

# SF-5EP1N8A9LB4 - Coupler connector



1605509

<https://www.phoenixcontact.com/us/products/1605509>

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Coupler connector, straight long, for standard and SPEEDCON interlock, M23, number of positions: 5+PE, contact connection type: Pin, shielded: yes, degree of protection: IP67, cable diameter range: 7.5 mm ... 9 mm, Compatible with mating connectors with SPEEDCON or M23 standard knurled nuts, number of positions: 6, connection method: Crimp connection, series: SF, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1241901

## Your advantages

- Consistent EMC protection for reliable connection solutions in the industrial environment
- Crimping connection: vibration- and temperature-resistant assembly
- Flexible use: reliably connect various cable diameters

## Commercial data

Item number	1605509
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AB32
Product key	ABRBFG
Catalog page	Page 155 (C-2-2019)
GTIN	4046356253239
Weight per piece (including packing)	113.55 g
Weight per piece (excluding packing)	108.55 g
Customs tariff number	85366990
Country of origin	DE

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## Technical data

### Notes

Order information:	Order crimp contacts 6 x Ø 2 mm separately
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### Safety note

Safety note	WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.
	<ul style="list-style-type: none"><li>• WARNING: Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible.</li></ul>
	<ul style="list-style-type: none"><li>• WARNING: Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar with electrical engineering are allowed to install and operate the product.</li></ul>
	<ul style="list-style-type: none"><li>• The products are suitable for applications in plant, controller, and electrical device engineering.</li></ul>
	<ul style="list-style-type: none"><li>• When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li></ul>
	<ul style="list-style-type: none"><li>• Assembled products may not be manipulated or improperly opened.</li></ul>
	<ul style="list-style-type: none"><li>• Only use mating connectors that are specified in the technical data of the standards listed (e.g. the ones listed in the product accessories online at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a>).</li></ul>
	<ul style="list-style-type: none"><li>• When using the product in direct connection with third-party manufacturers, the user is responsible.</li></ul>
	<ul style="list-style-type: none"><li>• For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li></ul>
	<ul style="list-style-type: none"><li>• Ensure that the protective or functional ground has been properly connected.</li></ul>
	<ul style="list-style-type: none"><li>• VDE 0100/1.97 § 411.1.3.2 and DIN EN 60 204/11.98 § 14.1.3 are applicable when combining several circuits in a cable and/or connector</li></ul>
	<ul style="list-style-type: none"><li>• Only use tools recommended by Phoenix Contact</li></ul>
	<ul style="list-style-type: none"><li>• The installation notes/Design In documents online on the download page at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a> must be observed for this product.</li></ul>
	<ul style="list-style-type: none"><li>• Operate the connector only when it is fully plugged in and interlocked.</li></ul>
<ul style="list-style-type: none"><li>• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.</li></ul>	
<ul style="list-style-type: none"><li>• Observe the minimum bending radius of the cable. Lay the cable without twisting it.</li></ul>	
<ul style="list-style-type: none"><li>• The connector warms up in normal operation. Depending on the ambient conditions, the surface of the connector can continue to warm up. In this case, the user is responsible for posting</li></ul>	

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warnings (e.g. DIN EN ISO 13732-1:2008-12).

## Product properties

Product type	Circular connector (cable-side)
Series	SF
Application	Power
Number of positions	6
Connection profile	5+PE
Shielded	yes
Coding	N
Thread type	M23

## Material specifications

Seal material	FPM
Housing material	Metal
Housing material	Turned parts: copper zinc alloy (CuZn), die-cast parts: zinc (GD-Zn)
Insulator material	PA 6.6
Gasket and O-ring material	FPM

## Connection data

### Conductor connection

Connection method	Crimp connection
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## Electrical properties

### Contact

Contact diameter	2 mm
Max. current	30 A
Nominal voltage $U_N$	630 V
Overvoltage category	III
Degree of pollution	3
Rated surge voltage	6 kV

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Max. current	30 A
Nominal voltage $U_N$	630 V
Overvoltage category	III
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## Connector

Type	straight long
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## Cable/line

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External cable diameter	7.5 mm ... 9 mm
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP67
Ambient temperature (operation)	-40 °C ... 125 °C
Ambient temperature (storage/transport)	15 °C ... 25 °C
Altitude	3000 m
Permissible humidity (storage/transport)	50 % ... 65 %

