

## Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Socket straight M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A and Plug straight M12 SPEEDCON, coding: A, cable length: 1 m, all connectors unshielded, Shield connected to pin 1



DeviceNet CANopen

### Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 1 pc          |
| GTIN         |               |
| GTIN         | 4046356432283 |

### Technical data

#### Dimensions

|                 |       |
|-----------------|-------|
| Length of cable | 1 m   |
| Center distance | 21 mm |

#### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| Degree of protection            | IP65                             |
|                                 | IP67                             |

#### General

|                       |                               |
|-----------------------|-------------------------------|
| Rated current at 40°C | 4 A                           |
| Rated voltage         | 48 V AC                       |
|                       | 60 V DC                       |
| Number of positions   | 5                             |
| Color handle area     | black                         |
| Insulation resistance | ≥ 100 MΩ                      |
| Coding                | A - standard                  |
| Standards/regulations | M12 connector IEC 61076-2-101 |
| Signal type/category  | CANopen®                      |

# Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

## Technical data

### General

|                      |            |
|----------------------|------------|
|                      | DeviceNet™ |
| Status display       | No         |
| Overvoltage category | II         |
| Degree of pollution  | 3          |

### Material

|  |   |
|--|---|
| Flammability rating according to UL 94 | HB  |
| Contact material                       | CuSn  |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Material, knurls                       | Zinc die-cast, nickel-plated                |
| Sealing material                       | NBR   |

### Pin assignment

|   |   |
|---|---|
| Contact   Color (signal designation)   Contact (optional) | 1 (Distributor)   SR (shield)   1 (Plug)   1 (Socket) |
|   | 2 (Distributor)   RD (V+)   2 (Plug)   2 (Socket)     |
|   | 3 (Distributor)   BK (V-)   3 (Plug)   3 (Socket)     |
|   | 4 (Distributor)   WH (CAN_H)   4 (Plug)   4 (Socket)  |
|   | 5 (Distributor)   BU (CAN_L)   5 (Plug)   5 (Socket)  |

### Standards and Regulations

|  |                               |
|--|-------------------------------|
| Standards/specifications               | M12 connector IEC 61076-2-101 |
| Flammability rating according to UL 94 | HB                            |

### Cable

|                                     |   |
|-------------------------------------|---|
| Cable type                          | CANopen®/DeviceNet™, PUR, violet                      |
| Cable type (abbreviation)           | 920   |
| UL AWM style                        | 21198 (80°C/300 V)                                    |
| Cable structure                     | 2xAWG24/19+2xAWG22/19                                 |
| Conductor cross section             | 2x 0.25 mm² (Data cable)                              |
|                                     | 2x 0.34 mm² (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)                        |
| 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 |

## Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

### Technical data

#### Cable

|   |   |
|---|---|
| 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, fixed installation      | 5 x D   |
| Minimum bending radius, flexible installation   | 10 x D  |
| Number of bending cycles                        | 5000000   |
| Bending radius                                  | 70 mm   |
| Minimum bending radius, drag chain applications | 10 x D  |
| 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                           | ≥ 5 GΩ*km (Data cable)                                |
|   | ≥ 5 GΩ*km (Power supply)                              |
| Loop resistance                                 | ≤ 181.80 Ω/km (Data cable)                            |
|   | ≤ 114.80 Ω/km (Power supply)                          |
| Cable capacity                                  | nom. 40 nF/km (Data cable)                            |
| Wave impedance                                  | 120 Ω ±10 % (with 1 MHz)                              |
| Attenuation                                     | ≤ 22.9 dB/km (with 1 MHz)                             |
|   | ≤ 16.4 dB/km (At 500 kHz)                             |
|   | ≤ 9.5 dB/km (At 125 kHz)                              |
| Nominal voltage, cable                          | ≤ 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)       |

#### Environmental Product Compliance

|            |  |
|------------|--|
| REACH SVHC | Lead 7439-92-1                                 |
| China RoHS | Environmentally Friendly Use Period = 50 years |

# Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

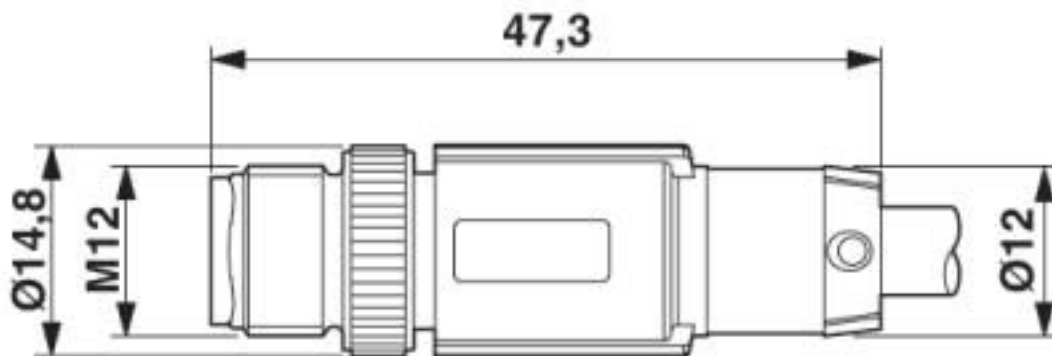
## Technical data

### Environmental Product Compliance

|  |   |
|--|---|
|  | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |
|--|---|

