



REPRESENTATIVE IMAGE

**Product:** [7958A](#)

DataTuff® Cat 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. |
| Patent:                | This product has one or more applicable patents. More information on patents can be found at <a href="https://www.belden.com/resources/patents">https://www.belden.com/resources/patents</a> .       |

### Construction Details

#### Conductor

| AWG | Stranding | Material         | Number of Pairs |
|-----|-----------|------------------|-----------------|
| 24  | 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

#### Outer Shield Material

| Type | Material                            | Coverage | Drainwire Type   |
|------|-------------------------------------|----------|------------------|
| Tape | Polyester + Bi-Laminate (Alum+Poly) | 100%     | 24 AWG (7x32) TC |

#### Outer Jacket Material

| Material                 | Nom. Diameter | Ripcord |
|--------------------------|---------------|---------|
| PVC - Polyvinyl Chloride | 0.275 in      | No      |

### Electrical Characteristics

#### Electricals

| Max. Conductor DCR | Max. DCR Unbalance | Max. Capacitance Unbalance | Nom. Mutual Capacitance |
|--------------------|--------------------|----------------------------|-------------------------|
| 9.38 Ohm/1000ft    | 3%                 | 150 pF/ft                  | 15 pF/ft                |

#### Delay

| Max. Delay  | Max. Delay Skew | Nom. 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 Voltage Rating                           |
|---|
| 300 V (CMR, CMX-Outdoor), 600 V (AWM 21047) |

#### Mechanical Characteristics

#### Temperature

| UL Rating | Operating      | Installation   | Storage        |
|-----------|----------------|----------------|----------------|
| 60°C      | -40°C To +75°C | -25°C To +75°C | -40°C To +75°C |

#### Bend Radius

| Stationary Min. |
|-----------------|
| 0.5 in          |

|                    |               |
|--------------------|---------------|
| Max. Pull Tension: | 35 lbs        |
| Bulk Cable Weight: | 32 lbs/1000ft |

#### Standards and Compliance

|                                 |  |
|---------------------------------|--|
| Environmental Suitability:      | Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance, Oil Resistance   |
| Flammability / Fire Resistance: | UL1666 Riser, FT4, FT4, IEC 60332-1-2  |
| NEC / UL Compliance:            | 800, CMR, CMX-Outdoor  |
| AWM Compliance:                 | 21047  |
| CEC / C(UL) Compliance:         | CMR  |
| NEMA Compliance:                | NEMA WC-63.1   |
| Data Category:                  | Category 5e  |
| TIA/EIA Compliance:             | ANSI/TIA-568.2-D Category 5e   |
| CPR Euroclass:                  | Eca  |
| European Directive Compliance:  | EU Directive 2015/863/EU, EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16 |
| APAC Compliance:                | China RoHS II (GB/T 26572-2011)  |

#### 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 |

#### Product Notes

|        |  |
|--------|--|
| Notes: | 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: 0.372 Revision Date: 09-30-2020 |
|----------------------|--|

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