

VS-FSDBPS-IP20-93G-LI/2,0 - Bus system cable



1419146

<https://www.phoenixcontact.com/us/products/1419146>

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Bus system cable, degree of protection: IP67/IP20, cable length: 2 m, number of positions: 4, 100 Mbps, cable outlet: straight, EtherCAT®, 1x4xAWG22/7, SF/TQ, green RAL 6018

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1419146 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | AB18 |
| Product key | ABNPAA |
| GTIN | 4046356540704 |
| Weight per piece (including packing) | 167.2 g |
| Weight per piece (excluding packing) | 161.262 g |
| Customs tariff number | 85444210 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|----------------------|-----------------------------------|
| Product type | Circular connectors (device side) |
| Sensor type | EtherCAT® |
| Number of positions | 4 |
| No. of cable outlets | 1 |
| Shielded | yes |
| Cable outlet | straight |

Material specifications

| | |
|--|--------------------------|
| Flammability rating according to UL 94 | V0 |
| Outer sheath, material | PVC |
| Conductor material | Tin-plated Cu litz wires |

Electrical properties

| | |
|---------------------|----------|
| Transmission medium | Copper |
| Transmission speed | 100 Mbps |

Mechanical properties

Mechanical data

| | |
|-----------------------------|-------|
| Insertion/withdrawal cycles | ≥ 100 |
|-----------------------------|-------|

Connector

Connection 1

| | |
|----------------------|--|
| Type | Flush-type female connector straight M12 |
| Locking type | SPEEDCON |
| Coding type | A |
| Degree of protection | IP65/IP67 |

Connection 2

| | |
|----------------------|--------------------|
| Type | Plug straight RJ45 |
| Degree of protection | IP20 |

Cable/line

| | |
|--------------|--------|
| Cable length | 2.00 m |
|--------------|--------|

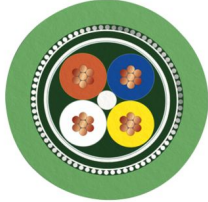
PROFINET PVC stranded CAT5 [93B]

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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 ² |
| 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 |

Environmental and real-life conditions

Ambient conditions

| | |
|---------------------------------|--|
| Degree of protection | IP20 (RJ45 connector) |
| | IP67 (M12 connector) |
| | IP67/IP20 |
| Ambient temperature (operation) | -10 °C ... 60 °C (cable, fixed installation) |
| | -5 °C ... 50 °C (Cable, flexible installation) |

Standards and regulations

| | |
|--------------------------|------------------------------|
| Standard designation | M12 circular connector |
| Standards/specifications | according to IEC 61076-2-101 |

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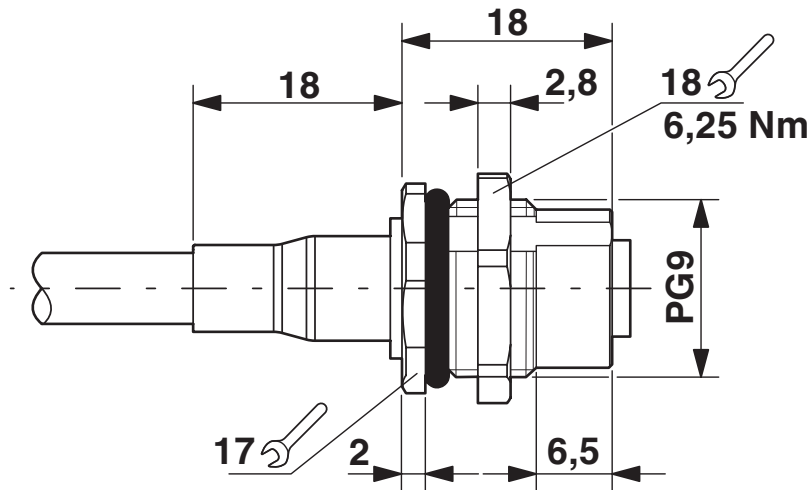


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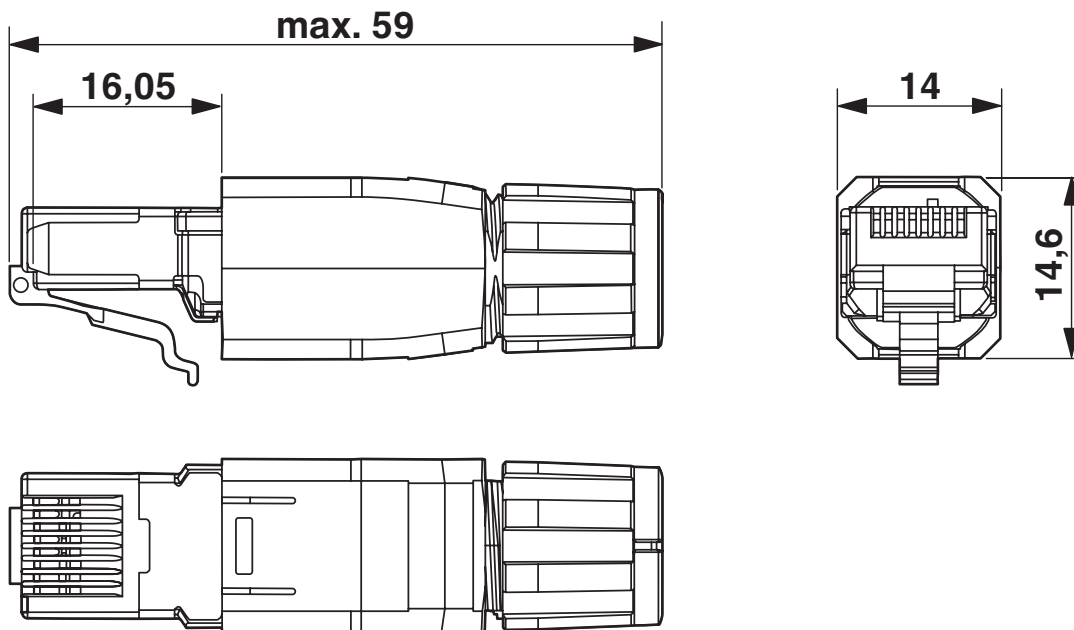
Drawings

