

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



1424682

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

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Data connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, Coding: D, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

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## 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

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## Commercial Data

Item number	1424682
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	BF2CFN
Catalog Page	Page 343 (C-2-2019)
GTIN	4055626376097
Weight per Piece (including packing)	37.55 g
Weight per Piece (excluding packing)	37 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)
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.

### Product properties

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

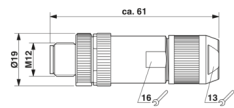
### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Ambient conditions

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

### Dimensions

Dimensional drawing	
Length	60 mm

### External dimensions

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

Diameter housing	19 mm
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### Connector

Insertion/withdrawal cycles	≥ 100 (Quantity: 500 with Phoenix Contact mating connector)
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### Header 1

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Head design	Plug
Head cable outlet	straight
Head thread type	M12
Coding	D-coded
Number of positions	4
Coding	D - data
Insertion/withdrawal cycles	≥ 100 (Quantity: 500 with Phoenix Contact mating connector)
Connection method	Push-lock spring connection
Contact material	CuSn
Contact surface material	Ni/Au
Number of positions	4
Coding	D - data
Insertion/withdrawal cycles	≥ 100 (Quantity: 500 with Phoenix Contact mating connector)
Connection method	Push-lock spring connection
Contact material	CuSn
Contact surface material	Ni/Au

## 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 <sup>2</sup> conductors)

## Material specifications

Material	TPE-U (Clamping cage, weight: 1.1 g)
	PA 6 (Actuation lever)
Flammability rating according to UL 94	V0
Sealing 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
Cable gland material	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
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>

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Cross section AWG	26 ... 18
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## Pin assignment

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

## Mounting

Assembly instructions	The wires can be connected both with ferrules and without ferrules
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## 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
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### M12

Standards/specifications	EN 50155:2001
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## Cable / line

### Cable structure

Signal type/category	PROFINET CAT5 (on the basis of IEC 11801), 100 Mbps
Stripping length of the individual wire	7 mm

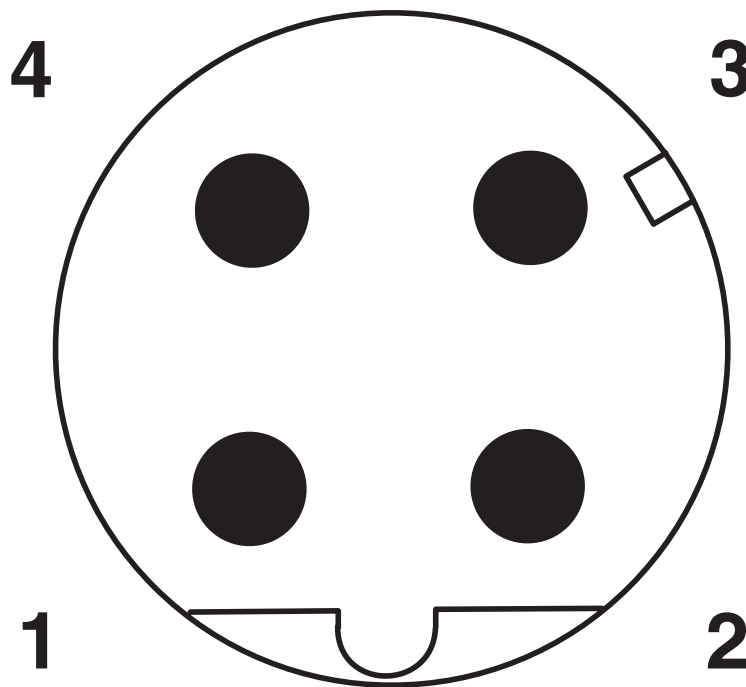
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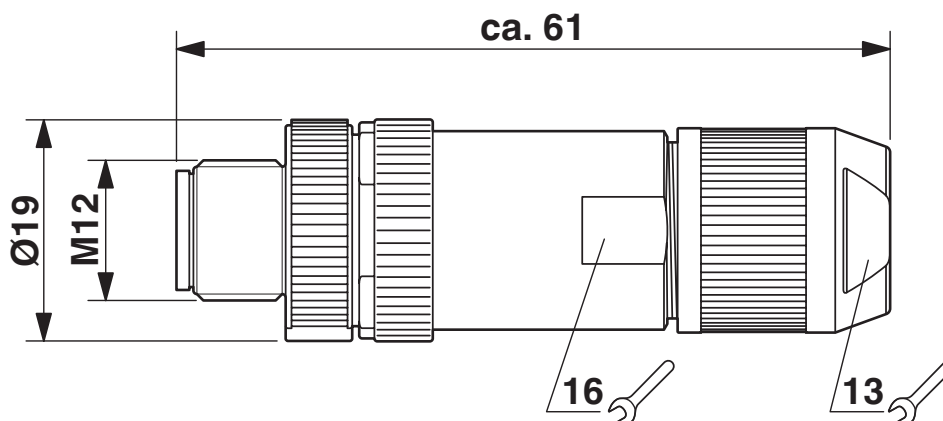
## Drawings

