

**DATA SHEET**

2170296

EtherLine[®]-H CAT. 5e 4 x 2 x 24AWGvalid from :
17.06. 2005**Application**

EtherLine[®]-H CAT. 5e 4 x 2 x 24AWG is a halogen free **CATEGORY 5 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 through going 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.

Connectors RJ 45 (IP 20) e. g.: Type CAT. 5, Stewart Connector Nr. 943-SP-370808 SM2
RJ 45 (IP 67) e. g.: Phoenix Contact, Harting, Woodhead

Design

Conductor solid bare copper wire, 0.51 mm²; (24AWG)
Insulation foam-skin, core diameter max.: 1.0 mm
Stranding cores twisted to pairs, pairs twisted to cable core
Colour code pair 1 white/blue - blue
pair 2 white/orange - orange
pair 3 white/green - green
pair 4 white/brown - brown
Screening aluminium laminated plastic foil
braid of tinned copper wires, coverage 85 % ± 5
Sheath halogen free compound, HM 2 in acc. to VDE 0207, water blue RAL 5021
Outer diameter approx. 6,1 mm

Marking on the sheath:

LAPP KABEL STUFGART EtherLine[®]-H CAT. 5e 4 x 2 x 24AWG ROHS ART. 2170296

Colour of printing black

Electrical properties at 20 °C

DC resistance (loop) *4 line twisted* max. Ω/km 192
Insulation resistance min. GΩ/km 5
Mutual capacitance at 800 Hz nom. nF/km 48
Impedance at 1...100 MHz Ω 100 ± 15

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Frequen- cy MHz	Attenuation at [dB/100m]		NEXT [dB]		PS NEXT [dB]	EL FEXT [dB]	PS EL FEXT [dB]	ACR [dB]/100m	
	max	nom	min	nom	min	min	min	min	nom
0,064	-	0,6	-	85	80,0	-	-	-	84,4
0,256	-	1,0	-	76	71,1	-	-	-	75,0
0,512	-	1,4	-	72	66,6	-	-	-	70,6
0,772	1,8	1,7	64,0	70	64,0	65,5	62,5	62,2	68,3
1	2,1	1,9	65,3	70	62,3	63,8	60,8	63,2	68,1
4	4,0	3,8	56,3	60	53,3	51,8	48,8	52,3	56,2
10	6,3	6,0	50,3	54	47,3	43,8	40,8	44,0	48,0
16	8,1	7,6	47,2	51	44,2	39,7	36,7	39,2	43,4
20	9,0	8,5	45,8	48	42,8	37,8	34,8	36,8	39,5
31,25	11,4	10,7	42,9	46	39,9	33,9	30,9	31,5	35,3
62,5	16,5	15,2	38,4	42	35,4	27,9	24,9	21,8	26,8
100	21,4	19,4	35,3	40	32,3	23,8	20,8	14,0	20,6
125	-	21,6	-	38	30,8	-	-	-	16,8
155,5	-	24,9	-	37	29,4	-	-	-	12,1
175	-	26,0	-	36	28,7	-	-	-	10,0
200	-	28,0	-	35	27,8	-	-	-	7,0

Nominal velocity of propagation nom. 0,77c
Signal delay nom. ns/m 5,5
Transfer impedance at 20 MHz max. mΩ/m 5,0
Operating voltage (not for power purposes) peak value V 125
Test voltage core/core V 1000
core/screen V 500

Mechanical and thermal properties

Minimum bending radius fixed installation mm 50
Permissible temperature range during installation °C -5 to +60
after installation °C -30 to +80
Maximum pulling force during installation N 130
after installation N 65
Fire load kWh/m 0,33
Flame propagation flame retardant acc. to VDE 0482, part 265-2-1 / IEC 60332-1

General properties

All materials used and during manufacturing are free of LBS. (e.g. silicone).

LBS = substances destructive to lacquer-coatings.

Legend

NEXT near-end crosstalk attenuation
PS NEXT Power sum near-end crosstalk attenuation
ACR ratio of attenuation and near-end crosstalk attenuation
FEXT far-end crosstalk attenuation
EL FEXT far-end crosstalk attenuation - attenuation
PS EL FEXT Power sum far-end crosstalk attenuation - attenuation

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