



**Product:** [7957A](#)

DataTuff® Cat 5e, 4 Bonded-Pr #24 Sol BC, PO Ins, OS+TC Brd, PVC Jkt, CMR CMX-Outdoor

[Request Sample](#)

### Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, PO Insulation, Overall Beldfoil®+Tinned Copper Braid(70%) Shield, PVC Outer Jacket, CMR CMX-Outdoor

### Technical Specifications

#### Product Overview

|                        |   |
|------------------------|---|
| Suitable Applications: | noisy environment, outdoor, 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/patents">https://www.belden.com/patents</a> .                            |

#### Construction Details

##### Conductor

| Element | Size   | Stranding | Material         | Number of Pairs | Number of Element |
|---------|--------|-----------|------------------|-----------------|-------------------|
| Pair(s) | 24 AWG | Solid     | BC - Bare Copper | 4               | 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

| Shield Type | Material                            | Coverage | Drainwire Type    |
|-------------|-------------------------------------|----------|-------------------|
| Tape        | Polyester + Bi-Laminate (Alum+Poly) | 100%     | 26 AWG (Solid) TC |
| Braid       | Tinned Copper (TC)                  | 70%      |                   |

##### Outer Jacket

| Material                 | Nom. Diameter    |
|--------------------------|------------------|
| PVC - Polyvinyl Chloride | 0.33 in (8.4 mm) |

|                                   |                  |
|-----------------------------------|------------------|
| Overall Cable Diameter (Nominal): | 0.33 in (8.4 mm) |
|-----------------------------------|------------------|

#### Electrical Characteristics

##### Electricals

| Max. Conductor DCR            | Max. Capacitance Unbalance |
|-------------------------------|----------------------------|
| 93.8 Ohm/km (28.6 Ohm/1000ft) | 150 pF/ft                  |

##### Delay

| Max. Delay  | Max. Delay Skew | Nom. Velocity of Prop. |
|-------------|-----------------|------------------------|
| 538 ns/100m | 45 ns/100m      | 70%                    |

##### 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] | Min. SRL (Structural Return Loss) [dB] | Max./Min. Input Impedance (unFitted) [Ohm] | Max./Min. Fitted Impedance [Ohm] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--|--|----------------------------------|
| 1               | 2.0 dB/100m                       | 65.3           | 62.3             | 63            | 60              | 63.8                    | 60.8                        | 20                         | 20                                     | 100 ± 15                                   | 95-110                           |

|       |              |      |      |      |      |      |      |      |      |          |        |
|-------|--------------|------|------|------|------|------|------|------|------|----------|--------|
| 4     | 4.1 dB/100m  | 56.3 | 53.3 | 51   | 49   | 51.7 | 48.7 | 23.6 | 23.6 | 100 ± 15 | 95-110 |
| 8     | 5.8 dB/100m  | 51.8 | 48.8 | 46   | 43   | 45.7 | 42.7 | 25.4 | 25.4 | 100 ± 15 | 95-107 |
| 10    | 6.5 dB/100m  | 50.3 | 47.3 | 43   | 41   | 43.8 | 40.8 | 26   | 26   | 100 ± 15 | 95-107 |
| 16    | 8.2 dB/100m  | 47.3 | 44.3 | 39   | 36   | 39.7 | 36.7 | 26   | 26   | 100 ± 15 | 95-107 |
| 20    | 9.3 dB/100m  | 45.8 | 42.8 | 36.5 | 33.5 | 37.7 | 34.7 | 26   | 26   | 100 ± 15 | 95-107 |
| 25    | 10.4 dB/100m | 44.3 | 41.3 | 33.9 | 30.9 | 35.8 | 32.8 | 25.5 | 25.5 | 100 ± 15 | 95-107 |
| 31.25 | 11.7 dB/100m | 42.9 | 39.9 | 31   | 28   | 33.9 | 30.9 | 25   | 25   | 100 ± 15 | 95-107 |
| 62.5  | 17.0 dB/100m | 38.4 | 35.4 | 22   | 19   | 27.8 | 24.8 | 23.5 | 23.5 | 100 ± 15 | 95-107 |
| 100   | 22.0 dB/100m | 35.3 | 32.3 | 14   | 11   | 23.8 | 20.8 | 22.5 | 22.5 | 100 ± 15 |        |

#### Voltage

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

#### Mechanical Characteristics

#### Temperature

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

#### Bend Radius

| Stationary Min. |
|-----------------|
| 2.5 in (64 mm)  |

|                    |                |
|--------------------|----------------|
| Max. Pull Tension: | 75 lbs (34 kg) |
| Bulk Cable Weight: | 49 lbs/1000ft  |

#### Standards and Compliance

|                                       |   |
|---------------------------------------|---|
| Environmental Suitability:            | Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance, Oil Resistance  |
| Flammability / Reaction to Fire:      | UL1666 Riser, FT4, IEC 60332-1-2  |
| CPR Compliance:                       | CPR Euroclass: Eca  |
| NEC / UL Compliance:                  | Article 800   |
| AWM Compliance:                       | AWM 21047   |
| CEC / C(UL) Compliance:               | CMX-Outdoor   |
| Data Category:                        | Category 5e   |
| TIA/EIA Compliance:                   | ANSI/TIA-568.2-D Category 5e  |
| Third Party Performance Verification: | Category 5e   |
| 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: | EtherNet/IP is a trademark of ControlNet International, Ltd. under license by Open DeviceNet Vendor Association, Inc. Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. Not intended for 600 V electrical power delivery. |
|--------|--|

#### History

|                      |  |
|----------------------|--|
| Update and Revision: | Revision Number: 0.548 Revision Date: 04-03-2023 |
|----------------------|--|

#### Part Numbers

#### Variants

| Item #        | Color | Putup Type | Length   | UPC          |
|---------------|-------|------------|----------|--------------|
| 7957A 0101000 | Black | Reel       | 1,000 ft | 612825192022 |
| 7957A 0102000 | Black | Reel       | 2,000 ft | 612825192039 |
| 7957A 0061000 | Blue  | Reel       | 1,000 ft | 612825192008 |
| 7957A 0081000 | Gray  | Reel       | 1,000 ft | 612825192015 |
| 7957A 0021000 | Red   | Reel       | 1,000 ft | 612825191995 |
| 7957A 1NH1000 | Teal  | Reel       | 1,000 ft | 612825192046 |

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