ETHERLINE® FD P Cat. 5e 4x2x26/19 AWG

DB2170489
valid from: 07.09.2012

Application

ETHERLINE® FD P CAT. 5e 4 x 2 x AWG 26/19 is a CATEGORY 5e high speed data transmission cable suitable for application in the industrial environments. 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 screen ensures high transmission reliability of data transfer in electromagnetically polluted areas.
The PUR sheath is very resistant against mineral oils and abrasion. The cable is intended for highly flexible application in power chains or permanently moving machines and linear robots in dry and damp interiors and in harsh industrial environment.

Connectors: Field-Terminable Connector RJ45 CAT.5e FM45

Design

Conductor	bare copper, super-fine-wire stranded, 26/19 AWG
Insulation	foam-skin polyolefin , max 1.04 mm outer Ø
Core identification code	acc. to IEC 708-1: 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
Inner sheath	halogen free compound
Screening	braid of copper wire, tinned wire, coverage 85 % ±5 %
Outer sheath	PUR, halogen free, blue similar to RAL 5021, outer Ø: max. 6.5 mm

Electrical properties at 20° C

Conductor resistance (loop)	max. 29 Ω/100 m
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	nom. 50 nF/km (at 800 Hz)
Characteristic impedance	100 Ω ± 15 Ω (1 MHz up to 100 MHz)
Operating peak voltage	125 V (not for power purposes)
Velocity of propagation	min. 65 % (4 MHz up to 100 MHz)
Phase delay	max. 570 ns/100 m (1 MHz up to 100 MHz)
Delay skew	max. 45 ns/100 m
test voltage U_{rms}	core/core: 1000 V core/screen: 500 V

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Transmission properties

f [MHz]	Attenuation max. [dB/100m]	NEXT	PS NEXT [dB]	EL FEXT	PS EL FEXT [dB]	RL [dB]	ACR [dB]
0.064	(1.9)	(83.2)	(80.2)	(87.9)	(84.9)		(81.3)
0.256	(2.1)	(74.2)	(71.2)	(75.8)	(72.8)		(72.1)
0.512	(2.5)	(69.7)	(66.7)	(69.8)	(66.8)		(67.2)
0.772	(2.9)	(67.0)	(64.0)	(66.2)	(63.2)		(64.1)
1	3.2	65.3	62.3	64.0	61.0		(62.1)
4	6.0	56.3	53.3	52.0	49.0	23.0	(50.3)
8	8.5	51.8	48.8	45.9	42.9	24.5	(43.3)
10	9.5	50.3	47.3	44.0	41.0	25.0	(40.8)
16	12.1	47.2	44.2	39.9	36.9	25.0	(35.2)
20	13.5	45.8	42.8	38.0	35.0	25.0	(32.2)
31.25	17.1	42.9	39.9	34.1	31.1	23.6	(25.8)
62.5	24.8	38.4	35.4	28.1	25.1	21.5	(13.6)
100	32.0	35.3	32.3	24.0	21.0	20.1	(3.3)
125	(37.3)	(33.8)	(30.8)	(22.1)	(19.1)	(19.4)	

NEXT	Near-end crosstalk
PS NEXT	Power sum near-end crosstalk
FEXT	Far-end crosstalk
PS EL FEXT	Power sum equal level far-end crosstalk
RL	Return loss
ACR	Attenuation to crosstalk ratio
	values in ( ) are purely calculative values and only for information

Mechanical and thermal properties

Minimum bending radius	moved: 15 x cable Ø fixed installation: 8 x cable Ø
Permissible temperature range	moved: -20° C up to +70° C fixed installation: -30° C up to +80° C
General requirements	Dangerous and forbidden substances acc. to RoHS directive (2002/95/EG) are not allowed to the manufacturing.