

## Network cable - VS-BU/PN-PPC/PL-93B-LI/2,0 - 1416179


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Assembled PROFINET cable, CAT5e, shielded, star quad, AWG 22 stranded (7-wire), RAL 6018 (yellow-green), RJ45 socket module/IP20 for Freenet system, 4-pos. on RJ45 plug/IP67, push-pull plastic housing, line, length: 2 m



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 046356 474306 |
| GTIN         | 4046356474306                                                                                           |

### Technical data

#### Ambient conditions

|                      |      |
|----------------------|------|
| Degree of protection | IP20 |
|                      | IP67 |

#### General data

|                                         |                |
|-----------------------------------------|----------------|
| Number of positions                     | 4              |
| Overvoltage category                    | I              |
| Degree of pollution                     | 2              |
| Alternative short product description   | PROFINET cable |
| Degree of protection                    | IP67/IP20      |
| Transmission characteristics (category) | CAT5           |

#### Characteristics head 1

|                        |                |
|------------------------|----------------|
| Shielded               | yes            |
| Outer sheath, material | PVC            |
| External sheath, color | green RAL 6018 |

#### Characteristics head 2

|                      |         |
|----------------------|---------|
| Material (component) | Plastic |
|----------------------|---------|

### Standards and Regulations

# Network cable - VS-BU/PN-PPC/PL-93B-LI/2,0 - 1416179

## Technical data

### Standards and Regulations

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

### Cable

|                                               |                                                                                         |
|-----------------------------------------------|-----------------------------------------------------------------------------------------|
| Cable type                                    | PROFINET PVC stranded CAT5                                                              |
| Cable type (abbreviation)                     | 93B                                                                                     |
| UL AWM style                                  | 21694                                                                                   |
| Signal type/category                          | PROFINET CAT5 (IEC 11801), 100 Mbps<br>EtherCAT <sup>®</sup> CAT5 (IEC 11801), 100 Mbps |
| Cable structure                               | 1x4xAWG22/7; SF/TQ                                                                      |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup>                                                                 |
| AWG signal line                               | 22                                                                                      |
| Conductor structure signal line               | 7x 0.25 mm                                                                              |
| Core diameter including insulation            | 1.55 mm                                                                                 |
| Wire colors                                   | White, yellow, blue, orange                                                             |
| Overall twist                                 | Star quad                                                                               |
| Shielding                                     | Aluminum-coated foil, tinned copper braided shield                                      |
| Optical shield covering                       | 85 %                                                                                    |
| External sheath, color                        | green RAL 6018                                                                          |
| Outer sheath thickness                        | approx. 0.9 mm                                                                          |
| External cable diameter D                     | 6.5 mm ±0.2 mm                                                                          |
| Minimum bending radius, fixed installation    | 3 x D                                                                                   |
| Minimum bending radius, flexible installation | 7 x D                                                                                   |
| Cable weight                                  | 67 kg/km                                                                                |
| Outer sheath, material                        | PVC                                                                                     |
| Material, inner sheath                        | PVC                                                                                     |
| Material conductor insulation                 | PE                                                                                      |
| Conductor material                            | Tin-plated Cu litz wires                                                                |
| Insulation resistance                         | ≥ 500 MΩ*km                                                                             |
| Loop resistance                               | ≤ 120.00 Ω/km                                                                           |
| Wave impedance                                | 100 Ω ±15 Ω (at 100 MHz)                                                                |
| 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)                                                                      |
| Attenuation                                   | 2.1 dB (with 1 MHz)                                                                     |
|                                               | 4 dB (at 4 MHz)                                                                         |
|                                               | 6.3 dB (at 10 MHz)                                                                      |

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### Technical data

#### Cable

|                                         |                                                 |
|-----------------------------------------|-------------------------------------------------|
|                                         | 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)                            |
| Signal speed                            | 0.66 c                                          |
| Signal runtime                          | 5.3 ns/m                                        |
| Coupling resistance                     | ≤ 20.00 mΩ/m (at 10 MHz)                        |
| Nominal voltage, cable                  | 600 V                                           |
| Test voltage Core/Core                  | 2000 V (50 Hz, 1 min.)                          |
| Test voltage Core/Shield                | 2000 V (50 Hz, 1 min.)                          |
| 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                                |
| Ambient temperature (storage/transport) | -50 °C ... 70 °C                                |

