



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. |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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. Pull Tension:          | 35 lbs        |
| Min Bend Radius/Minor Axis: | 0.5 in        |

Standards

|                          |                                                                              |
|--------------------------|------------------------------------------------------------------------------|
| NEC/(UL) Compliance:     | CMR, CMX-Outdoor, UL 444                                                     |
| CEC/C(UL) Compliance:    | CMR                                                                          |
| UL AWM Style Compliance: | UL Style 21047                                                               |
| IEC Compliance:          | ISO/IEC 11801 ed 2.1 (2008) Class D                                          |
| CPR Euroclass:           | Eca                                                                          |
| Data Category:           | Category 5e                                                                  |
| TIA/EIA Compliance:      | Category 5e - TIA 568.C.2                                                    |
| Other Compliance:        | 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           |
| 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:   | <a href="https://www.belden.com/resources/patents">https://www.belden.com/resources/patents</a> |

Product Notes

|        |                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes: | US Patent #'s 5,606,151; 5,734,126. EtherNet/IP is a trademark of ControlNet International, Ltd. under liscense 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 eletrical power delivery. |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

History

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Update and Revision: | Revision Number: 0.324 Revision Date: 06-17-2020 |
|----------------------|--------------------------------------------------|

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