

SACC-M12FR-5PL M DN - Data connector



1012969

<https://www.phoenixcontact.com/pc/products/1012969>

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Data connector, CANopen[®], DeviceNet[™], 5-position, unshielded, Socket angled M12, A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm



Your advantages

- Time-saving Push-Lock connection: Tool-free connection and disconnection of conductors by opening the contact levers
- Intuitive connection: Easy assignment of individual litz wires with color-coded and numerical identification of the contact levers
- Integrated Push-in Technology: Wire rigid and pretreated conductors easily by means of simple, direct insertion
- Shock- and vibration-resistant connection: Proven spring-cage technology guarantees secure and reliable contacting
- Flexible cable outlets with angled connectors

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1012969 |
| Packing unit | 1 pc |
| Minimum order quantity | 250 pc |
| Note | Made to order (non-returnable) |
| Product key | BF2CEA |
| GTIN | 4055626960302 |
| Weight per piece (including packing) | 27.6 g |
| Weight per piece (excluding packing) | 27 g |
| Customs tariff number | 85366990 |
| Country of origin | DE |

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Technical data

Notes

| | |
|---------|--|
| General | NOTE: Observe the permissible bending radii when laying conductors, since the degree of protection may be put in jeopardy if the bending forces are too high. Alleviate mechanical loads upstream of the connector, e.g. by using cable ties. |
|---------|--|

Mounting

| | |
|-----------------------|---|
| Assembly instructions | The connector pin assignment can be rotated 45° to the cable outlet The wires can be connected both with ferrules and without ferrules |
| Connection method | Push-lock spring connection |

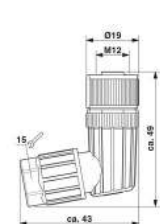
Product properties

| | |
|----------------------|---------------------------------|
| Product type | Circular connector (cable-side) |
| Sensor type | CANopen [®] |
| Number of positions | 5 |
| Application | Data |
| No. of cable outlets | 1 |
| Shielded | no |
| Coding | A |
| Cable outlet | angled |

Insulation characteristics

| | |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution | 3 |

Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Length | 49 mm |

External dimensions

| | |
|------------------|---------------|
| Outside diameter | 4 mm ... 8 mm |
|------------------|---------------|

Housing

| | |
|------------------|-------|
| Diameter housing | 19 mm |
|------------------|-------|

Material specifications

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| | |
|--|---|
| Material | PBT |
| | PA 6 |
| Flammability rating according to UL 94 | V0 |
| Seal material | NBR |
| Material of grip body | PA 6.6 |
| Contact material | CuSn |
| Contact surface material | Ni/Au |
| Contact carrier material | PA 6.6 |
| Material for screw connection | Zinc die-cast, nickel-plated |
| Standards/regulations | PA 6.6: Fire protection in rail vehicles - requirement sets R22, R23, R24, and R26 acc. to DIN EN 45545-2 (Risk level HL1 - HL3) |
| | PA 6: Fire protection in rail vehicles - requirement sets R22, R23, and R24 acc. to DIN EN 45545-2 (Risk level HL1 - HL3) |
| | PBT: Fire protection in rail vehicles - requirement sets R22, R23, R24, and R26 acc. to DIN EN 45545-2 (Risk level HL1 - HL2, R26: HL3) |

Connection data

Conductor connection

| | |
|---|---|
| Connection method | Push-lock spring connection |
| Connection cross section | 0.14 mm ² ... 0.75 mm ² (without ferrule) |
| | 0.08 mm ² ... 0.5 mm ² (with ferrule) |
| | 0.14 mm ² ... 0.75 mm ² (solid) |
| Connection cross section AWG | 26 ... 18 (without ferrule) |
| | 28 ... 20 (with ferrule) |
| Stripping length of the individual wire | 7 mm |
| Tightening torque | 0.4 Nm (M12 knurl) |
| | 0.4 Nm (Connector with coupling sleeve) |
| | 1.5 Nm (Pressure nut with coupling sleeve) |

Pin assignment

| | |
|---|-----------------|
| Contact Color (signal designation) Contact (optional) | 1 = GY (shield) |
| | 2 = RD |
| | 3 = BK |
| | 4 = WH |
| | 5 = BU |

Electrical properties

| | |
|--------------------------------|--|
| Rated surge voltage | 1.5 kV |
| Contact resistance | ≤ 5 mΩ |
| Insulation resistance | ≥ 100 MΩ |
| Nominal voltage U _N | 48 V AC |
| | 60 V DC |
| Nominal current I _N | 4 A (2 A when using 0.14 mm ² conductors) |

