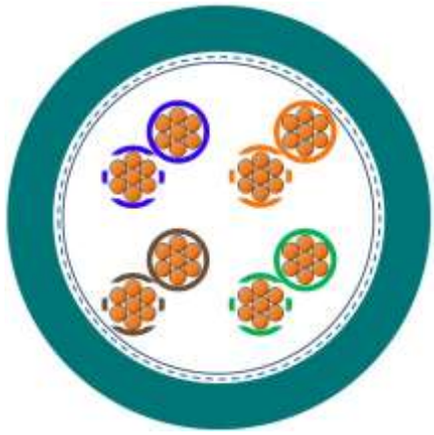
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2170300	DATA SHEET	LAPP
valid from: 17.02.2020	ETHERLINE® P FLEX Cat. 5e 4x2x26/7AWG	

Application

Field of use:	Connecting cable for generic cabling systems acc. To ISO/IEC 11801 and EN 50173
Performance:	Bandwidth up to 100 MHz acc. to IEC 61156-6 Category 5e and EN 50288-2-2
Characteristics:	halogen free, flame retardant, and largely resistant to acids, alkalis and certain oils
Applications:	EtherCAT, EtherNet/IP, Power over Ethernet (IEEE 802.3af), and many other

Design



Certification	cRUus AWM Style 21576 (1000 V, 80 °C) acc. to UL 758 and AWM I/II A/B (FT2) acc. to CSA C22.2 No.210-05 ECE-R 118: E1*118R03/01*0228*00 certified for CC-Link IE Field Network
Conductor	stranded bare copper 26/7 AWG
Insulation	foamed PE core ⌀: ca. 0.95 mm
Core identification code	pair 1: white-blue/blue; pair 2: white-orange/orange; pair 3: white-green/green; pair 4: white-brown/brown
Stranding	cores twisted to pairs, pairs stranded together wrapped by non-woven tape
Screen	plastic laminated aluminum foil on top: braid of tinned copper wire (coverage ca. 85 %)
Taping	non-woven tape (overlapping)
Outer sheath	PUR blue, similar RAL 5021 outer ⌀: ca. 6.1 mm

Electrical properties at 20°C

Loop resistance	max. 28.4 Ω/100 m	
Insulation resistance	min. 5 GΩxkm	
Mutual capacitance	48 nF/km (at 800 Hz)	
Characteristic impedance	nom. 100 Ω acc. to IEC 61156-6	
Velocity of propagation	0,75 c	
Signal transit time	<445 ns/100 m	
Peak operating voltage	VDE: UL:	125 V (not for power purposes) 1000 V
Test voltage	core/core: core/screen:	3000 V 3000 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:	8x cable ø
	occasional flexing:	15x cable ø
Temperature range	fixed:	-40 °C up to +80 °C
	occasional flexing:	-5 °C up to +50 °C
	UL:	80 °C
Flammability	flame retardant acc. to ISO 6722-1 and IEC 60332-1-2 resp. EN 60332-1-2 FT2 acc. to UL 1581 §1100	
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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