



Product: [7965E](#) 

Cat 6 Cable, U/UTP, PVC, 4 Pair, AWG 23, Indoor CPR Eca

Product Description

CAT6 (250MHz), 4-Pair, U/UTP Unshielded, Premise Horizontal Cable, 23 AWG solid bare copper conductors, Polyethylene insulation, Nonbonded-Pair, PVC jacket, CPR Eca

Technical Specifications

Product Overview

Suitable Applications:	Horizontal and building backbone cable; Support current and future Category 6 and 5e applications, such as: 1000Base - T (Gigabit Ethernet), 100 Base - T, 10 Base - T, FDDI, ATM
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Physical Characteristics (Overall)

Conductor

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

Conductor Count:	8
Total Number of Pairs:	4

Insulation

Type	Material	Nominal Diameter
Dielectric	Polyolefin	0.96 mm

Bonded-Pair:	No
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Color Chart

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

Outer Jacket Material

Material	Nominal Diameter	Diameter +/- Tolerance
PVC - Polyvinyl Chloride	5.4 mm	0.3 mm

Construction and Dimensions

Min Elongation at Breakof Conductors:	10 %
Min Elongation at Breakof Insulation:	100 %
Min Elongation at Breakof Jacket:	100 %
Min Tensile Strength of Jacket:	9 MPa

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max DCR Unbalanced Between Pairs [%]	Max. DCR Unbalanced Within Pair [%]
95 Ohm/km	4 %	2 %

Capacitance

Max. Capacitance Unbalance	Max. Mutual Capacitance
1,600 pF/m	56 pF/m

Impedance

Nominal Characteristic Impedance
100 Ohm

Delay

Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
40 ns/100m	70%

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]	Min. TCL [dB]	Min. ELTCTL [dB]
1 MHz	2.1 dB/100m	75.3 dB	72.3 dB	73.2 dB	70.2 dB	70 dB	67 dB	20 dB	40 dB	35 dB
4 MHz	3.8 dB/100m	66.3 dB	63.3 dB	62.4 dB	59.4 dB	58 dB	55 dB	23 dB	34 dB	23 dB
10 MHz	6 dB/100m	60.3 dB	57.3 dB	54.3 dB	51.3 dB	50 dB	47 dB	25 dB	30 dB	15 dB
16 MHz	7.6 dB/100m	57.2 dB	54.2 dB	49.6 dB	46.6 dB	45.9 dB	42.9 dB	25 dB	28 dB	10.9 dB
20 MHz	8.5 dB/100m	55.8 dB	52.8 dB	47.3 dB	44.3 dB	44 dB	41 dB	25 dB	27 dB	9 dB
31.2 MHz	10.7 dB/100m	52.9 dB	49.9 dB	42.1 dB	39.1 dB	40.1 dB	37.1 dB	23.6 dB	25.1 dB	5.1 dB
62.5 MHz	15.5 dB/100m	48.4 dB	45.4 dB	32.9 dB	29.9 dB	34.1 dB	31.1 dB	21.5 dB	22 dB	
100 MHz	19.9 dB/100m	45.3 dB	42.3 dB	25.4 dB	22.4 dB	30 dB	27 dB	20.1 dB	20 dB	
155 MHz	25.3 dB/100m	42.4 dB	39.4 dB	17.1 dB	14.1 dB	26.2 dB	23.2 dB	18.8 dB	18.1 dB	
200 MHz	29.1 dB/100m	40.8 dB	37.8 dB	11.6 dB	8.6 dB	24 dB	21 dB	18 dB	17 dB	
250 MHz	33 dB/100m	39.3 dB	36.3 dB	6.3 dB	3.3 dB	22 dB	19 dB	17.3 dB	16 dB	

Table Notes: Limits below 4 MHz are for information only. Reference standard: ISO/IEC 61156-5 ed. 2.0 (2009)

General Electrical Parameters Notes: Reference standard: ISO/IEC 61156 - 5 ed. 2.0 (2009)

Coupling Attenuation Class: Type III

Segregation class according EN50174-2: a

Current

Max. Recommended Current [A]
1.5 Amps per Conductor

Voltage

Voltage Rating [V]
72 V

Temperature Range

Installation Temp Range:	0°C To +50°C
Operating Temp Range:	-30°C to +60°C

Mechanical Characteristics

Bulk Cable Weight:	37 kg/km
Max. Pull Tension:	80 N
Min Bend Radius During Installation:	46 mm
Min Bend Radius During Operation:	23 mm

Standards

IEC Compliance:	ISO/IEC 11801 2nd edition (2002) and ISO/IEC 11801 Amendment 2 (2010)
CPR Euroclass:	Eca
CENELEC Compliance:	EN 50173-1 (2011)
Data Category:	Category 6
ANSI Compliance:	ANSI/TIA 568.2-D (2018)
IEEE Compliance:	PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4

Applicable Environmental and Other Programs

Environmental Space:	Indoor - Euroclass Eca
EU RoHS Compliance Date (yyyy-mm-dd):	2004-01-01

Flammability, LSOH, Toxicity Testing

IEC Flammability:	IEC 60332-1-2
Burning Load:	460 kJ/m

Part Number

Variants

Item #	Color	Putup Type	Length	EAN
7965E.05A305	Black	Reel-in-Box	305 m	8719605016997
7965E.05500	Black	Reel	500 m	8719605160706
7965E.01B100	Blue	Flat Box	100 m	8719605016942
7965E.01200	Blue	Reel	200 m	8719605016904
7965E.01305	Blue	Reel	305 m	8719605016911
7965E.01A305	Blue	Reel-in-Box	305 m	8719605016935
7965E.01500	Blue	Reel	500 m	8719605016928
7965E.011000	Blue	Reel	1,000 m	8719605016898
7965E.00B100	Gray	Flat Box	100 m	8719605016881
7965E.00305	Gray	Reel	305 m	8719605016850
7965E.00A305	Gray	Reel-in-Box	305 m	8719605016874
7965E.00500	Gray	Reel	500 m	8719605016867
7965E.001000	Gray	Reel	1,000 m	8719605016836
7965E.03305	Green	Reel	305 m	8719605016966
7965E.03500	Green	Reel	500 m	8719605016973

Product Notes

Notes:	Electrical values are expected performance based on cable testing and representative performance within a typical Belden system.
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History

Update and Revision:	Revision Number: 0.227 Revision Date: 06-08-2020
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