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Mechanical properties

Mechanical data

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

Connector

Connection 1

| | |
|-------------------|--------|
| Head design | Socket |
| Head cable outlet | angled |
| Head thread type | M12 |
| Coding | A |

Cable/line

| | |
|---|--|
| Signal type/category | CANopen [®] DeviceNet [™] |
| Stripping length of the individual wire | 7 mm |

Environmental and real-life conditions

Ambient conditions

| | |
|---------------------------------|----------------------------------|
| Degree of protection | IP65 IP67 |
| Ambient temperature (operation) | -40 °C ... 85 °C (Plug / socket) |

Standards and regulations

Testing

| | |
|-----------------------|--|
| Standards/regulations | PA 6.6: Fire protection in rail vehicles - requirement sets R22, R23, R24, and R26 acc. to DIN EN 45545-2 (Risk level HL1 - HL3) PA 6: Fire protection in rail vehicles - requirement sets R22, R23, and R24 acc. to DIN EN 45545-2 (Risk level HL1 - HL3) PBT: Fire protection in rail vehicles - requirement sets R22, R23, R24, and R26 acc. to DIN EN 45545-2 (Risk level HL1 - HL2, R26: HL3) |
|-----------------------|--|

M12

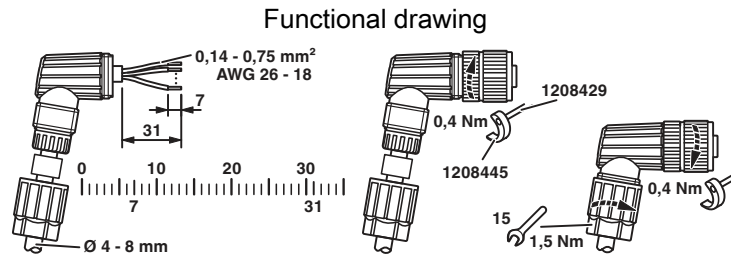
| | |
|--------------------------|------------------|
| Standard designation | M12 connector |
| Standards/specifications | IEC 61076-2-101 |
| Standard designation | Shock, vibration |
| Standards/specifications | EN 50155:2001 |

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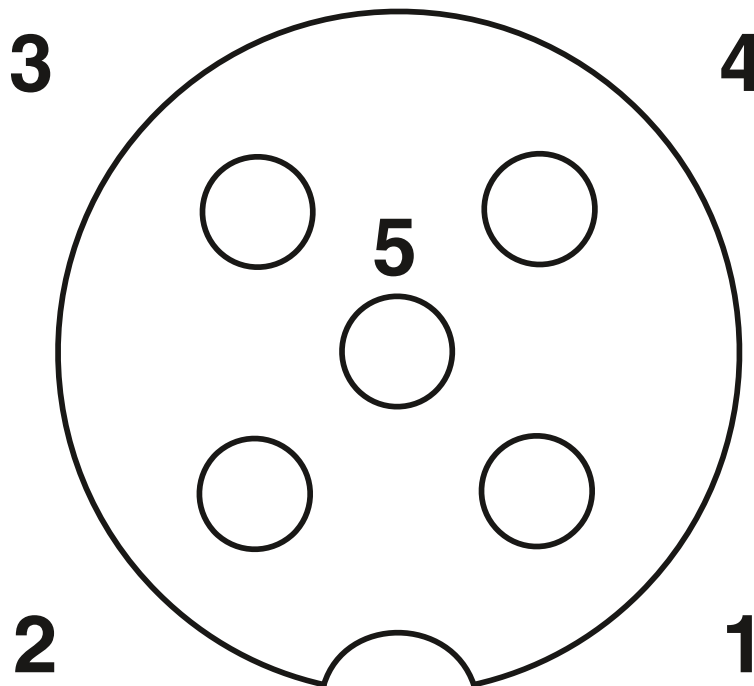
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Drawings



