



REPRESENTATIVE IMAGE

**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/resources/patents">https://www.belden.com/resources/patents</a> .

### Construction Details

#### Conductor

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

#### Insulation

Material	Nom. Insulation Diameter	Color Code
PO - Polyolefin	0.038 in (0.97 mm)	White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown

Bonded-Pair:	Yes
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#### Inner Jacket

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

#### Outer Shield

Material	Coverage
Polyester	100%

#### Armor

Armor Type & Material	Diameter Over Armor
AIA - Aluminum Interlock Armor	0.463 in (11.8 mm)

#### Outer Jacket

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

Overall Cable Diameter (Nominal):	0.553 in (14.0 mm)
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### Electrical Characteristics

#### Electricals

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

## 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:	101 lbs/1000ft

## Standards and Compliance

Environmental Suitability:	Indoor (Not Riser or Plenum), Indoor, Outdoor, Sunlight Resistance, Oil Resistance
Flammability / Reaction to Fire:	UL 1685 (UL Loading), FT4, 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.
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## History

Update and Revision:	Revision Number: 0.393 Revision Date: 12-15-2021
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## Variants

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

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