



Product: [2149A](#)

Category 6 Indoor/Outdoor Cable, 4 Pair, F/UTP, CMR/CMX

Product Description

Category 6+ Premise Horizontal Cable (350MHz), Indoor/Outdoor, 4 Pair, 23 AWG Solid Bare Copper Conductors, F/UTP - Foil Shielded, Riser-CMR/CMX Outdoor, PVC Jacket

Technical Specifications

Product Overview

Suitable Applications:	Indoor/Outdoor, Premise Horizontal Cable, Ethernet 1000BASE-T, Ethernet 100BASE-TX, Ethernet 10BASE-T, PoE++, PoE+, PoE, Noisy Environments
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

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

Insulation

Material	Color Code
PO+FEP - Polyolefin + Fluorinated Ethylene Propylene	White/Blue Stripe and Blue, White/Orange Stripe and Orange, White/Green Stripe and Green, White/Brown Stripe and Brown

Outer Shield

Shield Type	Material	Coverage	Drainwire Type
Tape	Polyester + Bi-Laminate (Alum+Poly)	100%	24 AWG (Solid) TC

Outer Jacket

Separator	Material	Nom. Diameter	Ripcord
Center Member (Patented X-Spline®)	PVC - Polyvinyl Chloride	0.296 in (7.52 mm)	No

Overall Cable Diameter (Nominal):	0.296 in (7.52 mm)
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Electrical Characteristics

Electricals

Max. Conductor DCR	Max. Capacitance Unbalance
93.8 Ohm/km (28.6 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) [Ohm]	Min. TCL [dB]	Min. ELTCTL [dB]
0.772	1.8 dB/100m	77.0	77.0	75.2	76.2	73.0	70.0	19.4	100 +/- 15	40.0	37.2
1	2.0 dB/100m	75.3	75.3	73.3	74.3	70.8	67.8	20.0	100 +/- 15	40.0	35.0
4	3.7 dB/100m	66.3	66.3	62.6	63.6	58.8	55.8	23.0	100 +/- 15	40.0	23.0
8	5.2 dB/100m	61.8	61.8	56.6	57.6	52.7	49.7	24.5	100 +/- 15	40.0	16.9

10	5.8 dB/100m	60.3	60.3	54.5	55.5	50.8	47.8	25.0	100 +/- 15	40.0	15.0
16	7.4 dB/100m	57.2	57.2	49.9	50.9	46.7	43.7	25.0	100 +/- 15	38.0	10.9
20	8.3 dB/100m	55.8	55.8	47.5	48.5	44.8	41.8	25.0	100 +/- 15	37.0	9.0
25	9.3 dB/100m	54.3	54.3	45.1	46.1	42.8	39.8	24.3	100 +/- 15	36.0	7.0
31.25	10.4 dB/100m	52.9	52.9	42.5	43.5	40.9	37.9	23.6	100 +/- 15	35.1	5.1
62.5	15.0 dB/100m	48.4	48.4	33.4	34.4	34.9	31.9	21.5	100 +/- 15	32.0	
100	19.3 dB/100m	45.3	45.3	26.0	27.0	30.8	27.8	20.1	100 +/- 15	30.0	
155	24.6 dB/100m	42.4	42.4	17.9	18.9	27.0	24.0	19.5	100 +/- 22	28.1	
200	28.3 dB/100m	40.8	40.8	12.5	13.5	24.8	21.8	18.7	100 +/- 22	27.0	
250	32.1 dB/100m	39.3	39.3	7.2	8.2	22.8	19.8	18.0	100 +/- 32	26.0	
300	35.6 dB/100m	38.1	36.1	2.5	1.5	21.3	18.3	17.5	100 +/- 32	25.2	
350	38.9 dB/100m	37.1	35.1			19.9	16.9	17.0	100 +/- 32	24.6	
400	42.0 dB/100m	36.3	34.3			18.8	15.8	16.6	100 +/- 32	24.0	
450	45.0 dB/100m	35.5	33.5			17.7	14.7	16.2	100 +/- 32	23.5	
500	47.9 dB/100m	34.8	32.8			16.8	13.8	15.9	100 +/- 32	23.0	
550	50.6 dB/100m	34.2	32.2			16.0	13.0	15.6	100 +/- 32	22.6	

Voltage

UL Voltage Rating
300 V (CMR), 300 V (CMX-Outdoor)

Mechanical Characteristics

Temperature

UL Temperature	Operating	Installation	Storage
90°C	-40°C To +75°C	-20°C To +75°C	-40°C To +75°C

Bend Radius

Stationary Min.	Installation Min.
2.5 in (64 mm)	3.0 in (76 mm)

Max. Pull Tension:	25 lbs (11 kg)
Bulk Cable Weight:	41 lbs/1000ft

Standards and Compliance

Environmental Suitability:	Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance, Aerial - When supported by messenger wire
Flammability / Reaction to Fire:	UL 1666 Riser, FT4, IEEE 1202 Vertical Tray Flame Test, IEC 60332-1-2
CPR Compliance:	CPR Euroclass: Eca, CPR UKCA Class: Eca
NEC / UL Compliance:	Article 800, CMR, CMX-Outdoor, CMG
CEC / C(UL) Compliance:	CMX-Outdoor;CMG
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 6
TIA/EIA Compliance:	ANSI/TIA-568.2-D Category 6
Third Party Performance Verification:	Category 6
ISO/IEC Compliance:	ISO/IEC 11801-1, IEC 61156-5
European Directive Compliance:	EU CE Mark, 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
UK Regulation Compliance:	UKCA Mark
APAC Compliance:	China RoHS II (GB/T 26572-2011)
Plenum Number:	2413F / 1351A
Non-Plenum Number:	2412F / 1352A

Product Notes

Notes:	Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. Values above 300 MHz are for Engineering Information Only. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0.
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History

Update and Revision:	Revision Number: 0.412 Revision Date: 04-29-2024
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Variants

Item #	Color	UPC
2149A 0101000	Black	612825379478

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