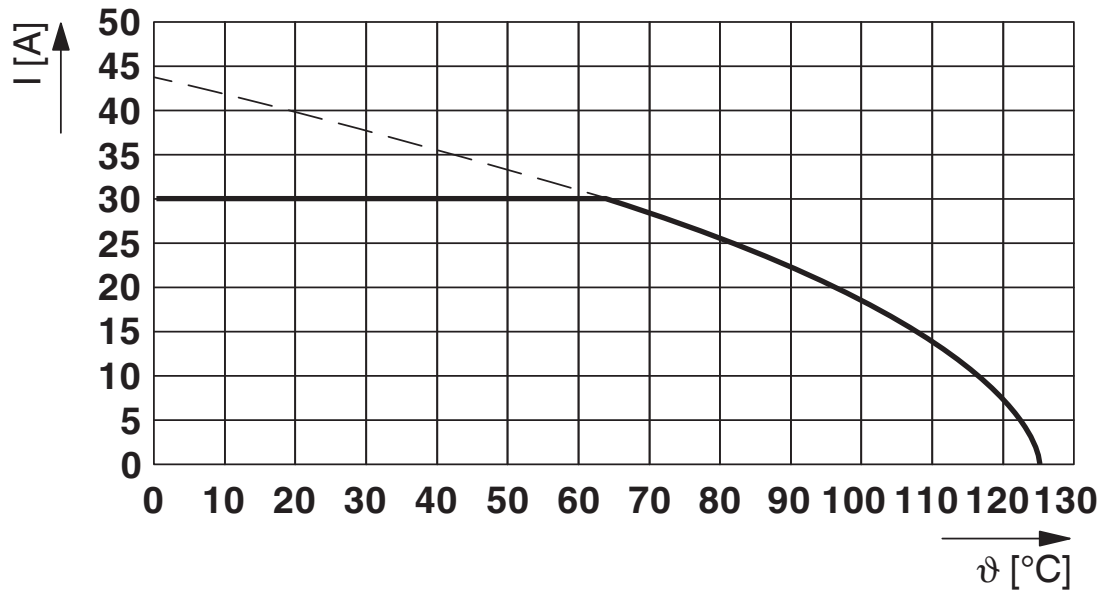
# SF-5EP1N8A9LB4 - Coupler connector

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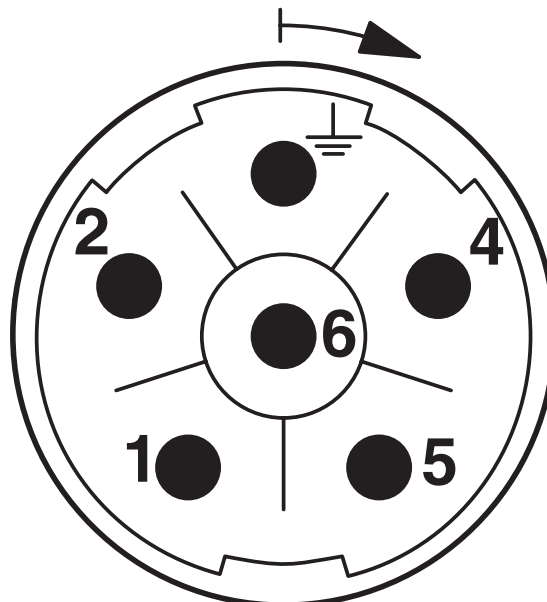
<https://www.phoenixcontact.com/us/products/1605509>

## Drawings

Diagram



Schematic diagram



Connector pin assignment

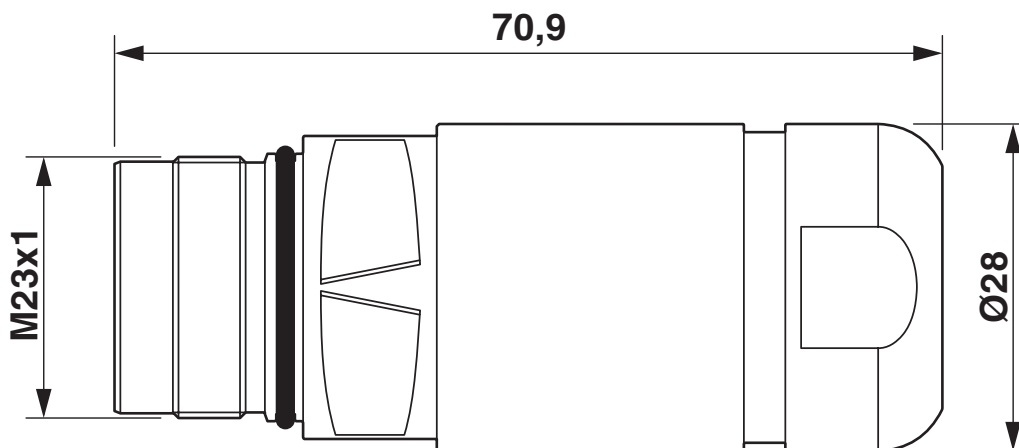
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Dimensional drawing