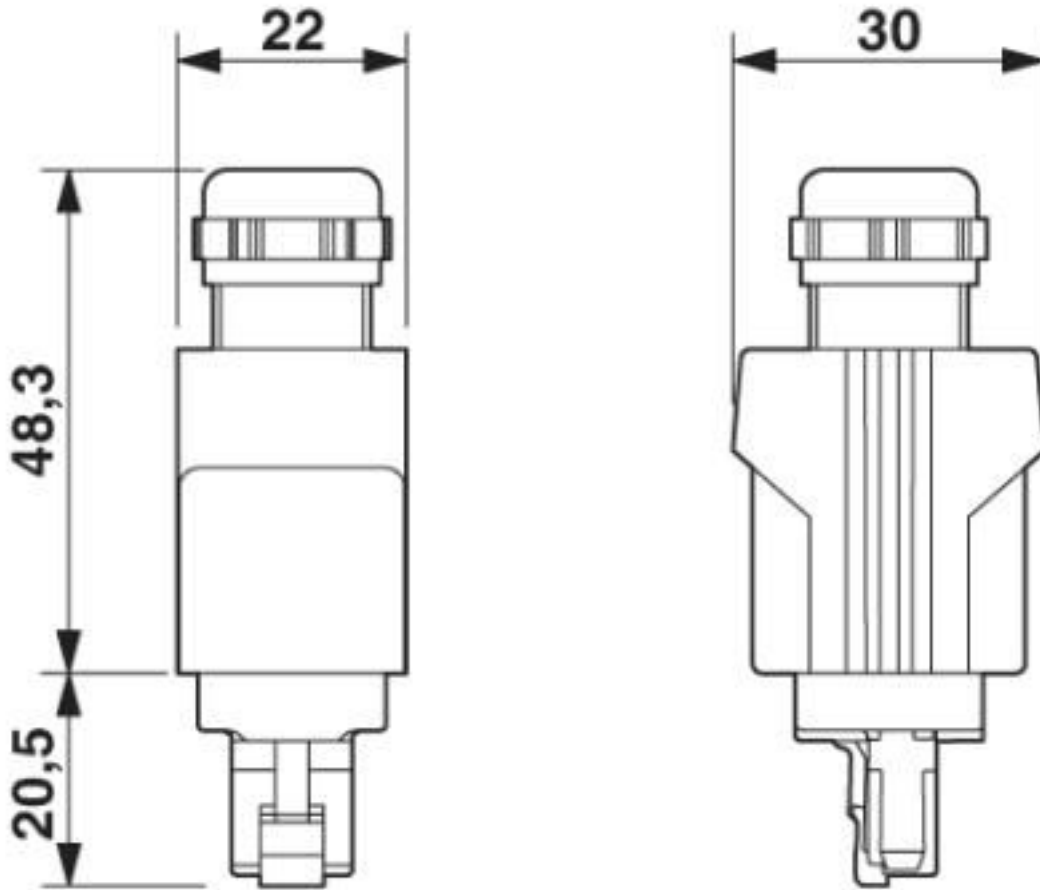
#### Environmental Product Compliance

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

#### Drawings

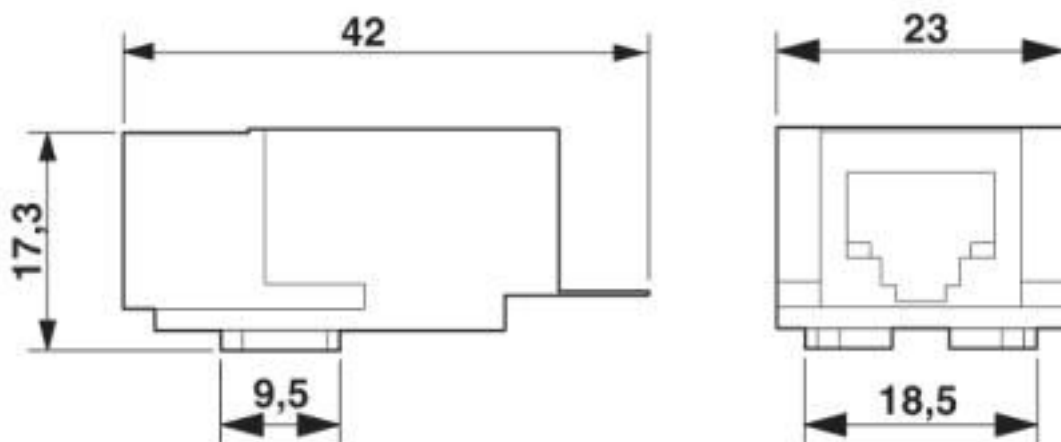
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Dimensional drawing



