

# SACC-M12FR-5PL SH - Connector



1424661

<https://www.phoenixcontact.com/pc/products/1424661>

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Connector, Universal, 5-position, shielded, Socket angled M12, coding: 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
- Safely shielded: Reliable 360° shield connection even under extreme mechanical strain
- Flexible cable outlets with angled connectors

## Commercial data

Item number	1424661
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	BF2CFA
Catalog page	Page 19 (C-2-2019)
GTIN	4055626375885
Weight per piece (including packing)	44.4 g
Weight per piece (excluding packing)	44.4 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 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.
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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

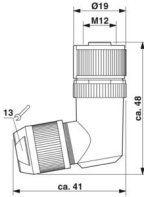
### Product properties

Product type	Circular connector (cable-side)
Sensor type	Universal
Number of positions	5
No. of cable outlets	1
Shielded	yes
Coding	A
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)
	PA 6 (Actuation lever)

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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 = BN
	2 = WH
	3 = BU
	4 = BK
	5 = GY

## Electrical properties

Rated surge voltage	1.5 kV
Contact resistance	≤ 8 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
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## Connector

### Connection 1

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

## Cable/line

Signal type/category	Universal
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

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

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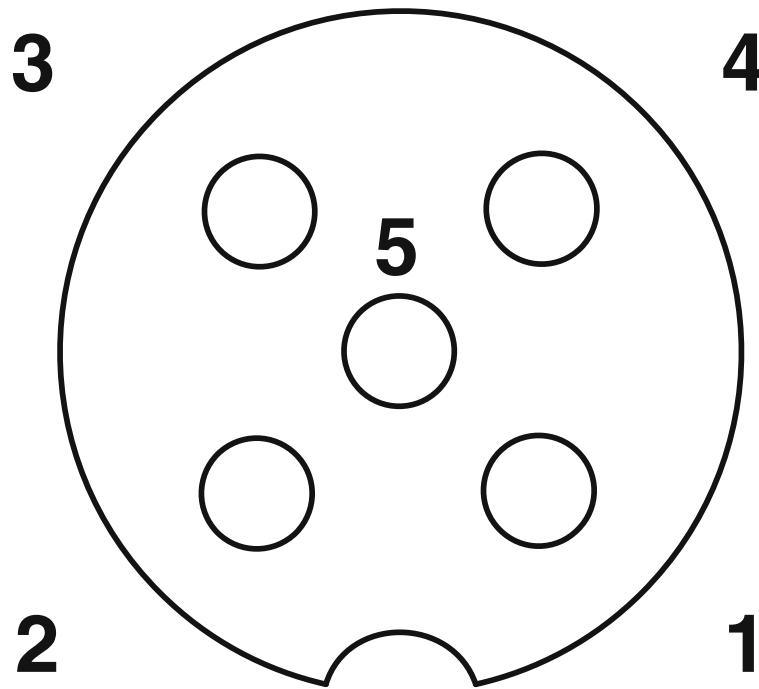


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## Drawings

Schematic diagram



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

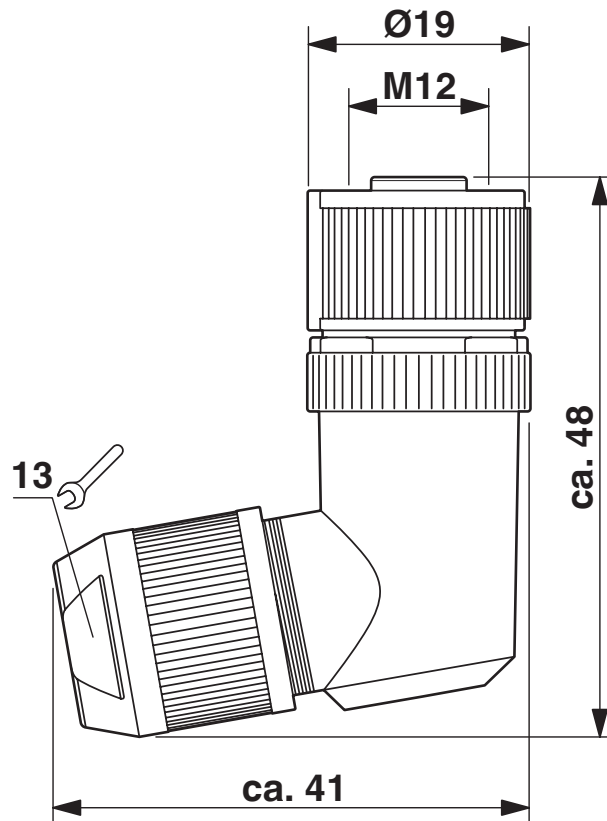
# SACC-M12FR-5PL SH - Connector



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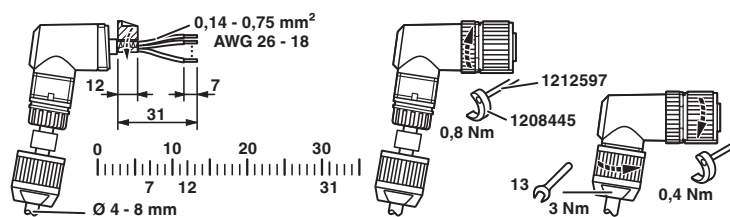
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## Dimensional drawing



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  $< 6 \text{ mm}$  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

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/1424661>



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

	<b>UL Listed</b> 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

	<b>cUL Listed</b> 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-11.0	27440102
ECLASS-12.0	27440116
ECLASS-13.0	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
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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## 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



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### SAC-5P-100,0-PUR/SH-0,34 - Cable reel

1501728

<https://www.phoenixcontact.com/pc/products/1501728>

By the meter, Cable reel, shielded, PUR halogen-free, black-gray RAL 7021, 5-wire, color single wire: brown, white, blue, black, gray, cable length: 100 m



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## ALU-SB - Shielding foil

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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## AI 0,25- 6 YE - Ferrule

3203024

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

Ferrule, sleeve length: 6 mm, color: yellow



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## A 0,25- 7 - Ferrule

3202478

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



Ferrule, color: silver

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## A 0,34- 7 - Ferrule

3009202

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



Ferrule, color: silver

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## A 0,5 - 6 - Ferrule

3200218

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



Ferrule, 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, color: white

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## 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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## TSD 08 SAC - Torque screwdriver

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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## 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



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## 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 3NM - Torque screwdriver

1212225

<https://www.phoenixcontact.com/pc/products/1212225>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 1.2 - 3 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



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## 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<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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## 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 mm<sup>2</sup> ... 6 mm<sup>2</sup>, unlockable pressure lock, lateral entry

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