



Product: [121872A](#) 

DataTuff® 6, 4 Bonded-Pr #23 Sol BC, PO Ins, PVC Jkt, AIA Armor, PVC Jkt, CMG CM

 [Request Sample](#)

Product Description

Industrial Ethernet Cat 6, 4 Bonded-Pair 23AWG (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,
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Physical Characteristics (Overall)

Conductor

AWG	Stranding	Material	Nominal Diameter	No. of Pairs
23	Solid	BC - Bare Copper	0.022 in	4

Conductor Count:	8
Total Number of Pairs:	4

Insulation

Material	Nominal Diameter	Nominal Wall Thickness
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
PVC - Polyvinyl Chloride	.365 x .165 in

Outer Shield Material

Material
No Shield

Outer Jacket Material

Material	Nominal Diameter	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.725 in	0.05 in

Construction and Dimensions

Armor

Type of Armor	Material	Diameter over Armoring
Interlocked	Aluminum	0.625 in

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max. DCR Unbalance
90 Ohm/km	3 %

Capacitance

Max. Capacitance Unbalance	Nom.Mutual Capacitance
49.2 pF/ft	17 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	1.9 dB/100m	74.3 dB	72.3 dB	72.4 dB	70.4 dB	67.8 dB	64.8 dB	20 dB	100 ± 12 Ohm	100 ± 15 Ohm
4 MHz	3.7 dB/100m	65.3 dB	63.3 dB	61.6 dB	59.6 dB	55.7 dB	52.7 dB	23 dB	100 ± 12 Ohm	100 ± 15
8 MHz	5.3 dB/100m	60.3 dB	58.8 dB	55.5 dB	53.5 dB	49.7 dB	46.7 dB	24.5 dB	100 ± 12 Ohm	100 ± 15
10 MHz	5.9 dB/100m	59.3 dB	57.3 dB	53.4 dB	51.4 dB	47.8 dB	44.8 dB	25 dB	100 ± 12 Ohm	100 ± 15
16 MHz	7.5 dB/100m	56.3 dB	54.3 dB	48.7 dB	46.7 dB	43.7 dB	40.7 dB	25 dB	100 ± 12 Ohm	100 ± 8
20 MHz	8.4 dB/100m	54.8 dB	52.8 dB	46.4 dB	44.4 dB	41.7 dB	38.7 dB	25 dB	100 ± 12 Ohm	100 ± 8
25 MHz	9.5 dB/100m	53.4 dB	51.4 dB	43.9 dB	41.9 dB	39.8 dB	36.8 dB	24.3 dB	100 ± 15 Ohm	100 ± 8
31.25 MHz	10.6 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 ± 8
62.5 MHz	15.4 dB/100m	47.4 dB	45.4 dB	32 dB	30 dB	31.8 dB	28.8 dB	21.5 dB	100 ± 15 Ohm	100 ± 8
100 MHz	19.8 dB/100m	44.3 dB	42.3 dB	24.5 dB	22.5 dB	27.8 dB	24.8 dB	21 dB	100 ± 15 Ohm	
155 MHz	25.1 dB/100m	41.5 dB	39.5 dB	16.3 dB	14.3 dB	23.9 dB	20.9 dB	21 dB	100 ± 15 Ohm	
200 MHz	29 dB/100m	39.9 dB	37.9 dB	10.8 dB	10 dB	21.7 dB	18.7 dB	21 dB	100 ± 15 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	18 dB	100 ± 20 Ohm	
300 MHz	35.2 dB/100m	37.2 dB	34.2 dB	0.7 dB	0 dB	18.2 dB	15.2 dB	18 dB	100 ± 20 Ohm	
310 MHz	37.1 dB/100m	36.9 dB	34.9 dB	0 dB		17.9 dB	14.9 dB	18 dB	100 ± 20 Ohm	
350 MHz	39.8 dB/100m	36.2 dB	34.2 dB			16.9 dB	13.9 dB	17 dB	100 ± 22 Ohm	
400 MHz	43 dB/100m	35.3 dB	33.3 dB			15.7 dB	12.7 dB	14 dB	100 ± 32 Ohm	
500 MHz	49 dB/100m	33.8 dB	31.8 dB			13.8 dB	10.8 dB	14 dB	100 ± 32 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:	154 lbs/1000ft
Max Recommended Pulling Tension:	200 lbs
Min Bend Radius/Minor Axis:	8.25 in

Standards

NEC/(UL) Specification:	CM, UL 444
CEC/C(UL) Specification:	CMG, HL
CPR Euroclass:	Eca
Data Category:	Category 6
Telecommunications Standards:	Category 6 - TIA 568.C.2, ISO/IEC 11801 Class E

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
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	Putup Type	Length	UPC
121872A 0101000	Black	Reel	1,000 ft	612825109037
121872A J221000	Blue, Strong	Reel	1,000 ft	612825109013
121872A 0081000	Gray	Reel	1,000 ft	612825109020

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; 5821467 **Values above 350 MHz are information only. 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: 0.334 Revision Date: 04-28-2020
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