

2138A Multi-Conductor - Category 5e Indoor/Outdoor CMR/CMX F/UTP Cable



For more Information
please call

1-800-Belden1



General Description:

CAT5e (100 MHz), 4 Pair, F/UTP-Foil Shielded, Indoor/Outdoor CMR-CMX Outdoor, Premise Horizontal Cable, 24 AWG Solid Bare Copper Conductors, Polyolefin Insulation, Overall Beldfoil® Shield with Drain Wire, UV-Resistant PVC Jacket, RJ-45 Compatible

Usage (Overall)

Suitable Applications:

OSP-Outdoor Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU, Digital Video, RS-422, Noisy Environments, 100MHz Category 5e

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	24	Solid	BC - Bare Copper

Total Number of Conductors: 8

Insulation

Insulation Material:

Insulation Material
PO - Polyolefin

Outer Shield

Outer Shield Material:

Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100

Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
24	7x32	TC - Tinned Copper

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Outer Jacket Diameter:

Nom. Dia. (mm)
6.731

Pair

Pair Color Code Chart:

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

Mechanical Characteristics (Overall)

Storage Temperature Range: -40°C To +75°C

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Installation Temperature Range:	-20°C To +75°C
Operating Temperature Range:	-40°C To +75°C
UL Temperature Rating:	90C
Bulk Cable Weight:	46.134 Kg/Km
Max. Recommended Pulling Tension:	111.205 N
Min. Bend Radius/Minor Axis:	57.150 mm
Min. Bend/Installation:	69.850 mm

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR, CMX-Outdoor, UL444
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):	01/19/2016
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 5e - TIA 568.C.2, ISO/IEC 11801:2011 Amendment 2.2 Class E
ANSI Specification:	ANSI/ICEA S-90-661-2012 Category 5e,
Other Specification:	ANSI/ICEA S-56-434 Outdoor Use, ANSI/ICEA S-100-685 Indoor/Outdoor Use, ANSI/ICEA S-99-689 Broadband Outdoor Use, ANSI/NEMA WC63.1 Category 5e

Flame Test

UL Flame Test:	UL1666 Riser
C(UL) Flame Test:	FT4
CSA Flame Test:	FT4
IEC Flame Test:	60332-1
IEEE Flame Test:	1202

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 - UL
Non-halogenated:	No

Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	1533P

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Non-Plenum Number: 1533R

Electrical Characteristics (Overall)

Nom. Mutual Capacitance:

Capacitance (pF/m)
49.215

Maximum Capacitance Unbalance (pF/100 m): 330

Nominal Velocity of Propagation:

VP (%)
70

Maximum Delay:

Stop Freq. (MHz)	Delay (ns/100 m)
100.000	537.600

Max. Delay Skew:

Delay Skew (ns/100 m)
45

Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
9.38

Max. Operating Voltage - UL:

Voltage
300 V RMS

Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)
3

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)	Min. SRL (dB)
1	2.000	65.3	62.3	63.3	60.3	20.000	23.0
4	4.100	56.3	53.3	52.2	49.2	23.000	23.0
8	5.800	51.8	48.8	46.0	43.0	24.500	24.5
10	6.500	50.3	47.3	43.8	40.8	25.000	25.0
16	8.200	47.2	44.2	39.0	36.0	25.000	25.0
20	9.300	45.8	42.8	36.5	33.5	25.000	25.0
25	10.400	44.3	41.3	33.9	30.9	24.300	24.3
31.25	11.700	42.9	39.9	31.2	28.2	23.600	23.6
62.5	17.000	38.4	35.4	21.4	18.4	21.500	21.5
100	22.000	35.3	32.3	13.3	10.3	20.100	20.1

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1	100 ± 15	100 ± 15	63.8	60.8
4	100 ± 15	100 ± 15	51.8	48.8
8	100 ± 15	100 ± 15	45.7	42.7
10	100 ± 15	100 ± 15	43.8	40.8
16	100 ± 15	100 ± 15	39.7	36.7
20	100 ± 15	100 ± 15	37.8	34.8
25	100 ± 15	100 ± 15	35.8	32.8
31.25	100 ± 15	100 ± 15	33.9	30.9
62.5	100 ± 15	100 ± 15	27.9	24.9
100	100 ± 15	100 ± 15	23.8	20.8

Notes (Overall)

Notes: -40C Cold Bend Compliance Per UL1581, Shield is bonded to jacket inner wall for electrical stability, RJ-45 Compatible, Third party verified to TIA/EIA-568-B.2, Category 5e, Print Includes Descending Footage / Meter Markings

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Notes (Cont'd.):

Tech Bulletin T/8-36 Sag and Span Aerial.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
2138A 0101000	1,000 FT	35.000 LB	BLACK		CAT5E 4PR F/UTP CMR/CMX REEL

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