

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

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 documentation. Our General Terms of Use for Downloads are valid.



Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, D, 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
- Safely shielded: Reliable 360° shield connection even under extreme mechanical strain

## Commercial Data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1424682             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales Key                            | BF2                 |
| Product Key                          | BF2CFN              |
| Catalog Page                         | Page 343 (C-2-2019) |
| GTIN                                 | 4055626376097       |
| Weight per Piece (including packing) | 36.72 g             |
| Weight per Piece (excluding packing) | 37.5 g              |
| Customs tariff number                | 85366990            |
| Country of origin                    | DE                  |

## Technical Data

### Notes

|         |  |
|---------|--|
| General | This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 8.2 Connectors for Outside Environment (Balanced cabling)                                 |
| General | <b>NOTE:</b> 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 wires can be connected both with ferrules and without ferrules |
| Connection method     | Push-lock spring connection  |

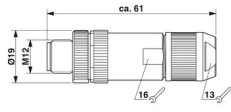
### Product properties

|                      |                                 |
|----------------------|---------------------------------|
| Product type         | Circular connector (cable-side) |
| Number of positions  | 4                               |
| Sensor type          | PROFINET                        |
| Application          | Data                            |
| No. of cable outlets | 1                               |
| Shielded             | yes                             |
| Coding               | D                               |
| Cable outlet         | straight                        |

### Insulation characteristics

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

### Dimensions

|                        |  |
|------------------------|--|
| Dimensional drawing    |  |
| Length                 | 60 mm  |
| Wrench size, union nut | 13 mm  |

### External dimensions

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

### Housing

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

### Material specifications

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

|  |   |
|--|---|
| Material                               | TPE-U   |
|  | PA 6  |
| Flammability rating according to UL 94 | V0  |
| Seal material                          | NBR   |
| Material of grip body                  | Zinc die-cast, nickel-plated  |
| 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, R25, 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)             |

## Connection data

### Conductor connection

|   |   |
|---|---|
| Connection method                       | Push-lock spring connection                                     |
| Connection cross section                | 0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> (without ferrule) |
|   | 0.08 mm <sup>2</sup> ... 0.5 mm <sup>2</sup> (with ferrule)     |
|   | 0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> (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)  |
|   | 0.8 Nm (Connector with coupling sleeve)                         |
|   | 3 Nm (Pressure nut with coupling sleeve)                        |

### Pin assignment

|   |              |
|---|--------------|
| Contact   Color (signal designation)   Contact (optional) | 1 = YE (TD+) |
|   | 2 = WH (RD+) |
|   | 3 = OG (TD-) |
|   | 4 = BU (RD-) |

## Electrical properties

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

## Mechanical properties

### Mechanical data

|                             |   |
|-----------------------------|---|
| Insertion/withdrawal cycles | ≥ 100 (Quantity: 500 with Phoenix Contact mating connector) |
|-----------------------------|---|

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

## Connector

### Connection 1

|                   |          |
|-------------------|----------|
| Head design       | Plug     |
| Head cable outlet | straight |
| Head thread type  | M12      |
| Coding            | D        |

## Cable/line

|   |   |
|---|---|
| Signal type/category                    | PROFINET CAT5 (on the basis of IEC 11801), 100 Mbps |
| 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, R25, 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)             |

### M12

|                          |                 |
|--------------------------|-----------------|
| Standards/specifications | IEC 61076-2-101 |
| Standards/specifications | EN 50155:2001   |

