

Bus system cable - SAC-5PY-F/2X10,0-920-MS-FS - 1436068

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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: 10 m, all connectors unshielded, Shield connected to pin 1



DeviceNet CANopen

Key Commercial Data

| | |
|--------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4046356432313 |

Technical data

Dimensions

| | |
|-----------------|-------|
| Length of cable | 10 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® |

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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 |

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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 ² |
| 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 |

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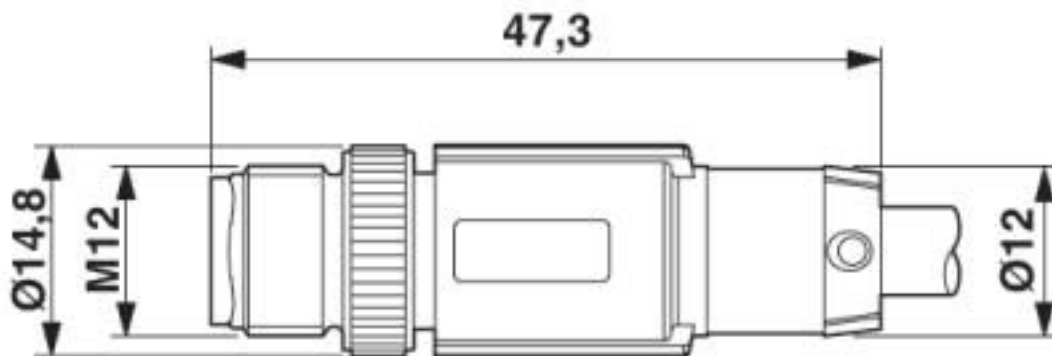
Technical data

