Product: 7860ENH

Cat 6 Cable, F/UTP, LSZH, 4 Pair bonded, AWG 23, Indoor CPR Dca

Product Description

Cat. 6 (250MHz), 4-Pair, F/UTP Foil shielded, Premise Horizontal Cable, 23 AWG solid bare copper conductors, Polyethylene insulation, Beldfoil® shield, AWG 26 solid tinned copper drainwire, LSZH jacket

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

Physical Characteristics (Overall)

Conductor

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

Conductor Count:	8
Total Number of Pairs:	4

Insulation

Element	Type	Material	Nominal Diameter
Individual pair	Dielectric	Polyethylene	1.35 mm

Bonded-Pair:	Yes

Color Chart

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

Outer Shield Material

Type	Material	Coverage [%]	Drainwire Material	Drainwire AWG	Drainwire Position
Tape	Aluminum/Polyester	100 %	Solid tinned copper	26	Over foil

Outer Shield Table Note:	Aluminum facing outside in contact with drain wire

Outer Jacket Material

Material	Nominal Diameter	Diameter +/- Tolerance
LSZH / FRNC	7.3 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	Min. Velocity of Propagation
40 ns/100m	60 %

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	

High Freq Table Note:	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 II
Segregation class according EN50174-2:	c

Transfer Impedance

Frequency [MHz]	Description	Transfer Impedance
1 Mhz	Grade 2	Max. 50 mOhm/m
10 Mhz		Max. 100 mOhm/m
30 Mhz		Max. 200 mOhm/m
100 Mhz		Max. 1000 mOhm/m

Current

Max. Recommended Current [A]
1.5 A

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:	50 kg/km
Max Recommended Pulling Tension:	80 N
Min Bend Radius During Installation:	58 mm
Min Bend Radius During Operation:	29 mm

Standards

ISO/IEC Compliance:	ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011

CPR Euroclass:	Dca-s2,d1,a1
CENELEC Compliance:	EN 50173-1 Ed. 3:2011
Data Category:	Category 6
ANSI Compliance:	ANSI/TIA 568.2-D (2018)
IEEE Specification:	PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4

Applicable Environmental and Other Programs

Environmental Space:	Indoor - Euroclass Dca
EU RoHS Compliance Date (yyyy-mm-dd):	2005-01-01

Flammability, LS0H, Toxicity Testing

ISO/IEC Flammability:	IEC 60332-1-2
Burning Load:	745 kJ/m
Amount of Halogen acc. to IEC 60754-1 & EN50267-1:	Zero

Part Number

Variants

Item #	Color	Length
7860ENH.03500	Black	500 m
7860ENH.K3500	Black	500 m
7860ENH.011000	Blue	1,000 m
7860ENH.01500	Blue	500 m
7860ENH.K11000	Blue	1,000 m
7860ENH.K1500	Blue	500 m
7860ENH.K1305	Blue	305 m
7860ENH.001000	Gray	1,000 m
7860ENH.002000	Gray	2,000 m
7860ENH.002100	Gray	2,100 m
7860ENH.00305	Gray	305 m
7860ENH.00500	Gray	500 m
7860ENH.00B100	Gray	100 m
7860ENH.K01000	Gray	1,000 m
7860ENH.K0305	Gray	305 m
7860ENH.K0500	Gray	500 m
7860ENH.02500	Purple	500 m
7860ENH.04500	Yellow	500 m

Patent:	https://www.belden.com/resources/patents

History

Update and Revision:	Revision Number: 0.237 Revision Date: 09-17-2019