

# VS-DSIV-M12FSD-RJ45-933-B/ 1,0 - Cable



1657193

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Assembled PROFINET cable, type B, CAT5e, shielded, star quad, AWG 22 stranded (7-wire), RAL 6018 (yellow-green), panel feed-through, M12, 4 pos., D-coded on RJ45 connector, length: 1 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1657193                        |
| Packing unit                         | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | NULL                           |
| Product key                          | ABNMAY                         |
| Catalog page                         | Page 208 (PC-2007)             |
| GTIN                                 | 4046356100427                  |
| Weight per piece (including packing) | 111.9 g                        |
| Weight per piece (excluding packing) | 111.9 g                        |
| Customs tariff number                | 85444210                       |
| Country of origin                    | PL                             |

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## Technical data

### Notes

|         |                                                                                                                                                                                                |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General | This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 10.1 Cord Sets for Balanced Cabling |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Product properties

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

### Insulation characteristics

|                      |   |
|----------------------|---|
| Overvoltage category | I |
| Degree of pollution  | 1 |

### Electrical properties

|                                         |                       |
|-----------------------------------------|-----------------------|
| Rated voltage (III/3)                   | 50 V                  |
| Nominal voltage $U_N$                   | 48 V                  |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002) |

### Mechanical properties

#### Mechanical data

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

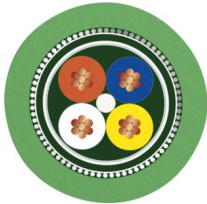
### Material specifications

|                        |                          |
|------------------------|--------------------------|
| Housing material       | CuZn/PA                  |
| Outer sheath, material | PVC                      |
| Conductor material     | Tin-plated Cu litz wires |

### Cable/line

|              |     |
|--------------|-----|
| Cable length | 1 m |
|--------------|-----|

### PROFINET PVC stranded CAT5 [93B]

|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Shielded            | yes                                                                                  |
| UL AWM Style        | 21694                                                                                |

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|                                               |                                                                             |
|-----------------------------------------------|-----------------------------------------------------------------------------|
| Cable weight                                  | 67 kg/km                                                                    |
| Cable type                                    | PROFINET PVC stranded CAT5                                                  |
| Short symbol                                  | 2YY(ST)CY                                                                   |
| Cable type (abbreviation)                     | 93B                                                                         |
| Signal type/category                          | PROFINET CAT5 (IEC 11801), 100 Mbps<br>EtherCAT® CAT5 (IEC 11801), 100 Mbps |
| Cable structure                               | 1x4xAWG22/7, SF/TQ                                                          |
| External cable diameter                       | 6.50 mm ±0.2 mm                                                             |
| Outer sheath, material                        | PVC                                                                         |
| External sheath, color                        | green RAL 6018                                                              |
| Thickness, outer sheath                       | approx. 0.90 mm                                                             |
| Material, inner sheath                        | PVC                                                                         |
| Conductor material                            | Tin-plated Cu litz wires                                                    |
| Conductor structure signal line               | 7x 0.25 mm                                                                  |
| AWG signal line                               | 22                                                                          |
| Conductor cross section                       | 4x 0.34 mm²                                                                 |
| Material wire insulation                      | PE                                                                          |
| Wire diameter incl. insulation                | 1.55 mm                                                                     |
| Single wire, color                            | white, yellow, blue, orange                                                 |
| Overall twist                                 | Star quad                                                                   |
| Shielding                                     | Aluminum-coated foil, tinned copper braided shield                          |
| Optical shield covering                       | 85 %                                                                        |
| Nominal voltage, cable                        | 600 V                                                                       |
| Test voltage Core/Core                        | 2000 V (50 Hz, 1 min.)                                                      |
| Test voltage Core/Shield                      | 2000.00 V (50 Hz, 1 min.)                                                   |
| Cable insulation resistance                   | ≥ 500 MΩ*km                                                                 |
| Coupling resistance                           | ≤ 20.00 mΩ/m (at 10 MHz)                                                    |
| Wave impedance                                | 100 Ω ±15 Ω (at 100 MHz)                                                    |
| Loop resistance                               | ≤ 120.00 Ω/km                                                               |
| Signal runtime                                | 5.3 ns/m                                                                    |
| Signal speed                                  | 0.66 c                                                                      |
| Minimum bending radius, fixed installation    | 3 x D                                                                       |
| Minimum bending radius, flexible installation | 7 x D                                                                       |
| Near end crosstalk attenuation (NEXT)         | 80 dB (with 1 MHz)                                                          |
|                                               | 76 dB (at 4 MHz)                                                            |
|                                               | 70 dB (at 10 MHz)                                                           |
|                                               | 65 dB (at 16 MHz)                                                           |
|                                               | 63 dB (at 20 MHz)                                                           |
|                                               | 60 dB (at 31.25 MHz)                                                        |
|                                               | 55 dB (at 62.5 MHz)                                                         |
|                                               | 50 dB (at 100 MHz)                                                          |
| Resistance to oil                             | Resistant to oil to a limited extent                                        |
| Flame resistance                              | according to UL 1685 (CSA FT 4)                                             |
| Other resistance                              | UV resistant (according to UL 1581, Section 1200)                           |