Environmental Product Compliance

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

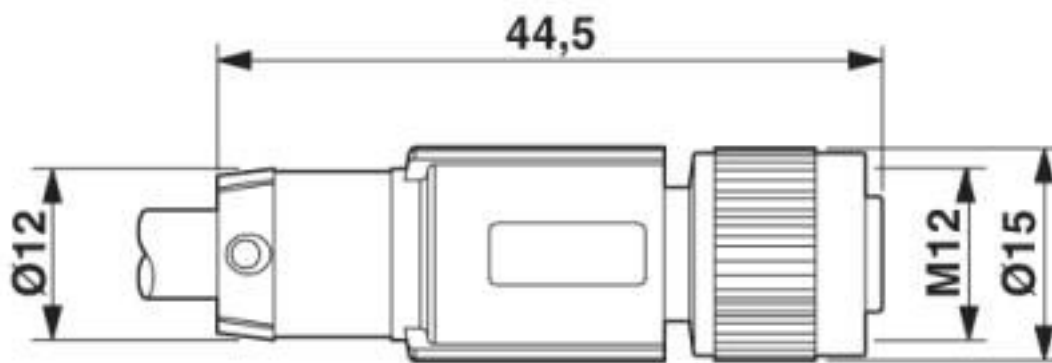
Drawings

Dimensional drawing



M12 SPEEDCON plug, straight

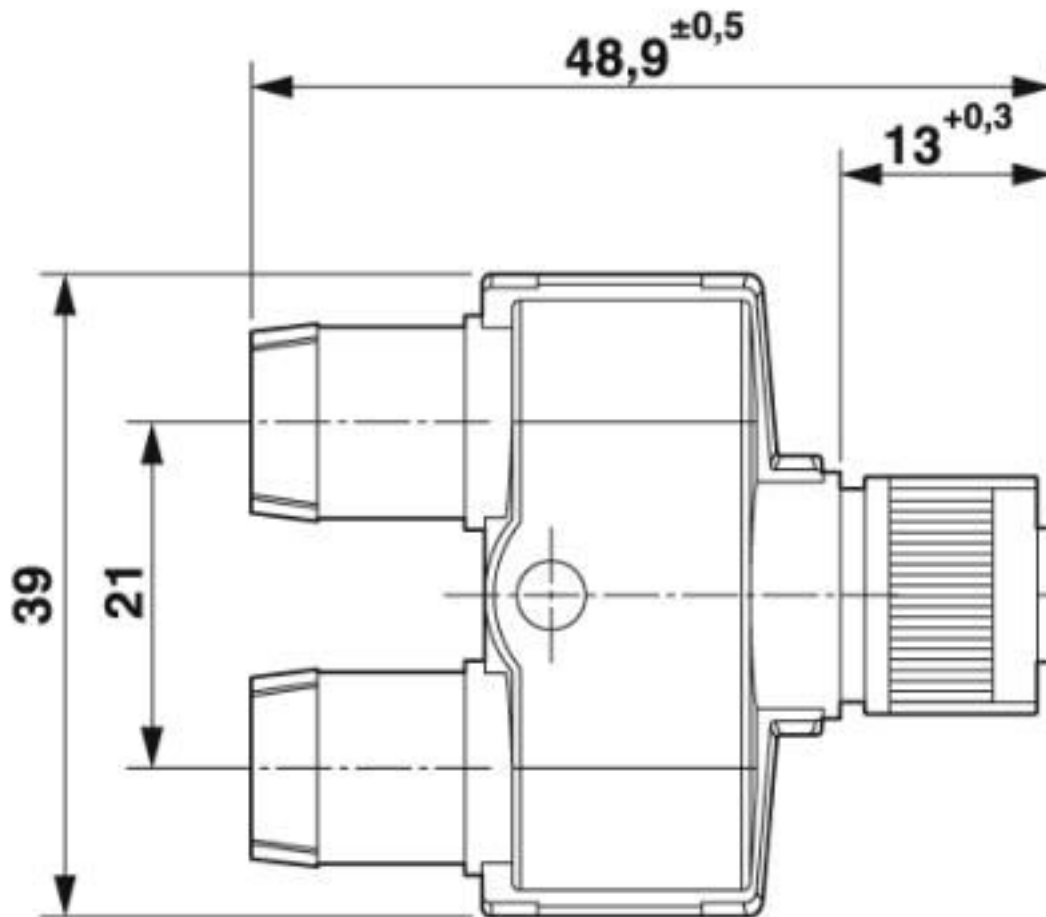
Dimensional drawing



M12-SPEEDCON socket, straight

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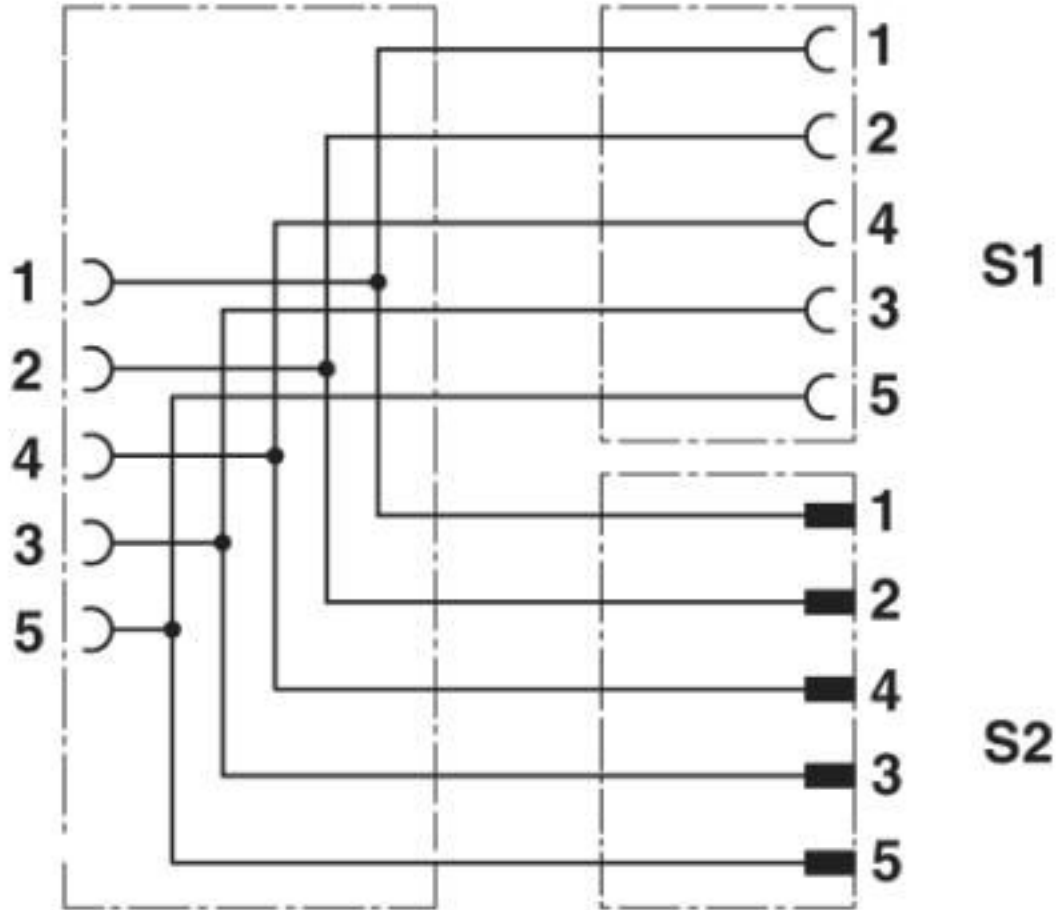
Dimensional drawing



