

Bus system flat-type plug - VS-MSDBPS-OE-93K-LI/1,0 - 1419159

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Assembled Sercos III cable, shielded, star quad, AWG 22 stranded (7-wire), RAL 3020 (traffic red), M12 flush-type plug, rear mounting, SPEEDCON 4-pos. on free conductor end, length: 1 m


Your advantages

- ✓ Pre-assembled with cables in various standard lengths for immediate use
- ✓ Customer-specific assemblies and cable lengths can be supplied
- ✓ Sealed on the cable side for optimum tightness of seal
- ✓ Cable designs for all common networks and fieldbuses
- ✓ For high transmission safety: shield connection to the housing with optional EMC nut



sercos
III

Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 541053 |
| GTIN | 4046356541053 |

Technical data

Dimensions

| | |
|-----------------|-------|
| Length of cable | 0.5 m |
|-----------------|-------|

Ambient conditions

| | |
|---------------------------------|---|
| Degree of protection | IP67 (When plugged in) |
| | IP65 (When plugged in) |
| Ambient temperature (operation) | -25 °C ... 85 °C (Plug / socket) |
| | -40 °C ... 85 °C (without mechanical actuation) |

General data

| | |
|------|--|
| Note | The electrical and mechanical data specified assume that the connector pair is correctly locked and mounted. If the connector is unlocked and if there is a danger of contamination, the connector must be sealed using a protective cap > IP54. Influences arising from litz wires, cables or PCB assembly must also be taken into consideration. |
|------|--|

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Technical data

General data

| | |
|---------------------------------------|--|
| Rated current at 40°C | 4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed) |
| Rated voltage | 250 V |
| Rated surge voltage | 2.5 kV |
| Number of positions | 4 |
| Signal type/category | Sercos |
| Standards/regulations | M12 connector IEC 61076-2-101 |
| Overvoltage category | II |
| Degree of pollution | 3 |
| Alternative short product description | Sercos III cable |
| Degree of protection | IP65/IP67 |

Characteristics head 1

| | |
|------------------------|--------------|
| Shielded | yes |
| Outer sheath, material | PVC |
| External sheath, color | Red RAL 3020 |

Standards and Regulations

| | |
|--|--|
| Standards/specifications | M12 connector IEC 61076-2-101 |
| Flammability rating according to UL 94 | V0 |
| Safety note | WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property. |
| | • WARNING: Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible. |
| | • WARNING: Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar with electrical engineering are allowed to install and operate the product. |
| | • The products are suitable for applications in plant, controller, and electrical device engineering. |
| | • When operating the connectors in outdoor applications, they must be separately protected against environmental influences. |
| | • Assembled products may not be manipulated or improperly opened. |
| | • Only use mating connectors that are specified in the technical data of the standards listed (e.g. the ones listed in the product accessories online at phoenixcontact.com/products). |
| | • When using the product in direct connection with third-party manufacturers, the user is responsible. |
| | • For operating voltages > 50 V AC, conductive connector housings must be grounded |
| | • Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards. |
| | • Observe the corresponding technical data. You will find information: |

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Technical data

Standards and Regulations

| | |
|--|--|
| | <ul style="list-style-type: none"> o On the product o On the packing label o In the supplied documentation o Online at phoenixcontact.com/products under the product |
| | <ul style="list-style-type: none"> • Only use tools recommended by Phoenix Contact |
| | <ul style="list-style-type: none"> • Use a protective cap to protect connectors that are not in use. The suitable accessories are available online in the accessory section of the product at phoenixcontact.com/products |
| | <ul style="list-style-type: none"> • Ensure that the protective or functional ground has been properly connected. |
| | <ul style="list-style-type: none"> • VDE 0100/1.97 § 411.1.3.2 and DIN EN 60 204/11.98 § 14.1.3 are applicable when combining several circuits in a cable and/or connector |
| | <ul style="list-style-type: none"> • The connector warms up in normal operation. Depending on the ambient conditions, the surface of the connector can continue to warm up. In this case, the user is responsible for posting warnings (e.g. DIN EN ISO 13732-1:2008-12). |

Cable

| | |
|---|-----------------------------------|
| Cable type | Sercos III |
| Cable type (abbreviation) | 93K |
| UL AWM style | 21694 (60°C / 600 V) |
| Signal type/category | Sercos CAT5 (IEC 11801), 100 Mbps |
| Cable structure | 1x4xAWG22/7; SF/TQ |
| Conductor cross section | 4x 0.34 mm² |
| AWG signal line | 22 |
| Conductor structure signal line | 7x 0.25 mm |
| Core diameter including insulation | approx. 1.55 mm |
| Wire colors | White, yellow, blue, orange |
| Type of pair shielding | Aluminum-lined polyester foil |
| Overall twist | Star quad |
| Shielding | Tinned copper braided shield |
| External sheath, color | signal red RAL 3020 |
| 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 | 68 kg/km |
| Outer sheath, material | PVC |
| Material, inner sheath | PVC |
| Material conductor insulation | PE |
| Conductor material | Tin-plated Cu litz wires |
| Insulation resistance | ≥ 0.5 GΩ*km |
| Conductor resistance | ≤ 120 Ω/km |
| Wave impedance | 100 Ω ±15 Ω (at 100 MHz) |
| Signal runtime | 5.3 ns/m |

