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| DATA SHEET | 2170280 |
| EtherLine[®]-H CAT. 5e 2 x 2 x 24AWG | valid from : 17.06. 2005 |

Application

EtherLine[®]-H CAT. 5e 2 x 2 x 24AWG is a **halogen free 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. It enables a through going communication from sensor-actuator-level to Internet. This data cable meets the requirements of Standards ISO/IEC 11801 second edition, EN 50173, EN 50288-2-1 as well as EIA/TIA-568B. 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,
Hirose Nr. TM11BP-8-CV
RJ 45 capsuled (IP 65/67) e. g: RJ Lnx, Woodhead Connectivity

Design

Conductor solid bare copper wire, 24AWG; 0.51 mm \varnothing ; 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 % \pm 5

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

LAPP KABEL STUTTGART EtherLine[®]-H CAT. 5e 2 x 2 x 24AWG ROHS ART. 2170280

Electrical properties at 20° C

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|-----------------------|---------------|--------------------|--------------|
| DC resistance (loop) | | max. Ω /km | 186.6 |
| Insulation resistance | | min. $G\Omega$ xkm | 5 |
| Mutual capacitance at | 800 Hz | nom. nF/km | 46 |
| Impedance at | 1.....100 MHz | Ω | 100 \pm 15 |

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| Frequency MHz | Attenuation at | | NEXT | | PS NEXT | EL FEXT | PS EL FEXT | ACR | |
|------------------|----------------|------|------|-----|---------|---------|------------|-----------|------|
| | [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 |

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| Nominal velocity of propagation | | nom. | 0,77c |
| Signal delay | | nom. ns/m | 4,3 |
| 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 characteristics

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|-------------------------------|--|-------|------------|
| Minimum bending radius | after installation | mm | 42 |
| Permissible temperature range | during installation | °C | - 5 to +60 |
| | after installation | °C | -30 to +80 |
| Maximum pulling force | during installation | N | 90 |
| | after installation | N | 45 |
| Fire load | | kWh/m | 0,30 |
| 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.

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Legend

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|------------|--|
| 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 |

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