



**Product:** [7933A](#)

DataTuff® 5e, 2 Bonded-Pr #24 Sol BC, PO Ins, OS, PVC Jkt, CMR SUN RES OIL RES

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## Product Description

Industrial Ethernet Cat 5e, 2 Bonded-Pair 24AWG (Solid) Bare Copper, PO Insulation, Overall Beldfoil® Shield, PVC Outer Jacket, CMR SUN RES OIL RES

## Technical Specifications

### Product Overview

Suitable Applications:	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	2

Conductor Count:	4
Total Number of Pairs:	2

#### Insulation

Material
Polyolefin

Bonded-Pair:	Yes
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#### Color Chart

Number	Color
1	White/Orange Stripe & Orange
2	White/Green Stripe & Green

#### 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
	Alum / Poly					

#### Outer Jacket Material

Material	Nominal Diameter
PVC - Polyvinyl Chloride	0.235 in

### Electrical Characteristics

#### Conductor DCR

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

#### Capacitance

Max. Capacitance Unbalance	Nom. Mutual Capacitance
90 pF/100m	15 pF/ft

#### Delay

Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]

552 ns/100m	45 ns/100m	70%
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#### 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	2.1 dB/100m	65.3 dB	62.3 dB	63.2 dB	60 dB	63.8 dB	60.8 dB	23 dB	23 dB	100 ± 20.2 Ohm	105 ± 10 Ohm
4 MHz	4.0 dB/100m	56.3 dB	53.3 dB	56.3 dB	49 dB	51.7 dB	48.7 dB	23 dB	23 dB	100 ± 14.2 Ohm	100 ± 10 Ohm
8 MHz	5.6 dB/100m	51.8 dB	48.8 dB	46.2 dB	43 dB	45.7 dB	42.7 dB	23 dB	24.5 dB	100 ± 11.3 Ohm	100 ± 10 Ohm
10 MHz	6.3 dB/100m	50.3 dB	47.3 dB	43.9 dB	41 dB	43.8 dB	40.8 dB	25 dB	25 dB	100 ± 11.3 Ohm	100 ± 10 Ohm
16 MHz	8.0 dB/100m	47.3 dB	44.3 dB	35.2 dB	36 dB	39.7 dB	36.7 dB	25 dB	25 dB	100 ± 11.3 Ohm	100 ± 10 Ohm
20 MHz	9.0 dB/100m	45.8 dB	42.8 dB	36.5 dB	33.5 dB	37.7 dB	34.7 dB	25 dB	25 dB	100 ± 11.3 Ohm	100 ± 10 Ohm
25 MHz	10.1 dB/100m	44.3 dB	41.3 dB	34.2 dB	30.9 dB	35.8 dB	32.8 dB	25.5 dB	24.3 dB	100 ± 11.3 Ohm	100 ± 10 Ohm
31.25 MHz	11.4 dB/100m	42.9 dB	39.9 dB	31.3 dB	28 dB	33.9 dB	30.9 dB	23.6 dB	23.6 dB	100 ± 13.2 Ohm	100 ± 10 Ohm
62.5 MHz	16.5 dB/100m	38.4 dB	35.4 dB	21.6 dB	19 dB	27.8 dB	24.8 dB	21.5 dB	21.5 dB	100 ± 16.9 Ohm	100 ± 10 Ohm
100 MHz	21.3 dB/100m	35.3 dB	32.3 dB	17.1 dB	11 dB	23.8 dB	20.8 dB	20.1 dB	20.1 dB	100 ± 20.0 Ohm	100 ± 10 Ohm
155 MHz	28.1 dB/100m	32.5 dB	29.5 dB	4.4 dB	1.4 dB	19.9 dB	16.9 dB	15.8 dB		100 ± 25.0 Ohm	100 ± 15 Ohm
200 MHz	32 dB/100m	30.8 dB	27.8 dB	4 dB	1 dB	17.7 dB	14.7 dB	15 dB		100 ± 25.0 Ohm	100 ± 15 Ohm

#### Voltage

<b>UL Voltage Rating</b>
300 V RMS

#### Temperature Range

Installation Temp Range:	-25°C To +60°C
UL Temp Rating:	60°C
Storage Temp Range:	-40°C To +80°C
Operating Temp Range:	-40°C To +80°C

#### Mechanical Characteristics

Bulk Cable Weight:	40.7 lbs/1000ft
Max. Pull Tension:	55 lbs
Min Bend Radius/Minor Axis:	2.560 in

#### Standards

NEC/(UL) Compliance:	CMG, CMX-Outdoor, ITC, PLTC
CEC/C(UL) Compliance:	CMG
IEC Compliance:	ISO/IEC 11801 ed 2.1 (2008) Class D
CPR Euroclass:	Eca
Data Category:	Category 5e
TIA/EIA Compliance:	NEMA WC-63.1 Category 5e
Other Compliance:	Oil Res II, Oil Res 60811-2-1, Weldsplatter Resistant

#### Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
EU Directive 2011/65/EU (ROHS II):	Yes
EU Directive 2015/863/EU:	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
EU RoHS Compliance Date (yyyy-mm-dd):	2004-01-01
MII Order #39 (China RoHS):	Yes

#### Suitability

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

#### Flammability, LS0H, Toxicity Testing

UL Flammability:	UL1685 Vertical Tray Flame Test
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CSA Flammability:	FT4
IEC Flammability:	IEC 60332-1-2
IEEE Flammability:	1202
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
7933A 0101000	Black	Reel	1,000 ft	612825191643
7933A 1NH1000	Teal	Reel	1,000 ft	612825191667

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:	Operating Temperature subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. Limits below 4 MHz are for information only.
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## History

Update and Revision:	Revision Number: 0.345 Revision Date: 04-28-2020
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