



Part Number: 2412

CAT6+ Horizontal, 4pr, UTP, PVC Jkt, CMR

Product Description

CAT6+ (350MHz), 4-Pair, U/UTP-unshielded, Riser-CMR, Premise Horizontal cable, 23 AWG solid bare copper conductors, polyolefin insulation, tape separator, ripcord, PVC jacket

Technical Specifications

Product Overview

Environmental Space:	Riser
Suitable Applications:	Industrial Ethernet Cable, Harsh Environments, 350MHz Enhanced Category 5e, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, RJ-45 Compatible, High and Low Temperature, Oil and Gasoline Exposure

Physical Characteristics (Overall)

Conductor

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

Conductor Count:	8
Total Number of Pairs:	4
Conductor Size:	23 AWG

Insulation

Material
FEP - Fluorinated Ethylene Propylene

Color Chart

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

Outer Shield Material

Type	Material	Material Trade Name	Coverage [%]	Drainwire Material	Drainwire AWG
Tape	Aluminum Foil-Polyester Tape	Beldfoil®	100.0 %	TC - Tinned Copper	24

Outer Jacket Material

Material	Nominal Diameter	Ripcord	Separator Material
FEP - Fluorinated Ethylene Propylene	0.231 in.	No	Patented Dielectric Tape

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max. DCR Unbalance
90 Ohm/km	3.0 %

Capacitance

Max. Capacitance Unbalance	Nom. Mutual Capacitance
66 pF/ft	15 pF/ft

Shielding:	U/UTP - Unshielded
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Delay

Frequency [MHz]	Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
100 MHz	510 ns/100m	25 ns/100m	72.0 %

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)	Max./Min. Fitted Impedance
1 MHz	2 dB/100m	65.3 dB	65.3 dB	63.3 dB	63.3 dB	63.8 dB	60.8 dB	20 dB	100 ± 12 Ohm	102 ± 15 Ohm
4 MHz	4 dB/100m	56.3 dB	56.3 dB	52.3 dB	52.3 dB	51.7 dB	48.7 dB	23.6 dB	100 ± 12 Ohm	100 ± 15 Ohm
8 MHz	5.7 dB/100m	51.8 dB	51.8 dB	46.1 dB	46.1 dB	45.7 dB	42.7 dB	25.4 dB	100 ± 12 Ohm	100 ± 15 Ohm
10 MHz	6.4 dB/100m	50.3 dB	50.3 dB	43.9 dB	43.9 dB	43.8 dB	40.8 dB	26 dB	100 ± 12 Ohm	100 ± 15 Ohm
16 MHz	8.1 dB/100m	47.3 dB	47.3 dB	39.1 dB	39.1 dB	39.7 dB	36.7 dB	26 dB	100 ± 12 Ohm	100 ± 15 Ohm
20 MHz	9.2 dB/100m	45.8 dB	45.8 dB	35.2 dB	35.2 dB	37.7 dB	34.7 dB	26 dB	100 ± 12 Ohm	100 ± 15 Ohm
25 MHz	10.3 dB/100m	44.3 dB	44.3 dB	34.1 dB	34.1 dB	35.8 dB	32.8 dB	25.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
31.25 MHz	11.6 dB/100m	42.9 dB	42.9 dB	31.3 dB	31.3 dB	33.9 dB	30.9 dB	25 dB	100 ± 15 Ohm	100 ± 15 Ohm
62.5 MHz	16.8 dB/100m	38.4 dB	38.4 dB	21.6 dB	21.6 dB	27.8 dB	24.8 dB	23.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
100 MHz	21.7 dB/100m	35.3 dB	35.3 dB	17.1 dB	17.1 dB	23.8 dB	20.8 dB	22.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
155 MHz	27.7 dB/100m	32.5 dB	32.5 dB	4.7 dB	4.7 dB	19.9 dB	16.9 dB	19 dB	100 ± 18 Ohm	100 ± 15 Ohm
200 MHz	32 dB/100m	30.8 dB	30.8 dB	3 dB	3 dB	17.7 dB	14.7 dB	19 dB	100 ± 20 Ohm	100 ± 15 Ohm
250 MHz	36.4 dB/100m	29.3 dB	29.3 dB	0 dB	0 dB	15.8 dB	12.8 dB	18 dB	100 ± 20 Ohm	100 ± 15 Ohm
300 MHz	40.5 dB/100m	28.2 dB	28.2 dB	0 dB	0 dB	14.2 dB	11.2 dB	18 dB	100 ± 20 Ohm	100 ± 15 Ohm
310 MHz	41.3 dB/100m	27.9 dB	27.9 dB	-1.8 dB	-3.8 dB	13.9 dB	10.9 dB	18 dB	100 ± 20 Ohm	100 ± 15 Ohm
350 MHz	44.3 dB/100m	27.2 dB	27.2 dB	-5.7 dB	-7.7 dB	12.9 dB	9.9 dB	17 dB	100 ± 22 Ohm	100 ± 15 Ohm
450 MHz	45.0 dB/100m	35.5 dB	33.5 dB	-9.5 dB	-11.5 dB	17.7 dB	14.7 dB	16.2 dB	100 ± 32 Ohm	100 ± 15 Ohm
500 MHz	47.9 dB/100m	34.8 dB	32.8 dB	-13.1 dB	-15.1 dB	16.8 dB	13.8 dB	15.9 dB	100 ± 32 Ohm	100 ± 15 Ohm
550 MHz	50.6 dB/100m	34.2 dB	32.2 dB	-16.4 dB	-18.4 dB	16.0 dB	13.0 dB	15.6 dB	100 ± 32 Ohm	100 ± 15 Ohm

