



DATA SHEET		2170292
UNITRONIC® EtherLine-H-H CAT. 5 2 x 2 x 24AWG		valid from : 17.06. 2003

Application

UNITRONIC® EtherLine-H-H CAT. 5 2 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 outer sheath is easily strippable from the inner sheath; with the inner sheath is the cable RJ 45 compatible.

The cable is designed for stationary applications in dry and wet rooms.

Connectors RJ 45 e. g.: Type CAT. 5, Stewart Connector Nr. 943-SP-370808 SM2 (IP 20)
RJ 45 capsuled e. g.: RJ Lnx, Woodhead Connectivity (IP 65/67)

Design

Conductor solid bare copper wire, 24AWG; 0.51 mmØ; 0.2 mm²
Insulation foam-skin Polyethylene
Stranding cores twisted to pairs, pairs twisted to cable core

Colour code pair 1 **white**/orange - **orange**
pair 2 **white**/green - **green**

Screening aluminium laminated plastic foil
braid of tinned copper wires, coverage 85 % ± 5

Inner sheath halogen free compound, flame retardant, water blue RAL 5021
outer diameter approx. 5.6 mm

Outer sheath halogen free compound, flame retardant, water blue RAL 5021
outer diameter approx. 7.6 mm

Marking on the sheath:

LAPP KABEL STUTTGART UNITRONIC® EtherLine-H-H CAT. 5 2 x 2 x 24AWG ART. 2170292

Electrical properties at 20°C

DC resistance (loop)		max.Ω/km	192
Insulation resistance		min. GΩxkm	5
Mutual capacitance at	800 Hz	nom. nF/km	46
Impedance at	1.....100 MHz	Ω	100 ± 15

elaborated by: TE-K: N. Ensslen / M. Herb	Document: DB2170292_2EN	page 1 of 2
--	-------------------------	-------------



DATA SHEET			2170292
UNITRONIC® EtherLine-H-H CAT. 5 2 x 2 x 24AWG			valid from : 17.06. 2003

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

Nominal velocity of propagation	nom.	0,77c
Signal delay	nom. ns/m	4,3
Transfer impedance at 20 MHz	max. mΩ/m	10
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	after installation	with outer sheath	mm	60
		without outer Sheath	mm	42
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	0,40
-----------	-------	------

Flame propagation flame retardant acc. to VDE 0482, part 265-2-1 / IEC 60 332-1

Weight approx. kg/km 68

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

elaborated by: TE-K: N. Ensslen / M. Herb	Document: DB2170292_2EN	page 2 of 2
--	-------------------------	-------------