


2170431	DATA SHEET	
valid from: 18.02.2020	ETHERLINE® P EC FLEX Cat. 5e 1x4x26/7AWG	

Application

ETHERLINE® P EC FLEX Cat. 5e is a flexible CATEGORY 5e high speed data transmission cable for industrial environments. The high quality screen ensures high transmission reliability of data transfer in electromagnetically polluted areas.

Design




Certification	c(UL)us CMX 75°C acc. to UL 444
Conductor	stranded tinned copper 26/7 AWG
Insulation	PE core Ø: ca. 1.03 mm
Core identification code	pair 1: white-orange/orange, pair 2: white-green/green
Stranding	star quad (optional: with central filler) wrapped by plastic tape
Screen	plastic laminated aluminum foil on top: braid of copper wire (coverage ca. 85 %)
Taping	non-woven tape (overlapping)
Outer sheath	PUR green, similar RAL 6018 outer Ø ca. 4.8 mm

Electrical properties at 20°C

Loop resistance	max. 29 Ω/100 m
Insulation resistance	min. 2 GΩxkm
Mutual capacitance	nom 53 nF/km
Characteristic impedance	nom. 100 Ω acc. to IEC 61156-6
Velocity of propagation	0,67 c
Peak operating voltage	VDE: 50 V UL: 300 V
Test voltage	core/core: 1000 V core/screen: 1000 V

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Electrical transmission properties at 20°C

The transmission characteristics meet the requirements of the standards EN 50288-2-2 and IEC 61156-6 for category 5e. The normative requirements for the transmission properties are shown in the following table:

f [MHz]		4	10	16	20	31,25	62,5	100
(max.) Attenuation	[dB/100 m]	6	9,5	12,1	13,5	17,1	24,8	32
(min.) TCL	[dB]	34	30	28	27	25,1	22	20
(min.) EL TCTL	[dB/100 m]	23	15	10,9	9	5,1	—	—
(min.) NEXT	[dB]	53,3	47,3	44,2	42,8	39,9	35,4	32,3
(min.) PS EL FEXT	[dB/100 m]	49	41	36,9	35	31,1	25,1	21
(min.) ACR-F/EL FEXT	[dB/100 m]	52	44	39,9	38	34,1	28,1	24
(min.) Return Loss	[dB]	23	25	25	25	23,6	21,5	20,1

Mechanical and thermal properties

Minimum bending radius	fixed:	4x cable Ø
	occasional flexing:	8x cable Ø
Temperature range	fixed:	-40 °C up to +80 °C
	occasional flexing:	-30 °C up to +50 °C
	UL:	75 °C
Flammability	VW-1 acc. to UL 1581 §1080	
Halogen free	acc. to VDE 0472-815	
General requirements	These cables are conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances) and the LV-Directive 2014/35/EU (Low voltage Directive).	
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).	

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