M12-SPEEDCON socket, Y-distributor

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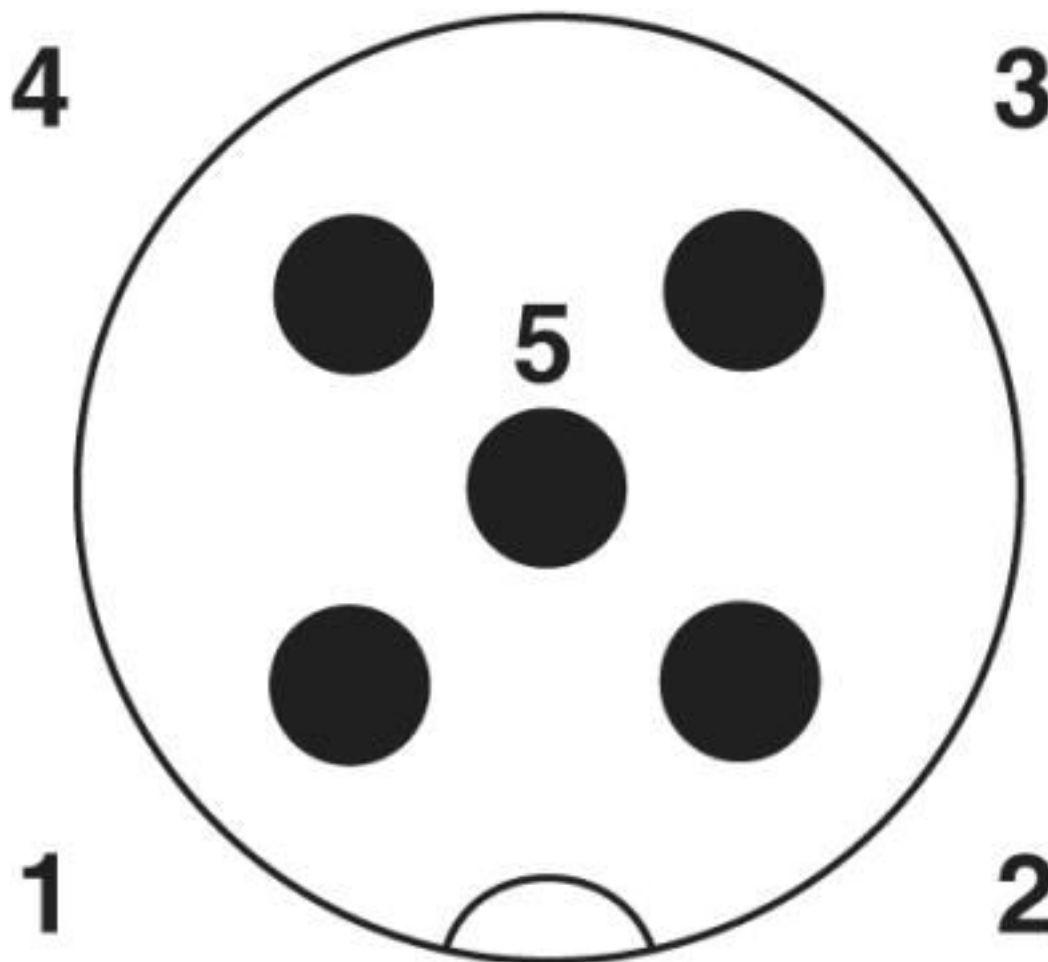
Circuit diagram



