

2170933	DATA SHEET	
valid from: 17.11.2020	ETHERLINE® PN Cat.5e YY 1x4x22/1 AWG	

Application

ETHERLINE® PN Cat.5e YY is CATEGORY 5e high speed data transmission cable suitable for application in the industrial environments. This data cable meets the requirements in accordance to the 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 for use outside.



Design

Certification	c(UL)us CMG 75°C acc. to UL 444 and CSA-C22.2 No. 214
Conductor	solid bare copper 22/1 AWG
Insulation	polyolefin core diameter: ca. 1.5 mm
Core identification code	pair 1: white/blue, pair 2: yellow/orange
Stranding	star quad (optional with central filler) on top: plastic tape (overlapping)
Screen	plastic laminated aluminium foil (overlapping) on top: braid of tinned copper wires (coverage 85 % ±5 %)
Outer sheath	PVC green, similar RAL 6018 outer diameter: 6.2 mm (± 0.3 mm) on top: PVC black, similar RAL 9005 outer diameter: 7.7 mm (± 0.3 mm)

Electrical properties at 20°C

Loop resistance	max. 11.82 Ω/100 m
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	nom. 48 nF/km
Characteristic impedance	nom. 100 Ω acc. to IEC 61156-6
Velocity of propagation	0.66c
Signal propagation time	≤ 500 ns/100 m
Delay skew	≤ 25 ns/100 m
Operating voltage (max.)	EN: 125 V (not for power purposes)
Rated voltage	UL: 300 V acc. to UL 444
Test voltage	core/core: 1700 V core/screen: 1700 V

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Electrical transmission properties at 20°C

The transmission characteristics meet the requirements of the standards EN 50288-2-1 and IEC 61156-5 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]	4	6,3	8	9	11,4	16,5	21,3
(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]	56,3	50,3	47,2	45,8	42,9	38,4	35,3
(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	fixed installation: 8x outer diameter
Temperature range	fixed installation: -25 °C up to +80 °C c(UL)us CMG: 75 °C
Flammability	flame retardant acc. to. IEC 60332-1-2 resp. EN 60332-1-2 FT4 acc. to UL 1685 §12 - §19 (smoke measurements are not applicable)
Oil resistance	acc. to EN 50290-2-22
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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