



Product: [7931A](#)

DataTuff® Cat 6, 4 Bonded-Pr #23 Sol BC, FEP Ins, FEP Jkt, CMP CMP-LC

[Request Sample](#)

Product Description

Industrial Ethernet Cat 6, 4 Bonded-Pair 23AWG (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 . |

Physical Characteristics (Overall)

Conductor

| AWG | Stranding | Material | No. of Pairs |
|-----|-----------|------------------|--------------|
| 23 | Solid | BC - Bare Copper | 4 |

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

Insulation

| Material |
|--------------------------------------|
| FEP - Fluorinated Ethylene Propylene |

| | |
|--------------|-----|
| 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

| Material |
|-----------|
| No Shield |

Outer Jacket Material

| Material | Nominal Diameter |
|--------------------------------------|------------------|
| FEP - Fluorinated Ethylene Propylene | 0.214 in |

Electrical Characteristics

Conductor DCR

| Max. Conductor DCR | Max. DCR Unbalance |
|--------------------|--------------------|
| 9.38 Ohm/1000ft | 5 % |

Capacitance

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

Delay

| Max. Delay | Max. Delay Skew | Nominal Velocity of Propagation (VP) [%] |
|-------------|-----------------|--|
| 537 ns/100m | 45 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 | 74.3 dB | 72.3 dB | 72.3 dB | 70.3 dB | 67.8 dB | 64.8 dB | 20 dB | 100 ± 15 Ohm | 100 ± 15 Ohm |
| 4 MHz | 3.8 dB/100m | 65.3 dB | 63.3 dB | 61.5 dB | 59.5 dB | 55.8 dB | 52.7 dB | 23 dB | 100 ± 15 Ohm | 100 ± 15 |
| 8 MHz | 5.3 dB/100m | 60.8 dB | 58.8 dB | 55.4 dB | 53.4 dB | 49.7 dB | 46.7 dB | 24.5 dB | 100 ± 15 Ohm | 100 ± 15 |
| 10 MHz | 6 dB/100m | 59.3 dB | 57.3 dB | 53.3 dB | 51.3 dB | 47.8 dB | 44.8 dB | 25 dB | 100 ± 15 Ohm | 100 ± 15 |
| 16 MHz | 7.6 dB/100m | 56.2 dB | 54.3 dB | 48.7 dB | 46.7 dB | 43.7 dB | 40.7 dB | 25 dB | 100 ± 15 Ohm | 100 ± 15 |
| 20 MHz | 8.5 dB/100m | 54.8 dB | 52.8 dB | 46.3 dB | 44.3 dB | 41.8 dB | 38.7 dB | 25 dB | 100 ± 15 Ohm | 100 ± 15 |
| 25 MHz | 9.5 dB/100m | 53.3 dB | 51.3 dB | 43.8 dB | 41.8 dB | 39.8 dB | 36.8 dB | 24.3 dB | 100 ± 15 Ohm | 100 ± 15 |
| 31.25 MHz | 10.7 dB/100m | 51.9 dB | 49.9 dB | 41.2 dB | 39.2 dB | 37.9 dB | 34.9 dB | 23.6 dB | 100 ± 15 Ohm | 100 ± 15 |
| 62.5 MHz | 15.4 dB/100m | 47.4 dB | 45.4 dB | 32 dB | 30 dB | 31.9 dB | 28.8 dB | 21.5 dB | 100 ± 15 Ohm | 100 ± 15 |
| 100 MHz | 19.8 dB/100m | 44.3 dB | 42.3 dB | 24.5 dB | 22.5 dB | 27.8 dB | 24.8 dB | 20.1 dB | 100 ± 15 Ohm | |
| 155 MHz | 25.2 dB/100m | 41.5 dB | 39.5 dB | 16.3 dB | 14.3 dB | 23.9 dB | 20.9 dB | 18.8 dB | 100 ± 22 Ohm | |
| 200 MHz | 29 dB/100m | 39.8 dB | 37.8 dB | 10.8 dB | 8.8 dB | 21.8 dB | 18.7 dB | 18 dB | 100 ± 22 Ohm | |
| 250 MHz | 32.8 dB/100m | 38.3 dB | 36.3 dB | 5.5 dB | 3.5 dB | 19.8 dB | 16.8 dB | 17.3 dB | 100 ± 32 Ohm | |

Voltage

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

Temperature Range

| | |
|--------------------------|-----------------|
| Installation Temp Range: | -55°C To +150°C |
| UL Temp Rating: | 150°C |
| Operating Temp Range: | -70°C To +150°C |

Mechanical Characteristics

| | |
|-----------------------------|---------------|
| Bulk Cable Weight: | 28 lbs/1000ft |
| Max. Pull Tension: | 40 lbs |
| Min Bend Radius/Minor Axis: | 0.5 in |

Standards

| | |
|-----------------------|------------------------|
| NEC/(UL) Compliance: | CMP, FHC 25/50, UL 444 |
| CEC/C(UL) Compliance: | CMP |
| CPR Euroclass: | Eca |
| Data Category: | Category 6 |

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 - Sunlight Resistance: | Yes |

Flammability, LS0H, Toxicity Testing

| | |
|-------------------|----------------------------|
| UL Flammability: | UL723 (NFPA 255), NFPA 262 |
| CSA Flammability: | FT6 |

| | |
|--------------------|---------------|
| IEC Flammability: | IEC 60332-1-2 |
| UL voltage rating: | 300 V RMS |

Plenum/Non-Plenum

| | |
|---------------|-----|
| Plenum (Y/N): | Yes |
|---------------|-----|

Part Number

Variants

| Item # | Color | Putup Type | Length | UPC |
|---------------|-------|------------|----------|--------------|
| 7931A 0101000 | Black | Reel | 1,000 ft | 612825191599 |

Product Notes

| | |
|--------|---|
| Notes: | US Patents 5, 606, 151 & 5, 573, 126. Operating temperatures subject to length de-rating. |
|--------|---|

History

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|----------------------|--|
| Update and Revision: | Revision Number: 0.320 Revision Date: 06-18-2020 |
|----------------------|--|

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Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А