

1411654

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Device connector front mounting, Power, 3-position, Socket, straight, M12-Standard, coding: S, on free cable end, Front mounting, M16 x 1.5, Individual wires, cable length: 0.5 m, 1.31 mm<sup>2</sup>, UL/cUL stranded hook-up wire, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1238908

# Your advantages

- · For compact devices: transmit high power in a confined space
- For industrial infrastructure applications
- · Protection against mismatching thanks to S-coding
- · Preassembled with litz wires for immediate use
- · Customer-specific assemblies and litz wire lengths available
- · Sealed on the litz wire side for optimum leak-tightness
- · For high transmission safety: shield connection to the housing with optional EMC nut

# Commercial data

Item number	1411654
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AB24
Product key	ABQCFG
Catalog page	Page 281 (C-2-2019)
GTIN	4046356937498
Weight per piece (including packing)	48.2 g
Weight per piece (excluding packing)	38 g
Customs tariff number	85444290
Country of origin	DE



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# Technical data

## Notes

Notes on operation	The electrical and mechanical data specified assume that the connector pair is correctly locked and mounted. If the connector is unlocked and if there is a danger of contamination, the connector must be sealed using a protective cap > IP54. Influences arising from litz wires, cables or PCB assembly must also be taken into consideration.
General	Contact connection method: Crimp connection
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> <li>WARNING: Commission properly functioning products only.</li> <li>The products must be regularly inspected for damage.</li> <li>Decommission defective products immediately. Replace</li> <li>damaged products. Repairs are not possible.</li> </ul>
	• 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.
	<ul> <li>The products are suitable for applications in plant, controller, and electrical device engineering.</li> </ul>
	<ul> <li>When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li> </ul>
	<ul> <li>Assembled products may not be manipulated or improperly opened.</li> </ul>
	<ul> <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 phoenixcontact.com/products).</li> </ul>
	<ul> <li>When using the product in direct connection with third-party manufacturers, the user is responsible.</li> </ul>
	<ul> <li>For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li> </ul>
	<ul> <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> <li>Observe the corresponding technical data. You will find information:</li> <li>o On the product</li> <li>o On the packing label</li> <li>o In the supplied documentation</li> <li>o Online at phoenixcontact.com/products under the product</li> </ul>
	Only use tools recommended by Phoenix Contact
	<ul> <li>Use a protective cap to protect connectors that are not in use.</li> <li>The suitable accessories are available online in the accessory</li> </ul>



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section of the product at phoenixcontact.com/products

• Ensure that the protective or functional ground has been properly connected.

 $\bullet$  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

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

## Mounting

	Mounting type	Front mounting M16 x 1.5
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## **Product properties**

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Product type	Circular connectors (device side)			
Sensor type	Power			
Number of positions	3			
No. of cable outlets	1			
Shielded	no			
Coding	S			
Thread type	M12			
Data management status				
Article revision	08			
Insulation characteristics				
Overvoltage category	III			
Degree of pollution	3			

## Material specifications

Flammability rating according to UL 94	V0
Seal material	FKM
Contact material	CuZn
Contact surface material	Au
Contact carrier material	PA
Material for screw connection	Zinc die-cast, nickel-plated
Conductor material	Bare Cu litz wires

### **Electrical properties**

Rated voltage in acc. with IEC 61076-2-101	630 V
Rated surge voltage	6 kV
	6 kV AC
Contact resistance	≤ 3 mΩ
Insulation resistance	≥ 100 MΩ
Nominal voltage U <sub>N</sub>	630 V