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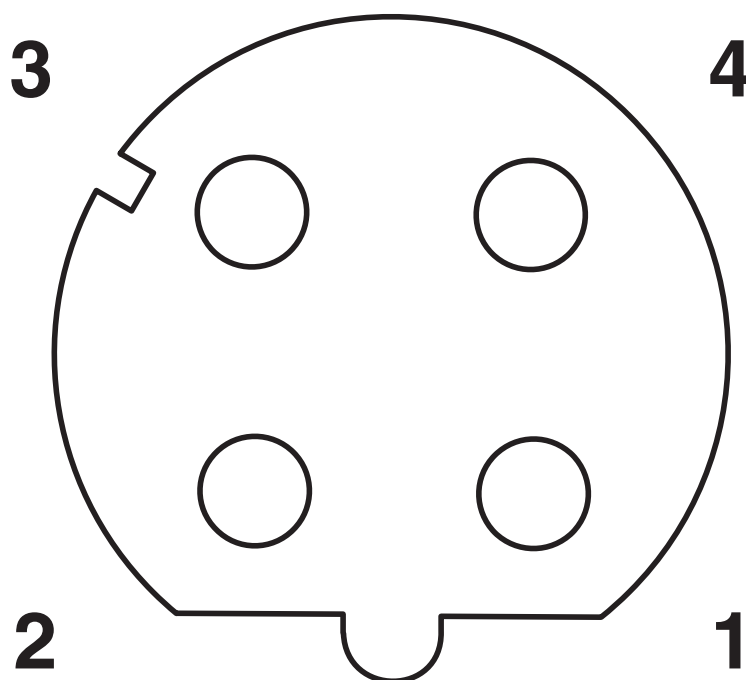
|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Ambient temperature (operation) | -40 °C ... 70 °C (Cable, flexible installation) |
|                                 | -40 °C ... 70 °C (cable, fixed installation)    |

## Environmental and real-life conditions

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Ambient conditions              |                                                |
| Degree of protection            | IP67/IP20                                      |
| Ambient temperature (operation) | -40 °C ... 70 °C (cable, fixed installation)   |
|                                 | -5 °C ... 50 °C (Cable, flexible installation) |
|                                 | Plug / socket                                  |

