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Bus system flush-type socket, DeviceNet/CANopen, 5-pos., M12, shielded, A-coded, Speedcon, rear/screw mounting with Pg9 thread, with 0.5 m bus cable, 2 x 0.2 mm<sup>2</sup>; 2 x 0.32 mm<sup>2</sup>

### Why buy this product

- 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



## Key Commercial Data

| Packing unit | 1 STK           |
|--------------|-----------------|
| GTIN         | 4 046356 457651 |
| GTIN         | 4046356457651   |

## Technical data

Dimensions

| Length of cable                 | 0.5 m                        |
|---------------------------------|------------------------------|
| Ambient conditions              |                              |
| Ambient temperature (operation) | -25 °C 85 °C (Plug / socket) |
| Degree of protection            | IP67                         |

#### General

|                       | 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. |
|-----------------------|--|
| Rated current at 40°C | 2 A  |



# Technical data

### General

| Rated voltage               | 60 V                          |
|-----------------------------|-------------------------------|
| Rated surge voltage         | 1.5 kV                        |
| Number of positions         | 5                             |
| Insulation resistance       | $\geq$ 100 MΩ                 |
| Coding                      | A - standard                  |
| Standards/regulations       | M12 connector IEC 61076-2-101 |
| Signal type/category        | DeviceNet™                    |
| Overvoltage category        | Ш                             |
| Degree of pollution         | 3                             |
| Insertion/withdrawal cycles | > 100                         |
| Torque                      | 2 Nm 3 Nm (Installation-side) |

## Material

| Flammability rating according to UL 94 | V0                           |
|--|------------------------------|
| Contact material                       | CuZn                         |
| Contact surface material               | Ni/Au                        |
| Contact carrier material               | PA 66                        |
| Material, knurls                       | Zinc die-cast, nickel-plated |
| Sealing material                       | FKM                          |

### Standards and Regulations

| Standard designation                   | M12 connector   |
|--|-----------------|
| Standards/regulations                  | IEC 61076-2-101 |
| Flammability rating according to UL 94 | V0              |

#### Cable

| Cable type                          | CAN Bus/DeviceNet                      |
|-------------------------------------|--|
| Cable type (abbreviation)           | 920                                    |
| UL AWM style                        | 21198 (80°C/300 V)                     |
| Signal type/category                | CANopen®                               |
|                                     | DeviceNet™                             |
| Cable structure                     | 2xAWG24/19+2xAWG22/19                  |
| Conductor cross section             | 2x 0.25 mm² (Data cable)               |
|                                     | 2x 0.34 mm <sup>2</sup> (Power supply) |
|                                     | 1x 0.34 mm² (Drain wire)               |
| AWG signal line                     | 24                                     |
| AWG power supply                    | 22                                     |
| Conductor structure signal line     | 19x 0.13 mm                            |
| Conductor structure, voltage supply | 19x 0.15 mm                            |
| Core diameter including insulation  | 1.95 mm ±0.05 mm (Data cable)          |
|                                     | 1.4 mm ±0.05 mm (Power supply)         |



# Technical data

Cable

| Wire colors                                   | Red-black, blue-white                                      |
|---|--|
| Twisted pairs                                 | 2 cores to the pair  |
| Type of pair shielding                        | Plastic-coated aluminum foil, aluminum side outside        |
| Overall twist                                 | 2 pairs around a drain wire in the center to the core      |
| Shielding                                     | Tinned copper braided shield                               |
| Optical shield covering                       | 80 %   |
| External sheath, color                        | violet RAL 4001  |
| External cable diameter D                     | 6.7 mm ±0,3 mm   |
| Minimum bending radius, flexible installation | 10 x D   |
| Number of bending cycles                      | 5000000  |
| Bending radius                                | 70 mm  |
| Traversing path                               | 4.5 m  |
| Traversing rate                               | 3 m/s  |
| Acceleration                                  | 3 m/s <sup>2</sup>   |
| Cable weight                                  | 90 kg/km   |
| Outer sheath, material                        | PUR  |
| Material conductor insulation                 | Foamed PE (Data cable)                                     |
|   | PE (Power supply)  |
| Conductor material                            | Tin-plated Cu litz wires                                   |
| Insulation resistance                         | $\geq$ 5 GΩ*km (Data cable)                                |
|   | $\geq$ 5 GΩ*km (Power supply)                              |
| Conductor resistance                          | $\leq$ 90.9 $\Omega$ /km (Data cable)                      |
|   | $\leq$ 57.4 $\Omega$ /km (Power supply)                    |
| Cable capacity                                | nom. 40 pF/m (Data cable)                                  |
| Wave impedance                                | 120 Ω ±10 % (with 1 MHz)                                   |
| Wave attenuation                              | ≥ 0.0229 dB/m (with 1 MHz)                                 |
| Nominal voltage, cable                        | $\leq$ 300 V (Peak value, not for high-power applications) |
| Test voltage Core/Core                        | 2000 V (50 Hz, 1 min.)                                     |
| Test voltage Core/Shield                      | 2000 V (50 Hz, 1 min.)                                     |
| Flame resistance                              | UL 1581, Sec. 1060 (FT-1)                                  |
|   | IEC 60332-1  |
|   | in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)       |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815                   |
|   | According to IEC 60754-1                                   |
| Other resistance                              | Low adhesion   |
| Ambient temperature (operation)               | -40 °C 80 °C (cable, fixed installation)                   |
|   | -20 °C 80 °C (cable, flexible installation)                |
| Ambient temperature (storage/transport)       | -40 °C 80 °C   |
|   |  |

**Environmental Product Compliance** 

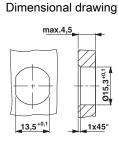


# Technical data

### **Environmental Product Compliance**

| China RoHS | Environmentally Friendly Use Period = 50   |  |
|------------|--|--|
|            | For details about hazardous substances go to tab "Downloads",<br>Category "Manufacturer's declaration" |  |

## Drawings

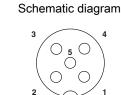


Housing cutout for Pg9 fastening thread, mounting panel with feedthrough hole (alternatively with surface as protection against rotation)

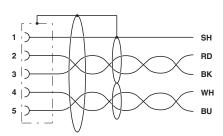
#### Cable cross section



CAN Bus/DeviceNet [920]



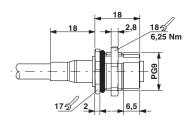
Pin assignment M12 socket, 5-pos., A-coded, socket side view



Circuit diagram

Contact assignment of the M12 socket

#### Dimensional drawing



M12 panel feed-through

## Approvals

### Approvals



## Approvals

Approvals

UL Recognized / EAC

Ex Approvals

Γ

Γ

Approval details

| UL Recognized      | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm |       | FILE E 118976 |
|--------------------|---|-------|---------------|
|                    |   |       |               |
| mm²/AWG/kcmil      |   | 26-20 |               |
| Nominal current IN |   | 4 A   |               |
| Nominal voltage UN |   | 60 V  |               |

| EAC | EAC | B.00767 |
|-----|-----|---------|
|     |     |         |

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