Schematic diagram



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

Dimensional drawing



M12 SPEEDCON plug, straight, shielded

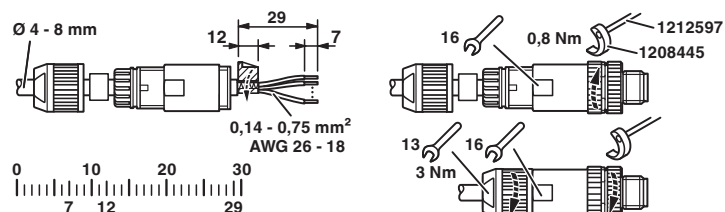
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## Functional drawing



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**

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	-

**cULus Listed**



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## Classifications

### ECLASS

ECLASS-9.0	27440102
ECLASS-10.0.1	27440102
ECLASS-11.0	27440102

### 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

### Shielding foil

Shielding foil - ALU-SB - 1404531

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

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



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## Network cable

Network cable - VS-OE-OE-93B/... - 1417362

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

Network 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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## Network cable

Network cable - VS-OE-OE-93C/... - 1417491

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



Network 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), For drag chains

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## Network cable

Network cable - VS-OE-OE-93R/... - 1417388

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



Network 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), for robots

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

## Network cable

Network cable - VS-OE-OE-936/... - 1417375

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



Network 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), For railway applications

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## Network cable

Network cable - VS-OE-OE-937/... - 1402687

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



Network 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), For railway applications

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

## Ferrule

Ferrule - AI 0,25- 6 YE - 3203024

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



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

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## Ferrule

Ferrule - A 0,25- 7 - 3202478

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



Ferrule, length: 7 mm, color: silver

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

## Ferrule

Ferrule - A 0,34- 7 - 3009202

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

Ferrule, length: 7 mm, color: silver



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## Ferrule

Ferrule - A 0,5 - 6 - 3200218

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

Ferrule, length: 6 mm, color: silver



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

## Ferrule

Ferrule - AI 0,5 - 6 WH - 3200687

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

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



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## Stripping tool

Stripping tool - VS-CABLE-STRIP-VARIO - 1657407

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

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





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## Stripping tool

Stripping tool - WIREFOX 2,5 - 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 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid

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## Torque screwdriver

Torque screwdriver - TSD 04 SAC - 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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<https://www.phoenixcontact.com/pc/products/1424682>

## Torque screwdriver

Torque screwdriver - TSD 08 SAC - 1212597

<https://www.phoenixcontact.com/pc/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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## Torque screwdriver

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

Adapter insert - TSD-M SAC-BIT ADAPTER - 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

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## Sealing cap

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

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



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

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## Crimping pliers

Crimping pliers - CRIMPFOX 6H - 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 mm<sup>2</sup> ... 6 mm<sup>2</sup>, unlockable pressure lock, lateral entry

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## Tool

Tool - SACC BIT M12-D20 - 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

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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstraße 8  
D-32825 Blomberg  
+49 (0) 5235-3 00  
[info@phoenixcontact.com](mailto:info@phoenixcontact.com)