

## Network cable - VS-M12MS-PPC/ME-94C-LI/2,0 - 1413560

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, PUR, Plug straight M12 / IP67, coding: A, on Plug straight RJ45 Push Pull / IP67, cable length: 2 m

RoHS

### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 046356 475839 |
| GTIN         | 4046356475839                                                                                           |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 2 m |
|-----------------|-----|

#### Ambient conditions

|                      |                       |
|----------------------|-----------------------|
| Degree of protection | IP65 (M12 connector)  |
|                      | IP67 (RJ45 connector) |

#### General data

|                                         |                                                   |
|-----------------------------------------|---------------------------------------------------|
| Rated voltage                           | 30 V AC                                           |
|                                         | 30 V DC                                           |
| Number of positions                     | 8                                                 |
| Signal type/category                    | Ethernet CAT5 (on the basis of IEC 11801), 1 Gbps |
| Degree of pollution                     | 3                                                 |
| Alternative short product description   | Ethernet cable                                    |
| Transmission characteristics (category) | CAT5                                              |

#### Characteristics head 1

|           |                          |
|-----------|--------------------------|
| Head type | Plug straight M12 / IP67 |
| Coding    | A (Standard)             |
| Color     | black                    |

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## Technical data

### Characteristics head 1

|                        |                |
|------------------------|----------------|
| Shielded               | yes            |
| Outer sheath, material | PUR            |
| Type type, plug side   | Plug straight  |
| Type type, socket side | Plug, straight |

### Characteristics head 2

|           |                                     |
|-----------|-------------------------------------|
| Head type | Plug straight RJ45 Push Pull / IP67 |
| Color     | silver                              |

### Standards and Regulations

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

### Cable

|                                                 |                                                                            |
|-------------------------------------------------|----------------------------------------------------------------------------|
| Cable type                                      | Ethernet drag chain CAT5, 4-pair                                           |
| Cable type (abbreviation)                       | 94C                                                                        |
| UL AWM style                                    | 20963 (80°C/30 V)                                                          |
| Signal type/category                            | Ethernet CAT5 (IEC 11801), 1 Gbps                                          |
| Cable structure                                 | 4x2xAWG26/19; S/UTP                                                        |
| Conductor cross section                         | 4x 2x 0.14 mm <sup>2</sup>                                                 |
| AWG signal line                                 | 26                                                                         |
| Conductor structure signal line                 | 19x 0.10 mm                                                                |
| Core diameter including insulation              | 1 mm                                                                       |
| Wire colors                                     | white/blue-blue, white/orange-orange, white/green-green, white/brown-brown |
| Twisted pairs                                   | 2 cores to the pair                                                        |
| Overall twist                                   | Four pairs and four fillers to the core                                    |
| Shielding                                       | Tinned copper braided shield                                               |
| Optical shield covering                         | 90 %                                                                       |
| External sheath, color                          | water blue RAL 5021                                                        |
| Outer sheath thickness                          | 0.85 mm                                                                    |
| External cable diameter D                       | 6.9 mm +0.1 mm ... 0.2 mm                                                  |
| Minimum bending radius, fixed installation      | 4 x D                                                                      |
| Minimum bending radius, flexible installation   | 8 x D                                                                      |
| Number of bending cycles                        | 5000000                                                                    |
| Minimum bending radius, drag chain applications | 7,5 x D                                                                    |
| Traversing rate                                 | 3 m/s                                                                      |
| Acceleration                                    | 5 m/s <sup>2</sup>                                                         |
| Tensile strength GRP                            | ≤ 100 N                                                                    |
| Cable weight                                    | 57 kg/km                                                                   |
| Outer sheath, material                          | PUR                                                                        |
| Material conductor insulation                   | PP                                                                         |
| Conductor material                              | Bare Cu litz wires                                                         |
| Insulation resistance                           | ≥ 500 MΩ*km                                                                |

