

# SACC-M12FSD-4PL SH PN - Data connector



1424683

<https://www.phoenixcontact.com/in/products/1424683>

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Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket 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	1424683
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	BF2
Product Key	BF2CFN
Catalog Page	Page 343 (C-2-2019)
GTIN	4055626376103
Weight per Piece (including packing)	42.4 g
Weight per Piece (excluding packing)	41.8 g
Customs tariff number	85366990
Country of origin	DE

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## 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)
Assembly instruction:	<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
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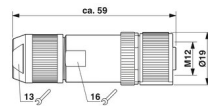
### Product properties

Product type	Circular connector (cable-side)
Number of positions	4
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	59 mm

### External dimensions

Outside diameter	4 mm ... 8 mm
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### Housing

Diameter housing	19 mm
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### Material specifications

Material	TPE-U
	PA 6
Flammability rating according to UL 94	V0

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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)
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## Connector

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## Connection 1

Head design	Socket
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

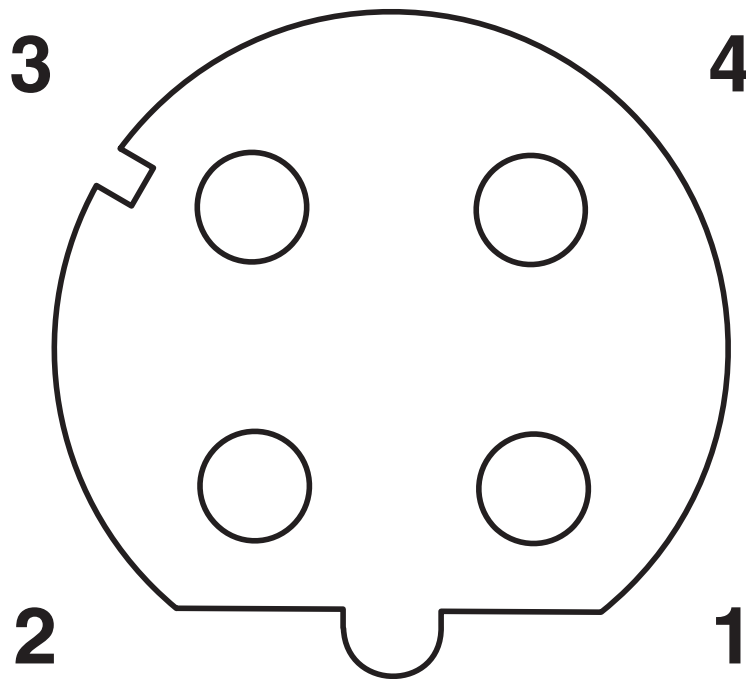
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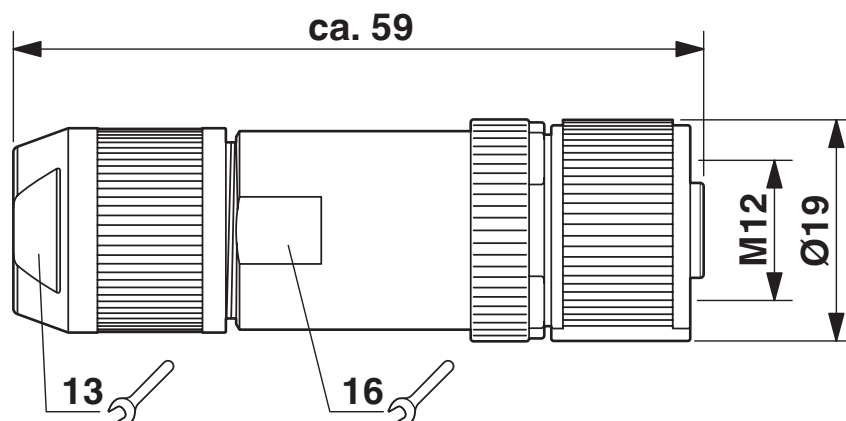
## Drawings

Schematic diagram



Pin assignment M12 socket, 4-pos., D-coded, female side

Dimensional drawing



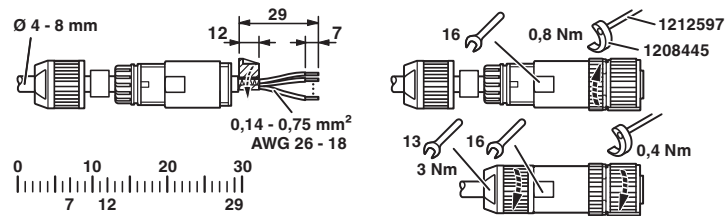
Socket M12-SPEEDCON, straight, shielded

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## Functional drawing



Slide the pressure nut and sleeve housing along the cable, strip the cable, shorten the shield, strip the single wires, connect the 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.

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## 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**

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

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## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC002635
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### 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

### 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

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### 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

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## 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

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## 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

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## 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

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

1430899

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



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

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## 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)

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## 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)

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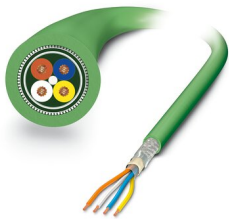
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## VS-OE-OE-93R/... - Data cable

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)

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## 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)

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## 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)

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## 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



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

1657407

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



Stripping tool, for conductors and cables with a conductor cross section from 0.08 to 2.5 mm<sup>2</sup>, 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



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## 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

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## A 0,25- 7 - Ferrule

3202478

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



Ferrule, length: 7 mm, color: silver

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## A 0,34- 7 - Ferrule

3009202

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

Ferrule, length: 7 mm, color: silver



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## A 0,5 - 6 - Ferrule

3200218

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

Ferrule, length: 6 mm, color: silver



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## AI 0,5 - 6 WH - Ferrule

3200687

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

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



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## 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

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