Dimensional drawing



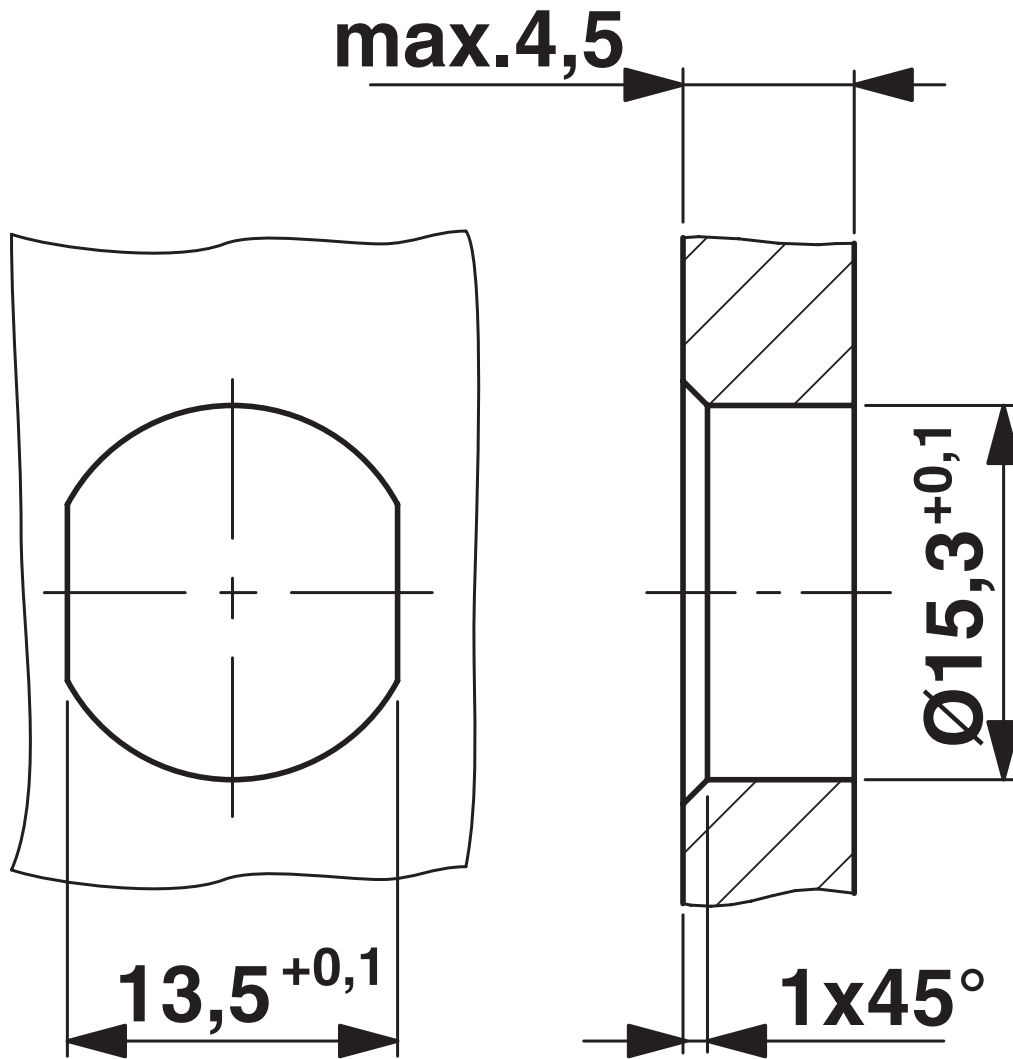
M12 panel feed-through

Dimensional drawing



RJ45 connector

Dimensional drawing



Housing cutout for Pg9 fastening thread, mounting panel with feed-through hole (alternatively with surface as protection against rotation)

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Approvals

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EAC

Approval ID: 19060508

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27440103 |
| ECLASS-15.0 | 27440103 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC003570 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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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.) | Lead(CAS: 7439-92-1) |
| | 2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)(CAS: 3147-75-9) |
| SCIP | 29ba78a6-a330-43d3-a6d6-d70681d95feb |

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