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Technical data

Cable

| | |
|---|--|
| Coupling resistance | $\leq 20.00 \text{ m}\Omega/\text{m}$ (at 10 Hz) |
| 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 |

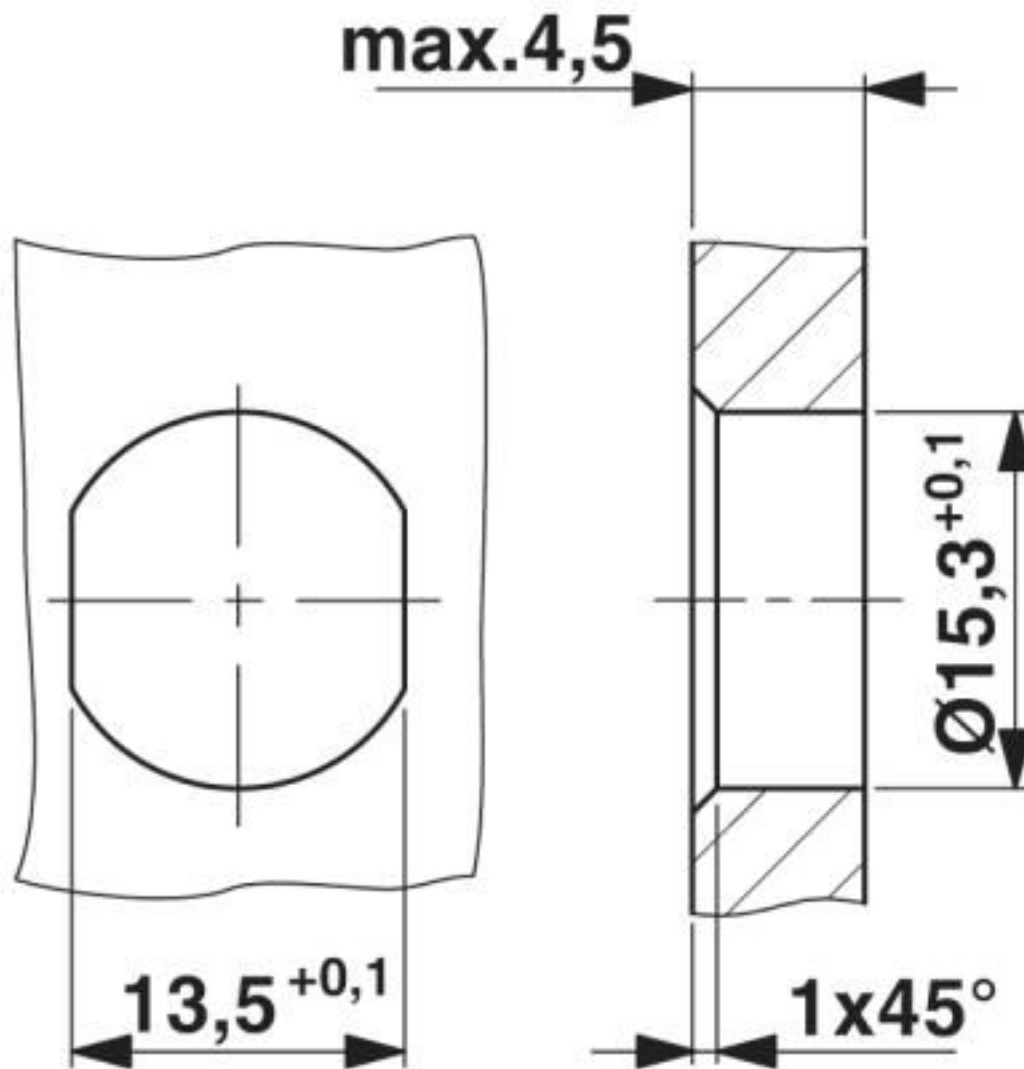
Environmental Product Compliance

| | |
|------------|---|
