



Part Number: 121700A

DataTuff® 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:	Industrial Ethernet Cable, Harsh Environments, 350MHz Enhanced Category 5e, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, RJ-45 Compatible, Flexible Applications, Armored for Extra Protection
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Physical Characteristics (Overall)

Conductor

AWG	Stranding	Material	Nominal Diameter	No. of Pairs
24	Solid	BC - Bare Copper	0.02 in	4

Conductor Count:	8
Total Number of Pairs:	4

Insulation

Material	Nominal Diameter	Nominal Wall Thickness
PO - Polyolefin	0.038 in	0.009 in

Bonded-Pair:	Yes
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Color Chart

Number	Color
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown

Inner Jacket Material

Material	Nominal Diameter	Ripcord
PVC - Polyvinyl Chloride	0.206 in	Yes

Outer Shield Material

Material
Unshielded

Outer Jacket Material

Material	Nominal Diameter	Nominal Wall Thickness	Separator Material
Industrial Grade PVC - Polyvinyl Chloride	0.553 in	0.045 in	Polyester

Construction and Dimensions

Armor

Type of Armor	Material	Diameter over Armoring
Interlocked Armor	Aluminum	0.463 mm

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max. DCR Unbalance
9 Ohm/1000ft	3 %

Capacitance

Max. Capacitance Unbalance	Nom. Mutual Capacitance
66 pF/ft	15 pF/ft

Delay

Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
510 ns/100m	25 ns/100m	70 %

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	105 ± 10 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 dB	100 ± 12 Ohm	100 ± 10
8 MHz	5.7 dB/100m	51.8 dB	51.8 dB	46.1 dB	46.1 dB	45.7 dB	42.7 dB	24.5 dB	100 ± 12 Ohm	100 ± 10
10 MHz	6.4 dB/100m	50.3 dB	50.3 dB	43.9 dB	43.9 dB	43.8 dB	40.8 dB	25 dB	100 ± 12 Ohm	100 ± 10
16 MHz	8.1 dB/100m	47.3 dB	47.3 dB	39.1 dB	39.1 dB	39.7 dB	36.7 dB	25 dB	100 ± 12 Ohm	100 ± 10
20 MHz	9.2 dB/100m	45.8 dB	45.8 dB	35.2 dB	35.2 dB	37.7 dB	34.7 dB	25 dB	100 ± 12 Ohm	100 ± 10
25 MHz	10.3 dB/100m	44.3 dB	44.3 dB	34.1 dB	34.1 dB	35.8 dB	32.8 dB	24.3 dB	100 ± 15 Ohm	100 ± 10
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	23.6 dB	100 ± 15 Ohm	100 ± 10
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	21.5 dB	100 ± 15 Ohm	100 ± 10
100 MHz	21.7 dB/100m	35.3 dB	35.3 dB	17.1 dB	17.1 dB	23.8 dB	20.8 dB	20.1 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 RMS

Temperature Range

Installation Temp Range:	-25°C To +75°C
UL Temp Rating:	60°C
Storage Temp Range:	-40°C To +85°C
Operating Temp Range:	-40°C To +75°C

Mechanical Characteristics

Bulk Cable Weight:	101 lbs/1000ft
Max Recommended Pulling Tension:	40 lbs
Min Bend Radius/Minor Axis:	6.5 in

Standards

NEC/(UL) Specification:	CM, UL 444
CEC/C(UL) Specification:	CMG, HL
CPR Euroclass:	Eca
Data Category:	Category 5e

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 RoHS Compliance Date (yyyy-mm-dd):	2004-01-04
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes

Suitability

Suitability - Oil Resistance:	Yes
Suitability - Sunlight Resistance:	Yes

Flammability, LSOH, Toxicity Testing

UL Flammability:	UL1685 UL Loading
CSA Flammability:	FT4
ISO/IEC Flammability:	IEC 60332-1-2
UL voltage rating:	300 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	No
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Part Number

Variants

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

Footnote:	C - CRATE REEL PUT-UP.
Footnote:	Z - FINAL PUT-UP MAY VARY (= OR -) 10% FOR SPOOLS OR REELS AND (+ OR -) 5% FOR UNREEL CARTONS FROM LENGTH SHOWN.
Patent:	https://www.belden.com/resources/patents

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: 0.289 Revision Date: 08-22-2019
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