------------------------|
| 330 pF/ft | 15 pF/ft |

Delay

| Max. Delay | Max. Delay Skew | Nominal Velocity of Propagation (VP) [%] |
|-------------|-----------------|--|
| 537 ns/100m | 45 ns/100m | 72% |

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 | 74.3 dB | 72.3 dB | 72.3 dB | 70.3 dB | 67.8 dB | 64.8 dB | 21 dB | 100 ± 15 Ohm | 100 ± 15 Ohm |
| 4 MHz | 3.8 dB/100m | 65.3 dB | 63.3 dB | 61.5 dB | 59.5 dB | 55.8 dB | 52.7 dB | 24 dB | 100 ± 15 Ohm | 100 ± 15 |
| 8 MHz | 5.3 dB/100m | 60.8 dB | 58.8 dB | 55.4 dB | 53.4 dB | 49.7 dB | 46.7 dB | 25.5 dB | 100 ± 15 Ohm | 100 ± 15 |
| 10 MHz | 6 dB/100m | 59.3 dB | 57.3 dB | 53.3 dB | 51.3 dB | 47.8 dB | 44.8 dB | 26 dB | 100 ± 15 Ohm | 100 ± 15 |
| 16 MHz | 7.6 dB/100m | 56.2 dB | 54.3 dB | 48.7 dB | 46.7 dB | 43.7 dB | 40.7 dB | 26 dB | 100 ± 15 Ohm | 100 ± 15 |
| 20 MHz | 8.5 dB/100m | 54.8 dB | 52.8 dB | 46.3 dB | 44.3 dB | 41.8 dB | 38.8 dB | 26 dB | 100 ± 15 Ohm | 100 ± 15 |
| 25 MHz | 9.5 dB/100m | 53.3 dB | 51.3 dB | 43.8 dB | 41.8 dB | 39.8 dB | 36.8 dB | 25.3 dB | 100 ± 15 Ohm | 100 ± 15 |
| 31.25 MHz | 10.7 dB/100m | 51.9 dB | 49.9 dB | 41.2 dB | 39.2 dB | 37.9 dB | 34.9 dB | 24.6 dB | 100 ± 15 Ohm | 100 ± 15 |
| 62.5 MHz | 15.4 dB/100m | 47.4 dB | 45.4 dB | 32 dB | 30 dB | 31.9 dB | 28.9 dB | 22.5 dB | 100 ± 15 Ohm | 100 ± 15 |
| 100 MHz | 19.8 dB/100m | 44.3 dB | 42.3 dB | 24.5 dB | 22.5 dB | 27.8 dB | 24.8 dB | 21.1 dB | 100 ± 15 Ohm | |
| 155 MHz | 25.2 dB/100m | 41.5 dB | 39.5 dB | 16.3 dB | 14.3 dB | 23.9 dB | 20.9 dB | 19.8 dB | 100 ± 22 Ohm | |
| 200 MHz | 29 dB/100m | 39.8 dB | 37.8 dB | 10.8 dB | 8.8 dB | 21.8 dB | 18.8 dB | 19 dB | 100 ± 22 Ohm | |
| 250 MHz | 32.8 dB/100m | 38.3 dB | 36.3 dB | 5.5 dB | 3.5 dB | 19.8 dB | 16.8 dB | 18.3 dB | 100 ± 32 Ohm | |

Voltage

| UL Description | UL Voltage Rating |
|---------------------------|-------------------|
| | 300 V RMS |
| Appliance Wiring Material | 600 V RMS |

Temperature Range

| | |
|--------------------------|----------------|
| Installation Temp Range: | -25°C To +75°C |
| UL Temp Rating: | 75°C |
| Storage Temp Range: | -40°C To +80°C |
| Operating Temp Range: | -40°C To +75°C |

Mechanical Characteristics

| | |
|-----------------------------|---------------|
| Bulk Cable Weight: | 44 lbs/1000ft |
| Max. Pull Tension: | 40 lbs |
| Min Bend Radius/Minor Axis: | 4 in |

Standards

| | |
|--------------------------|-------------------------------------|
| NEC/(UL) Compliance: | CMR, CMX-Outdoor |
| CEC/C(UL) Compliance: | CMG |
| UL AWM Style Compliance: | UL Style 21047 |
| IEC Compliance: | ISO/IEC 11801 ed 2.1 (2008) Class E |
| CPR Euroclass: | Eca |
| Data Category: | Category 6 |
| TIA/EIA Compliance: | Category 6 - TIA 568.C.2 |
| Other Compliance: | NEMA WC-63.1 Category 6, |

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

Suitability

| | |
|------------------------------------|-----|
| Suitability - Aerial: | Yes |
| Suitability - Burial: | No |
| Suitability - Indoor: | Yes |
| Suitability - Oil Resistance: | Yes |
| Suitability - Outdoor: | Yes |
| Suitability - Sunlight Resistance: | Yes |

Flammability, LSOH, Toxicity Testing

| | |
|---------------------|---------------|
| C(UL) Flammability: | FT4 |
| UL Flammability: | UL1666 Riser |
| CSA Flammability: | FT4 |
| IEC Flammability: | IEC 60332-1-2 |
| IEEE Flammability: | 1202 |
| UL voltage rating: | 300 V RMS |

Plenum/Non-Plenum

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

Part Number

Variants

| Item # | Color | Putup Type | Length | UPC |
|---------------|-------|------------|----------|--------------|
| 7953A 0101000 | Black | Reel | 1,000 ft | 612825191964 |
| 7953A 0105000 | Black | Reel | 5,000 ft | 612825191971 |
| 7953A 0061000 | Blue | Reel | 1,000 ft | 612825191940 |
| 7953A 0081000 | Gray | Reel | 1,000 ft | 612825191957 |
| 7953A 0021000 | Red | Reel | 1,000 ft | 612825191933 |
| 7953A 1NH1000 | Teal | Reel | 1,000 ft | 612825191988 |

| | |
|-----------|---|
| 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. Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. Not intended for 600 V electrical power delivery. T568A Plug Compatible Part Number: R301603 T568B Plug Compatible Part Number: R301604 T568A Plug Compatible Part Number: R301603 T568B Plug Compatible Part Number: R301604 |
|--------|--|

History

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|----------------------|--|
| Update and Revision: | Revision Number: 0.346 Revision Date: 04-28-2020 |
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