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/resources/patents.

Construction Details

Conductor

AWG	Stranding	Material	Number of Pairs
23	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

Bonded-Pair:	No

Outer Shield Material

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

Outer Jacket Material

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

Electrical Characteristics

Electricals

Max. Conductor DCR	Max. DCR Unbalance	Max. Capacitance Unbalance	Nom. Mutual Capacitance
93.8 Ohm/km	5%	330 pF/100m	14 pF/ft

Delay

Frequency [MHz]	Max. Delay	Max. Delay Skew	Nom. Velocity of Propagation (VP) [%]
100 MHz	537.6 ns/100m	45 ns/100m	68%

High Freq

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]	Min. ELTCTL [dB]
0.772 MHz	1.8 dB/100m	77.0 dB	77.0 dB	75.2 dB	76.2 dB	73.0 dB	70.0 dB	19.4 dB	100 +/- 15	40.0 dB	37.2 dB
1 MHz	2.0 dB/100m	75.3 dB	75.3 dB	73.3 dB	74.3 dB	70.8 dB	67.8 dB	20.0 dB	100 +/- 15	40.0 dB	35.0 dB
4 MHz	3.7 dB/100m	66.3 dB	66.3 dB	62.6 dB	63.6 dB	58.8 dB	55.8 dB	23.0 dB	100 +/- 15	40.0 dB	23.0 dB
8 MHz	5.2 dB/100m	61.8 dB	61.8 dB	56.6 dB	57.6 dB	52.7 dB	49.7 dB	24.5 dB	100 +/- 15	40.0 dB	16.9 dB

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

Voltage

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

Mechanical Characteristics

Temperature

UL Rating.	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	3.0 in

Max. Pull Tension:	25 lbs
Bulk Cable Weight:	41 lbs/1000ft

Standards and Compliance

Environmental Suitability:	Indoor/Outdoor, Indoor, Outdoor, Sunlight Resistance, Oil Resistance
Flammability / Fire Resistance:	UL 1666 Riser, FT4, FT4, 1202 Vertical Tray, IEC 60332-1-2
NEC / UL Compliance:	800, CMR;CMX-Outdoor;CMG
CEC / C(UL) Compliance:	CMX-Outdoor;CMG
ICEA Compliance:	S-116-732-2013
ICEA Compliance:	S-56-434
ICEA Compliance:	S-99-689
ICEA Compliance:	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
CPR Euroclass:	Eca
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU, EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16
APAC Compliance:	China RoHS II (GB/T 26572-2011)

Part Number

Plenum Number:	2413F / 1351A
Non-Plenum Number:	2412F / 1352A

Variants

Item #	Color	UPC
2149A 0101000	Black	612825379478

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.

History

Update and Revision:	Revision Number: 0.268 Revision Date: 09-30-2020