



Product: [7938A](#)

DataTuff® Cat 5e, 4 Bonded-Pr #24 Str Alloy, PO Ins, OS+TC Brd, TPE Jkt, TPE Jkt, High Flex AWM 20606

[Request Sample](#)

Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair, 24AWG (Stranded) Alloy, PO Insulation, Overall Beldfoil®+Tinned Copper Braid(85%) Shield, TPE Inner Jacket, TPE Outer Jacket, High Flex 10M cycles at 10xOD AWM 20606

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | robotic, 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 https://www.belden.com/patents . |

Construction Details

Conductor

| Element | Size | Stranding | Material | No. of Pairs | No. of Elements |
|---------|--------|-----------|-------------------------|--------------|-----------------|
| Pair(s) | 24 AWG | 7x32 | BCA - Bare Copper Alloy | 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 |
|--------------|-----|

Inner Jacket

| Separator | Material | Nom. Diameter | Ripcord |
|----------------|-------------------------------|--------------------|---------|
| Central Filler | TPE - Thermoplastic Elastomer | 0.254 in (6.45 mm) | No |

Outer Shield

| Shield Type | Material | Coverage |
|-------------|-------------------------|----------|
| Tape | Bi-Laminate (Alum+Poly) | 100% |
| Braid | Tinned Copper (TC) | 85% |

Outer Jacket

| Separator | Material | Nom. Diameter | Ripcord |
|----------------|-------------------------------|--------------------|---------|
| Polyester Tape | TPE - Thermoplastic Elastomer | 0.342 in (8.69 mm) | Yes |

| | |
|-----------------------------------|--------------------|
| Overall Cable Diameter (Nominal): | 0.342 in (8.69 mm) |
|-----------------------------------|--------------------|

Electrical Characteristics

Electricals

| Max. Conductor DCR | Max. Capacitance Unbalance |
|-------------------------------|----------------------------|
| 93.8 Ohm/km (28.6 Ohm/1000ft) | 330 pF/ft |

Delay

| Max. Delay | Max. Delay Skew | Nom. Velocity of Prop. | Typical Delay Skew |
|-------------|-----------------|------------------------|--------------------|
| 510 ns/100m | 45 ns/100m | 69% | 12 ns/ft |

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

Voltage

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

Mechanical Characteristics

Temperature

| UL Temperature | Operating | Installation | Storage |
|----------------|----------------|----------------|----------------|
| 60°C | -40°C To +80°C | -25°C To +75°C | -40°C To +80°C |

Bend Radius

| Stationary Min. |
|-----------------|
| 3.5 in (89 mm) |

| | |
|--------------------|----------------|
| Max. Pull Tension: | 40 lbs (18 kg) |
| Bulk Cable Weight: | 62 lbs/1000ft |

Standards and Compliance

| | |
|----------------------------------|---|
| Environmental Suitability: | Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance, Oil Resistance |
| Flammability / Reaction to Fire: | UL 1581 (Vertical Tray), (VW-1), FT1 |
| CPR Compliance: | CPR Euroclass: Eca |
| Data Category: | Category 5e |
| European Directive Compliance: | 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

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|--------|--|
| Notes: | Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. AWM 20626 80C 300V. *Special RJ45 plugs required. See WWW.BELDEN.COM - Tools - Connector Cross Reference. |
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History

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| Update and Revision: | Revision Number: 0.547 Revision Date: 12-12-2023 |
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Part Numbers

Variants

| Item # | Color | Putup Type | Length | UPC | Footnote |
|---------------|--------------|------------|--------|--------------|----------|
| 7938A B59500 | Black, Matte | Reel | 500 ft | 612825191735 | C |
| 7938A B591000 | Matte Black | | | 612825406204 | C |

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