| 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

Bus system flat-type plug - VS-MSDBPS-OE-93K-LI/1,0 - 1419159

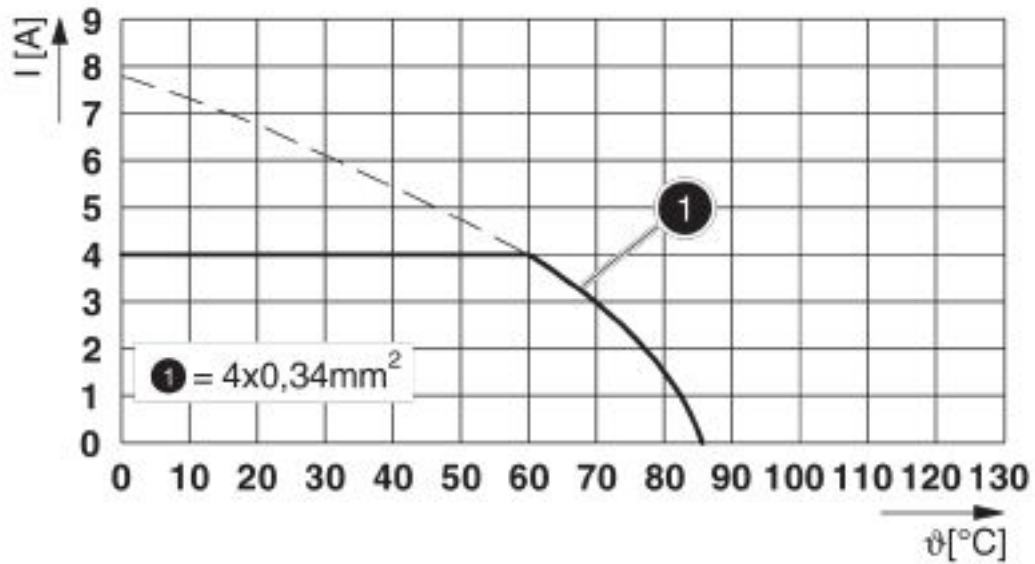
Dimensional drawing



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

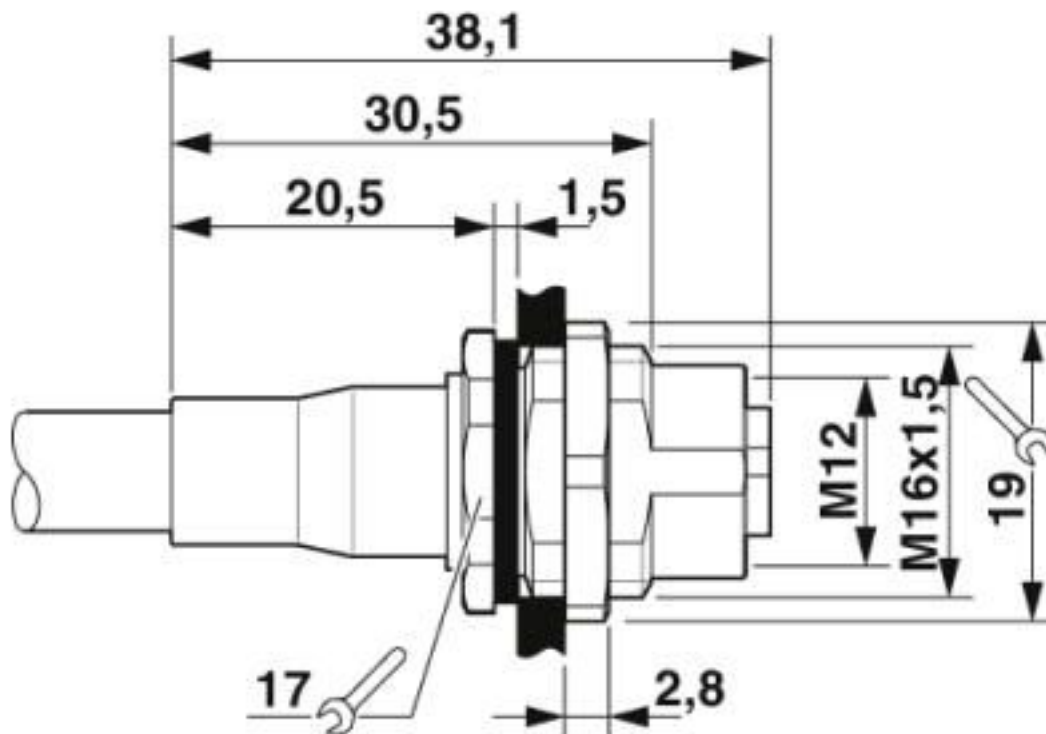
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Diagram