Voltage

UL Voltage Rating
300 V RMS

Temperature Range

Installation Temp Range:	-55°C To +150°C
UL Temp Rating:	150°C
Storage Temp Range:	-70°C To +150°C
Operating Temp Range:	-70°C To +150°C

Mechanical Characteristics

Bulk Cable Weight:	34 lbs/1000ft
Max Recommended Pulling Tension:	40 lbs
Min Bend Radius/Minor Axis:	1.0 in
Min Bend Radius/Installation:	2.3 in

Standards

NEC Articles:	800
NEC/(UL) Specification:	CMP
CEC/C(UL) Specification:	CMP
ISO/IEC Compliance:	ISO/IEC 11801 ed 2.1 (2008) Class D
CPR Euroclass:	Eca
Data Category:	Category 6
ANSI Compliance:	S-116-732-2013 Category 6, ANSI/NEMA WC-66 Category 6
Telecommunications Standards:	Category 5e - TIA 568.C.2
IEEE Specification:	IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
Other Specification:	NEMA WC-63.1 Category 5e, Ethernet/IP™ Compliant
Third Party Performance Verification:	Category 6

Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes

EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
EU Directive 2003/96/EC (BFR):	Yes
EU Directive 2011/65/EU (ROHS II):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU:	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
EU CE Mark:	Yes
EU REACH SVHC Compliance (yyyy-mm-dd):	2017-07-10
EU RoHS Compliance Date (yyyy-mm-dd):	2004-01-01
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes

Suitability

Suitability - Aerial:	No
Suitability - Burial:	No
Suitability - Hazardous Locations:	No
Suitability - Indoor:	Yes
Suitability - Non-Halogenated:	No
Suitability - Oil Resistance:	No
Suitability - Outdoor:	No
Suitability - Sunlight Resistance:	No

Flammability, LSOH, Toxicity Testing

C(UL) Flammability:	FT4
UL Flammability:	NFPA 262, UL723 (NFPA 255)
CSA Flammability:	FT6
UL voltage rating:	300 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	2413

Part Number

Variants

Item #	Color	Footnote
2412 0101000	Black	
2412 010A1000	Black	
2412 010U1000	Black	
2412 0061000	Blue	
2412 0061400	Blue	
2412 0062500	Blue	
2412 0065000	Blue	C
2412 006A1000	Blue	
2412 006U1000	Blue	
2412 0081000	Gray	
2412 008A1000	Gray	
2412 008U1000	Gray	
2412 0051000	Green	
2412 005A1000	Green	
2412 005U1000	Green	
2412 003A1000	Orange	
2412 003U1000	Orange	
2412 007A1000	Purple	
2412 007U1000	Purple	

2412 002A1000	Red	C
2412 0091000	White	
2412 0092500	White	
2412 0095000	White	C
2412 009A1000	White	
2412 009U1000	White	
2412 0041000	Yellow	
2412 0042500	Yellow	
2412 004A1000	Yellow	
2412 004U1000	Yellow	

Footnote:	C - CRATE REEL PUT-UP.
Patent:	http://www.belden.com/p

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