Detailed Specifications & Technical Data

ENGLISH MEASUREMENT VERSION

2146A Multi-Conductor - Category 6 Indoor/Outdoor CMR/CMX Cable

For more Information please call

1-800-Belden1

General Description:

CAT6 (350 MHz), 4 Pair, U/UTP-Unshielded, Indoor/Outdoor CMR-CMX Outdoor, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, Patented Tape Separator, Ripcord, UV-Resistant PVC Jacket

Usage (Overall)

Suitable Applications:	Premise Horizontal Cable, Outdoor, Riser, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	23	Solid	BC - Bare Copper

Total Number of Conductors:	8

Insulation

Insulation Material:

Insulation Material
PO - Polyolefin

Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Outer Jacket Diameter:

Nom. Dia. (in.)
0.255

Outer Jacket Ripcord:	Yes

Overall Cable

Overall Cabling Separator Material:	Patented Dielectric Tape

Pair

Pair Color Code Chart:

Number	Color
1	White/Blue Stripe and Blue
2	White/Orange Stripe and Orange
3	White/Green Stripe and Green
4	White/Brown Stripe and Brown

Mechanical Characteristics (Overall)

Storage Temperature Range:	-40°C To +75°C
Installation Temperature Range:	-20°C To +75°C
Operating Temperature Range:	-40°C To +75°C
UL Temperature Rating:	90C
Bulk Cable Weight:	29 lbs/1000 ft.
Max. Recommended Pulling Tension:	40 lbs.
Min. Bend Radius/Minor Axis:	1 in.
Min. Bend/Installation:	2.750 in.

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Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR, CMX-Outdoor, UL444
CEC/C(UL) Specification:	CMG, CMR, CMX-Outdoor
EU Directive 2011/65/EU (ROHS II):	Yes
IEEE Specification:	POE per IEEE 802.3af & POE+ per IEEE 802.3at-2009
EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	01/01/2004
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Telecommunications Standards:	Category 6 - TIA 568.C.2, ISO/IEC 11801:2011 Amendment 2.2 Class E
ANSI Specification:	ANSI/NEMA WC-66 Category 6, ANSI/TIA 568-C.2 and ANSI/ICEA S-116-732-2013 Category 6A
Other Specification:	ANSI/ICEA S-56-434 Outdoor Use,ANSI/ICEA S-100-685 Indoor/Outdoor Use, ANSI/ICEA S-99-689 Broadband Outdoor

Applicable Patents:

Country
www.belden.com/p

Flame Test

UL Flame Test:	UL1666 Vertical Riser
C(UL) Flame Test:	FT4
CSA Flame Test:	FT4
IEC Flame Test:	60332-1

Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes - CMX - Outdoor
Suitability - Aerial:	Yes - When supported by messenger wire
Suitability - Burial:	No
Suitability - Hazardous Locations:	No
Sunlight Resistance:	Yes
Oil Resistance:	Yes
Non-halogenated:	No

Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	2413
Non-Plenum Number:	2412

Electrical Characteristics (Overall)

Nom. Mutual Capacitance:

Capacitance (pF/ft)
17.000

Maximum Capacitance Unbalance (pF/100 m):	330

Nominal Velocity of Propagation:

VP (%)
68.000

Maximum Delay:

Delay (ns/100 m)
537 @ 100MHz

Max. Delay Skew:

Delay Skew (ns/100 m)

35.000

Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
7.800

Max. Operating Voltage - UL:

Voltage
300 V RMS

Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)
3.000

Electrical Characteristics-Premise (Overall)

Premise Cable Electrical Table 1:

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min RL (dB)
1	2.000	75.3	75.3	73.3	73.3	20.000
4	3.700	66.3	66.3	62.5	62.5	23.000
8	5.300	61.8	61.8	56.5	56.5	24.500
10	5.900	60.3	60.3	54.4	54.4	25.000
16	7.400	57.2	57.2	49.8	49.8	25.000
20	8.300	55.8	55.8	47.4	47.4	25.000
25	9.400	54.3	54.3	45.0	45.0	24.300
31.25	10.500	52.9	52.9	42.4	42.4	23.600
62.5	15.100	48.4	48.4	33.3	33.3	21.500
100	19.300	45.3	45.3	26.0	26.0	20.800
155	24.500	42.4	42.4	17.9	17.9	19.500
200	28.200	40.8	40.8	12.6	12.6	18.700
250	31.800	39.3	39.3	7.5	7.5	18.000
300	35.200	38.1	36.1	2.9	0.9	17.500
350	38.400	37.1	35.1			17.000
400	41.500	36.3	34.3			16.600
450	44.300	35.5	33.5			16.200
500	47.100	34.8	32.8			15.900
550	49.700	34.2	32.2			15.600

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ACRF (dB)	Min. PSACRF (dB)
1	100 ± 15	102 ± 15	70.8	67.8
4	100 ± 15	100 ± 15	58.8	55.8
8	100 ± 15	100 ± 15	52.7	49.7
10	100 ± 15	100 ± 15	50.8	47.8
16	100 ± 15	100 ± 15	46.7	43.7
20	100 ± 15	100 ± 15	44.8	41.8
25	100 ± 15	100 ± 15	42.8	39.8
31.25	100 ± 15	100 ± 15	40.9	37.9
62.5	100 ± 15	100 ± 15	34.9	31.9
100	100 ± 15	100 ± 15	30.8	27.8
155	100 ± 22	100 ± 15	27.0	24.0
200	100 ± 22	100 ± 15	24.8	21.8
250	100 ± 32	100 ± 15	22.8	19.8
300	100 ± 32	100 ± 15	21.3	18.3
350	100 ± 32	100 ± 15	19.9	16.9
400	100 ± 32	100 ± 15	18.8	15.8
450	100 ± 32	100 ± 15	17.7	14.7
500	100 ± 32	100 ± 15	16.8	13.8
550	100 ± 32	100 ± 15	16	13.0

Notes (Overall)

Notes: Data Above 350 MHz for Information Only, Third party verified to ANSI/TIA-568-C.2, Category 6, -40C Cold Bend Compliance Per UL1581, Print Includes Descending Footage/Meter Marking. Reference T/8-36 For Sag and Span Aerial.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
2146A 0101000	1,000 FT	32.000 LB	BLACK		CAT6 4PR U/UTP CMR/CMX REEL

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