

# Network cable - VS-M12MSD-M12MSD-93E-CO/0,5



1401599

<https://www.phoenixcontact.com/us/products/1401599>

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Network cable, Ethernet, 4-position, shielded, Plug straight M12, coding: D, on Plug straight M12, coding: D, cable length: 0.5 m

## Commercial Data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1401599                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to Order (non-returnable) |
| Sales Key                            | B06                            |
| Product Key                          | BF1CJI                         |
| GTIN                                 | 4046356566667                  |
| Weight per Piece (including packing) | 61.8 g                         |
| Weight per Piece (excluding packing) | 59.2 g                         |
| Customs tariff number                | 85444210                       |
| Country of origin                    | PL                             |

## Technical Data

### Product properties

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

### Insulation characteristics

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

### Interfaces

|                      |          |
|----------------------|----------|
| Bus system           | Ethernet |
| Signal type/category | Ethernet |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Contact resistance    | $\leq 5 \text{ m}\Omega$   |
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 48 V AC                    |
|                       | 60 V DC                    |
| Nominal current $I_N$ | 4 A                        |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 100$ |
|-----------------------------|------------|

### Material specifications

|  |     |
|--|-----|
| Flammability rating according to UL 94 | V0  |
| Sealing material                       | NBR |
|  | NBR |

### Connector

#### Connection 1

|             |  |
|-------------|--|
| Type        | Plug straight M12                                  |
| Coding type | D (Data)   |
| Material    | CuZn (Contact)                                     |
|             | Ni/Au (Contact surface)                            |
|             | PA (Contact carriers)                              |
|             | TPU, hardly inflammable, self-extinguishing (Grip) |
|             | Zinc die-cast, nickel-plated (Screw connection)    |

#### Connection 2

|             |                   |
|-------------|-------------------|
| Type        | Plug straight M12 |
| Coding type | D (Data)          |

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1401599

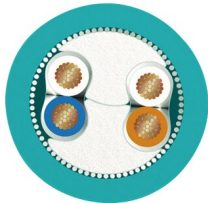
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|          |  |
|----------|--|
| Material | CuZn (Contact)                                     |
|          | Ni/Au (Contact surface)                            |
|          | PA (Contact carriers)                              |
|          | TPU, hardly inflammable, self-extinguishing (Grip) |
|          | Zinc die-cast, nickel-plated (Screw connection)    |

## Cable / line

|              |       |
|--------------|-------|
| Cable length | 0.5 m |
|--------------|-------|

## Ethernet [930]

|                                 |  |
|---------------------------------|--|
| Dimensional drawing             |  |
| Cable weight                    | 54 kg/km   |
| Number of positions             | 4  |
| Shielded                        | yes  |
| Cable type                      | Ethernet [930]   |
| Signal runtime                  | 46 ns/m  |
| Signal speed                    | 0.72 c   |
| Conductor structure signal line | 7x 0.20 mm   |
| AWG signal line                 | 24   |
| Conductor cross section         | 0.25 mm <sup>2</sup>   |
| Wire diameter incl. insulation  | 1.4 mm   |
| External cable diameter         | 8 mm   |
| Outer sheath, material          | PUR  |
| External sheath, color          | water blue RAL 5021  |
| Conductor material              | Bare Cu litz wires   |
| Material wire insulation        | Cell PE  |
| Single wire, color              | White-green, white-orange  |
| Twisted pairs                   | 2 cores to the pair  |
| Type of pair shielding          | Aluminum-lined polyester foil  |
| Overall twist                   | 2 cores with 2 fillers to the core   |
| Optical shield covering         | 65 %   |
| Max. conductor resistance       | 84 mΩ/m  |
| Insulation resistance           | 5 GΩ*km  |
| Wave impedance                  | 100 Ω ±5 %   |
| Working capacitance             | 42.5 pF  |
| Nominal voltage, cable          | 125 V  |
| Test voltage                    | 1000 V   |

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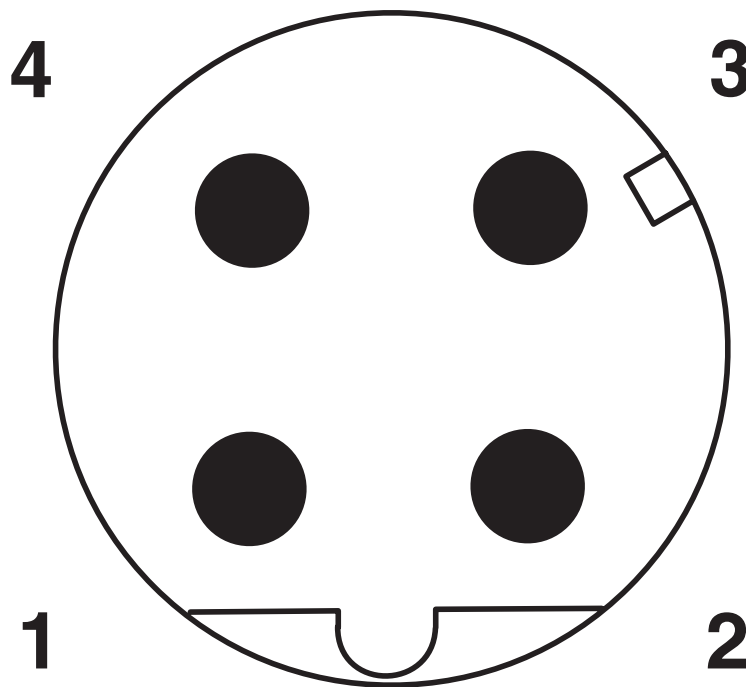
|   |   |
|---|---|
| Smallest bending radius, fixed installation   | min. 40 mm                                    |
| Smallest bending radius, movable installation | min. 40 mm                                    |
| Shield attenuation                            | 60 dB (up to 1000 MHz)                        |
| Ambient temperature (operation)               | -20 °C ... 70 °C (cable, fixed installation)  |
|   | 0 °C ... 50 °C (Cable, flexible installation) |

## Ambient conditions

|                                 |   |
|---------------------------------|---|
| Degree of protection            | IP65  |
|                                 | IP67  |
| Degree of protection            | IP65/IP67/IP69K                               |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket)              |
|                                 | -20 °C ... 70 °C (cable, fixed installation)  |
|                                 | 0 °C ... 50 °C (Cable, flexible installation) |

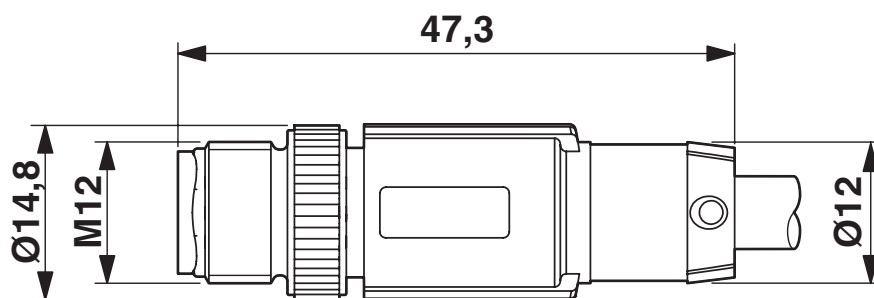
## Drawings

Schematic diagram



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

Dimensional drawing



Plug, M12 x 1, straight, shielded

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## Classifications

### ECLASS

|               |          |
|---------------|----------|
| ECLASS-9.0    | 27060308 |
| ECLASS-10.0.1 | 27060308 |
| ECLASS-11.0   | 27060307 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC001855 |
|----------|----------|

### UNSPSC

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

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## Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

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