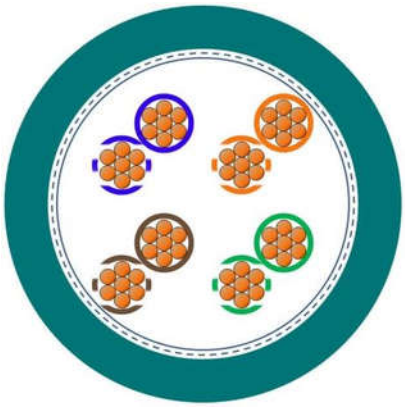
2170299	DATA SHEET	LAPP
valid from: 01.01.2019	ETHERLINE® H Flex Cat. 5e	

Application

ETHERLINE® H Flex Cat. 5e is a halogen free, flexible CATEGORY 5e high speed data transmission cable suitable for application in the industrial environments to connect the (FAST-) ETHERNET network with the field bus level. It enables a continuous communication from sensor–actuator–level to Internet. 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 double screening ensures a high security during data transmission in areas with electromagnetic fields.
The cable is designed for stationary applications in dry and wet rooms and outside, as soon as freely moved without forced guidance and tensile stress.

Design



Conductor	bare stranded copper, ca. 0.14 mm² (7 x 0.16 mm), 26/7AWG
Insulation	Foam-Skin PE, ca. 0.95 mm core Ø
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 twisted together non-woven tape
Screen	plastic-laminated aluminum foil on top: braid of copper wire, tinned wire, coverage ca. 85 %
Outer sheath	halogen free compound, blue similar to RAL 5021, outer ⌀: ca. 6.1 mm

Electrical properties at 20°C

Loop resistance	max. 284 Ω/km
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	48 nF/km (at 800 Hz)
Characteristic impedance	100 Ω ±15 Ω (1MHz up to 100 MHz)
Velocity of propagation	ca. 0,75 c
Signal transit time	<5,2 ns/m
Peak operating voltage	125 V (not for power purposes)
Test voltage	conductor/conductor 700 V conductor/screen 700 V

We reserve all rights according to DIN ISO 16016.

Electrical transmission properties at 20°C

f [MHz]	Attenuation [dB/100m]		NEXT [dB]	EL FEXT [dB]	Return Loss [dB]
	Standard D1	Standard D2	Standard	Standard	Standard
1			65,3		
4	6	6,7	56,3	52	23
10	9,8	10,8	50,3	44	25
16	12,1	13,6	47,2	39,9	25
31,25	17,1	19,1	42,9	34,1	23,7
62,5	24,7	27,6	38,4	28,1	21,6
100	32	35,6	35,3	24	20,1

Mechanical and thermal properties

Minimum bending radius	fixed installation: 8 x cable ø sporadic movements: 15 x cable ø
Temperature range	fixed installation: -20˚ C up to +75˚ C during installation: -5˚ C up to +50˚ C
Flammability	acc. to IEC 60332-1-2
Halogen free	acc. to IEC 60754-1/EN 50267-2-1
Smoke density	acc. to 61034-2
General requirements	This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

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