

# VS-M12MSD-M12FSD-936-LI/1,5 - Network cable



1403370

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Assembled PROFINET cable, CAT5e, shielded, star quad, AWG 22 (7-wire), black, M12 plug to M12 socket, length 1.5 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1403370                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Product key                          | AF1CJN                         |
| GTIN                                 | 4046356649360                  |
| Weight per piece (including packing) | 152.9 g                        |
| Weight per piece (excluding packing) | 148 g                          |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                     |                         |
|---------------------|-------------------------|
| Product type        | Data cable preassembled |
| Number of positions | 4                       |
| Shielded            | yes                     |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Electrical properties

|                                         |                       |
|-----------------------------------------|-----------------------|
| Nominal voltage $U_N$                   | 48 V AC               |
|                                         | 60 V DC               |
| Nominal current $I_N$                   | 4 A                   |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002) |

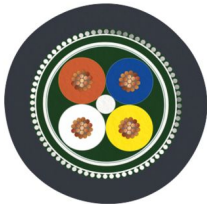
### Material specifications

|                                        |    |
|----------------------------------------|----|
| Flammability rating according to UL 94 | V0 |
|----------------------------------------|----|

### Cable/line

|              |       |
|--------------|-------|
| Cable length | 1.5 m |
|--------------|-------|

### PROFINET RADOX® railway application CAT5 reinforced [936]

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Cable weight                    | 81 g/m                                                                               |
| Number of positions             | 4                                                                                    |
| Shielded                        | yes                                                                                  |
| Cable type                      | PROFINET RADOX® railway application CAT5 reinforced [936]                            |
| Conductor structure             | 1x4xAWG22/7, SF/TQ                                                                   |
| Signal speed                    | 66 c                                                                                 |
| Conductor structure signal line | 7x 0.25 mm                                                                           |
| AWG signal line                 | 22                                                                                   |
| Conductor cross section         | 4x 0.34 mm <sup>2</sup>                                                              |
| Wire diameter incl. insulation  | 1.95 mm                                                                              |
| External cable diameter         | 7.25 mm ±0.3 mm                                                                      |
| Outer sheath, material          | PE-X                                                                                 |

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|                                               |                                                  |
|-----------------------------------------------|--------------------------------------------------|
| External sheath, color                        | black RAL 9005                                   |
| Conductor material                            | silver-plated Cu litz wires                      |
| Material wire insulation                      | PE-X                                             |
| Single wire, color                            | white-blue, orange-yellow                        |
| Thickness, outer sheath                       | ≥ 0.80 mm                                        |
| Overall twist                                 | Star quad                                        |
| Optical shield covering                       | 100 %                                            |
| Max. conductor resistance                     | ≤ 54.4 Ω/km                                      |
| Coupling resistance                           | 200.00 mΩ/m (f ≤ 30 MHz)                         |
| Wave impedance                                | 100 Ω ±5 Ω (f = 100 MHz)                         |
| Working capacitance                           | ≤ 65 pF (Line-line)                              |
|                                               | ≤ 100 pF (Line-shield)                           |
| Nominal voltage, cable                        | 300 V AC                                         |
| Test voltage                                  | 2000 V AC (50 Hz, 5 minutes)                     |
| Minimum bending radius, fixed installation    | 6 x D                                            |
| Minimum bending radius, flexible installation | 10 x D                                           |
| Smallest bending radius, fixed installation   | 44 mm                                            |
| Smallest bending radius, movable installation | 73 mm                                            |
| Near end crosstalk attenuation (NEXT)         | 80 dB (with 1 MHz)                               |
|                                               | 76 dB (at 4 MHz)                                 |
|                                               | 67 dB (at 10 MHz)                                |
|                                               | 60 dB (at 31.5 MHz)                              |
|                                               | 56 dB (at 62.5 MHz)                              |
|                                               | 53 dB (at 100 MHz)                               |
| Return attenuation (RL)                       | 35 dB (at 4 MHz)                                 |
|                                               | 35 dB (at 10 MHz)                                |
|                                               | 35 dB (at 31.5 MHz)                              |
|                                               | 33 dB (at 62.5 MHz)                              |
|                                               | 33 dB (at 100 MHz)                               |
| Remote crosstalk attenuation (FEXT)           | 80 dB (with 1 MHz)                               |
|                                               | 70 dB (at 4 MHz)                                 |
|                                               | 65 dB (at 10 MHz)                                |
|                                               | 58 dB (at 31.5 MHz)                              |
|                                               | 59 dB (at 62.5 MHz)                              |
|                                               | 67 dB (at 100 MHz)                               |
| Shield attenuation                            | 2 dB (with 1 MHz)                                |
|                                               | 4 dB (at 4 MHz)                                  |
|                                               | 6.5 dB (at 10 MHz)                               |
|                                               | 10.5 dB (at 31.5 MHz)                            |
|                                               | 14 dB (at 62.5 MHz)                              |
|                                               | 18 dB (at 100 MHz)                               |
| Halogen-free                                  | 40.00 dB (30 MHz ≤ f ≤ 100 MHz)                  |
|                                               | in accordance with EN 50267-2-1<br>IEC 60332-1-2 |