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Nominal current I <sub>N</sub>	16 A		
Test voltage	6 kV		
onnection data			
onnection data			
Conductor connection			
Connection method	Individual wires		
Contact connection type	Socket		
Conductor cross section	1.31 mm <sup>2</sup>		
Tightening torque	3 Nm 4 Nm (M12 connector)		
echanical properties			
Mechanical data			
Insertion/withdrawal cycles	> 100		
onnector			
Connection 1			
Head design	Socket		
Head cable outlet	straight		
Head thread type	M12		
Head locking type	Standard		
Coding	S		
Connection 2			
Head design	free cable end		
Thead design			
able/line			
Cable length	0.5 m		
Cable type	UL/cUL stranded hook-up wire		
Signal type/category	Power		
Wire diameter incl. insulation	2.2 mm		
Single wire, color	black 1, black 2, green/yellow		
Cable cross section	1.31 mm <sup>2</sup>		
Conductor material	Bare Cu litz wires		
AWG signal line	16		
Material wire insulation	mPPE		
Halogen-free	yes		
Flame resistance	in acc. to UL 1581 VW1		
Ambient temperature (operation)	-40 °C 85 °C (without mechanical actuation)		
	-40 °C 85 °C (without mechanical actuation)		
	-25 °C 105 °C (Cable, flexible installation)		

# Environmental and real-life conditions



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## Ambient conditions

Degree of protection	IP67		
	IP65/IP67		
Ambient temperature (operation)	-25 °C 85 °C (Plug / socket)		
	-40 °C 85 °C (without mechanical actuation)		
	-25 °C 105 °C (Cable, flexible installation)		
	-40 °C 105 °C (cable, fixed installation)		
Standards and regulations			
Flame resistance	in acc. to UL 1581 VW1		

#### M12

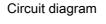
Standard designation	M12 connector
Standards/specifications	IEC 61076-2-111
Note	In line with

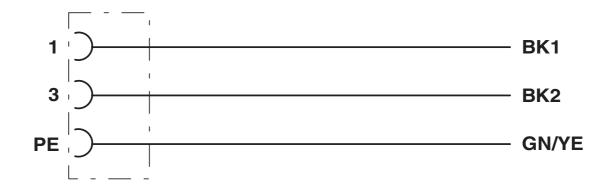


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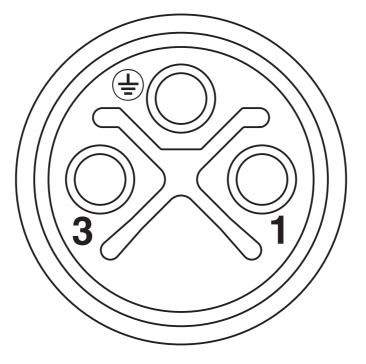
https://www.phoenixcontact.com/us/products/1411654

Drawings





Schematic diagram

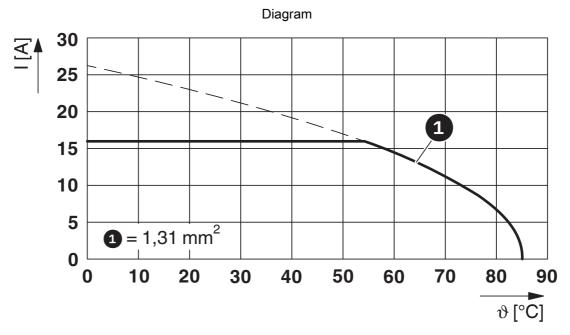


Pin assignment: M12 socket, 3-pos., S-coded, view of socket side



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I = current strength, T = ambient temperature



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# Approvals

🌣 To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1411654

Approval ID: E468743-20190917					
		Nominal voltage U <sub>N</sub>	Nominal current I <sub>N</sub>	Cross section AWG	Cross section mm <sup>2</sup>
		600 V	12 A	16 - 16	-

<b>SU</b> UL Recognized Approval ID: E468743-2	0190917			
	Nominal voltage U <sub>N</sub>	Nominal current I <sub>N</sub>	Cross section AWG	Cross section mm <sup>2</sup>
	600 V	12 A	16 - 16	-

cULus Recognized



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# Classifications

# ECLASS

	ECLASS-11.0	27440102
	ECLASS-12.0	27440116
	ECLASS-13.0	27440116
ΕT	IM	
	ETIM 9.0	EC002635
UN	SPSC	
	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	682470a1-2d31-4d87-9d99-1605d6894156



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Accessories

SACC-E-MU-M16 - Flat nut

1504097 https://www.phoenixcontact.com/us/products/1504097

Flat nut, Screw mounting, M16 x 1.5, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1239863



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