

LANmark-7 Industry S/FTP 23 AWG PUR 500m REEL

Nexans ref.: N10i.002

- For installation in industrial premises
- High shielding performance for harsh environments
- Enhanced mechanical properties
- Designed to support industrial Ethernet based automation
- Optimised for use with LANmark connectors

Description

Specification

The LANmark-7 **Industry** is a 4pr S/FTP cable with individual pair foils and an overall braid. Its bandwidth and performances have been extended to 1000MHz. The LANmark-7 **Industry** cable meets the electrical and mechanical requirements of the draft ISO/IEC 24702 / MICE concept. When terminated to LANmark-7 GG45 connectors it meets the Class F requirements (ISO/IEC 11801:2002). It enables to reach the full bandwidth on the link and secures the future proofing of the installation. When used with LANmark-6 Cat. 6 connectivity, optimal headroom to 250MHz Class E performance is ensured.



Application

The LANmark-7 **Industry** cable is the appropriate cable for fixed LAN networks in industrial premises. It will support industrial Ethernet applications as well as high speed data applications.

- 10Base-T,
- 100 Base-T
- 1GBase-T
- 10GBase-T
- Industrial Ethernet

LANmark-7


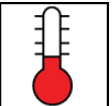

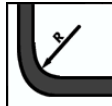


Standards

International EN 50173;EN 50288-4-1;ISO/IEC 11801;ISO/IEC 61156-5

Screening

STP cable consists of individually screened pairs, bundled by an overall braid. It complies to the EMC requirements for screened cables and shows excellent transfer impedance values. It is designed for electrically "noisy" environments. (M2 I2 C3 E3)

| | | |
|-------------------------------------|---------------------|--|
| <u>Transfer impedance</u> (Grade 1) | 10mOhm/m at 1 MHz | |
| | 10mOhm/m at 10 MHz | |
| | 30mOhm/m at 30 MHz | |
| | 60mOhm/m at 100 MHz | |

| | | | | | |
|---|---|---|--|---|---|
|  |  |  |  |  |  |
| Operating temp. range -20 .. 70 °C | Ambient install temp. range (°C) -5 .. 70 °C | Min. static operating bending rad. 31.0 mm | Laying operation bending rad. 62.0 mm | Flame retardant IEC 60332-1 | Chemical resistance Oil resistant |

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Fire classification

- Fire test according to IEC 60332-1
- Fire load: 700MJ/km

Cable sheath

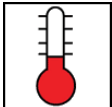
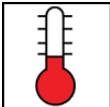
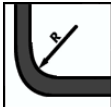
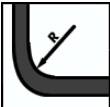

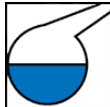
- Polyurethane compound for superior abrasion and tear resistance. The PUR compound also have very good resistance to ageing and UVs. It performs well in contact with oils and greases. It is optimal for industrial installations.
- Oil resistant IRM 902, 4h at 70°C, IEC 60811-2-1
- Lead Free - Silicon Free - Halogen Free

Related Information

It is strongly recommended to use the LANmark-7 Industry cable in conjunction with LANmark-6 or LANmark-7 GG45 connectors. These connectors will respectively enable to reach the full class E 250MHz or class F 600MHz on the link. Please note that Nexans has a range of patchpanels and outlets for installations in industrial areas.

Contact

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ncs.uk@nexans.com

| | | | | | |
|---|---|---|--|---|---|
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Characteristics

Construction characteristics

| | |
|---------------|---------------------------------|
| Type of cable | STP |
| Screen | Aluminium tape and copper braid |
| Drain wire | No |
| Sheath colour | Black |
| Outer sheath | Polyurethan |

Dimensional characteristics

| | |
|-------------------------------|----------|
| Diameter over insulation | 1.45 mm |
| Number of pairs | 4 |
| Nominal outer diameter (mm) | 7.5 mm |
| Approximate weight (kg/km) | 61 kg/km |
| Conductor cross-section (AWG) | 23 |

Electrical characteristics

| | |
|--|-----------|
| Characteristic impedance | 100 Ohm |
| Max. transfer impedance at 30 MHz (Ohm/km) | 5 Ohm/km |
| Mutual capacitance (nF/km) | 56 nF/km |
| Max. DC-resistance of the conductor at 20° C | 80 Ohm/km |

Transmission characteristics

| | |
|---------------------------------|-------------|
| Velocity of propagation | 80.0 % |
| Propagation delay, max. 100 MHz | 536 ns/100m |