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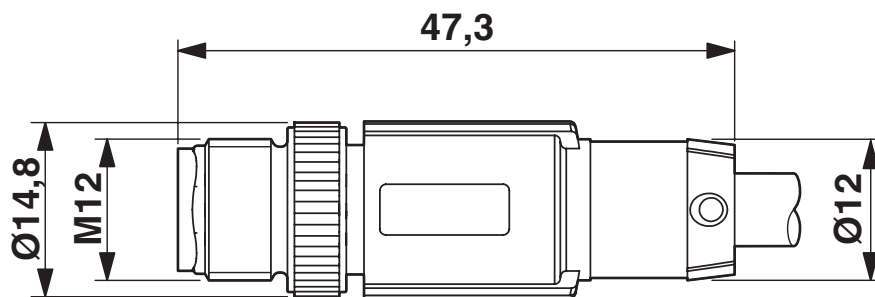
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|                                  |                                                            |
|----------------------------------|------------------------------------------------------------|
| Flame resistance                 | EN 50266                                                   |
|                                  | EN 60332-3-25                                              |
|                                  | NF C32-070, 2.1                                            |
|                                  | NF C32-070, 2.2                                            |
|                                  | UL 1685, 12 (FT4)                                          |
|                                  | in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)       |
| Fume corrosiveness               | EN 50267-2-2                                               |
| Fume toxicity                    | BS 6853 B.1                                                |
|                                  | EN 50305, 9.2                                              |
| Concentration of fumes           | BS 6853 D.8.7                                              |
|                                  | EN 61034-2                                                 |
|                                  | UL 1685, 12 (FT4)                                          |
| Resistance to oil                | according to IRM 902, 72 h at 100 °C                       |
| Fire protection in rail vehicles | BS 6853 (Category Ia, Ib, II)                              |
|                                  | GM/RT 2130 (Category Ia, Ib, II)                           |
|                                  | EN 45545 (Risk level HL1 - HL3)                            |
|                                  | DIN 5510 (Fire protection level 1, 2, 3, 4)                |
|                                  | NF F16-101 (Category A1, A2, B)                            |
|                                  | NF F16-101 (Class C/F0)                                    |
|                                  | NFPA 130                                                   |
|                                  | UNI CEI 11170 (Risk level LR1 - LR4)                       |
| Other resistance                 | Resistance to fuels (according to IRM 903, 168 h at 70 °C) |
| Ambient temperature (operation)  | -50 °C ... 90 °C (cable, fixed installation)               |
|                                  | -40 °C ... 90 °C (Cable, flexible installation)            |

## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001855 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|                                         |                    |
|-----------------------------------------|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|-----------------------------------------|--------------------|

### China RoHS

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|                                        | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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