



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

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

History

| | |
|----------------------|--|
| Update and Revision: | Revision Number: 0.549 Revision Date: 02-03-2025 |
|----------------------|--|

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 |

© 2025 Belden, Inc

All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.