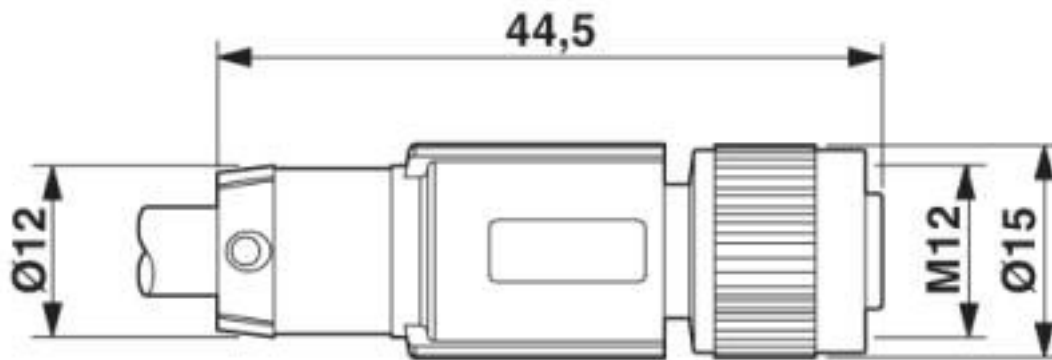
## Drawings

Dimensional drawing



M12 SPEEDCON plug, straight

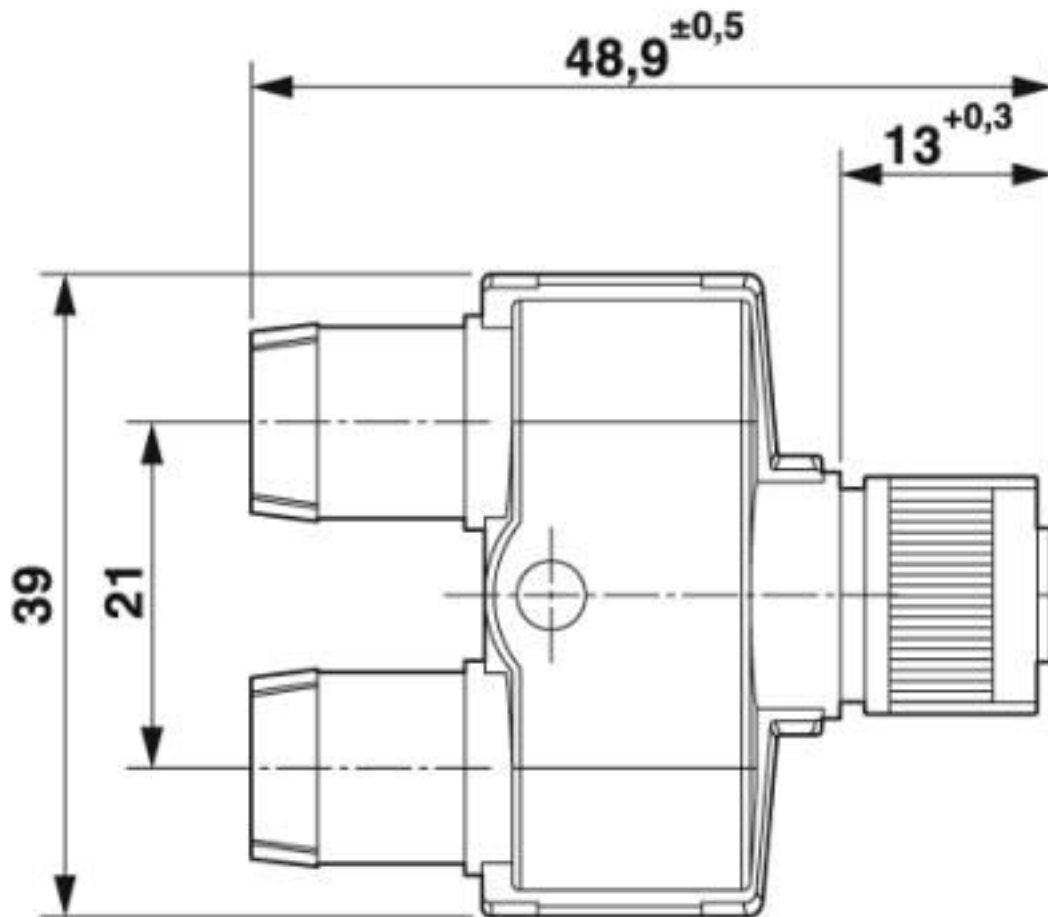
Dimensional drawing



M12-SPEEDCON socket, straight

# Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

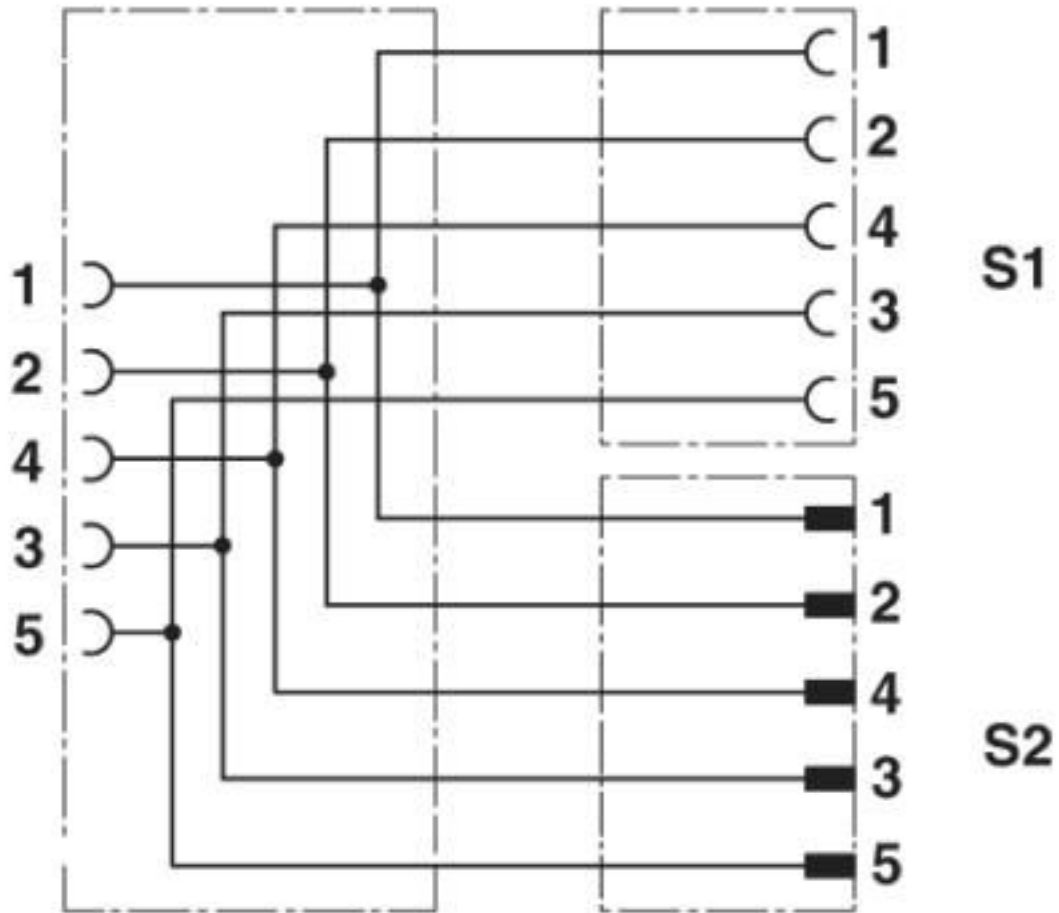
Dimensional drawing



M12-SPEEDCON socket, Y-distributor

# Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

