



Product: [7953A](#)

DataTuff® Cat 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

|                        |                                                                                                                                                                                                                                 |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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, PoE++, PoE+, PoE, etc. |
| Patent:                | This product has one or more applicable patents. More information on patents can be found at <a href="https://www.belden.com/patents">https://www.belden.com/patents</a> .                                                      |

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 |
|--------------|-----|

Inner Jacket

| Material                 | Nom. Diameter      | Ripcord |
|--------------------------|--------------------|---------|
| PVC - Polyvinyl Chloride | 0.254 in (6.45 mm) | 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 | 0.335 in (8.51 mm) |

|                                   |                    |
|-----------------------------------|--------------------|
| Overall Cable Diameter (Nominal): | 0.335 in (8.51 mm) |
|-----------------------------------|--------------------|

Electrical Characteristics

Electricals

| Max. Conductor DCR        | Max. Capacitance Unbalance |
|---------------------------|----------------------------|
| 82 Ohm/km (25 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                        | 21                         | 100 ± 15                                   | 100 ± 15                         |
| 4               | 3.8 dB/100m                       | 65.3           | 63.3             | 61.5          | 59.5            | 55.8                    | 52.7                        | 24                         | 100 ± 15                                   | 100 ± 15                         |
| 8               | 5.3 dB/100m                       | 60.8           | 58.8             | 55.4          | 53.4            | 49.7                    | 46.7                        | 25.5                       | 100 ± 15                                   | 100 ± 15                         |
| 10              | 6 dB/100m                         | 59.3           | 57.3             | 53.3          | 51.3            | 47.8                    | 44.8                        | 26                         | 100 ± 15                                   | 100 ± 15                         |
| 16              | 7.6 dB/100m                       | 56.2           | 54.3             | 48.7          | 46.7            | 43.7                    | 40.7                        | 26                         | 100 ± 15                                   | 100 ± 15                         |
| 20              | 8.5 dB/100m                       | 54.8           | 52.8             | 46.3          | 44.3            | 41.8                    | 38.8                        | 26                         | 100 ± 15                                   | 100 ± 15                         |
| 25              | 9.5 dB/100m                       | 53.3           | 51.3             | 43.8          | 41.8            | 39.8                    | 36.8                        | 25.3                       | 100 ± 15                                   | 100 ± 15                         |
| 31.25           | 10.7 dB/100m                      | 51.9           | 49.9             | 41.2          | 39.2            | 37.9                    | 34.9                        | 24.6                       | 100 ± 15                                   | 100 ± 15                         |
| 62.5            | 15.4 dB/100m                      | 47.4           | 45.4             | 32            | 30              | 31.9                    | 28.9                        | 22.5                       | 100 ± 15                                   | 100 ± 15                         |
| 100             | 19.8 dB/100m                      | 44.3           | 42.3             | 24.5          | 22.5            | 27.8                    | 24.8                        | 21.1                       | 100 ± 15                                   |                                  |
| 155             | 25.2 dB/100m                      | 41.5           | 39.5             | 16.3          | 14.3            | 23.9                    | 20.9                        | 19.8                       | 100 ± 22                                   |                                  |
| 200             | 29.0 dB/100m                      | 39.8           | 37.8             | 10.8          | 8.8             | 21.8                    | 18.8                        | 19                         | 100 ± 22                                   |                                  |
| 250             | 32.8 dB/100m                      | 38.3           | 36.3             | 5.5           | 3.5             | 19.8                    | 16.8                        | 18.3                       | 100 ± 32                                   |                                  |

Voltage

| UL Voltage Rating                           |
|---------------------------------------------|
| 300 V (CMR, CMX-Outdoor), 600 V (AWM 21047) |

Mechanical Characteristics

Temperature

| UL Temperature | Operating      | Installation   | Storage        |
|----------------|----------------|----------------|----------------|
| 90°C           | -40°C To +90°C | -25°C To +75°C | -40°C To +80°C |

Bend Radius

| Stationary Min. |
|-----------------|
| 4 in (100 mm)   |

|                    |                |
|--------------------|----------------|
| Max. Pull Tension: | 40 lbs (18 kg) |
| Bulk Cable Weight: | 47 lbs/1000ft  |

Standards and Compliance

|                                  |                                                                                                                                                     |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Suitability:       | Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance, Oil Resistance, Aerial                                                                        |
| Flammability / Reaction to Fire: | UL1666 Riser, FT4, IEEE 1202 Vertical Tray Flame Test, IEC 60332-1-2                                                                                |
| CPR Compliance:                  | CPR Euroclass: Eca; CPR UKCA Class: Eca                                                                                                             |
| NEC / UL Compliance:             | Article 800, CMR, CMX-Outdoor                                                                                                                       |
| AWM Compliance:                  | AWM 21047                                                                                                                                           |
| 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

|        |                                                                                                                                                                                                                                                                  |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes: | 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: R301601. T568B Plug Compatible Part Number: R301602 T568B Plug Compatible. |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

History

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Update and Revision: | Revision Number: 0.530 Revision Date: 09-05-2023 |
|----------------------|--------------------------------------------------|

Part Numbers

Variants

| Item # | Color | Putup Type | Length | UPC | Footnote |
|--------|-------|------------|--------|-----|----------|
|--------|-------|------------|--------|-----|----------|

|               |       |      |          |              |   |
|---------------|-------|------|----------|--------------|---|
| 7953A 0101000 | Black | Reel | 1,000 ft | 612825191964 | C |
| 7953A 0105000 | Black | Reel | 5,000 ft | 612825191971 | C |
| 7953A 0061000 | Blue  | Reel | 1,000 ft | 612825191940 | C |
| 7953A 0081000 | Gray  | Reel | 1,000 ft | 612825191957 | C |
| 7953A 0021000 | Red   | Reel | 1,000 ft | 612825191933 | C |
| 7953A 1NH1000 | Teal  | Reel | 1,000 ft | 612825191988 | C |

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