



**Product:** [7939A](#)

DataTuff® 5e, 4 Bonded-Pr #24 Str BC, PO Ins, OS, PVC Jkt, CMX-Outdoor CMR

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## Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (7x32) Bare Copper, PO Insulation, Overall Beldfoil® Shield, PVC Outer Jacket, CMX-Outdoor CMR

## Technical Specifications

### Product Overview

|                        |   |
|------------------------|---|
| Suitable Applications: | outdoor, 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  | 7x32      | BC - Bare Copper | 4            |

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

#### Insulation

| Material   |
|------------|
| Polyolefin |

|              |     |
|--------------|-----|
| Bonded-Pair: | Yes |
|--------------|-----|

#### Color Chart

| Number | Color                          |
|--------|--------------------------------|
| 1      | White/Blue Stripe and Blue     |
| 2      | White/Orange Stripe and Orange |
| 3      | White/Green Stripe and Green   |
| 4      | White/Brown Stripe and 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 | Nominal Wall Thickness | Ripcord | Separator Material |
|--------------------------|------------------|------------------------|---------|--------------------|
| PVC - Polyvinyl Chloride | 0.295 in         | 0.03 in                | No      | Polyester          |

### Electrical Characteristics

#### Conductor DCR

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

#### Capacitance

| Max. Capacitance Unbalance | Nom. Mutual Capacitance |
|----------------------------|-------------------------|
| 330 pF/ft                  | 15 pF/ft                |

#### Delay

| Max. Delay  | Max. Delay Skew | Nominal Velocity of Propagation (VP) [%] | Typical Delay Skew |
|-------------|-----------------|--|--------------------|
| 510 ns/100m | 45 ns/100m      | 69%                                      | 12 ns/ft           |

#### 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           | 2.5 dB/100m                       | 65.3 dB        | 62.3 dB          | 62.8 dB       | 59.8 dB         | 63.8 dB                 | 60.8 dB                     | 20 dB                      | 23 dB                             | 100 ± 15 Ohm                         | 100 ± 15 Ohm               |
| 4 MHz           | 4.9 dB/100m                       | 56.3 dB        | 53.3 dB          | 51.4 dB       | 48.4 dB         | 51.7 dB                 | 48.7 dB                     | 23 dB                      | 23 dB                             | 100 ± 15 Ohm                         | 100 ± 15                   |
| 8 MHz           | 6.9 dB/100m                       | 51.8 dB        | 48.8 dB          | 44.9 dB       | 41.9 dB         | 45.7 dB                 | 42.7 dB                     | 24.5 dB                    | 24.5 dB                           | 100 ± 15 Ohm                         | 100 ± 15                   |
| 10 MHz          | 7.8 dB/100m                       | 50.3 dB        | 47.3 dB          | 42.5 dB       | 39.5 dB         | 43.8 dB                 | 40.8 dB                     | 25 dB                      | 25 dB                             | 100 ± 15 Ohm                         | 100 ± 15                   |
| 16 MHz          | 9.9 dB/100m                       | 47.3 dB        | 44.3 dB          | 37.4 dB       | 34.4 dB         | 39.7 dB                 | 36.7 dB                     | 25 dB                      | 25 dB                             | 100 ± 15 Ohm                         | 100 ± 15                   |
| 20 MHz          | 11.1 dB/100m                      | 45.8 dB        | 42.8 dB          | 34.7 dB       | 31.7 dB         | 37.7 dB                 | 34.7 dB                     | 25 dB                      | 25 dB                             | 100 ± 15 Ohm                         | 100 ± 15                   |
| 25 MHz          | 12.5 dB/100m                      | 44.3 dB        | 41.3 dB          | 21.8 dB       | 28.8 dB         | 35.8 dB                 | 32.8 dB                     | 24.3 dB                    | 24.3 dB                           | 100 ± 15 Ohm                         | 100 ± 15                   |
| 31.25 MHz       | 14.1 dB/100m                      | 42.9 dB        | 39.9 dB          | 28.8 dB       | 25.8 dB         | 33.9 dB                 | 30.9 dB                     | 23.6 dB                    | 23.6 dB                           | 100 ± 15 Ohm                         | 100 ± 15                   |
| 62.5 MHz        | 20.4 dB/100m                      | 38.4 dB        | 35.4 dB          | 18 dB         | 15 dB           | 27.8 dB                 | 24.8 dB                     | 21.5 dB                    | 21.5 dB                           | 100 ± 15 Ohm                         | 100 ± 15                   |
| 100 MHz         | 26.4 dB/100m                      | 35.3 dB        | 32.3 dB          | 8.9 dB        | 5.9 dB          | 23.8 dB                 | 20.8 dB                     | 20.1 dB                    | 20.1 dB                           | 100 ± 15 Ohm                         |                            |

#### Voltage

| UL Voltage Rating |
|-------------------|
| 300 V RMS         |

#### Temperature Range

|                          |                |
|--------------------------|----------------|
| Installation Temp Range: | -25°C To +75°C |
| UL Temp Rating:          | 60°C           |
| Operating Temp Range:    | -40°C To +75°C |

#### Mechanical Characteristics

|                             |               |
|-----------------------------|---------------|
| Bulk Cable Weight:          | 35 lbs/1000ft |
| Max. Pull Tension:          | 40 lbs        |
| Min Bend Radius/Minor Axis: | 0.6 in        |

#### Standards

|                       |   |
|-----------------------|---|
| NEC/(UL) Compliance:  | CMR, CMX-Outdoor, UL 444                    |
| CEC/C(UL) Compliance: | CMG   |
| IEC Compliance:       | ISO/IEC 11801 Cat 5e Patch                  |
| CPR Euroclass:        | Eca   |
| Data Category:        | Category 5e                                 |
| ANSI Compliance:      | ICEA 661                                    |
| TIA/EIA Compliance:   | TIA-568.C.2 Category 5e Patch, NEMA WC-63.1 |

#### Applicable Environmental and Other Programs

|                                       |                               |
|---------------------------------------|-------------------------------|
| EU Directive 2000/53/EC (ELV):        | Yes                           |
| EU Directive 2003/11/EC (BFR):        | Yes                           |
| EU Directive 2011/65/EU (ROHS II):    | Yes                           |
| EU Directive 2012/19/EU (WEEE):       | Yes                           |
| EU Directive 2015/863/EU:             | Yes                           |
| EU Directive Compliance:              | EU Directive 2003/11/EC (BFR) |
| EU CE Mark:                           | Yes                           |
| EU RoHS Compliance Date (yyyy-mm-dd): | 2004-01-04                    |
| MII Order #39 (China RoHS):           | Yes                           |

#### Suitability

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

#### Flammability, LSOH, 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          |
|---------------|-------|------------|----------|--------------|
| 7939A 0101000 | Black | Reel       | 1,000 ft | 612825191773 |
| 7939A 0102000 | Black | Reel       | 2,000 ft | 612825191780 |
| 7939A 0061000 | Blue  | Reel       | 1,000 ft | 612825191759 |
| 7939A 0081000 | Gray  | Reel       | 1,000 ft | 612825191766 |
| 7939A 0021000 | Red   | Reel       | 1,000 ft | 612825191742 |
| 7939A 1NH1000 | Teal  | Reel       | 1,000 ft | 612825191797 |

|           |   |
|-----------|---|
| 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: | Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. |
|--------|--|

## History

|                      |  |
|----------------------|--|
| Update and Revision: | Revision Number: 0.311 Revision Date: 04-28-2020 |
|----------------------|--|

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