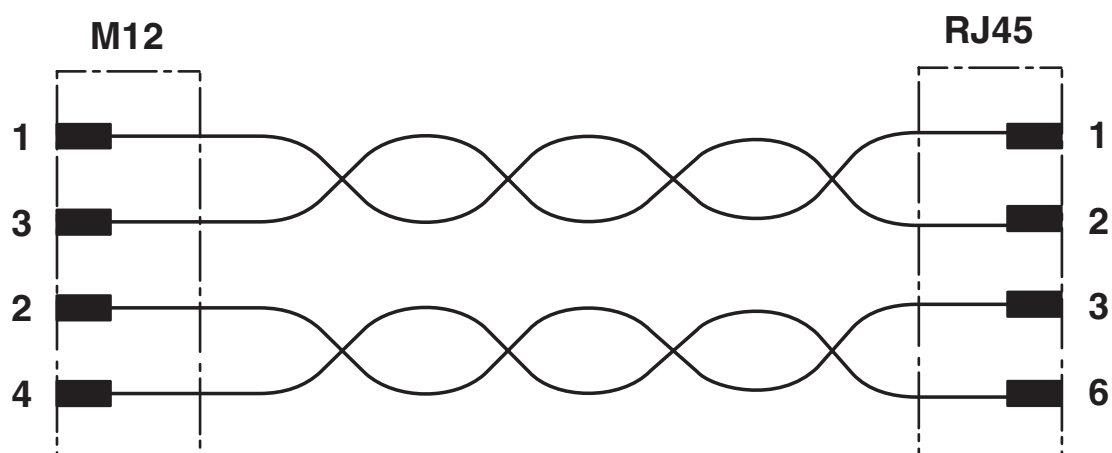
## Drawings

Schematic diagram

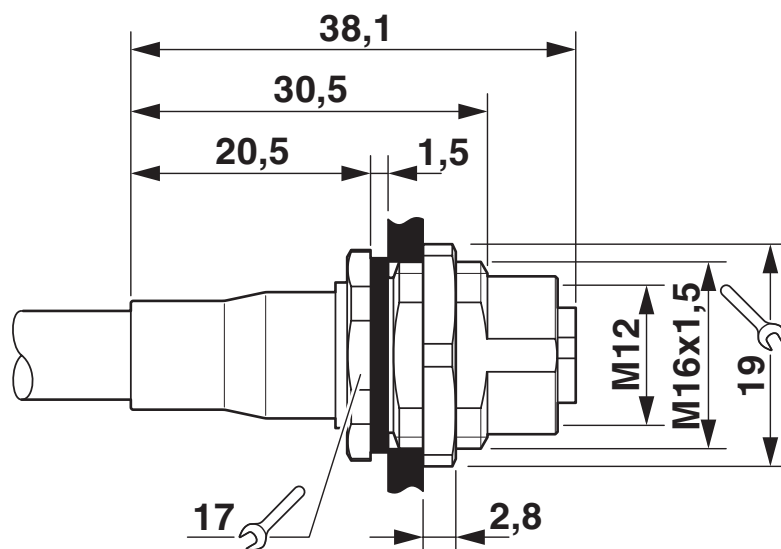


Pin assignment M12 socket, 4-pos., D-coded, female side

Circuit diagram

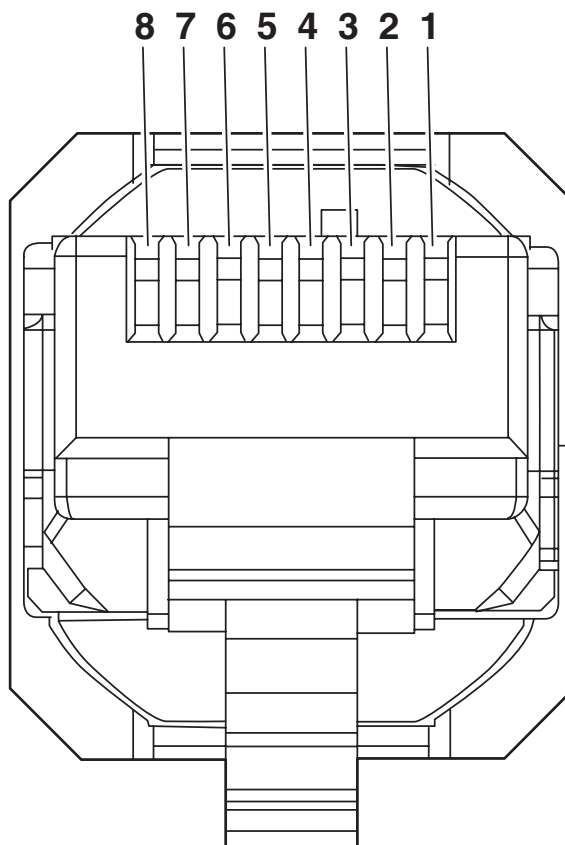


Dimensional drawing



M12 flush-type connector

Schematic diagram



Connector pin assignment plug RJ45

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