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## Technical data

### Cable

|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| Loop resistance                                      | $\leq 290.00 \Omega/\text{km}$                     |
| Cable capacity                                       | approx. 50 nF/km (at 1 kHz)                        |
| Wave impedance                                       | $100 \Omega \pm 5 \Omega$ (at 100 MHz)             |
| Near end crosstalk attenuation (NEXT)                | 65.3 dB (with 1 MHz)                               |
|                                                      | 56.3 dB (at 4 MHz)                                 |
|                                                      | 50.3 dB (at 10 MHz)                                |
|                                                      | 47.2 dB (at 16 MHz)                                |
|                                                      | 45.8 dB (at 20 MHz)                                |
|                                                      | 42.9 dB (at 31.25 MHz)                             |
|                                                      | 38.4 dB (at 62.5 MHz)                              |
|                                                      | 35.3 dB (at 100 MHz)                               |
| Power-summed near end crosstalk attenuation (PSNEXT) | 62.3 dB (with 1 MHz)                               |
|                                                      | 53.3 dB (at 4 MHz)                                 |
|                                                      | 47.3 dB (at 10 MHz)                                |
|                                                      | 44.2 dB (at 16 MHz)                                |
|                                                      | 42.8 dB (at 20 MHz)                                |
|                                                      | 39.9 dB (at 31.25 MHz)                             |
|                                                      | 35.4 dB (at 62.5 MHz)                              |
|                                                      | 32.3 dB (at 100 MHz)                               |
| Attenuation                                          | 3.2 dB (with 1 MHz)                                |
|                                                      | 6 dB (at 4 MHz)                                    |
|                                                      | 9.5 dB (at 10 MHz)                                 |
|                                                      | 12.1 dB (at 16 MHz)                                |
|                                                      | 13.6 dB (at 20 MHz)                                |
|                                                      | 17.1 dB (at 31.25 MHz)                             |
|                                                      | 24.8 dB (at 62.5 MHz)                              |
|                                                      | 32 dB (at 100 MHz)                                 |
| Return loss (RL)                                     | 23 dB (at 4 MHz)                                   |
|                                                      | 24.1 dB (at 8 MHz)                                 |
|                                                      | 25 dB (at 10 MHz)                                  |
|                                                      | 25 dB (at 16 MHz)                                  |
|                                                      | 25 dB (at 20 MHz)                                  |
|                                                      | 23.6 dB (at 31.25 MHz)                             |
|                                                      | 21.5 dB (at 62.5 MHz)                              |
|                                                      | 20.1 dB (at 100 MHz)                               |
| Signal runtime                                       | 5.3 ns/m                                           |
| Coupling resistance                                  | $\leq 100.00 \text{ m}\Omega/\text{m}$ (at 10 MHz) |
| Nominal voltage, cable                               | $\leq 100 \text{ V}$                               |
| Test voltage Core/Core                               | 700 V (50 Hz, 1 min.)                              |
| Test voltage Core/Shield                             | 700 V (50 Hz, 1 min.)                              |

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### Technical data

#### Cable

|                                         |                                                 |
|-----------------------------------------|-------------------------------------------------|
| Flame resistance                        | according to IEC 60332-1-2                      |
| Halogen-free                            | according to IEC 60754-1                        |
| Resistance to oil                       | according to EN 60811-2-1                       |
| Ambient temperature (operation)         | -40 °C ... 80 °C (cable, fixed installation)    |
|                                         | -20 °C ... 80 °C (cable, flexible installation) |
| Ambient temperature (installation)      | -20 °C ... 80 °C                                |
| Ambient temperature (storage/transport) | -20 °C ... 80 °C                                |

