



**Product:** [7901A](#)

DataTuff® 5e, 4 Bonded-Pr #24 Sol BC, FEP Ins, OS, FEP Jkt, CMP, Extreme Temp

**Product Description**

Industrial Ethernet Cat 5e, 4 Bonded-Pair 24AWG (Solid) Bare Copper, FEP Insulation, Overall Beldfoil® Shield, FEP Outer Jacket, CMP

**Technical Specifications**

**Product Overview**

Suitable Applications:	extreme temp, exposure to oil and gasoline, harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc.
Patent:	This product has one or more applicable patents. More information on patents can be found at <a href="https://www.belden.com/patents">https://www.belden.com/patents</a> .

**Physical Characteristics (Overall)**

**Conductor**

Element	AWG	Stranding	Material	No. of Pairs
Pair(s)	24	Solid	BC - Bare Copper	4

Conductor Count:	8
Total Number of Pairs:	4

**Insulation**

Element	Material	Nominal Diameter	Nominal Wall Thickness
Pair(s)	FEP - Fluorinated Ethylene Propylene	0.044 in	0.011 in

Bonded-Pair:	Yes
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**Color Chart**

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

**Outer Shield**

Type	Material	Material Trade Name	Coverage [%]	Drainwire Material	Drainwire AWG
Tape	Bi-Laminate (Alum+Poly)	Beldfoil®	100%	TC - Tinned Copper	24

**Outer Jacket**

Material	Nominal Diameter
FEP - Fluorinated Ethylene Propylene	0.231 in

**Electrical Characteristics**

**Conductor DCR**

Max. Conductor DCR	Max. DCR Unbalance
29.7 Ohm/1000ft	3.0 %

**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	72%

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)
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
4 MHz	4 dB/100m	56.3 dB	56.3 dB	52.3 dB	52.3 dB	51.7 dB	48.7 dB	23.6 dB	100 ± 12 Ohm
8 MHz	5.7 dB/100m	51.8 dB	51.8 dB	46.1 dB	46.1 dB	45.7 dB	42.7 dB	25.4 dB	100 ± 12 Ohm
10 MHz	6.4 dB/100m	50.3 dB	50.3 dB	43.9 dB	43.9 dB	43.8 dB	40.8 dB	26 dB	100 ± 12 Ohm
16 MHz	8.1 dB/100m	47.3 dB	47.3 dB	39.1 dB	39.1 dB	39.7 dB	36.7 dB	26 dB	100 ± 12 Ohm
20 MHz	9.2 dB/100m	45.8 dB	45.8 dB	35.2 dB	35.2 dB	37.7 dB	34.7 dB	26 dB	100 ± 12 Ohm
25 MHz	10.3 dB/100m	44.3 dB	44.3 dB	34.1 dB	34.1 dB	35.8 dB	32.8 dB	25.5 dB	100 ± 15 Ohm
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	25 dB	100 ± 15 Ohm
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	23.5 dB	100 ± 15 Ohm
100 MHz	21.7 dB/100m	35.3 dB	35.3 dB	17.1 dB	17.1 dB	23.8 dB	20.8 dB	22.5 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 Temperature Range:	-55°C To +150°C
UL Temp Rating:	150°C
Storage Temperature Range:	-70°C To +150°C
Operating Temperature Range:	-70°C To +150°C

Mechanical Characteristics

Bulk Cable Weight:	34 lbs/1000ft
Max. Pull Tension:	46 lbs
Min. Bend Radius During Installation:	2.31 in

Standards

NEC Articles:	Article 800
NEC/(UL) Compliance:	CMP
CEC/C(UL) Compliance:	CMP
ISO/IEC Compliance:	ISO/IEC 1801 Cat 5e
Data Category:	Category 5e
TIA/EIA Compliance:	TIA-568.C.2 Cat 5e

Applicable Environmental and Other Programs

Environmental Space:	Indoor - Plenum
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2003/11/EC (BFR):	Yes
EU Directive 2011/65/EU (RoHS 2):	Yes

Suitability

Suitability - Indoor:	Yes
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Flammability, LS0H, Toxicity Testing

CSA/C(UL) Flammability:	FT6
UL Flammability:	NFPA 262 (UL 910)

Plenum/Non-Plenum

Plenum (Y/N):	Yes
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History

Update and Revision:	Revision Number: 0.239 Revision Date: 04-29-2024
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