#### 1424664

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Connector, Universal, 5-position, shielded, Socket straight M12, 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

#### **Commercial Data**

Item number	1424664
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	BF2
Product Key	BF2CFA
Catalog Page	Page 19 (C-2-2019)
GTIN	4055626375915
Weight per Piece (including packing)	41.9 g
Weight per Piece (excluding packing)	41.9 g
Customs tariff number	85366990
Country of origin	DE

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### **Technical Data**

#### Notes

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
Product properties	
Product type	Circular connector (cable-side)
Number of positions	5
No. of cable outlets	1
Shielded	yes
Coding	В
Cable outlet	straight
Insulation characteristics	

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#### Dimensions

Degree of pollution

Contact surface material

Dimensional drawing		
Length	59 mm	
External dimensions		
Outside diameter	4 mm 8 mm	
Housing		
Diameter housing	19 mm	
Material specifications		
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	

Ni/Au

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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

#### Connector

Connection 1		
	Head design	Socket
	Head cable outlet	straight

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Coding B	Head thread type	M12
	Coding	В

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

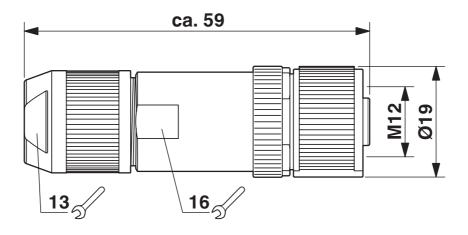


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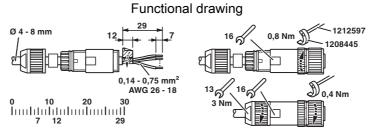
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# Drawings

Dimensional drawing



Socket M12-SPEEDCON, straight, shielded



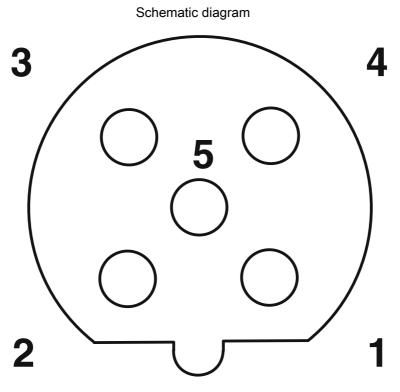
Slide the pressure nut and sleeve housing along the cable, strip the cable, shorten the shield, strip the single wires, connect the wires, in the case of a straight sleeve housing gently twist the wires together, stick the shielding foil around the shortened shield, in the case of a cable outside diameter < 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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Pin assignment M12 socket, 5-pos., B-coded, female side



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### Approvals

ERC	EAC Approval ID: RU C-DE.AI3	30.B.01102			
EAC	EAC Approval ID: RU C-DE.BL	08.B.00511			
	<b>UL Listed</b> Approval ID: E221474				
		Nominal Voltage U <sub>N</sub>	Nominal Current I <sub>N</sub>	Cross Section AWG	Cross Section mm <sup>2</sup>
		60 V	4 A	-	26 - 18
•	<b>CUL Listed</b> Approval ID: E221474				
		Nominal Voltage U <sub>N</sub>	Nominal Current I <sub>N</sub>	Cross Section AWG	Cross Section mm <sup>2</sup>
		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		
UN	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

#### 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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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  $\,$ 



#### 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  $\rm Nm$ 

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#### TSD-M 3NM - Torque screwdriver

#### 1212225

https://www.phoenixcontact.com/in/products/1212225



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 1.  $\rm 2-3\ Nm$ 

#### 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



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

1501728 https://www.phoenixcontact.com/in/products/1501728



By the meter, Cable reel, shielded, PUR halogen-free, black-gray RAL 7021, 5wire, 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/in/products/1404531

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



#### 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, 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

#### 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

#### 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

#### 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

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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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