

FieldLink®

Industrial Ethernet Cat 6 ES



Design

Wire

Bare copper wire (24 AWG)
Insulation of Polyethylene (PE)

ø 0.51 mm (0.020 in)
ø 1.0 mm (0.039 in)

2 wires twisted to a pair

Core:

4 pairs in separating element
Sequence of colors: WHBU/BU - WHOG/OG - WHGN/GN - WHBN/BN
Plastic tape, overlapped
Inner-Jacket: Thermoplastic copolymer (FRNC)
Alulaminat foil overlapped, applied longitudinally
Shield braiding of tinned copper wires 0.1 mm dia (38 AWG)
Coverage about 85%

ø 6.1 mm (0.240 in)

ø 6.6 mm (0.260 in)

Jacket:

Polyvinylchloride (PVC) GN
Wall thickness about 0.7 mm

ø (8.0 ±0.2) mm (0.315 ±0.008 in)

Printing: "sequential length in metres" LEONI L INDUSTRIAL GIGABIT ETHERNET STANDARD CABLE CAT6
ES * AWG24 (shielded) (UL) E119100 CMG 75 °C * "internal lot number"

Textintervals about 1000 mm

Electrical data at 20°C

Loop resistance	≤	190	Ohm/km
Signal run time	≤	5.13	ns/m
Insulation resistance	≥	500	MOhm*km
Operating voltage (peak)	≤	100	V
Characteristic impedance (100 MHz)		(100 ±5)	Ohm
Surface transfer impedance of screen (up to 100 MHz)	≤	20	mOhm/m
Time delay skew (pair to pair) all pairs	≤	45	ns/100m

Time delay skew (pair to pair) WHGN/GN to WHOG/OG	≤	20	ns/100m
WHBN/ BN to WHBU/BU	≤	20	ns/100m
Test voltage (wire/wire/screen rms 50Hz 1min)	=	700	V

Frequency (MHz)	1	4	10	16	20	31.25	62.5	100	155	200	250
Next (dB) ≥	66.0	65.3	59.3	56.2	54.8	51.9	47.4	44.3	41.4	39.8	38.3
PSNext (dB) ≥	64.0	63.3	57.3	54.2	52.8	49.9	45.4	42.3	39.4	37.8	36.3
ELFext (dB) ≥	66.0	58	50.0	45.9	44.0	40.1	34.1	30.0	26.2	24.0	22.0
PSElfext (dB) ≤	64.0	55.0	47.0	43.0	41.0	37.1	31.1	27.0	23.2	21.0	19.0
Attenuation (dB/100m) typ.	2.1	4.0	6.3	7.9	8.8	11.1	16.0	20.7	26.5	30.6	35.0
Frequency	4	8	10	16	20	31.25	62.5	100	155	200	250
Return loss (dB)	23.1	24.5	25.0	25.0	25.0	23.6	21.5	20.1	18.8	18.0	17.3

Electrical requirements at max. 90m installed cable of the category 6 (EN 50288-5-1)

Mechanical and thermal characteristics

Conductor material acc. to DIN EN 13602 Cu-ETP-A...
 Screen material acc. to DIN EN 13602 Cu-ETP-A...-B
 Flame retardant acc. to UL 1685 (CSA FT 4)
 Flame retardant acc. to IEC 60332-3-24 (Cat. C)
 Oil resistant acc. to DIN EN 50290-2-22 (VDE 0819), compound type TM54 (4h/70°C)

UL File E119100 Vol.1 Sec.33 Page 1 (CMG)

Other characteristics:

RoHS compliant (Directive 2011/65/EC)
 Sunlight resistant acc. to UL 2556 Sec. 4.2.8.5

Max. pull force : ≤ 100 N
 Permissible temperature range : -40 °C (-40 °F) up to 80 °C (176 °F)
 Min. bending radius allowed : repeated 5X ø, single 3X ø
 PVC weight with Phthalate : 22.7 Kg/km
 PVC weight without Phthalate : 0.0 Kg/km
 Weight about : 76 kg/km (50,9 lb/1000ft)

Designation of order:

L45467-J15-B15 / 214593 / 1000 m (3281 ft) on non-returnable reel
 L45467-J15-B15-L6 / 232745 / 500 m (3281 ft) on non-returnable reel

2YH(ST)CY 4X2X0.5/1.0-100 GN