Schematic diagram



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

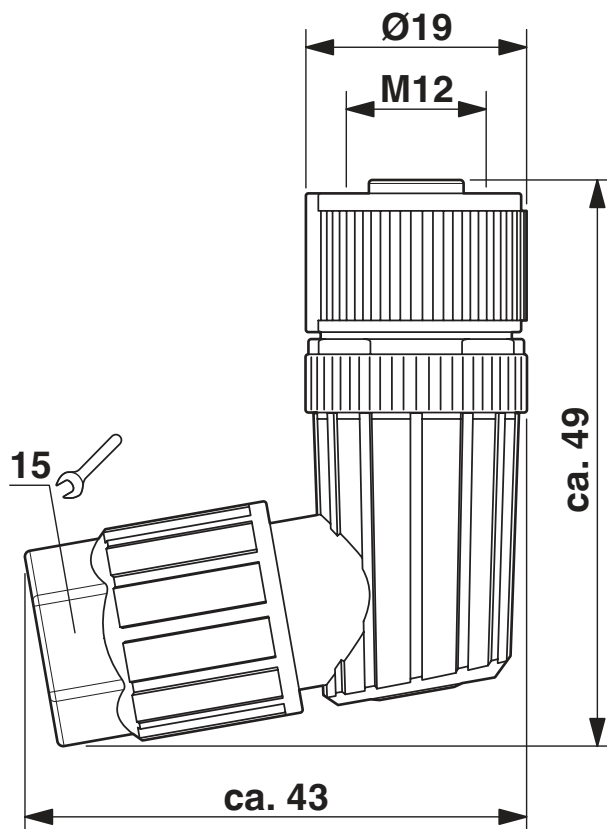
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Dimensional drawing



M12 x 1 socket, angled

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/1012969>

|  UL Listed Approval ID: E221474 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| | 250 V | 4 A | - | 26 - 18 |

|  cUL Listed Approval ID: E221474 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| | 250 V | 4 A | 26 - 18 | - |

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

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27440102 |
| ECLASS-12.0 | 27440116 |
| ECLASS-13.0 | 27440116 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002635 |
|----------|----------|

UNSPSC

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

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Environmental product compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

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Accessories

PROT-M12 MS-PA-CHAIN - Screw plug

1430899

<https://www.phoenixcontact.com/pc/products/1430899>

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



SAC-5P-920/... - Bus system cable

1511504

<https://www.phoenixcontact.com/pc/products/1511504>

Bus system cable, CANopen[®], DeviceNet[™], 4-position halogen-free, shielded, cable length: Free entry (0.5 ... 400 m)



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AI 0,25- 6 YE - Ferrule

3203024

<https://www.phoenixcontact.com/pc/products/3203024>



Ferrule, sleeve length: 6 mm, length: 10.5 mm, color: yellow

A 0,25- 7 - Ferrule

3202478

<https://www.phoenixcontact.com/pc/products/3202478>



Ferrule, length: 7 mm, color: silver

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A 0,34- 7 - Ferrule

3009202

<https://www.phoenixcontact.com/pc/products/3009202>



Ferrule, length: 7 mm, color: silver

A 0,5 - 6 - Ferrule

3200218

<https://www.phoenixcontact.com/pc/products/3200218>



Ferrule, length: 6 mm, color: silver

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AI 0,5 - 6 WH - Ferrule

3200687

<https://www.phoenixcontact.com/pc/products/3200687>



Ferrule, sleeve length: 6 mm, length: 12 mm, color: white

TSD 04 SAC - Torque screwdriver

1208429

<https://www.phoenixcontact.com/pc/products/1208429>



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

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SACC BIT M12-D20 - Tool

1208445

<https://www.phoenixcontact.com/pc/products/1208445>

Nut for assembling M12 connectors for assembly with a knurl diameter of 20 mm, for 4 mm hexagonal drive



TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/pc/products/1212224>

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



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TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/pc/products/1212600>



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

VS-CABLE-STRIP-VARIO - Stripping tool

1657407

<https://www.phoenixcontact.com/pc/products/1657407>

Stripping tool, for the multi-level stripping of shielded cables



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WIREFOX 2,5 - Stripping tool

1212368

<https://www.phoenixcontact.com/pc/products/1212368>



Stripping tool, for conductors and cables with a conductor cross section from 0.08 to 2.5 mm, self-adjusting, stripping length adjustable up to 15 mm, cutting capacity up to 6 mm² stranded/1.5 mm² solid

WIREFOX SAC - Stripping tool

1212623

<https://www.phoenixcontact.com/pc/products/1212623>



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø of 4.4 to 7 mm, any stripping length

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<https://www.phoenixcontact.com/pc/products/1012969>

CRIMPFOX 6H - Crimping pliers

1212046

<https://www.phoenixcontact.com/pc/products/1212046>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.14 mm² ... 6 mm², unlockable pressure lock, lateral entry

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PHOENIX CONTACT GmbH & Co. KG

Flachsmarktstraße 8

D-32825 Blomberg

+49 (0) 5235-3 00

info@phoenixcontact.com