



**Product:** [7971A](#)

DataTuff® 6, 4 Bonded-Pr #22 Sol BC, PO Ins, X-spline, PVC Jkt, OS+TC Brd, PVC Jkt, PLTC, CMR, CMX Outdoor

Product Description

Industrial Ethernet Cat 6, 4 Bonded-Pair 22AWG (Solid) Bare Copper, PO Insulation, X-spline, PVC Inner Jacket, Overall Beldfoil®+Tinned Copper Braid(80%) Shield, PVC Outer Jacket, PLTC, CMR, CMX Outdoor

Technical Specifications

Product Overview

Suitable Applications:	Power-limited tray, 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> .

Construction Details

Conductor

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

Insulation

Material	Color Code
PO - Polyolefin	White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown

Bonded-Pair:	Yes
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Inner Jacket

Separator	Material	Nom. Diameter	Ripcord
	PVC - Polyvinyl Chloride	0.305 in (7.75 mm)	Yes
Center Member (Patented X-Spline®)			

Outer Shield

Shield Type	Material	Coverage
Tape	Bi-Laminate (Alum+Poly)	100%
Braid	Tinned Copper (TC)	80%

Outer Jacket

Material	Nom. Diameter	Ripcord
PVC - Polyvinyl Chloride	0.425 in (10.8 mm)	No

Overall Cable Diameter (Nominal):	0.425 in (10.8 mm)
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Electrical Characteristics

Electricals

Max. Conductor DCR	Max. Capacitance Unbalance
56.5 Ohm/km (17.2 Ohm/1000ft)	330 pF/100m

Delay

Frequency	Max. Delay	Max. Delay Skew	Nom. Velocity of Prop.
100 MHz	537.6 ns/100m	45 ns/100m	68%

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)	Min. TCL [dB]
1	2	74.3	72.3	72.3	70.3	67.8	64.8	20	100 ± 15	40
4	3.78	65.28	63.28	61.5	59.5	55.71	52.71	23.01	100 ± 15	40
8	5.32	60.77	58.77	55.45	53.45	49.69	46.69	24.52	100 ± 15	40
10	5.95	59.31	57.31	53.36	51.36	47.75	44.75	25	100 ± 15	40
16	7.55	56.25	54.25	48.7	46.7	43.67	40.67	25	100 ± 15	37.96
20	8.47	54.8	52.8	46.33	44.33	41.73	38.73	25	100 ± 15	36.99
25	9.51	53.35	51.35	43.84	41.84	39.79	36.79	24.32	100 ± 15	36.02
31.25	10.67	51.89	49.89	41.22	39.22	37.86	34.86	23.64	100 ± 15	35.05
62.5	15.38	47.38	45.38	31.99	29.99	31.83	28.83	21.54	100 ± 15	32.04
100	19.8	44.31	42.31	24.51	22.51	27.75	24.75	20.11	100 ± 15	30
155	25.16	41.46	39.46	16.3	14.3	23.95	20.95	18.77	100 ± 15	28.1
200	28.98	39.8	37.8	10.82	8.82	21.73	18.73	18	100 ± 15	26.99
250	32.85	38.35	36.35	5.5	3.5	19.79	16.79	17.32	100 ± 15	26.02

Voltage

UL Voltage Rating
300 V (PLTC, CMR/CMX-Outdoor), 600 V (AWM)

Mechanical Characteristics

Temperature

UL Temperature	Operating	Installation	Storage
75°C	-40°C To +75°C	-40°C To +75°C	-40°C To +60°C

Bend Radius

Installation Min.	Flexing Min.
2.6 in (66 mm)	5.1 in (130 mm)

Table Notes:	Theses cable are rated for both indoor and outdoor applications. For outdoor installations, the continuous flexing bend radius must be applied for outdoor use. Outdoor installations are susceptible to frequent movement due to environmental factors.
Bulk Cable Weight:	87.5 lbs/1000ft (130 kg/km)

Standards and Compliance

Environmental Suitability:	Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance
Flammability / Reaction to Fire:	UL 1685 Flame only
CPR Compliance:	CPR Euroclass: Fca
NEC / UL Compliance:	Article 800, Article 725, PLTC - CMR/CMX Outdoor
AWM Compliance:	AWM 21047
IEEE Compliance:	IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
NEMA Compliance:	ANSI/NEMA WC-66
Data Category:	Category 6
TIA/EIA Compliance:	ANSI/TIA-568.2-D Category 6
ISO/IEC Compliance:	ISO/IEC 11801-1, IEC 61156-5
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)

Product Notes

Notes:	Electrical values are expected performance based on cable testing and representative performance within a typical system.
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History

Update and Revision:	Revision Number: 0.48 Revision Date: 11-27-2024
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Part Numbers

Variants

Item #
7971A 0101000
7971A 0105000

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