



**Product:** [7958A](#)

DataTuff® Cat 5e, 4 Bonded-Pr #23 Sol BC, PO Ins, OS, PVC Jkt, CMR AWM 21047

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## Product Description

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, PO Insulation, Overall Beldfoil® Shield, PVC Outer Jacket, CMR 600V AWM 21047

## Technical Specifications

### Product Overview

Suitable Applications:	noisy environment, mining, in cabinet with high volt devices, such as motor control center, harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc.
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### Physical Characteristics (Overall)

#### Conductor

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

Conductor Count:	8
Total Number of Pairs:	4

#### Insulation

Material	Nominal Wall Thickness
Polyolefin	0.01 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

#### Outer Shield Material

Type	Material	Material Trade Name	Coverage [%]	Drainwire Material	Drainwire AWG	Drainwire Construction n x D
Tape	Alum / Poly	Beldfoil®	100%	TC - Tinned Copper	24	7x32

#### Outer Jacket Material

Material	Nominal Diameter	Ripcord
PVC - Polyvinyl Chloride	0.275 in	No

### Electrical Characteristics

#### Conductor DCR

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

#### Capacitance

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

## Delay

Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
538 ns/100m	45 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]	Min. SRL (Structural Return Loss)	Max./Min. Input Impedance (unFitted)	Max./Min. Fitted Impedance
1 MHz	2 dB/100m	65.3 dB	62.3 dB	63 dB	60 dB	63.8 dB	60.8 dB	20 dB	20 dB	100 ± 15 Ohm	100 ± 15 Ohm
4 MHz	4.1 dB/100m	56.3 dB	53.3 dB	51 dB	49 dB	51.7 dB	48.7 dB	23.6 dB	23.6 dB	100 ± 15 Ohm	100 ± 15
8 MHz	5.8 dB/100m	51.8 dB	48.8 dB	46 dB	43 dB	45.7 dB	42.7 dB	25.4 dB	25.4 dB	100 ± 15 Ohm	100 ± 15
10 MHz	6.5 dB/100m	50.3 dB	47.3 dB	43 dB	41 dB	43.8 dB	40.8 dB	26 dB	26 dB	100 ± 15 Ohm	100 ± 15
16 MHz	8.2 dB/100m	47.3 dB	44.3 dB	39 dB	36 dB	39.7 dB	36.7 dB	26 dB	26 dB	100 ± 15 Ohm	100 ± 15
20 MHz	9.3 dB/100m	45.8 dB	42.8 dB	36.5 dB	33.5 dB	37.7 dB	34.7 dB	26 dB	26 dB	100 ± 15 Ohm	100 ± 15
25 MHz	10.4 dB/100m	44.3 dB	41.3 dB	33.9 dB	30.9 dB	35.8 dB	32.8 dB	25.5 dB	25.5 dB	100 ± 15 Ohm	100 ± 15
31.25 MHz	11.7 dB/100m	42.9 dB	39.9 dB	31 dB	28 dB	33.9 dB	30.9 dB	25 dB	25 dB	100 ± 15 Ohm	100 ± 15
62.5 MHz	17 dB/100m	38.4 dB	35.4 dB	22 dB	19 dB	27.8 dB	24.8 dB	23.5 dB	23.5 dB	100 ± 15 Ohm	100 ± 15
100 MHz	22 dB/100m	35.3 dB	32.3 dB	14 dB	11 dB	23.8 dB	20.8 dB	22.5 dB	22.5 dB	100 ± 15 Ohm	
200 MHz	32.4 dB/100m		27.8 dB		1 dB		14.7 dB			100 ± 25 Ohm	

## Voltage

UL Description	UL Voltage Rating
	300 V RMS
Appliance Wiring Material	600 V RMS

## Temperature Range

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

## Mechanical Characteristics

Bulk Cable Weight:	32 lbs/1000ft
Max. Pull Tension:	35 lbs
Min Bend Radius/Minor Axis:	0.5 in

## Standards

NEC/(UL) Compliance:	CMR, CMX-Outdoor, UL 444
CEC/C(UL) Compliance:	CMR
UL AWM Style Compliance:	UL Style 21047
IEC Compliance:	ISO/IEC 11801 ed 2.1 (2008) Class D
CPR Euroclass:	Eca
Data Category:	Category 5e
TIA/EIA Compliance:	Category 5e - TIA 568.C.2
Other Compliance:	NEMA WC-63.1 Category 5e, UL verified to Category 5e, Ethernet/IP™ Compliant

## Applicable Environmental and Other Programs

EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
MII Order #39 (China RoHS):	Yes

## Suitability

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

## Flammability, LS0H, Toxicity Testing

UL Flammability:	UL1666 Riser
CSA Flammability:	FT4
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
7958A 0101000	Black	Reel	1,000 ft	612825192084
7958A 0102000	Black	Reel	2,000 ft	612825192091
7958A 0061000	Blue			612825192060
7958A 0061000	Blue	Reel	1,000 ft	612825192060
7958A 0081000	Gray	Reel	1,000 ft	612825192077
7958A 0021000	Red	Reel	1,000 ft	612825192053
7958A 1NH1000	Teal	Reel	1,000 ft	612825192107

Footnote:	C - CRATE REEL PUT-UP.
Patent:	<a href="https://www.belden.com/resources/patents">https://www.belden.com/resources/patents</a>

## Product Notes

Notes:	US Patent #'s 5,606,151; 5,734,126. EtherNet/IP is a trademark of ControlNet International, Ltd. under license by Open DeviceNet Vender Association, Inc. Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. *Special RJ45 plug required. See WWW.BELDEN.COM - Tools - Connector Cross Reference. Not intended for 600 V electrical power delivery.
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## History

Update and Revision:	Revision Number: 0.324 Revision Date: 06-17-2020
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