



**Product:** [7936A](#)

DataTuff® 5e, 4 Bonded-Pr #24 Sol BC, PO Ins, OS, LSZH Jkt, CMG CM

[Request Sample](#)

## Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, PO Insulation, Overall Beldfoil® Shield, LSZH Outer Jacket, CMG CM

## Technical Specifications

### Product Overview

|                        |  |
|------------------------|--|
| Suitable Applications: | noisy environment, shipboard, transportation, 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 |
|-----------------|------------------------|
| PO - 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 | Bi-Laminate (Alum+Poly) | Beldfoil®           | 100%         | TC - Tinned Copper | 24            | 7x32                         |

#### Outer Jacket Material

| Material  | Nominal Diameter | Ripcord |
|---|------------------|---------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 0.265 in         | No      |

### 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 |
|-------------|-----------------|
| 538 ns/100m | 45 ns/100m      |

#### 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                      | 23 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 dB                      | 23 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                     | 24.5 dB                    | 24.5 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                     | 25 dB                      | 25 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                     | 25 dB                      | 25 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                     | 25 dB                      | 25 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                     | 24.3 dB                    | 24.3 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                     | 23.6 dB                    | 23.6 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                     | 21.5 dB                    | 21.5 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                     | 20.1 dB                    | 20.1 dB                           | 100 ± 15 Ohm                         |                            |
| 200 MHz         | 32.4 dB/100m                      |                | 27.8 dB          |               | 1 dB            |                         | 14.7 dB                     |                            | 15 dB                             | 100 ± 25 Ohm                         |                            |

#### Voltage

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

#### Temperature Range

|                          |                |
|--------------------------|----------------|
| Installation Temp Range: | +5°C To +75°C  |
| UL Temp Rating:          | 60°C           |
| Storage Temp Range:      | -10°C To +75°C |
| Operating Temp Range:    | -10°C To +75°C |

#### Mechanical Characteristics

|                             |               |
|-----------------------------|---------------|
| Bulk Cable Weight:          | 34 lbs/1000ft |
| Max. Pull Tension:          | 40 lbs        |
| Min Bend Radius/Minor Axis: | 0.5 in        |

#### Standards

|                                       |  |
|---------------------------------------|--|
| NEC/(UL) Compliance:                  | CM, UL 444                             |
| CEC/C(UL) Compliance:                 | CMG                                    |
| IEC Compliance:                       | ISO/IEC 11801 Cat 5e                   |
| CPR Euroclass:                        | Eca                                    |
| Data Category:                        | Category 5e                            |
| TIA/EIA Compliance:                   | TIA-5687-C.2 Category 5e, NMEA WC-63.1 |
| Third Party Performance Verification: | UL Verified to Category 5e             |

#### 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 - Oil Resistance:      | No  |
| Suitability - Outdoor:             | Yes |
| Suitability - Sunlight Resistance: | Yes |

#### Flammability, LSOH, Toxicity Testing

|                    |                   |
|--------------------|-------------------|
| UL Flammability:   | UL1685 UL Loading |
| 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          |
|---------------|-------|------------|----------|--------------|
| 7936A 0101000 | Black | Reel       | 1,000 ft | 612825191704 |
| 7936A 0102000 | Black | Reel       | 2,000 ft | 612825191711 |

|           |                        |
|-----------|------------------------|
| Footnote: | C - CRATE REEL PUT-UP. |
|-----------|------------------------|

## Product Notes

|        |  |
|--------|--|
| Notes: | US Patent #'s 5, 606, 151; 5, 734, 126. Operating temperatures are subject to length de-rating. Cable passes -10C Cold Bend per UL 1581. |
|--------|--|

## History

|                      |  |
|----------------------|--|
| Update and Revision: | Revision Number: 0.317 Revision Date: 09-30-2020 |
|----------------------|--|

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