Dimensional drawing

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1605509>

 <b>cUL Recognized</b> Approval ID: E153698-20041116				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	600 V	18 A	12 - 12	-

 <b>UL Recognized</b> Approval ID: E153698-20041116				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	600 V	27 A	12 - 12	-

<b>cULus Recognized</b>				
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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
Exemption	6(c)

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	7e83483e-93e1-4760-8c2d-149a9d1de067

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## Accessories

### SF-7RP2000 - Crimp contact

1605646

<https://www.phoenixcontact.com/us/products/1605646>



Crimp contact, Pin, turned, Single contact, contact diameter: 2 mm, crimp range: 0.14 mm<sup>2</sup> ... 0.25 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1241951

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### SF-7PP2000 - Crimp contact

1605634

<https://www.phoenixcontact.com/us/products/1605634>



Crimp contact, Pin, turned, Single contact, contact diameter: 2 mm, crimp range: 0.25 mm<sup>2</sup> ... 1 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1241951

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### SF-20KP004 - Crimp contact

1607376

<https://www.phoenixcontact.com/us/products/1607376>



Crimp contact, Pin, turned, contact diameter: 2 mm, crimp range: 0.75 mm<sup>2</sup> ... 1.5 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1241953

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### SF-7QP2000 - Crimp contact

1605639

<https://www.phoenixcontact.com/us/products/1605639>



Crimp contact, Pin, turned, Single contact, contact diameter: 2 mm, crimp range: 1 mm<sup>2</sup> ... 2.5 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1241953

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## SF-7MP2000 - Crimp contact

1605626

<https://www.phoenixcontact.com/us/products/1605626>



Crimp contact, Pin, turned, Single contact, contact diameter: 2 mm, crimp range: 4 mm<sup>2</sup> ... 4 mm<sup>2</sup>, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1241948

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## SF-Z0019 - Protective cap

1607449

<https://www.phoenixcontact.com/us/products/1607449>



Plastic protection cap, with eye, IP40 for connectors with M23 external thread, RF, SF series

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## RC-Z2469 - Protective cap

1611797

<https://www.phoenixcontact.com/us/products/1611797>



Plastic protection cap, antistatic, for RF, SF, CA, RC series connectors, with M23 external thread

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## SC-Z2319 - Metal protective cap

1605456

<https://www.phoenixcontact.com/us/products/1605456>



Metal protection cap for power connectors with M23 external thread

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## SC-Z2320 - Metal protective cap

1605457

<https://www.phoenixcontact.com/us/products/1605457>

Metal protection cap with steel wire for power connectors with M23 external thread



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## SF-Z0064 - Color coding

1620585

<https://www.phoenixcontact.com/us/products/1620585>

Color coding, color: green



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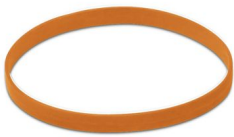


## SF-Z0065 - Color coding

1620586

<https://www.phoenixcontact.com/us/products/1620586>

Color coding, color: orange



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## SF-Z0066 - Color coding

1620587

<https://www.phoenixcontact.com/us/products/1620587>

Color coding, color: black



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## SF-Z0068 - Square mounting flange

1620927

<https://www.phoenixcontact.com/us/products/1620927>



Square mounting flange, 4xM3, flange dimensions: 38 mm x 38 mm, series: SF, SH, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1244326

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## PROT-M23PRO-OT-IP20 - Plastic protective cap

1055753

<https://www.phoenixcontact.com/us/products/1055753>



Plastic protective cap, M23, degree of protection: IP20, series: M23 PRO

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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)