Push-pull RJ45 connector IP65/67

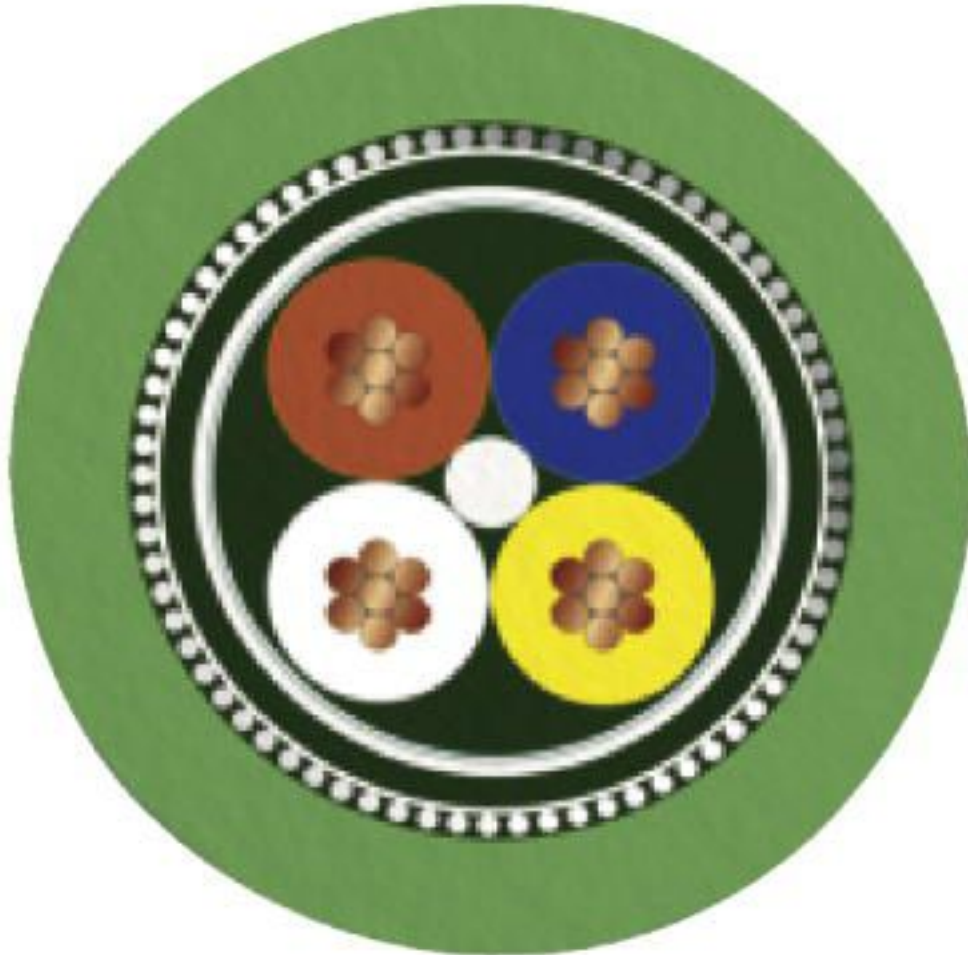
Dimensional drawing



RJ45 socket insert

## Network cable - VS-BU/PN-PPC/PL-93B-LI/2,0 - 1416179

Cable cross section



PROFINET PVC stranded CAT5 [93B]

### 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    | 27061800 |
| eCl@ss 7.0    | 27060308 |
| eCl@ss 8.0    | 27060308 |
| eCl@ss 9.0    | 27060308 |

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## 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

Approvals

EAC

Ex Approvals

### Approval details

|     |  |          |
|-----|--|----------|
| EAC |  | 19060508 |
|-----|--|----------|

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