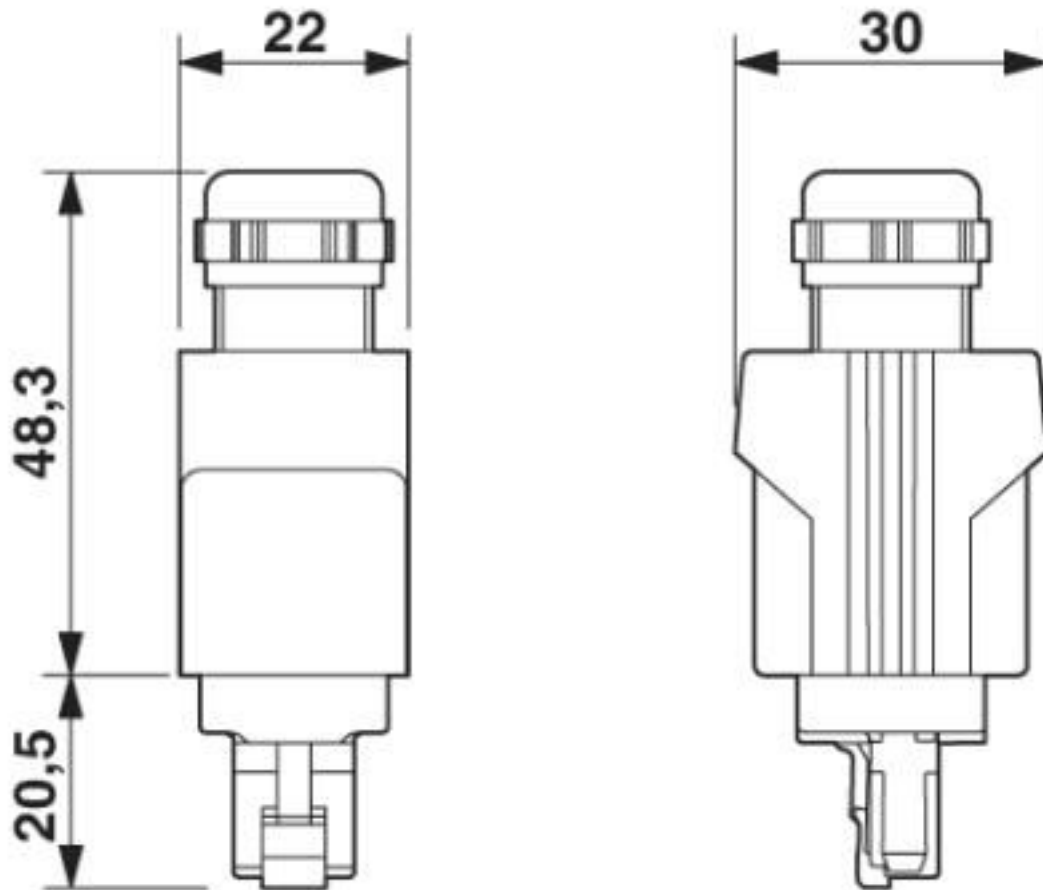
#### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 50 years                                                      |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

### Drawings

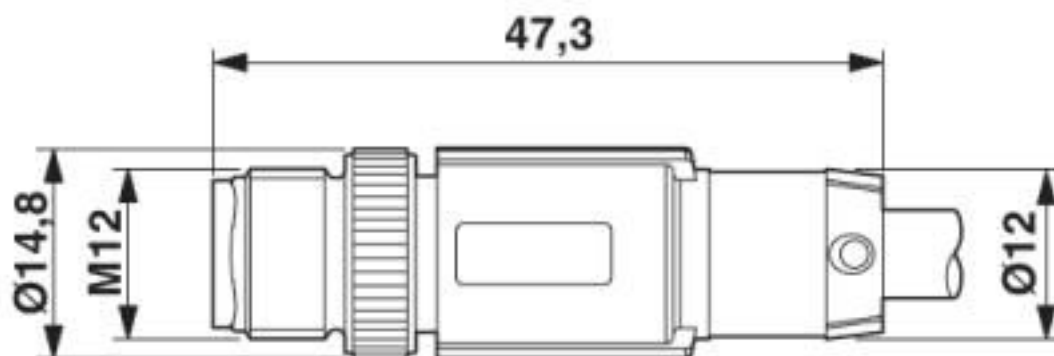
## Network cable - VS-M12MS-PPC/ME-94C-LI/2,0 - 1413560

