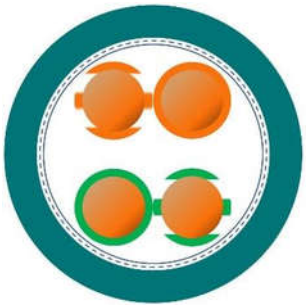
2170281	DATA SHEET	LAPP
valid from: 25.11.2022	ETHERLINE® P Cat. 5e 2x2x24/1 AWG	

Application

ETHERLINE® P Cat. 5e 2x2x24/1 AWG is a CATEGORY 5e high speed data transmission cable for industrial environments. This data cable meets the requirements of Standards EIA/TIA-568, TSB-36 and ISO/IEC 11801 „Generic Cabling for Customer Premises“ for CLASS D Links. The high quality screen ensures high transmission reliability of data transfer in electromagnetically polluted areas. The TPU sheath is widely resistant against mineral oils and abrasion. The cable is intended for fixed installation in dry and damp interiors and outdoors.



Design

Certification	E63634 cULus AWM Style 21576 AWM I/II A/B 1000 V, 80 °C, FT2 acc. to UL 758 and CSA C22.2 No.210-05
Conductor	bare copper wire 24/1 AWG conductor diameter: ca. 0.51 mm
Insulation	foam-skin polyolefin core diameter: ca. 0.95 mm
Core identification code	pair 1: white(-orange)/orange; pair 2: white(-green)/green
Stranding	cores twisted to pairs, pairs stranded together 1 layer plastic-foil
Screen	plastic laminated aluminum foil on top: braid of tinned copper wire, coverage ca. 85 %
Outer sheath	TPU blue (similar to RAL 5021), outer diameter: ca. 5.8 mm

Electrical properties at 20 °C

Loop resistance	max. 192 Ω/km	
Insulation resistance	min. 5 GΩxkm	
Mutual capacitance	nom. 48 nF/km (800 Hz)	
Characteristic impedance	100 Ω (100 MHz)	
Velocity of propagation	ca. 0.77 c	
Signal propagation time	nom. 433 ns/100 m	
Maximum operating voltage	125 V (not for power purposes)	
Test voltage	conductor/conductor	3000 V AC (1 min)
	conductor/screen	3000 V AC (1 min)

We reserve all rights according to DIN ISO 16016.

Electrical transmission properties at 20°C

f [MHz]	max. Attenuation [dB/100m] standard	min. NEXT [dB] standard	min. EL FEXT [dB] standard	min. Return Loss [dB] standard
4	4,1	56,3	52	23
10	6,7	50	43,3	25
16	8,3	47,2	40	25
31,25	11,7	42,8	34	23,6
62,5	17	38,4	28,1	21,6
100	22	35,3	24	20,1

Mechanical and thermal properties

Minimum bending radius	fixed installation:	7,5 x outer diameter
	occasional flexing:	12 x outer diameter
Temperature range	fixed installation (EN):	-30˚ C up to +80˚ C
	occasional flexing (EN):	-5˚ C up to +50˚ C
	fixed installation (UL):	-10˚ C up to +80˚ C
	occasional flexing (UL):	-10˚ C up to +80˚ C
Flammability	acc. to IEC 60332-1-2 resp. EN 60332-1-2	
Halogen free	acc. to IEC 60754-1 resp. EN 60754-1	

General requirements This cable is conform to EU-Directive 2014/35/EU (Low Voltage Directive) and to EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

Environmental information These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).

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