



REPRESENTATIVE IMAGE

Product: [7928A](#)

DataTuff® Cat 5e, 4 Bonded-Pr #24 Sol BC, FEP Ins, FEP Jkt, CMP CMP-LC

Request Sample

Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, FEP Insulation, FEP Outer Jacket, CMP CMP-LC

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | extreme temp, exposure to oil and gasoline, 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/resources/patents . |

Construction Details

Conductor

| AWG | Stranding | Material | Number of Pairs |
|-----|-----------|------------------|-----------------|
| 24 | Solid | BC - Bare Copper | 4 |

Insulation

| Material | Nom. Insulation Diameter | Color Code |
|--------------------------------------|--------------------------|--|
| FEP - Fluorinated Ethylene Propylene | 0.036 | White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown |

Bonded-Pair: Yes

Outer Jacket Material

| Material | Nom. Diameter | Ripcord |
|--------------------------------------|---------------|---------|
| FEP - Fluorinated Ethylene Propylene | 0.187 in | No |

Electrical Characteristics

Electricals

| Max. Conductor DCR | Max. DCR Unbalance | Max. Capacitance Unbalance | Nom. Mutual Capacitance |
|--------------------|--------------------|----------------------------|-------------------------|
| 9 Ohm/1000ft | 3% | 66 pF/ft | 15 pF/ft |

Delay

| Max. Delay | Max. Delay Skew | Nom. Velocity of Propagation (VP) [%] |
|-------------|-----------------|---------------------------------------|
| 510 ns/100m | 25 ns/100m | 72% |

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] | Max./Min. Input Impedance (unFitted) | Max./Min. Fitted Impedance |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------------------------------|----------------------------|
| 1 MHz | 2 dB/100m | 65.3 dB | 65.3 dB | 63.3 dB | 63.3 dB | 63.8 dB | 60.8 dB | 20 dB | 100 ± 12 Ohm | 95-110 Ohm |
| 4 MHz | 4 dB/100m | 56.3 dB | 56.3 dB | 52.3 dB | 52.3 dB | 51.7 dB | 48.7 dB | 23.6 dB | 100 ± 12 Ohm | 95-110 |
| 8 MHz | 5.7 dB/100m | 51.8 dB | 51.8 dB | 46.1 dB | 46.1 dB | 45.7 dB | 42.7 dB | 25.4 dB | 100 ± 12 Ohm | 95-107 |
| 10 MHz | 6.4 dB/100m | 50.3 dB | 50.3 dB | 43.9 dB | 43.9 dB | 43.8 dB | 40.8 dB | 26 dB | 100 ± 12 Ohm | 95-107 |
| 16 MHz | 8.1 dB/100m | 47.3 dB | 47.3 dB | 39.1 dB | 39.1 dB | 39.7 dB | 36.7 dB | 26 dB | 100 ± 12 Ohm | 95-107 |
| 20 MHz | 9.2 dB/100m | 45.8 dB | 45.8 dB | 35.2 dB | 35.2 dB | 37.7 dB | 34.7 dB | 26 dB | 100 ± 12 Ohm | 95-107 |
| 25 MHz | 10.3 dB/100m | 44.3 dB | 44.3 dB | 34.1 dB | 34.1 dB | 35.8 dB | 32.8 dB | 25.5 dB | 100 ± 15 Ohm | 95-107 |
| 31.25 MHz | 11.6 dB/100m | 42.9 dB | 42.9 dB | 31.3 dB | 31.3 dB | 33.9 dB | 30.9 dB | 25 dB | 100 ± 15 Ohm | 95-107 |
| 62.5 MHz | 16.8 dB/100m | 38.4 dB | 38.4 dB | 21.6 dB | 21.6 dB | 27.8 dB | 24.8 dB | 23.5 dB | 100 ± 15 Ohm | 95-107 |

| | | | | | | | | | |
|---------|--------------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 100 MHz | 21.7 dB/100m | 35.3 dB | 35.3 dB | 17.1 dB | 17.1 dB | 23.8 dB | 20.8 dB | 22.5 dB | 100 ± 15 Ohm |
| 155 MHz | 27.7 dB/100m | 32.5 dB | 32.5 dB | 4.7 dB | 4.7 dB | 19.9 dB | 16.9 dB | 19 dB | 100 ± 18 Ohm |
| 200 MHz | 32 dB/100m | 30.8 dB | 30.8 dB | 3 dB | 3 dB | 17.7 dB | 14.7 dB | 19 dB | 100 ± 20 Ohm |
| 250 MHz | 36.4 dB/100m | 29.3 dB | 29.3 dB | 0 dB | 0 dB | 15.8 dB | 12.8 dB | 18 dB | 100 ± 20 Ohm |
| 300 MHz | 40.5 dB/100m | 28.2 dB | 28.2 dB | 0 dB | 0 dB | 14.2 dB | 11.2 dB | 18 dB | 100 ± 20 Ohm |
| 310 MHz | 41.3 dB/100m | 27.9 dB | 27.9 dB | | | 13.9 dB | 10.9 dB | 18 dB | 100 ± 20 Ohm |
| 350 MHz | 44.3 dB/100m | 27.2 dB | 27.2 dB | | | 12.9 dB | 9.9 dB | 17 dB | 100 ± 22 Ohm |

Voltage

| |
|--------------------------|
| UL Voltage Rating |
| 300 V (CMP) |

Mechanical Characteristics

Temperature

| UL Rating | Operating | Installation | Storage |
|-----------|-----------------|-----------------|-----------------|
| 150°C | -70°C To +150°C | -55°C To +150°C | -70°C To +150°C |

Bend Radius

| |
|------------------------|
| Stationary Min. |
| 0.25 in |

| | |
|--------------------|---------------|
| Max. Pull Tension: | 40 lbs |
| Bulk Cable Weight: | 34 lbs/1000ft |

Standards and Compliance

| | |
|---------------------------------|--|
| Environmental Suitability: | Plenum, Indoor, Outdoor, Sunlight Resistance, Oil Resistance |
| Flammability / Fire Resistance: | NFPA 262 Plenum Flame Test (UL910), UL723 (NFPA 255), FT6, FT6, IEC 60332-1-2 |
| NEC / UL Compliance: | 800, CMP |
| CEC / C(UL) Compliance: | CMP |
| ICEA Compliance: | S-90-661-2012 |
| IEEE Compliance: | IEEE 802.3bt Type 1, Type 2, Type 3 |
| NEMA Compliance: | NEMA WC-63.1 |
| Data Category: | Category 5e |
| TIA/EIA Compliance: | ANSI/TIA-568.2-D Category 5e |
| CPR Euroclass: | Eca |
| European Directive Compliance: | EU Directive 2015/863/EU, EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16 |
| APAC Compliance: | China RoHS II (GB/T 26572-2011) |
| Other Standard Compliance(s): | Ethernet/IP™ Compliant |

Part Number

Variants

| Item # | Color | Putup Type | Length | UPC |
|---------------|-------|------------|----------|--------------|
| 7928A 0101000 | Black | Reel | 1,000 ft | 612825191476 |
| 7928A 0105000 | Black | Reel | 5,000 ft | 612825191483 |

Product Notes

| | |
|--------|--|
| Notes: | EtherNet IP is a trademark of ControlNet International, Ltd. under license by Open DeviceNet Vendor Association, Inc. Operating temperatures are subject to length de-rating. Cable passes -70C Cold Bend per UL 1581. |
|--------|--|

History

| | |
|----------------------|--|
| Update and Revision: | Revision Number: 0.360 Revision Date: 09-30-2020 |
|----------------------|--|

© 2021 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.