

# SACC-M12FRB-2PL SH PB - Data connector

1424681

<https://www.phoenixcontact.com/us/products/1424681>



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Data connector, PROFIBUS DP (12 Mbps), 2-position, shielded, Socket angled M12, coding: B, 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
- Flexible cable outlets with angled connectors

## Commercial data

Item number	1424681
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF33
Product key	AF2CFC
GTIN	4055626376080
Weight per piece (including packing)	43.5 g
Weight per piece (excluding packing)	43.5 g
Customs tariff number	85366990
Country of origin	DE

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## Technical data

### Notes

Assembly note	<b>NOTE:</b> Observe the permissible bending radii when routing cables, since the degree of protection may be at risk if the bending forces are too high. Reduce mechanical loads upstream of the connector, e.g., by using cable ties.
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### Mounting

Assembly note	The connector pin assignment can be rotated 45° to the cable outlet
	The wires can be connected both with ferrules and without ferrules

### Product properties

Product type	Circular connector (cable-side)
Application	Data
Sensor type	PROFIBUS DP
Number of positions	2
No. of cable outlets	1
Shielded	yes
Coding	B
Cable outlet	angled

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Dimensions

Dimensional drawing	
Length	48 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 (Clamping cage, weight: 1.1 g)
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	PA 6 (Actuation lever)
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
	PA 6

## 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)

### Connection assignment

Contact   Color (signal designation)   Contact (optional)	2 = GN (A)
	4 = RD (B)

## 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)
Transmission speed	12 Mbps

## Mechanical properties

### Mechanical data

Insertion/withdrawal cycles	≥ 100
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## Connector

### Connection 1

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Head design	Socket
Head cable outlet	angled
Head thread type	M12
Coding	B

## Cable/line

Signal type/category	PROFIBUS DP, 12 Mbps
Stripping length of the individual wire	7 mm

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67
Ambient temperature (operation) (male connector/female connector)	-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

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

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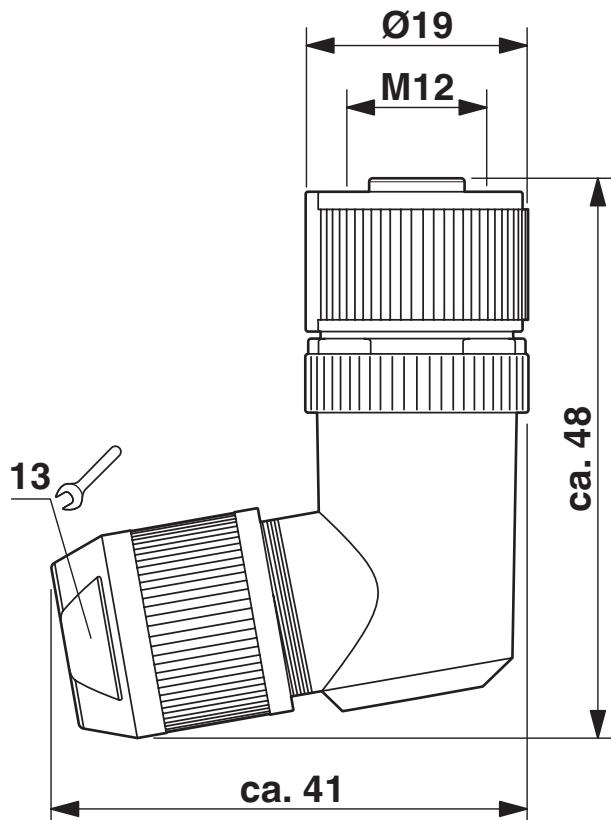
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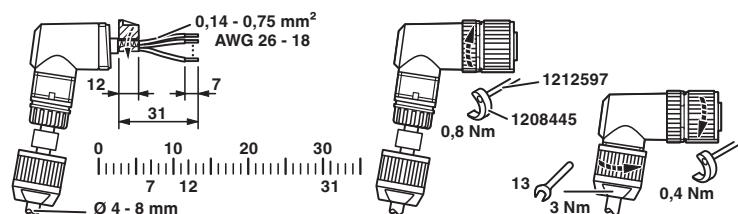
## Drawings

Dimensional drawing



Socket M12-SPEEDCON, angled, shielded

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.

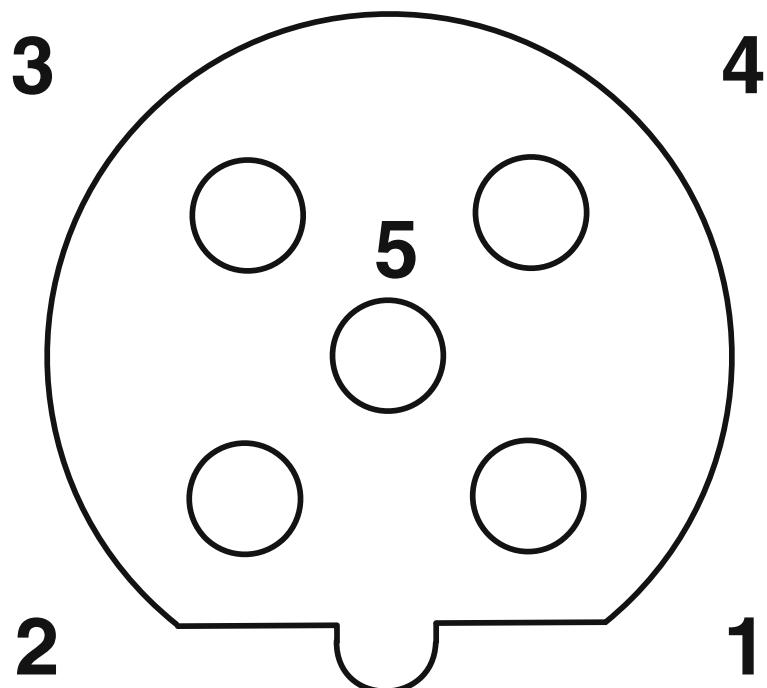
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Schematic diagram



Pin assignment M12 socket, 5-pos., B-coded, female side

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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1424681>

<b>UL Listed</b> Approval ID: E221474				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine	60 V	4 A	26 - 18	26 - 18

<b>cUL Listed</b> Approval ID: E221474				
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## Classifications

### ECLASS

ECLASS-13.0	27440116
ECLASS-15.0	27440116

### ETIM

ETIM 9.0	EC002635
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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