Product: IEA003

DataTuff® 6A, 4 Bonded-Pr #23 Sol BC, FEP Ins, FEP Jkt, CMP, Extreme Temp

Request Sample

Product Description

Industrial Ethernet Cat 6A, 4 Bonded-Pair, 23 AWG Solid Bare Copper, FEP Insulation, Patented X-Spline & EquiBlock™ Technologies, U/UTP-Unshielded, FEP 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.

Construction Details

Conductor

Element	Size	Stranding	Material	No. of Pairs
Pair(s)	23 AWG	Solid	BC - Bare Copper	4

Insulation

Element	Material	Nom. Insulation Diameter	Color Code
Pair(s)	FEP - Fluorinated Ethylene Propylene	0.044 in (1.1 mm)	White & Blue, White & Orange, White & Green, White & Brown

Bonded-Pair:	Yes

Outer Jacket

Separator	Material	Nom. Diameter
Center Member (Patented X-Spline®), EquiBlock™ Barrier Technology	FEP - Fluorinated Ethylene Propylene	0.269 in (6.83 mm)

Overall Cable Diameter (Nominal):	0.269 in (6.83 mm)

Electrical Characteristics

Electricals

Max. Conductor DCR	Max. Capacitance Unbalance
23.2 Ohm/1000ft	45 pF/100m

Delay

Frequency	Max. Delay	Max. Delay Skew	Nom. Velocity of Prop.
100 MHz	537.6 ns/100m	45 ns/100m	65%

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)	Max./Min. Fitted Impedance	Min. PSANEXT [dB]	Min. PSAACRF [dB]	Min. TCL [dB]	Min. ELTCTL [dB]
1	2.1 dB/100m	74.3	72.3	72.2	70.2	67.8	64.8	20.0	105 ± 10 Ohm	115 +/- 15	67.0	67.0	40.0	35.0
4	3.8 dB/100m	65.3	63.3	61.5	59.5	55.8	52.8	23.0	100 ± 10 Ohm	100 +/- 7	67.0	66.2	40.0	23.0
8	5.3 dB/100m	60.8	58.8	55.4	53.4	49.7	46.7	24.5	100 ± 22 Ohm	100 ± 7 Ohm	67.0	60.1	40.0	16.9
10	5.9 dB/100m	59.3	57.3	53.4	51.4	47.8	44.8	25.0	100 ± 22 Ohm	100 ± 7 Ohm	67.0	58.2	40.0	15.0
16	7.5 dB/100m	56.2	54.2	48.8	46.8	43.7	40.7	25.0	100 ± 22 Ohm	100 ± 7 Ohm	67.0	54.1	38.0	10.9
20	8.4 dB/100m	54.8	52.8	46.4	44.4	41.8	38.8	25.0	100 ± 22 Ohm	100 ± 7 Ohm	67.0	52.2	37.0	9.0

25	9.4 dB/100m	53.3	51.3	44.0	42.0	39.8	36.8	24.3	100 ± 22 Ohm	100 ± 7 Ohm	67.0	50.2	36.0	7.0
31.25	10.5 dB/100m	51.9	49.9	41.4	39.4	37.9	34.9	23.6	100 ± 22 Ohm	100 ± 7 Ohm	67.0	48.3	35.1	5.1
62.5	15.0 dB/100m	47.4	45.4	32.4	30.4	31.9	28.9	21.5	100 ± 22 Ohm	100 ± 7 Ohm	65.6	42.3	32.0	
100	19.1 dB/100m	44.3	42.3	25.2	23.2	27.8	24.8	20.1	100 ± 22 Ohm	100 ± 7 Ohm	62.5	38.2	30.0	
200	27.6 dB/100m	39.8	37.8	12.2	10.2	21.8	18.8	18.0	100 ± 22 Ohm	100 ± 7 Ohm	58.0	32.2	27.0	
250	31.1 dB/100m	38.3	36.3	7.3	5.3	19.8	16.8	17.3	100 ± 32 Ohm	100 ± 7 Ohm	56.5	30.2	26.0	
300	34.3 dB/100m	37.1	35.1	2.9	0.9	18.3	15.3	16.8	100 ± 32 Ohm	100 ± 7 Ohm	55.3	28.7	25.2	
350	37.2 dB/100m	36.1	34.1			16.9	13.9	16.3	100 ± 32 Ohm	100 ± 7 Ohm	54.3	27.3	24.6	
400	40.1 dB/100m	35.3	33.3			15.8	12.8	15.9	100 ± 32 Ohm	100 ± 7 Ohm	53.5	26.2	24.0	
450	42.7 dB/100m	34.5	32.5			14.7	11.7	15.5	100 +/- 32	100 +/- 7	52.7	25.1	23.5	
500	45.3 dB/100m	33.8	31.8			13.8	10.8	15.2	100 +/- 32	100 +/- 7	52.0	24.2	23.0	

Voltage

UL Voltage Rating	Voltage Rating
300 V RMS	300 V

Mechanical Characteristics

Temperature

UL Temperature	Operating	Installation	Storage
200°C	-70°C To +200°C	-40°C To +125°C	-70°C To +150°C

Bend Radius

Stationary Min.	Installation Min.
2.69 in (68.3 mm)	2.69 in (68.3 mm)

Max. Pull Tension:	53 lbs (24 kg)
Bulk Cable Weight:	42 lbs/1000ft

Standards and Compliance

Environmental Suitability:	Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance, UV Resistance, Oil Resistance
Flammability / Reaction to Fire:	NFPA 262 (UL 910), FT6
CPR Compliance:	CPR Euroclass: Fca
NEC / UL Compliance:	Article 800, CMP
CEC / C(UL) Compliance:	CMP
ICEA Compliance:	S-116-732, S-56-434, S-99-689, S-100-685
IEEE Compliance:	IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
NEMA Compliance:	ANSI/NEMA WC-66
Data Category:	Category 6A
TIA/EIA Compliance:	ANSI/TIA-568.2-D Category 6A
ISO/IEC Compliance:	ISO/IEC 11801-1, IEC 61156-5
CENELEC Compliance:	Segregation class according EN50174-2 = a
European Directive Compliance:	EU Directive 2015/863/EU (RoHS 2 amendment), REACH, EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16
APAC Compliance:	China RoHS II (GB/T 26572-2011)
Non-Plenum Number:	IEA001

Product Notes

Notes:	Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0. Not Suitable for Direct Burial. Belden recommends using an entrance demarcation point when transitioning inside buildings with gel-filled OSP cables due to the cable design containing gel specific for wet outdoor environments. The suggested transition point is the REVConnect core coupler, part number RVACPKUBK-S1.

History

Update and Revision:	Revision Number: 0.270 Revision Date: 04-29-2024

Part Numbers

Variants

Item #
IEA003 0101000