

2413 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cables



For more Information
please call

1-800-Belden1



General Description:

CAT6+ (350 MHz), 4-Pair, U/UTP-Unshielded, Plenum-CMP, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Dual FRPO/FEP Insulation, Tape Separator, Ripcord, Flamarrest® Jacket

Usage (Overall)

Suitable Applications: Premise Horizontal Cable, Gigabit Ethernet, POE, POE+, 100BaseTX, 100BaseVG ANYLAN, 155 ATM, 622 ATM, 250MHz Category 6, PoE, PoE Plus

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
FRPO/FEP - Flame Retardant Polyolefin/Fluorinated Ethylene Propylene

Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

Outer Jacket

Outer Jacket Material:

Outer Jacket Trade Name	Outer Jacket Material
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride

Outer Jacket Diameter:

Nom. Dia. (mm)
5.690

Outer Jacket Ripcord: Yes

Overall Cable

Overall Cabling Separator Material: Patented Dielectric Tape

Overall Nominal Diameter: 5.690 mm

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: -20°C To +75°C

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Installation Temperature Range:	+5°C To +50°C
Operating Temperature Range:	-20°C To +75°C
Bulk Cable Weight:	40.181 Kg/Km
Max. Recommended Pulling Tension:	177.928 N
Min. Bend Radius/Minor Axis:	19.050 mm
Min. Bend/Installation:	57.150 mm

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMP
NEC Articles:	NFPA 70 Article 800
CEC/C(UL) Specification:	CMP
EU Directive 2011/65/EU (ROHS II):	Yes
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):	10/13/2005
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
ANSI Specification:	ANSI/NEMA WC-66, ANSI/ICEA S-90-661, ANSI/UL 444
Other Specification:	C(UL)US CMP 90C OR (UL) CMP-LP (0.5A) OR CL3P-LP (0.5A)

Applicable Patents:

Country
www.belden.com/p

Flame Test

UL Flame Test:	NFPA 262 Plenum Flame Test (UL910)(FT6)
C(UL) Flame Test:	FT6
CSA Flame Test:	FT6

Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	No

Plenum/Non-Plenum

Plenum (Y/N):	Yes
Non-Plenum Number:	2412

Electrical Characteristics (Overall)

Nom. Mutual Capacitance:

Capacitance (pF/m)
49.215

Maximum Capacitance Unbalance:

Capacitance (pF/m)
1082.730

Maximum Capacitance Unbalance (pF/100 m): 330

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Nominal Velocity of Propagation:

VP (%)
72

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	62.6	62.6	23.000
8	5.200	61.8	61.8	56.6	56.6	24.500
10	5.800	60.3	60.3	54.5	54.5	25.000
16	7.400	57.2	57.2	49.9	49.9	25.000
20	8.300	55.8	55.8	47.5	47.5	25.000
25	9.300	54.3	54.3	45.1	45.1	24.300
31.25	10.400	52.9	52.9	42.5	42.5	23.600
62.5	15.000	48.4	48.4	33.4	33.4	21.500
100	19.300	45.3	45.3	26.0	26.0	20.800
155	24.600	42.4	42.4	17.9	17.9	19.500
200	28.300	40.8	40.8	12.5	12.5	18.700
250	32.100	39.3	39.3	7.2	7.2	18.000
300	35.600	38.1	36.1	2.5	.5	17.500
350	38.900	37.1	35.1	-1.8	-3.8	17.000
400	42.000	36.3	34.3	-5.7	-7.7	16.600
450	45.000	35.5	33.5	-9.5	-11.5	16.200
500	47.900	34.8	32.8	-13.1	-15.1	15.900
550	50.600	34.2	32.2	-16.4	-18.4	15.600

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ACRF (dB)	Min. PSACRF (dB)
1	100 ± 15	100 ± 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

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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	16.0	13.0

Notes (Overall)

Notes: Third party verified to ANSI/TIA-568-C.2, Category 6. Values above 350 MHz are for Engineering Information Only. "BELDEN DATATWIST(R) 2413 -- IBDN CABLE -- 4PR/23 E108998 (-PLANT IDENTIFIER) C(UL)US CMP VERIFIED (UL) CAT 6 --US PAT. BELDEN.COM/P" Jacket sequentially marked at 2 ft./1m intervals.

Reference (Overall)

Previous Part Number: 24567415, 24567715, 24567736T, 24567615T, 25067545, 25067545T, 25067515T, 24567745T, 24567715T, 25067845, 25067845T, 25067836, 25067836T, 24567815, 24567815T, 2456705T, 24567145, 24567145T, 24567115, 24567115T, 24567345, 24567345T, 24567336, 24567336T, 24567315, 24567315T, 24567445T, 24567436, 24567436T, 24567415T, 24567A15T, 24567945, 24567945T, 24567936T, 24567915, 24567915T