Dimensional drawing



Push-pull RJ45 connector IP65/67

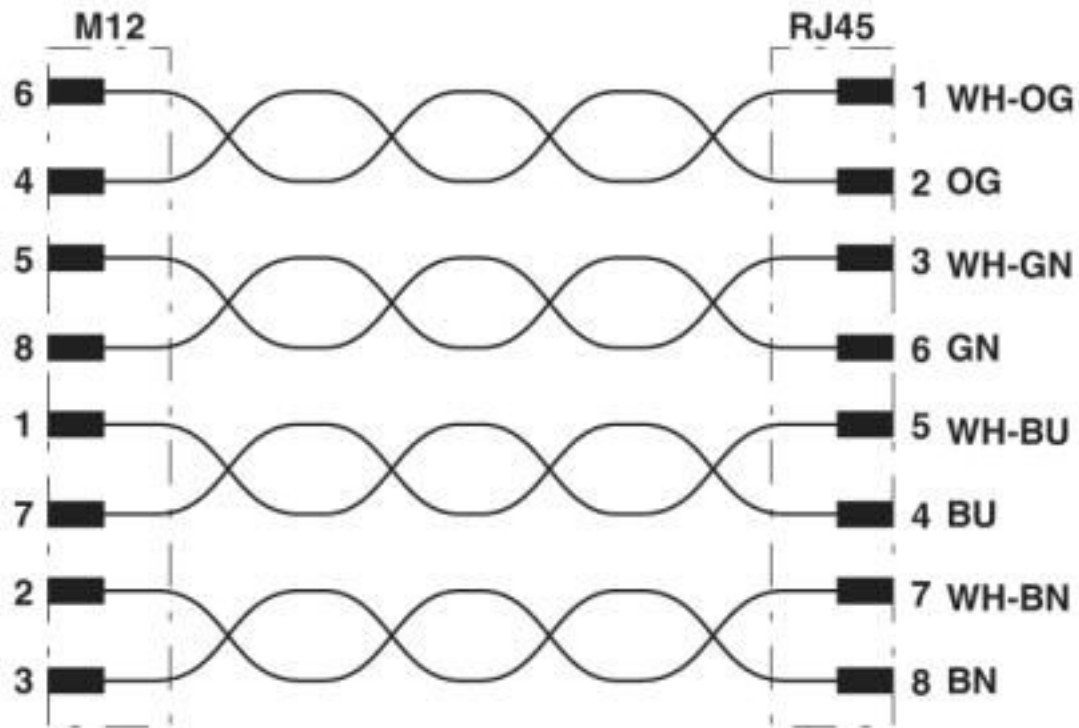
Dimensional drawing



Plug, M12 x 1, straight, shielded

## Network cable - VS-M12MS-PPC/ME-94C-LI/2,0 - 1413560

Circuit diagram



## Network cable - VS-M12MS-PPC/ME-94C-LI/2,0 - 1413560

Cable cross section



Ethernet drag chain CAT5, 4-pair [94C]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 4.0    | 24010400 |
| eCl@ss 4.1    | 24010400 |
| eCl@ss 5.0    | 19030300 |
| eCl@ss 5.1    | 19030300 |
| eCl@ss 6.0    | 27060300 |
| eCl@ss 7.0    | 27060308 |
| eCl@ss 8.0    | 27060308 |
| eCl@ss 9.0    | 27060308 |

## Network cable - VS-M12MS-PPC/ME-94C-LI/2,0 - 1413560

### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000830 |
| ETIM 4.0 | EC002599 |
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC001262 |
| ETIM 7.0 | EC001262 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31261501 |
| UNSPSC 7.0901 | 31261501 |
| UNSPSC 11     | 31261501 |
| UNSPSC 12.01  | 31261501 |
| UNSPSC 13.2   | 26121604 |
| UNSPSC 18.0   | 26121604 |
| UNSPSC 19.0   | 26121604 |
| UNSPSC 20.0   | 26121604 |
| UNSPSC 21.0   | 26121604 |

### Approvals

#### Approvals

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Approvals

EAC-RoHS

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Ex Approvals

#### Approval details

|          |                                                                                     |                          |
|----------|-------------------------------------------------------------------------------------|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00385 |
|----------|-------------------------------------------------------------------------------------|--------------------------|

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