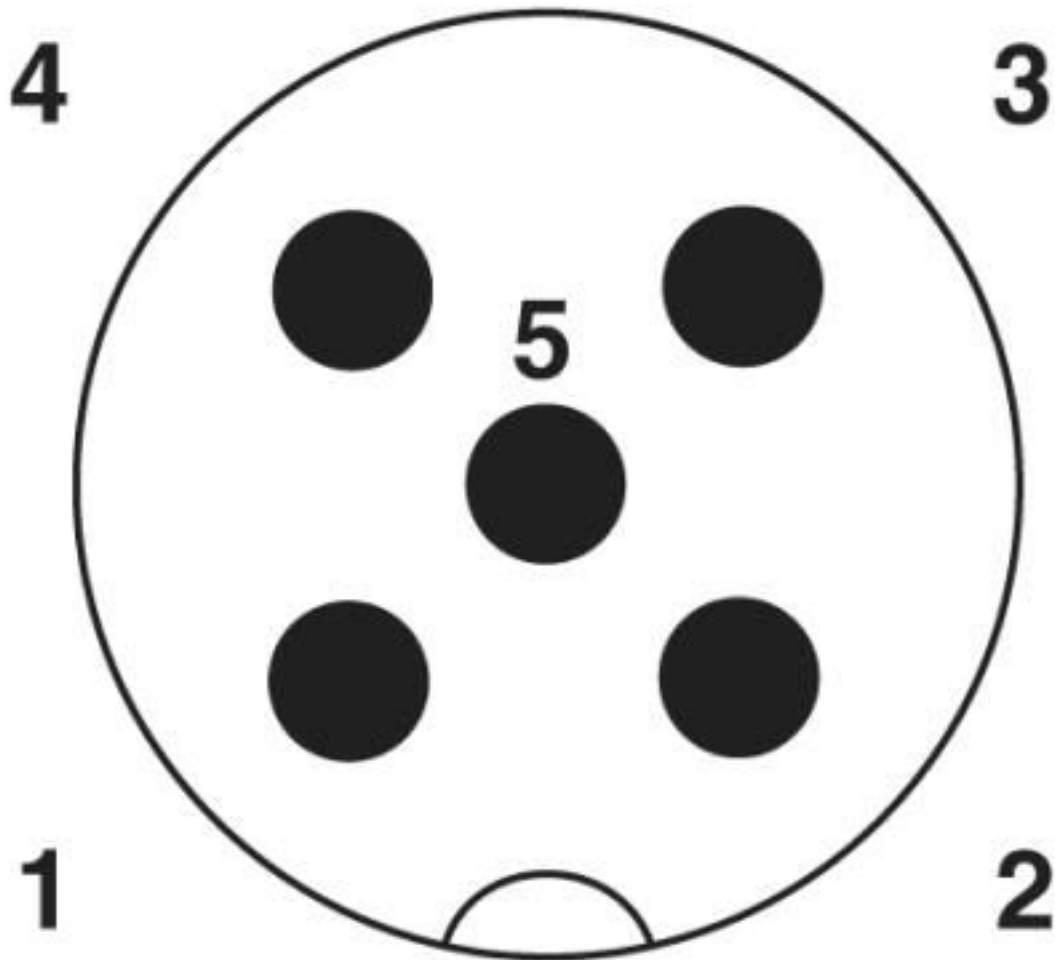
Circuit diagram



Contact assignment of the M12 socket and the M12 plug

## Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

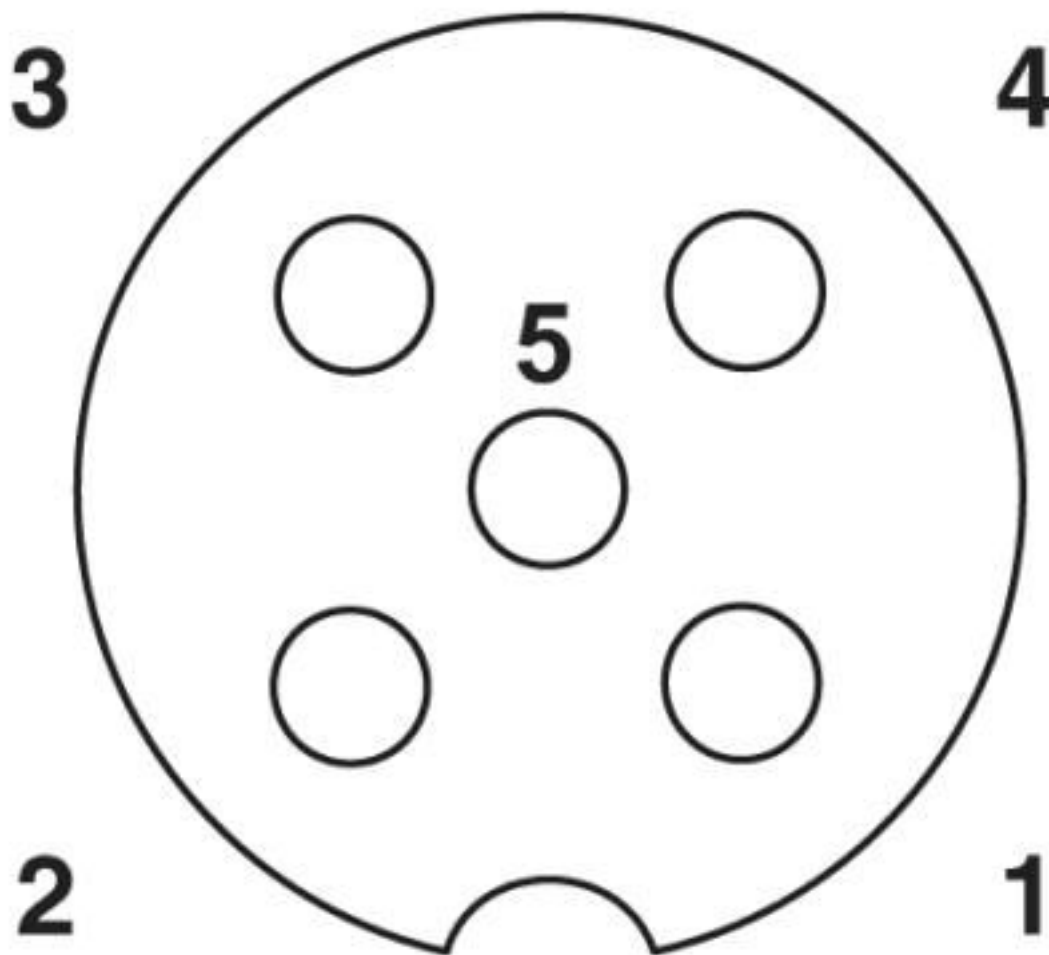
Schematic diagram



Pin assignment M12 male connector, 5-pos., A-coded, male side

## Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

Schematic diagram



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



## Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

Cable cross section



CANopen<sup>®</sup>/DeviceNet<sup>™</sup>, PUR, violet [920]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 4.0    | 27060300 |
| eCl@ss 4.1    | 27060300 |
| eCl@ss 5.0    | 27061800 |
| eCl@ss 5.1    | 27061800 |
| eCl@ss 6.0    | 27279200 |
| eCl@ss 7.0    | 27279218 |
| eCl@ss 8.0    | 27279218 |
| eCl@ss 9.0    | 27060308 |

# Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC001262 |
| ETIM 7.0 | EC001262 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |
| UNSPSC 18.0   | 26121604 |
| UNSPSC 19.0   | 26121604 |
| UNSPSC 20.0   | 26121604 |
| UNSPSC 21.0   | 26121604 |

## Approvals


### Approvals


#### Approvals

UL Listed / cUL Listed / EAC-RoHS / EAC / cULus Listed

#### Ex Approvals

### Approval details

|                    |   |   |               |
|--------------------|---|---|---------------|
| UL Listed          |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
| Nominal voltage UN | 125 V   |   |               |
| Nominal current IN | 4 A   |   |               |

|                    |   |   |               |
|--------------------|---|---|---------------|
| cUL Listed         |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
| Nominal voltage UN | 125 V   |   |               |

## Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

### Approvals

|                                |     |
|--------------------------------|-----|
| Nominal current I <sub>N</sub> | 4 A |
|--------------------------------|-----|

|          |  |                          |
|----------|--|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00387 |
|----------|--|--------------------------|

|     |  |                          |
|-----|--|--------------------------|
| EAC |  | RU C-<br>DE.BL08.B.00286 |
|-----|--|--------------------------|

|              |  |  |
|--------------|--|--|
| cULus Listed |  |  |
|--------------|--|--|

### Accessories

#### Accessories

#### H-distributor

H distributor - SAC-5PH-M-F/2XF SH1 SCO - 1417414



H distributor, 5-position, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Thread M12 not rotatable, Parallel distributor

#### Plug for cable screw gland

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



#### Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



## Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

### Accessories

---

#### Safety locking

Locking clip - SAC-M12-EXCLIP-M - 1558988



Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

Locking clip - SAC-M12-EXCLIP-F - 1558991



Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

#### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

#### T-distributor

T distributor - SAC-5P-M12T/2XM12 VP - 1541186



T distributor, 5-position, unshielded, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Parallel distributor

## Bus system cable - SAC-5PY-F/2X 1,0-920-MS-FS - 1436039

### Accessories

T distributor - SAC-5PT-F/F-M VP - 1424712



T distributor, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, unshielded, Socket straight M12, coding: A, on Socket straight M12, coding: A and Plug straight M12, coding: A, Parallel distributor

---

### Terminal resistor

Termination resistor - SAC-5P-M12MS CAN TR - 1507816



Terminating resistor CANopen<sup>®</sup>/DeviceNet<sup>™</sup> M12

---

### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

---

Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Sensor Cables / Actuator Cables](#) category:*

*Click to view products by [Phoenix Contact](#) manufacturer:*

Other Similar products are found below :

[60963](#) [60964](#) [703000D02F2002](#) [703001D02F0602](#) [703001D02F300](#) [704000D02F120](#) [773032K02F030](#) [802027107404-1](#) [802027213811-1](#)  
[804001A09M150](#) [805001A09M0502](#) [84914-0235](#) [84914-0237](#) [885030A09M020](#) [8R4J30E03C3003](#) [1200651332](#) [1200651713](#) [1200660844](#)  
[1200660845](#) [1200661173](#) [1200680071](#) [1200720053](#) [1200720081](#) [1200720099](#) [1200720217](#) [1200800231](#) [1200860125](#) [1200870123](#)  
[1200980102](#) [1200650267](#) [1200650298](#) [1200660183](#) [1200660782](#) [1200660849](#) [1200661295](#) [1200661297](#) [1200661342](#) [1200661343](#)  
[1200670080](#) [1200670220](#) [1200680331](#) [1200720252](#) [1200730184](#) [1200860344](#) [1200870359](#) [1200870643](#) [1200980008](#) [1200980031](#)  
[1210502211](#) [1210400542](#)