Contact assignment of the M12 socket and the M12 plug

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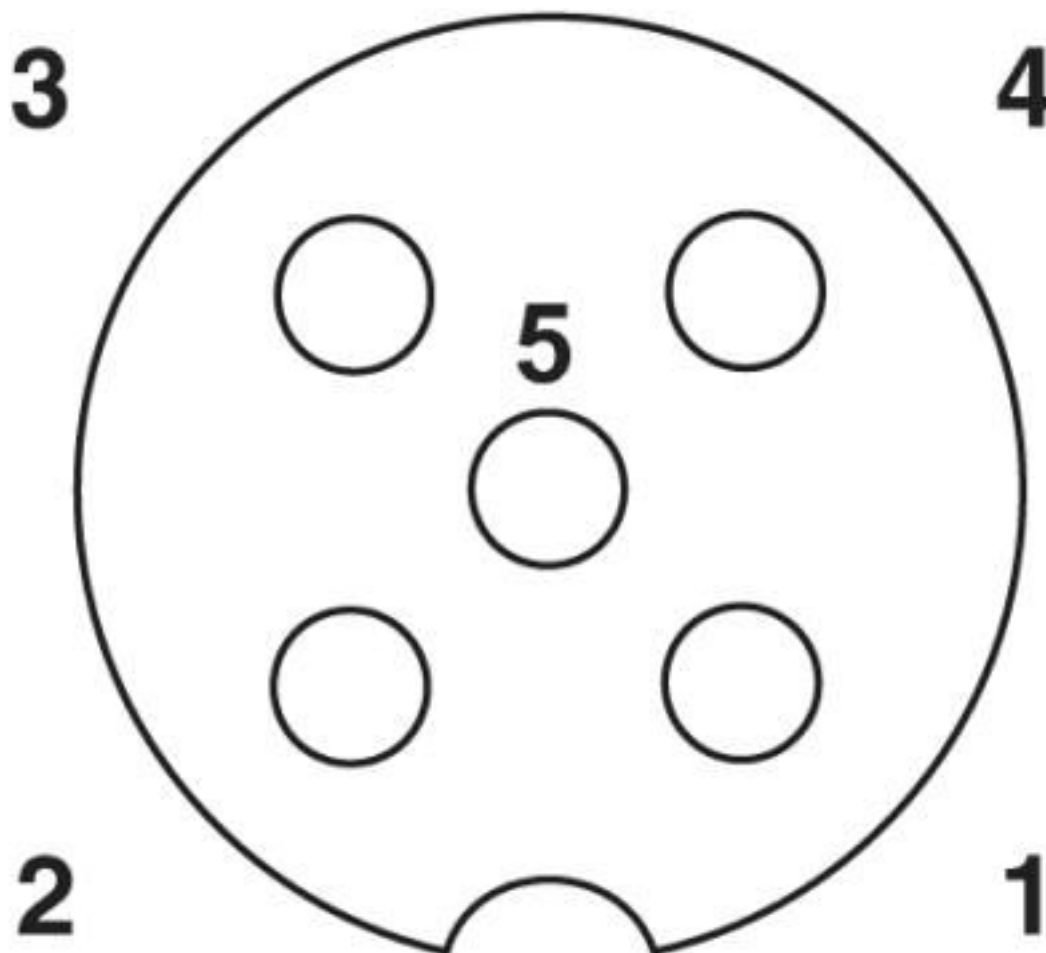
Schematic diagram



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

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Schematic diagram



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

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Cable cross section



CANopen[®]/DeviceNet[™], 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 |

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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 |  | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 221474 |
| Nominal voltage UN | 125 V | | |
| Nominal current IN | 4 A | | |

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

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Approvals

| | |
|--------------------------------|-----|
| Nominal current I _N | 4 A |
|--------------------------------|-----|

| | | |
|----------|--|--------------------------|
| EAC-RoHS | | RU D- DE.HB35.B.00387 |
|----------|--|--------------------------|

| | | |
|-----|--|--------------------------|
| EAC | | RU C- 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



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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

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Accessories

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



T distributor, CANopen[®], DeviceNet[™], 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[®]/DeviceNet[™] 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

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