




Product: [7958A](#) 

DataTuff® 5e, 4 Bonded-Pr #23 Sol BC, PO Ins, OS, PVC Jkt, CMR AWM 21047

 [Request Sample](#)

Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, PO Insulation, Overall Beldfoil® Shield, PVC Outer Jacket, CMR 600V AWM 21047

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | noisy environment, mining, in cabinet with high volt devices, such as motor control center, harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc. |
|------------------------|--|

Physical Characteristics (Overall)

Conductor

| AWG | Stranding | Material | No. of Pairs |
|-----|-----------|------------------|--------------|
| 24 | Solid | BC - Bare Copper | 4 |

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

Insulation

| Material | Nominal Wall Thickness |
|------------|------------------------|
| Polyolefin | 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 |

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 | Ripcord |
|--------------------------|------------------|---------|
| PVC - Polyvinyl Chloride | 0.275 in | No |

Electrical Characteristics

Conductor DCR

| Max. Conductor DCR | Max. DCR Unbalance |
|--------------------|--------------------|
| 9.38 Ohm/1000ft | 3 % |

Capacitance

| Max. Capacitance Unbalance | Nom.Mutual Capacitance |
|----------------------------|------------------------|
| 150 pF/ft | 15 pF/ft |

Delay

| Max. Delay | Max. Delay Skew | Nominal Velocity of Propagation (VP) [%] |
|-------------|-----------------|--|
| 538 ns/100m | 45 ns/100m | 70 % |

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] | Min. SRL (Structural Return Loss) | Max./Min. Input Impedance (unFitted) | Max./Min. Fitted Impedance |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|-----------------------------------|--------------------------------------|----------------------------|
| 1 MHz | 2 dB/100m | 65.3 dB | 62.3 dB | 63 dB | 60 dB | 63.8 dB | 60.8 dB | 20 dB | 20 dB | 100 ± 15 Ohm | 100 ± 15 Ohm |
| 4 MHz | 4.1 dB/100m | 56.3 dB | 53.3 dB | 51 dB | 49 dB | 51.7 dB | 48.7 dB | 23.6 dB | 23.6 dB | 100 ± 15 Ohm | 100 ± 15 |
| 8 MHz | 5.8 dB/100m | 51.8 dB | 48.8 dB | 46 dB | 43 dB | 45.7 dB | 42.7 dB | 25.4 dB | 25.4 dB | 100 ± 15 Ohm | 100 ± 15 |
| 10 MHz | 6.5 dB/100m | 50.3 dB | 47.3 dB | 43 dB | 41 dB | 43.8 dB | 40.8 dB | 26 dB | 26 dB | 100 ± 15 Ohm | 100 ± 15 |
| 16 MHz | 8.2 dB/100m | 47.3 dB | 44.3 dB | 39 dB | 36 dB | 39.7 dB | 36.7 dB | 26 dB | 26 dB | 100 ± 15 Ohm | 100 ± 15 |
| 20 MHz | 9.3 dB/100m | 45.8 dB | 42.8 dB | 36.5 dB | 33.5 dB | 37.7 dB | 34.7 dB | 26 dB | 26 dB | 100 ± 15 Ohm | 100 ± 15 |
| 25 MHz | 10.4 dB/100m | 44.3 dB | 41.3 dB | 33.9 dB | 30.9 dB | 35.8 dB | 32.8 dB | 25.5 dB | 25.5 dB | 100 ± 15 Ohm | 100 ± 15 |
| 31.25 MHz | 11.7 dB/100m | 42.9 dB | 39.9 dB | 31 dB | 28 dB | 33.9 dB | 30.9 dB | 25 dB | 25 dB | 100 ± 15 Ohm | 100 ± 15 |
| 62.5 MHz | 17 dB/100m | 38.4 dB | 35.4 dB | 22 dB | 19 dB | 27.8 dB | 24.8 dB | 23.5 dB | 23.5 dB | 100 ± 15 Ohm | 100 ± 15 |
| 100 MHz | 22 dB/100m | 35.3 dB | 32.3 dB | 14 dB | 11 dB | 23.8 dB | 20.8 dB | 22.5 dB | 22.5 dB | 100 ± 15 Ohm | |
| 200 MHz | 32.4 dB/100m | | 27.8 dB | | 1 dB | | 14.7 dB | | | 100 ± 25 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: | 60°C |
| Storage Temp Range: | -40°C To +75°C |
| Operating Temp Range: | -40°C To +75°C |

Mechanical Characteristics

| | |
|----------------------------------|---------------|
| Bulk Cable Weight: | 32 lbs/1000ft |
| Max Recommended Pulling Tension: | 35 lbs |
| Min Bend Radius/Minor Axis: | 0.5 in |

Standards

| | |
|-------------------------------|--|
| NEC/(UL) Specification: | CMR, CMX-Outdoor, UL 444 |
| CEC/C(UL) Specification: | CMR |
| UL AWM Style: | UL Style 21047 |
| ISO/IEC Compliance: | ISO/IEC 11801 ed 2.1 (2008) Class D |
| CPR Euroclass: | Eca |
| Data Category: | Category 5e |
| Telecommunications Standards: | Category 5e - TIA 568.C.2 |
| Other Specification: | NEMA WC-63.1 Category 5e, UL verified to Category 5e, Ethernet/IP™ Compliant |

Applicable Environmental and Other Programs

| | |
|-----------------------------|-------------------------------|
| EU Directive Compliance: | EU Directive 2003/11/EC (BFR) |
| MII Order #39 (China RoHS): | Yes |

Suitability

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

Flammability, LS0H, Toxicity Testing

| | |
|------------------|--------------|
| UL Flammability: | UL1666 Riser |
|------------------|--------------|

| | |
|-----------------------|---------------|
| CSA Flammability: | FT4 |
| ISO/IEC Flammability: | IEC 60332-1-2 |
| UL voltage rating: | 300 V RMS |

Plenum/Non-Plenum

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

Part Number

Variants

| Item # | Color | Putup Type | Length | UPC |
|---------------|-------|------------|----------|--------------|
| 7958A 0101000 | Black | Reel | 1,000 ft | 612825192084 |
| 7958A 0102000 | Black | Reel | 2,000 ft | 612825192091 |
| 7958A 0061000 | Blue | | | 612825192060 |
| 7958A 0061000 | Blue | Reel | 1,000 ft | 612825192060 |
| 7958A 0081000 | Gray | Reel | 1,000 ft | 612825192077 |
| 7958A 0021000 | Red | Reel | 1,000 ft | 612825192053 |
| 7958A 1NH1000 | Teal | Reel | 1,000 ft | 612825192107 |

| | |
|-----------|---|
| 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. EtherNet/IP is a trademark of ControlNet International, Ltd. under license by Open DeviceNet Vender Association, Inc. Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. *Special RJ45 plug required. See WWW. BELDEN.COM - Tools - Connector Cross Reference. Not intended for 600 V electrical power delivery. |
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History

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| Update and Revision: | Revision Number: 0.323 Revision Date: 04-28-2020 |
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