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
2413 002A1000	1,000 FT	30.000 LB	RED		CAT6+ 4PR U/UTP CMP RIB
2413 003A1000	1,000 FT	30.000 LB	ORANGE		CAT6+ 4PR U/UTP CMP RIB
2413 003U1000	1,000 FT	28.000 LB	ORANGE		CAT6+ 4PR U/UTP CMP BOX
2413 003Z1000	1,000 FT	29.000 LB	ORANGE		CAT6+ 4PR U/UTP CMP
2413 0031000	1,000 FT	28.000 LB	ORANGE		CAT6+ 4PR U/UTP CMP REEL
2413 0035000	5,000 FT	140.000 LB	ORANGE		CAT6+ 4PR U/UTP CMP REEL
2413 004A1000	1,000 FT	30.000 LB	YELLOW		CAT6+ 4PR U/UTP CMP RIB
2413 004A500	500 FT	16.500 LB	YELLOW		CAT6+ 4PR U/UTP CMP RIB
2413 004U1000	1,000 FT	28.000 LB	YELLOW		CAT6+ 4PR U/UTP CMP BOX
2413 004Z1000	1,000 FT	29.000 LB	YELLOW		CAT6+ 4PR U/UTP CMP
2413 004Z250	250 FT	9.500 LB	YELLOW		CAT6+ 4PR U/UTP CMP
2413 004Z500	500 FT	16.500 LB	YELLOW		CAT6+ 4PR U/UTP CMP
2413 004Z750	750 FT	22.500 LB	YELLOW		CAT6+ 4PR U/UTP CMP
2413 0041000	1,000 FT	28.000 LB	YELLOW		CAT6+ 4PR U/UTP CMP REEL
2413 0042500	2,500 FT	65.000 LB	YELLOW		CAT6+ 4PR U/UTP CMP REEL
2413 005A1000	1,000 FT	30.000 LB	GREEN, DARK		CAT6+ 4PR U/UTP CMP RIB
2413 005U1000	1,000 FT	28.000 LB	GREEN, DARK		CAT6+ 4PR U/UTP CMP BOX
2413 005Z1000	1,000 FT	29.000 LB	GREEN, DARK		CAT6+ 4PR U/UTP CMP
2413 0051000	1,000 FT	28.000 LB	GREEN, DARK		CAT6+ 4PR U/UTP CMP REEL
2413 0052500	2,500 FT	65.000 LB	GREEN, DARK		CAT6+ 4PR U/UTP CMP REEL
2413 007A1000	1,000 FT	30.000 LB	VIOLET		CAT6+ 4PR U/UTP CMP RIB
2413 007U500	500 FT	0.000	VIOLET		CAT6+ 4PR U/UTP CMP BOX
2413 007Z1000	1,000 FT	29.000 LB	VIOLET		CAT6+ 4PR U/UTP CMP
2413 008A1000	1,000 FT	30.000 LB	GRAY		CAT6+ 4PR U/UTP CMP RIB
2413 008U1000	1,000 FT	28.000 LB	GRAY		CAT6+ 4PR U/UTP CMP BOX
2413 008U500	500 FT	0.000	GRAY		CAT6+ 4PR U/UTP CMP BOX
2413 008Z1000	1,000 FT	29.000 LB	GRAY		CAT6+ 4PR U/UTP CMP
2413 0081000	1,000 FT	28.000 LB	GRAY		CAT6+ 4PR U/UTP CMP REEL
2413 009A1000	1,000 FT	30.000 LB	WHITE		CAT6+ 4PR U/UTP CMP RIB
2413 009U1000	1,000 FT	28.000 LB	WHITE		CAT6+ 4PR U/UTP CMP BOX
2413 009U500	500 FT	14.500 LB	WHITE		CAT6+ 4PR U/UTP CMP BOX
2413 009Z1000	1,000 FT	29.000 LB	WHITE		CAT6+ 4PR U/UTP CMP
2413 009Z500	500 FT	16.500 LB	WHITE		CAT6+ 4PR U/UTP CMP
2413 0091000	1,000 FT	28.000 LB	WHITE		CAT6+ 4PR U/UTP CMP REEL
2413 0092500	2,500 FT	65.000 LB	WHITE		CAT6+ 4PR U/UTP CMP REEL
2413 010A1000	1,000 FT	30.000 LB	BLACK		CAT6+ 4PR U/UTP CMP RIB
2413 010U1000	1,000 FT	28.000 LB	BLACK		CAT6+ 4PR U/UTP CMP BOX
2413 010U500	500 FT	14.500 LB	BLACK		CAT6+ 4PR U/UTP CMP BOX
2413 0101000	1,000 FT	28.000 LB	BLACK		CAT6+ 4PR U/UTP CMP REEL

METRIC MEASUREMENT VERSION

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2413 0102500	2,500 FT	65.000 LB	BLACK		CAT6+ 4PR U/UTP CMP REEL
2413 D15A1000	1,000 FT	30.000 LB	BLUE		CAT6+ 4PR U/UTP CMP RIB
2413 D15U1000	1,000 FT	28.000 LB	BLUE		CAT6+ 4PR U/UTP CMP BOX
2413 D15U500	500 FT	14.500 LB	BLUE		CAT6+ 4PR U/UTP CMP BOX
2413 D15Z1000	1,000 FT	29.000 LB	BLUE		CAT6+ 4PR U/UTP CMP
2413 D151000	1,000 FT	28.000 LB	BLUE		CAT6+ 4PR U/UTP CMP REEL
2413 D152500	2,500 FT	65.000 LB	BLUE		CAT6+ 4PR U/UTP CMP REEL
2413 010Z1000	1,000 FT	29.000 LB	BLACK		CAT6+ 4PR U/UTP CMP
2413 010Z500	500 FT	16.500 LB	BLACK		CAT6+ 4PR U/UTP CMP
2413 012A1000	1,000 FT	30.000 LB	PINK		CAT6+ 4PR U/UTP CMP RIB

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