ETHERLINE® P FLEX Cat. 5e 4x2x26/7 AWG

DB2170300
valid from: 13.02.2014

Application

ETHERLINE® P FLEX CAT.5e 4 x 2 x 26AWG 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. 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 PUR outer sheath is resistant against mineral oils, fats, against abrasion and against atmospheric UV radiation. The cable is designed for fixed installation and flexible applications without forced guidance and tensile stress.

Approvals: 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. 210-05

Design

Conductor	bare copper, fine-wire stranded 26/7 AWG (7 x ca. 0.16 mm; 7 x 34 AWG), ca. 0.14 mm^2
Insulation	foam-skin polyethylene, core ⌀ ca. 0.95 mm
Core identification code	acc. to IEC 708-1 pair 1: white(-orange)/orange; pair 2: white(-green)/green
Stranding	cores twisted to pairs, pairs stranded together
Wrapping	1 layer non-woven tape
Screening	plastic laminated aluminum foil on top: braid of tinned copper wire, coverage ca. 85 %
Outer sheath	PUR 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
Mutual capacitance	nom. 48 nF/km (at 800 Hz)
Characteristic impedance	100 Ω ±15 Ω (1MHz up to 100 MHz)
Operating peak voltage	125 V (not for power purposes)
Velocity of propagation	ca. 0.75 c
Signal propagation time	<445 ns/100m
Delay difference	20 ns/100m
Test voltage (rms 50 Hz, 1 minute)	core/core: 1000 V core/screening: 500 V

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Transmission properties

Transmission properties acc. to IEC 61156-6: abstract of the minimum requirements shown in the table:

f [MHz]	Attenuation [dB/100m]	NEXT [dB]	PS NEXT [dB]	EL FEXT [dB/100m]	PS EL FEXT [dB/100m]	RL
1	3,2	65,3	62,3	-	-	-
4	6,1	56,3	53,3	52,0	49,0	-
10	9,6	50,3	47,3	44,0	41,0	-
16	12,1	47,2	44,2	39,9	36,9	-
31.25	17,2	42,9	39,9	34,1	31,1	23,3
62.5	24,9	38,4	35,4	28,1	25,1	20,7
100	32,2	35,3	32,3	24,0	21,0	19,0

Mechanical and thermal properties

Minimum bending radius	moved: 15 x cable Ø fixed installation: 8 x cable Ø
Permissible temperature range	moved (VDE): -5° C up to +50° C fixed installation (VDE): -30° C up to +80° C moved (UL): -5° C up to +80° C fixed installation (UL): -30° C up to +80° C
Halogen free	acc. to VDE 0472-815
Flame retardant	acc. to IEC 60332-1-2
General requirements	Dangerous and forbidden substances acc. to RoHS directive (2011/65/EU) are not allowed to the manufacturing.