Mechanical characteristics

| | |
|---------------------------------|---------|
| Maximum pulling force by laying | 0.21 kN |
|---------------------------------|---------|

Usage characteristics

| | |
|--|---------------|
| Category | Cat. 7 |
| Operating temperature, range | -20 .. 70 °C |
| Ambient installation temperature, range (°C) | -5 .. 70 °C |
| Minimum static operating bending radius | 31.0 mm |
| Laying operation bending radius | 62.0 mm |
| Length (m) | 500 m |
| Fire load (MJ/km) | 700 MJ/km |
| Flame retardant | IEC 60332-1 |
| Packaging | Reel |
| Chemical resistance | Oil resistant |

Electrical Performance

all values are specified at 20°C

| Frequency | Attenuation dB/100m | | NEXT dB | | ACR dB/100m | | PSNEXT(*) dB | | ELFEXT dB/100m | | PSELFEXT dB/100m | | RL dB | |
|-----------|------------------------|-----|------------|-------|----------------|------|-----------------|-------|-------------------|------|---------------------|------|----------|------|
| | Std | Typ | Std | Typ | Std | Typ | Std | Typ | Std | Typ | Std | Typ | Std | Typ |
| 1 | 2.0 | 1.9 | >80 | 100.0 | 78.0 | 98.1 | >77 | 100.0 | >80 | 92.0 | >77 | 89.0 | 20.0 | 23.0 |
| 4 | 3.6 | 3.5 | >80 | 100.0 | 76.4 | 96.5 | >77 | 100.0 | >80 | 91.0 | >77 | 88.0 | 23.0 | 26.0 |
| 10 | 5.7 | 5.5 | >80 | 100.0 | 74.3 | 94.5 | >77 | 100.0 | 74.0 | 91.0 | 71.0 | 88.0 | 25.0 | 28.0 |
| 16 | 7.2 | 7.0 | >80 | 100.0 | 72.8 | 93.0 | >77 | 100.0 | 69.9 | 91.0 | 66.9 | 88.0 | 25.0 | 28.0 |

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| | | | | | | | | | | | | | | |
|--------------|------|------|------|-------|------|------|------|-------|------|------|------|------|------|------|
| 20 | 8.1 | 7.8 | >80 | 100.0 | 71.9 | 92.2 | >77 | 100.0 | 68.0 | 91.0 | 65.0 | 88.0 | 25.0 | 28.0 |
| 31.25 | 10.1 | 9.9 | >80 | 100.0 | 69.9 | 90.1 | >77 | 100.0 | 64.1 | 91.0 | 61.1 | 88.0 | 23.6 | 26.6 |
| 62.5 | 14.5 | 14.1 | 75.5 | 100.0 | 61.0 | 85.9 | 72.5 | 98.0 | 58.1 | 79.0 | 55.1 | 76.0 | 21.5 | 24.5 |
| 100 | 18.5 | 18.0 | 72.4 | 95.0 | 53.9 | 77.0 | 69.4 | 93.0 | 54.0 | 71.0 | 51.0 | 68.0 | 20.1 | 23.1 |
| 155 | 23.4 | 22.7 | 69.6 | 90.0 | 46.2 | 67.3 | 66.6 | 88.0 | 50.2 | 63.0 | 47.2 | 60.0 | 18.8 | 23.1 |
| 200 | 26.8 | 26.0 | 67.9 | 86.0 | 41.1 | 60.0 | 64.9 | 84.0 | 48.0 | 60.0 | 45.0 | 57.0 | 18.0 | 23.1 |
| 250 | 30.2 | 29.4 | 66.5 | 83.0 | 36.3 | 53.6 | 63.5 | 81.0 | 46.0 | 57.0 | 43.0 | 54.0 | 17.3 | 23.1 |
| 300 | 33.3 | 32.5 | 65.3 | 80.0 | 32.0 | 47.5 | 62.3 | 78.0 | 44.5 | 55.0 | 41.5 | 52.0 | 17.3 | 22.0 |
| 600 | 48.9 | 47.6 | 60.8 | 69.0 | 11.9 | 21.4 | 57.8 | 67.0 | 38.4 | 45.0 | 35.4 | 42.0 | 17.3 | 20.3 |
| 1000 | - | 63.6 | - | 67.0 | - | 3.4 | - | 65.0 | - | 40.0 | - | 37.0 | - | 18.0 |

(*) Dual cable versions additionally comply to the additional PSNEXT requirements for multi-unit cables as specified in the relevant TIA and IEC cable standards.