



ETHERLINE® H Flex Cat. 5e

DB2170299

valid from: 16.07.2012

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 mm ² (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
Wrapping	non-woven tape
Screening	plastic-laminated aluminum foil <u>on top:</u> braid of copper wire, tinned wire, coverage ca. 85 %
Outer sheath	halogen free compound, blue similar to RAL 5021, outer Ø: ca. 6.1 mm

Electrical properties at 20° C

Resistance (loop)	max. 284 Ω/km
Insulation resistance	min. 5 GΩxkm
Characteristic impedance	100 Ω ±15 Ω (1MHz up to 100 MHz)
Signal propagation time	<5.2 ns/m
Velocity of propagation	ca. 0.75 c
Mutual capacitance	48 nF/km (bei 800 Hz)
Operating peak voltage	125 V (not for power purposes)
Test voltage (AC, 1 minute)	core/core: 700 V core/screening: 700 V



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Transmission properties

f [MHz]	Attenuation max. [dB/100m]	NEXT [dB/100m]	PS NEXT [dB]
1	2.5	72	69
4	5.2	64	61
10	8.4	59	56
16	11.0	57	54
20	12.5	55	52
31.25	16.0	51	48
62.5	23.6	46	43
100	29.9	44	41

Electrical requirements acc. to EN 50288-2-2

Mechanical and thermal properties

Minimum bending radius	fixed installation: 8 x cable \varnothing sporadic movements: 15 x cable \varnothing
Permissible temperature range	fixed installation: -20° C up to +75° C during installation: -5° C up to +50° C
Halogen free	acc. to IEC 60754-1/EN 50267-2-1
Degree of acidity of gases	acc. to IEC 60754-2/EN 50267-2-2
Flame retardance	acc. to IEC 60332-1-2
Smoke density	acc. to 61034-2
General requirements	Dangerous and forbidden substances acc. to RoHS directive (2002/95/EG) are not allowed to the manufacturing.