

# VS-PPC/ME-M12MS-93B-LI/5,0 - Network cable



1416150

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Assembled PROFINET cable, CAT5e, shielded, star quad, AWG 22 stranded (7-wire), RAL 6018 (yellow-green), RJ45 plug/IP67 push-pull metal housing on M12 plug, line, length: 5 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1416150       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Product key                          | AF1CJN        |
| GTIN                                 | 4046356474207 |
| Weight per piece (including packing) | 427.5 g       |
| Weight per piece (excluding packing) | 427.5 g       |
| Country of origin                    | PL            |

1416150

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## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Application          | Standard                |
| Number of positions  | 4                       |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |

### Insulation characteristics

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

### Interfaces

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

### Electrical properties

|                                         |                       |
|-----------------------------------------|-----------------------|
| Nominal voltage $U_N$                   | 48 V AC               |
|                                         | 60 V DC               |
| Transmission medium                     | Copper                |
| Transmission speed                      | 100 Mbps              |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002) |

### Mechanical properties

#### Mechanical data

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

### Material specifications

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

### Connector

#### Connection 1

|      |                   |
|------|-------------------|
| Type | Plug straight M12 |
|------|-------------------|

#### Connection 2

|      |                    |
|------|--------------------|
| Type | Plug straight RJ45 |
|------|--------------------|

### Cable/line

|              |     |
|--------------|-----|
| Cable length | 5 m |
|--------------|-----|

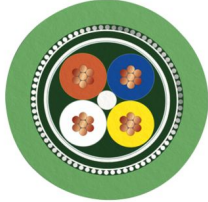
PROFINET PVC stranded CAT5 [93B]

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|                                               |                                                                                    |
|-----------------------------------------------|------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 67 kg/km                                                                           |
| UL AWM Style                                  | 21694                                                                              |
| Number of positions                           | 4                                                                                  |
| Shielded                                      | yes                                                                                |
| Cable type                                    | PROFINET PVC stranded CAT5 [93B]                                                   |
| Conductor structure                           | 1x4xAWG22/7, SF/TQ                                                                 |
| Signal runtime                                | 5.3 ns/m                                                                           |
| Signal speed                                  | 0.66 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                | 1.55 mm                                                                            |
| External cable diameter                       | 6.50 mm ±0.2 mm                                                                    |
| Outer sheath, material                        | PVC                                                                                |
| External sheath, color                        | green RAL 6018                                                                     |
| Conductor material                            | Tin-plated Cu litz wires                                                           |
| Material wire insulation                      | PE                                                                                 |
| Single wire, color                            | white, yellow, blue, orange                                                        |
| Thickness, outer sheath                       | approx. 0.90 mm                                                                    |
| Overall twist                                 | Star quad                                                                          |
| Optical shield covering                       | 85 %                                                                               |
| Insulation resistance                         | ≥ 500 MΩ*km                                                                        |
| Coupling resistance                           | ≤ 20.00 mΩ/m (at 10 MHz)                                                           |
| Loop resistance                               | ≤ 120.00 Ω/km                                                                      |
| Wave impedance                                | 100 Ω ±15 Ω (at 100 MHz)                                                           |
| 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.)                                                          |
| Minimum bending radius, fixed installation    | 3 x D                                                                              |
| Minimum bending radius, flexible installation | 7 x D                                                                              |
| Smallest bending radius, fixed installation   | 20 mm                                                                              |
| Smallest bending radius, movable installation | 46 mm                                                                              |
| 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)                                                                  |

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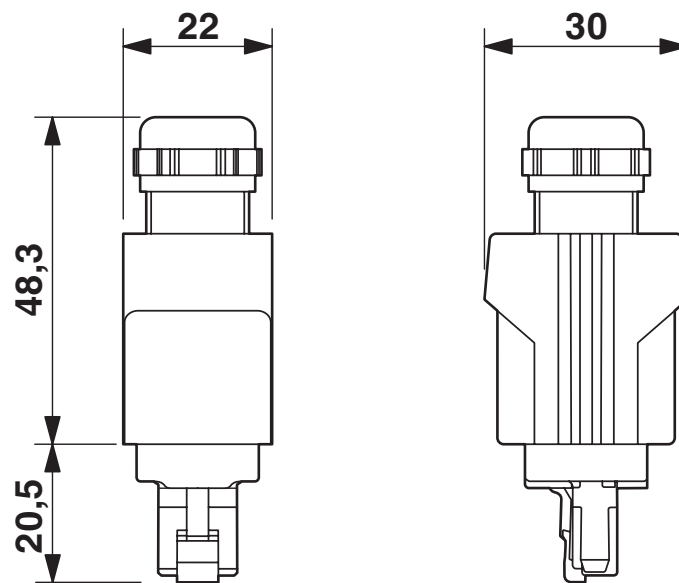
|                                    |                                                   |
|------------------------------------|---------------------------------------------------|
|                                    | 63 dB (at 20 MHz)                                 |
|                                    | 60 dB (at 31.25 MHz)                              |
|                                    | 55 dB (at 62.5 MHz)                               |
|                                    | 50 dB (at 100 MHz)                                |
| Shield attenuation                 | 2.1 dB (with 1 MHz)                               |
|                                    | 4 dB (at 4 MHz)                                   |
|                                    | 6.3 dB (at 10 MHz)                                |
|                                    | 8 dB (at 16 MHz)                                  |
|                                    | 9 dB (at 20 MHz)                                  |
|                                    | 11.4 dB (at 31.25 MHz)                            |
|                                    | 16.5 dB (at 62.5 MHz)                             |
|                                    | 21.3 dB (at 100 MHz)                              |
| Flame resistance                   | according to UL 1685 (CSA FT 4)                   |
| Resistance to oil                  | Resistant to oil to a limited extent              |
| Other resistance                   | UV resistant (according to UL 1581, Section 1200) |
| Ambient temperature (operation)    | -40 °C ... 70 °C (cable, fixed installation)      |
|                                    | -40 °C ... 70 °C (Cable, flexible installation)   |
| Ambient temperature (installation) | -20 °C ... 60 °C                                  |

1416150

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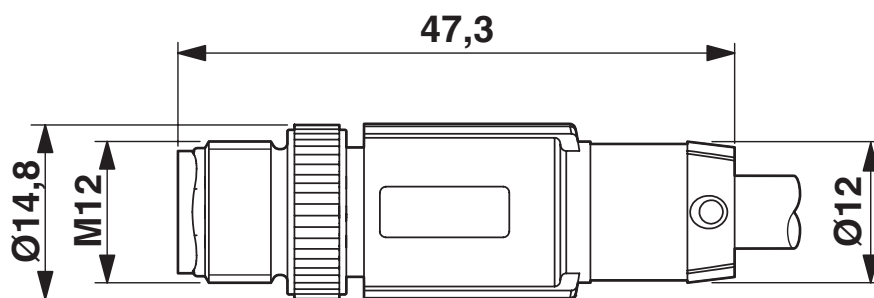
## Drawings

Dimensional drawing



Push-pull RJ45 connector IP65/67

Dimensional drawing



Plug, M12 x 1, straight, shielded

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## Classifications

### ECLASS

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

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## Environmental product compliance

### EU RoHS

|                                         |      |
|-----------------------------------------|------|
| Fulfills EU RoHS substance requirements | Yes  |
| Exemption                               | 6(c) |

### China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

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

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