



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 https://www.belden.com/patents .

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
--------------	-----

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
-----------------------	-----

Flammability, LS0H, Toxicity Testing

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

Plenum/Non-Plenum

Plenum (Y/N):	Yes
---------------	-----

History

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

© 2024 Belden, Inc
All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.