I = current strength, T = ambient temperature

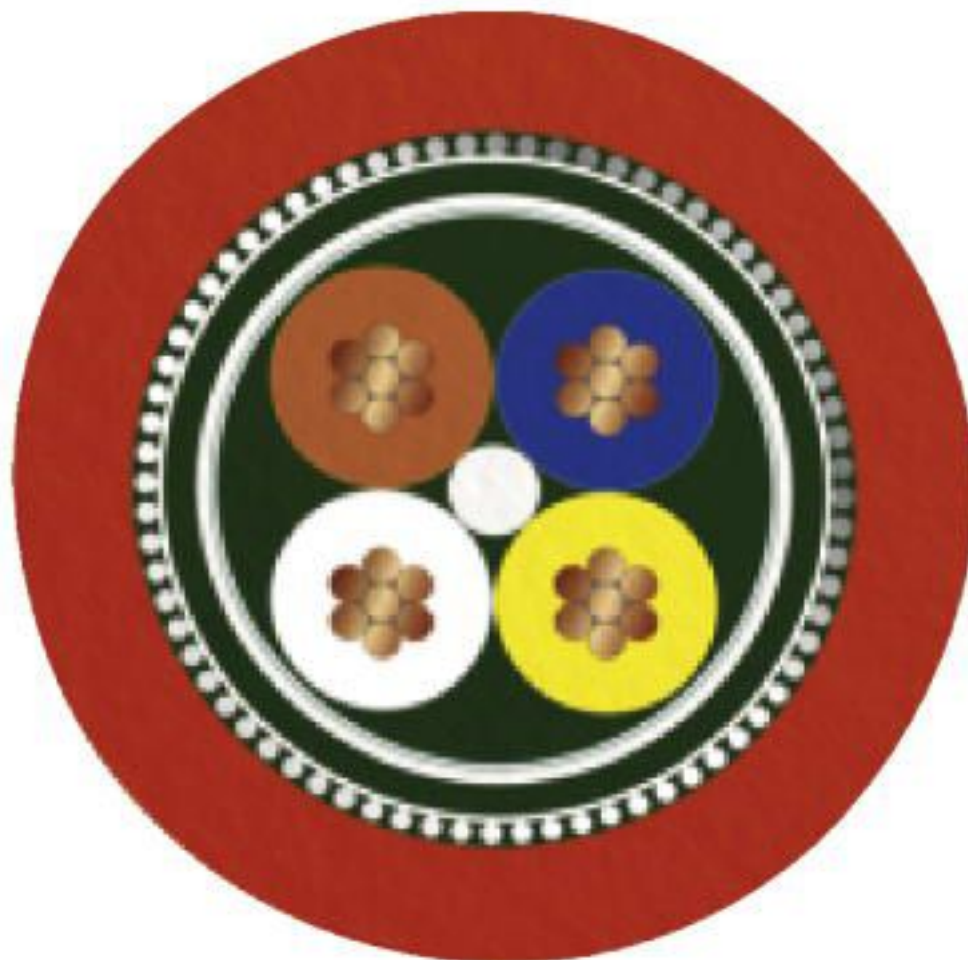
Dimensional drawing



M12 panel feed-through

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Cable cross section



Sercos III [93K]

Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27440102 |
| eCl@ss 4.0 | 27060300 |
| eCl@ss 4.1 | 27060300 |
| eCl@ss 5.0 | 27060300 |
| eCl@ss 5.1 | 27060300 |
| eCl@ss 6.0 | 27279200 |
| eCl@ss 7.0 | 27440103 |
| eCl@ss 8.0 | 27440103 |
| eCl@ss 9.0 | 27440102 |

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC000830 |
| ETIM 4.0 | EC002599 |
| ETIM 5.0 | EC002061 |
| ETIM 6.0 | EC002061 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 26121616 |
| UNSPSC 7.0901 | 26121616 |
| UNSPSC 11 | 26121604 |
| UNSPSC 12.01 | 26121616 |
| UNSPSC 13.2 | 39121413 |
| UNSPSC 18.0 | 39121413 |
| UNSPSC 19.0 | 39121413 |
| UNSPSC 20.0 | 39121413 |
| UNSPSC 21.0 | 39121413 |

Approvals

Approvals

Approvals

EAC

Ex Approvals

Approval details

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

Accessories

Accessories

Plug for cable screw gland

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Accessories

Screw plug - SACC-M16-SEALING PLUG SET - 1453368



M16 screw plug for unused M12 housing cutouts

Protective cap

Sealing cap - PROT-M12 FS - 1560251



M12 sealing cap for unoccupied M12 plugs of the sensor/actuator cable, flush-type plugs and I/O devices in the field

Sealing cap - PROT-M12 FS-M - 1430488



M12 metal sealing cap for unoccupied M12 plugs of the sensor/actuator cable, flush-type plugs and I/O devices in the field

Seal

Flat gasket - SACC-M16-SEAL CLM - 1430394



M16 flat gasket, for rear mounting of M12 flush-type connectors with M16 fastening thread

Mouser Electronics

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