# SACC-M12MSD-4PL SH PN - Data connector

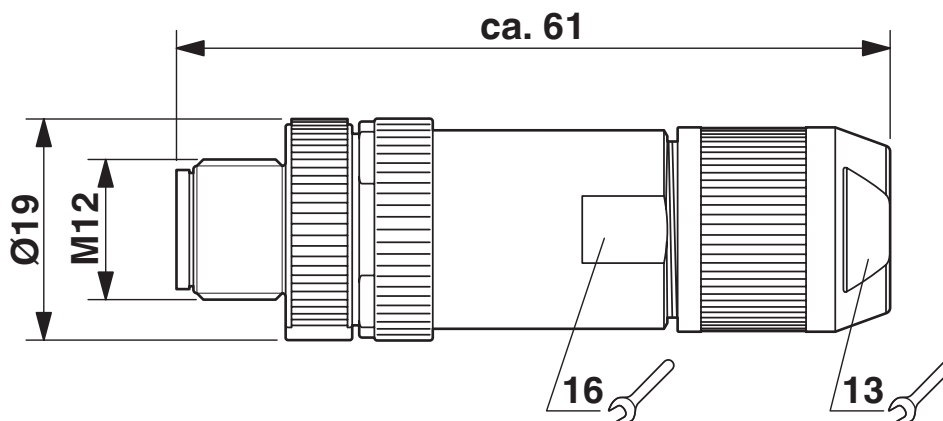


1424682

<https://www.phoenixcontact.com/in/products/1424682>

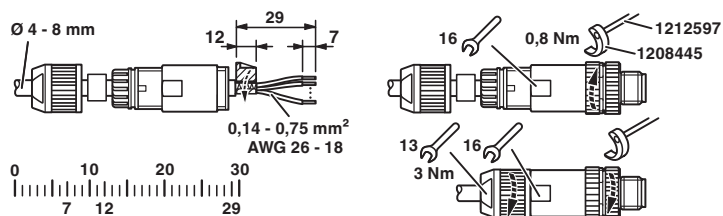
## Drawings

Dimensional drawing



M12 SPEEDCON plug, straight, shielded

Functional drawing



Slide the pressure nut and sleeve housing along the cable, strip the cable, shorten the shield, strip the single wires, in the case of a straight sleeve housing gently twist the wires together, stick the shielding foil around the shortened shield, in the case of a cable outside diameter < 6 mm stick an additional shielding foil around the wire pack, screw the sleeve housing to the plug insert, screw the pressure nut tight.

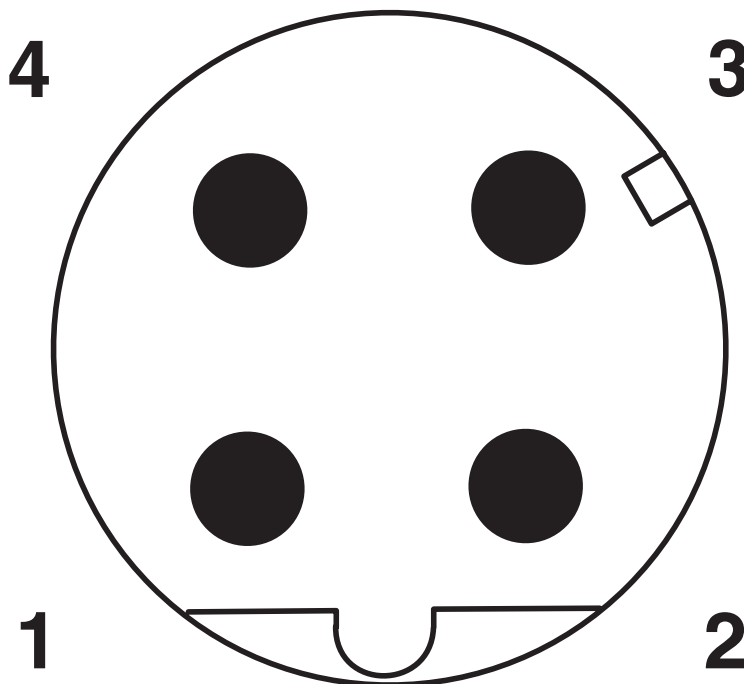
# SACC-M12MSD-4PL SH PN - Data connector

1424682

<https://www.phoenixcontact.com/in/products/1424682>



Schematic diagram



Pin assignment M12 male connector, 4-pos., D-coded, male side

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

## Approvals



**EAC**

Approval ID: RU C-DE.AI30.B.01102



**EAC**

Approval ID: RU C-DE.BL08.B.00511



**UL Listed**

Approval ID: E221474

|  | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 60 V                  | 4 A                   | -                 | 26 - 18                     |



**cUL Listed**

Approval ID: E221474

|  | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 60 V                  | 4 A                   | 26 - 18           | -                           |

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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



# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

## Environmental Product Compliance

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

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

## Accessories

### TSD 04 SAC - Torque screwdriver

1208429

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



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

---

### SACC BIT M12-D20 - Tool

1208445

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



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

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

## TSD 08 SAC - Torque screwdriver

1212597

<https://www.phoenixcontact.com/in/products/1212597>



Torque screw driver with preset torque of 0.8 Nm, with 4 mm hexagon for accommodating SAC bits, two-component handle with non-slip grip

---

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

1212224

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



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

# SACC-M12MSD-4PL SH PN - Data connector

1424682

<https://www.phoenixcontact.com/in/products/1424682>



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

1212600

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



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

---

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

1430873

<https://www.phoenixcontact.com/in/products/1430873>



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

# SACC-M12MSD-4PL SH PN - Data connector

1424682

<https://www.phoenixcontact.com/in/products/1424682>

## VS-OE-OE-93B/... - Data cable

1417362

<https://www.phoenixcontact.com/in/products/1417362>



Data cable, PROFINET CAT5 (100 Mbps), 4-position, shielded, free cable end, on free cable end, cable length: Free entry (0.5 ... 400 m)

---

## VS-OE-OE-93C/... - Data cable

1417491

<https://www.phoenixcontact.com/in/products/1417491>



Data cable, PROFINET CAT5 (100 Mbps), 4-position halogen-free, shielded, free cable end, on free cable end, cable length: Free entry (0.5 ... 400 m)

# SACC-M12MSD-4PL SH PN - Data connector

1424682

<https://www.phoenixcontact.com/in/products/1424682>

## VS-OE-OE-93R/... - Data cable

1417388

<https://www.phoenixcontact.com/in/products/1417388>



Data cable, PROFINET CAT5 (100 Mbps), 4-position halogen-free, shielded, free cable end, on free cable end, cable length: Free input (0.5 ... 100 m)

---

## VS-OE-OE-936/... - Data cable

1417375

<https://www.phoenixcontact.com/in/products/1417375>



Data cable, PROFINET CAT5 (100 Mbps), 4-position halogen-free, shielded, free cable end, on free cable end, cable length: Free input (0.5 ... 100 m)

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

## VS-OE-OE-937/... - Data cable

1402687

<https://www.phoenixcontact.com/in/products/1402687>



Data cable, PROFINET CAT5 (100 Mbps), 4-position halogen-free, shielded, free cable end, on free cable end, cable length: Free entry (0.5 ... 400 m)

---

## ALU-SB - Shielding foil

1404531

<https://www.phoenixcontact.com/in/products/1404531>

Shielding foil, for fixing the braided shield of shielded cables. Length: 4 cm, width: 1.2 cm



# SACC-M12MSD-4PL SH PN - Data connector

1424682

<https://www.phoenixcontact.com/in/products/1424682>



## VS-CABLE-STRIP-VARIO - Stripping tool

1657407

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

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



---

## WIREFOX 2,5 - Stripping tool

1212368

<https://www.phoenixcontact.com/in/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 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid



# SACC-M12MSD-4PL SH PN - Data connector

1424682

<https://www.phoenixcontact.com/in/products/1424682>

## AI 0,25- 6 YE - Ferrule

3203024

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



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

---

## A 0,25- 7 - Ferrule

3202478

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



Ferrule, length: 7 mm, color: silver

# SACC-M12MSD-4PL SH PN - Data connector

1424682

<https://www.phoenixcontact.com/in/products/1424682>

## A 0,34- 7 - Ferrule

3009202

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



Ferrule, length: 7 mm, color: silver

---

## A 0,5 - 6 - Ferrule

3200218

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



Ferrule, length: 6 mm, color: silver

# SACC-M12MSD-4PL SH PN - Data connector



1424682

<https://www.phoenixcontact.com/in/products/1424682>

## AI 0,5 - 6 WH - Ferrule

3200687

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

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



---

## CRIMPFOX 6H - Crimping pliers

1212046

<https://www.phoenixcontact.com/in/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 mm<sup>2</sup> ... 6 mm<sup>2</sup>, unlockable pressure lock, lateral entry

---

Phoenix Contact 2023 © - all rights reserved  
<https://www.phoenixcontact.com>

PHOENIX CONTACT (I) Pvt. Ltd.  
A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420  
[info@phoenixcontact.co.in](mailto:info@phoenixcontact.co.in)