

VS-M12MSD/2,0-93X/M12MSDOD - Network cable



1454231

<https://www.phoenixcontact.com/us/products/1454231>

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Network cable, Ethernet CAT5 (100 Mbps), PROFINET CAT5 (100 Mbps), 4-position, PE-X halogen-free, black RAL 9005, shielded, Plug straight M12, coding: D / IP69K, on Plug straight M12, coding: D / IP69K, cable length: 2 m, for outdoor applications, with high-grade steel knurl

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1454231 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF04 |
| Product key | AF1CJN |
| GTIN | 4046356568845 |
| Weight per piece (including packing) | 189.7 g |
| Weight per piece (excluding packing) | 189.7 g |
| Customs tariff number | 85444210 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|----------------------|-------------------------|
| Product type | Data cable preassembled |
| Application | External areas |
| Sensor type | Ethernet |
| Number of positions | 4 |
| No. of cable outlets | 1 |
| Shielded | yes |
| Coding | D |

Insulation characteristics

| | |
|---------------------|---|
| Degree of pollution | 3 |
|---------------------|---|

Interfaces

| | |
|----------------------|-------------------------------------|
| Bus system | PROFINET |
| | Ethernet |
| Signal type/category | Ethernet CAT5 (IEC 11801), 100 Mbps |
| | PROFINET CAT5 (IEC 11801), 100 Mbps |

Signaling

| | |
|------------------------|----|
| Status display | no |
| Status display present | no |

Electrical properties

| | |
|-----------------------|----------|
| Nominal voltage U_N | 48 V AC |
| | 60 V DC |
| Nominal current I_N | 4 A |
| Transmission medium | Copper |
| Transmission speed | 100 Mbps |

Mechanical properties

Mechanical data

| | |
|-----------------------------|------------|
| Insertion/withdrawal cycles | ≥ 100 |
|-----------------------------|------------|

Material specifications

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

Connector

Connection 1

| | |
|---------------------|---------------------------|
| Type | Plug straight M12 / IP69K |
| Number of positions | 4 (4) |
| Coding type | D (Data) |

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| | |
|----------------------|---|
| Shielded | yes |
| Handle color | black |
| Material | CuZn (Contact) |
| | Ni/Au (Contact surface) |
| | PA (Contact carrier) |
| | TPU, hardly inflammable, self-extinguishing (Grip body) |
| | Zinc die-cast, nickel-plated (Screw connection) |
| Degree of protection | IP69K |


Connection 2

| | |
|----------------------|---|
| Type | Plug straight M12 / IP69K |
| Number of positions | 4 (4) |
| Coding type | D (Data) |
| Shielded | yes |
| Handle color | black |
| Material | CuZn (Contact) |
| | Ni/Au (Contact surface) |
| | PA (Contact carrier) |
| | TPU, hardly inflammable, self-extinguishing (Grip body) |
| | Zinc die-cast, nickel-plated (Screw connection) |
| Degree of protection | IP69K |

Cable/line

| | |
|--------------|-----|
| Cable length | 2 m |
|--------------|-----|

PROFINET outdoors [93X]

| | |
|---------------------------------|--|
| Dimensional drawing |  |
| Cable weight | 81 g/m |
| Shielded | yes |
| Cable type | PROFINET outdoors [93X] |
| 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 ² |
| 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 |
| Shield attenuation | 40.00 dB (30 MHz ≤ f ≤ 100 MHz) |
| Halogen-free | in accordance with EN 50267-2-1 |
| Flame resistance | IEC 60332-1-2 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) |

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| |
|---|
| -40 °C ... 90 °C (Cable, flexible installation) |
|---|

Standards and regulations

M12

| | |
|--------------------------|-----------------|
| Standard designation | M12 connector |
| Standards/specifications | IEC 61076-2-101 |

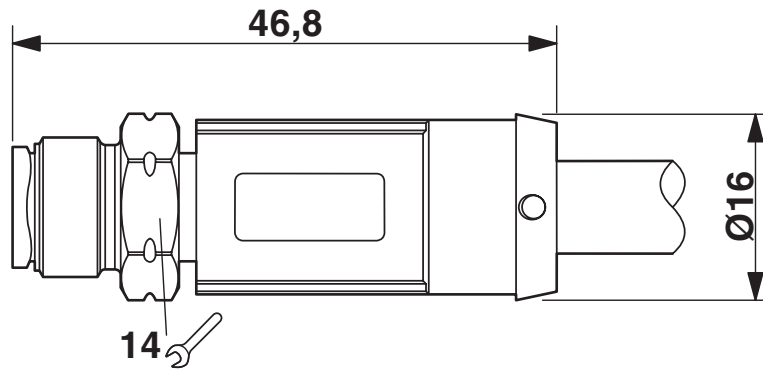
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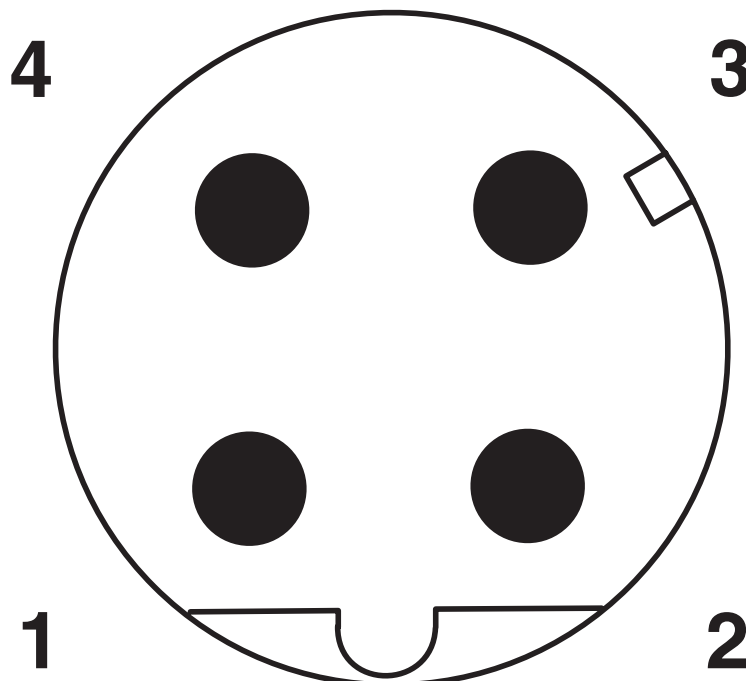
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram



Pin assignment M12 male connector, 4-pos., D-coded, male side

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Circuit diagram



Contact assignment of the M12 plug

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Classifications

ECLASS

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

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | 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% |
|-------------------------------------|----------------------------|

EF3.1 Climate Change

| | |
|---------|----------------|
| CO2e kg | 17.366 kg CO2e |
|---------|----------------|

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