


<b>2170284</b>	<b>DATA SHEET</b>	
<b>valid from:</b> <b>23.01.2020</b>	<b>ETHERLINE® P FLEX Cat. 5e</b> <b>2x2x26/7 AWG</b>	

### 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, PoE (IEEE 802.3af), PoE+ (IEEE 802.3at) and many others

### Design




Certification	UL AWM styles 11117 and 21576 (1000 V, 80 °C) acc. To UL 758 cRU AWM I/II A/B (FT2) acc. To CSA C22.2 No.210
Conductor	stranded bare copper, 26/7 AWG
Insulation	foam-skin polyolefin, core Ø: ca. 0.95 mm
Core identification code	pair 1: white(-orange)/orange; pair 2: white(-green)/green
Stranding	2 cores twisted to pairs, pairs stranded to bundle, on top: non-woven tape (overlapping)
Screen	plastic laminated aluminum foil on top: braid of tinned copper wires (coverage 85 % ±5 %)
Outer sheath	PUR halogen free compound, blue (similar to RAL 5021), outer Ø: ca. 5.6 mm

### Electrical properties at 20°C

Loop resistance	max. 28.4 Ω/100 m	
Specific volume resistivity	min. 5 G Ωxkm	
Mutual capacitance	nom. 48 nF/km (bei 800 Hz)	
Characteristic impedance	100 Ω acc. to IEC 61156-6	
Velocity of propagation	0,77c	
Signal transit time	433 ns/100 m	
Rated voltage	VDE:	125 V (not for power purposes)
	UL:	1000 V
Test voltage	core/core:	3000 V
	core/screen:	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	moved:	15 x cable $\varnothing$
	fixed installation:	8 x cable $\varnothing$
Temperature range	moved:	-5 °C up to +50 °C
	fixed installation:	-40 °C up to +80 °C
	UL:	80 °C
Flammability	flame retardant acc. to IEC 60332-1-2	
	horizontal flame test acc. to UL 1581 §1090	
	FT-2 acc. to CSA C22.2 No.210	
Halogen free	acc. to VDE 0472-815	
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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