



Product: [121700A](#)

DataTuff® Cat 5e, 4 Bonded-Pr #24 Sol BC, PO Ins, PVC Jkt, AIA Armor, PVC Jkt, CMG CM

[Request Sample](#)

Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, PO Insulation, PVC Inner Jacket, Aluminum Interlock Armor, PVC Outer Jacket, CMG CM

Technical Specifications

Product Overview

|                        |                                                                                                                                                                            |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Applications: | harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc. exposure to rodent, crush, or cut through force,                  |
| Patent:                | This product has one or more applicable patents. More information on patents can be found at <a href="https://www.belden.com/patents">https://www.belden.com/patents</a> . |

Construction Details

Conductor

| Element | Size   | Stranding | Material         | No. of Pairs | No. of Elements |
|---------|--------|-----------|------------------|--------------|-----------------|
| Pair(s) | 24 AWG | Solid     | BC - Bare Copper | 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

| Material                 | Nom. Diameter      | Ripcord |
|--------------------------|--------------------|---------|
| PVC - Polyvinyl Chloride | 0.202 in (5.13 mm) | Yes     |

Armor

| Armor Type & Material          |
|--------------------------------|
| AIA - Aluminum Interlock Armor |

Outer Jacket

| Material                 | Nom. Diameter      |
|--------------------------|--------------------|
| PVC - Polyvinyl Chloride | 0.553 in (14.0 mm) |

|                                   |                    |
|-----------------------------------|--------------------|
| Overall Cable Diameter (Nominal): | 0.553 in (14.0 mm) |
|-----------------------------------|--------------------|

Electrical Characteristics

Electricals

| Max. Conductor DCR            | Max. Capacitance Unbalance |
|-------------------------------|----------------------------|
| 93.8 Ohm/km (28.6 Ohm/1000ft) | 66 pF/ft                   |

Delay

| Max. Delay  | Max. Delay Skew | Nom. Velocity of Prop. |
|-------------|-----------------|------------------------|
| 510 ns/100m | 25 ns/100m      | 70%                    |

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] | Max./Min. Input Impedance (unFitted) [Ohm] | Max./Min. Fitted Impedance [Ohm] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------------------------------------|----------------------------------|
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------------------------------------|----------------------------------|

|       |              |      |      |      |      |      |      |      |          |          |
|-------|--------------|------|------|------|------|------|------|------|----------|----------|
| 1     | 2.0 dB/100m  | 65.3 | 65.3 | 63.3 | 63.3 | 63.8 | 60.8 | 20   | 100 ± 12 | 105 ± 10 |
| 4     | 4.0 dB/100m  | 56.3 | 56.3 | 52.3 | 52.3 | 51.7 | 48.7 | 23   | 100 ± 12 | 100 ± 10 |
| 8     | 5.7 dB/100m  | 51.8 | 51.8 | 46.1 | 46.1 | 45.7 | 42.7 | 24.5 | 100 ± 12 | 100 ± 10 |
| 10    | 6.4 dB/100m  | 50.3 | 50.3 | 43.9 | 43.9 | 43.8 | 40.8 | 25   | 100 ± 12 | 100 ± 10 |
| 16    | 8.1 dB/100m  | 47.3 | 47.3 | 39.1 | 39.1 | 39.7 | 36.7 | 25   | 100 ± 12 | 100 ± 10 |
| 20    | 9.2 dB/100m  | 45.8 | 45.8 | 35.2 | 35.2 | 37.7 | 34.7 | 25   | 100 ± 12 | 100 ± 10 |
| 25    | 10.3 dB/100m | 44.3 | 44.3 | 34.1 | 34.1 | 35.8 | 32.8 | 24.3 | 100 ± 15 | 100 ± 10 |
| 31.25 | 11.6 dB/100m | 42.9 | 42.9 | 31.3 | 31.3 | 33.9 | 30.9 | 23.6 | 100 ± 15 | 100 ± 10 |
| 62.5  | 16.8 dB/100m | 38.4 | 38.4 | 21.6 | 21.6 | 27.8 | 24.8 | 21.5 | 100 ± 15 | 100 ± 10 |
| 100   | 21.7 dB/100m | 35.3 | 35.3 | 17.1 | 17.1 | 23.8 | 20.8 | 20.1 | 100 ± 15 |          |
| 155   | 27.7 dB/100m | 32.5 | 32.5 | 4.7  | 4.7  | 19.9 | 16.9 | 19   | 100 ± 18 |          |
| 200   | 32 dB/100m   | 30.8 | 30.8 | 3    | 3    | 17.7 | 14.7 | 19   | 100 ± 20 |          |
| 250   | 36.4 dB/100m | 29.3 | 29.3 | 0    | 0    | 15.8 | 12.8 | 18   | 100 ± 20 |          |
| 300   | 40.5 dB/100m | 28.2 | 28.2 | 0    | 0    | 14.2 | 11.2 | 18   | 100 ± 20 |          |
| 310   | 41.3 dB/100m | 27.9 | 27.9 |      |      | 13.9 | 10.9 | 18   | 100 ± 20 |          |
| 350   | 44.3 dB/100m | 27.2 | 27.2 |      |      | 12.9 | 9.9  | 17   | 100 ± 22 |          |

Voltage

| UL Voltage Rating | Voltage Rating |
|-------------------|----------------|
| 300 V (CM)        | 300 V (CMG-HL) |

Mechanical Characteristics

Temperature

| UL Temperature | Operating      | Installation   | Storage        |
|----------------|----------------|----------------|----------------|
| 60°C           | -25°C To +75°C | -25°C To +75°C | -25°C To +85°C |

Bend Radius

| Stationary Min. |
|-----------------|
| 6.5 in (170 mm) |

|                    |                |
|--------------------|----------------|
| Max. Pull Tension: | 40 lbs (18 kg) |
| Bulk Cable Weight: | 123 lbs/1000ft |

Standards and Compliance

|                                  |                                                                                                                                         |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Suitability:       | Indoor (Not Riser or Plenum), Indoor, Outdoor, Sunlight Resistance, Oil Resistance, Aerial - When supported by messenger wire           |
| Flammability / Reaction to Fire: | UL 1685 (UL Loading), FT4                                                                                                               |
| NEC / UL Compliance:             | Article 800, CM                                                                                                                         |
| CEC / C(UL) Compliance:          | CMG, HL, CMG-HL                                                                                                                         |
| IEEE Compliance:                 | IEEE 802.3bt Type 1, Type 2, Type 3                                                                                                     |
| 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 |
| APAC Compliance:                 | China RoHS II (GB/T 26572-2011)                                                                                                         |

Product Notes

|        |                                                                                                                                 |
|--------|---------------------------------------------------------------------------------------------------------------------------------|
| Notes: | US Patent #'s 5606151; 5734126 Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. |
|--------|---------------------------------------------------------------------------------------------------------------------------------|

History

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Update and Revision: | Revision Number: 0.518 Revision Date: 01-20-2023 |
|----------------------|--------------------------------------------------|

Part Numbers

Variants

| Item #          | Color | Putup Type | Length   | UPC          | Footnote |
|-----------------|-------|------------|----------|--------------|----------|
| 121700A 0101000 | Black | Reel       | 1,000 ft | 612825108962 | C Z      |
| 121700A 0103000 | Black | Reel       | 3,000 ft | 612825399728 | C Z      |
| 121700A 0105000 | Black | Reel       | 5,000 ft | 612825108979 | C Z      |
| 121700A 0081000 | Gray  | Reel       | 1,000 ft | 612825108955 | C Z      |

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