

# SACC-E-M12FSS-4P-M16XL/0,5 PE - Device connector front mounting



1411605

<https://www.phoenixcontact.com/us/products/1411605>

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Device connector front mounting, Power, 4-position, Socket, straight, M12-Standard, S-coding, on free cable end, Individual wires, cable length: 0.5 m, 1.31 mm<sup>2</sup>, UL/cUL stranded hook-up wire, potted, this item is expected to be lead-free from Q2 2026 in accordance with RoHS II without exception 6c (Pb < 0.1%), a lead-free alternative is possible on request in advance

## Your advantages

- For compact devices: transmit high power in a confined space
- Easy-to-install, optimized XL housing contour with wrench size 19
- Mechanical tightening limitation for long-term-stable gasket
- 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	1411605
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AB24
Product key	ABQCFG
GTIN	4046356936194
Weight per piece (including packing)	57.1 g
Weight per piece (excluding packing)	45.162 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.
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### Safety note

Safety note	<p>WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.</p> <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><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><li>• The products are suitable for applications in plant, controller, and electrical device engineering.</li><li>• When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li><li>• Assembled products may not be manipulated or improperly opened.</li><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><li>• When using the product in direct connection with third-party manufacturers, the user is responsible.</li><li>• For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li><li>• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.</li><li>• Observe the corresponding technical data. You will find information:<ul style="list-style-type: none"><li>o On the product</li><li>o On the packing label</li><li>o In the supplied documentation</li><li>o Online at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a> under the product</li></ul></li><li>• Only use tools recommended by Phoenix Contact</li><li>• Use a protective cap to protect connectors that are not in use. The suitable accessories are available online in the accessory section of the product at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a></li></ul>
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	<ul style="list-style-type: none"> <li>• Ensure that the protective or functional ground has been properly connected.</li> <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> <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 warnings (e.g. DIN EN ISO 13732-1:2008-12).</li> </ul>
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## Mounting

Mounting type	Front mounting (M16 x 1.5, XL variant, tightening limitation)
Tightening torque	1.5 Nm ... 2 Nm (Installation-side)

## Product properties

Product type	Circular connectors (device side)
Application	Power
Number of positions	4
Connection profile	3+PE
No. of cable outlets	1
No. of power contacts	3
Shielded	no
Coding	S
Thread type	M12

## Insulation characteristics

Overvoltage category	III
Degree of pollution	3

## Material specifications

Material Molding compound	PUR (potted)
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
Rated surge voltage	6 kV AC
Contact resistance	≤ 3 mΩ
Insulation resistance	≥ 100 MΩ

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Nominal voltage $U_N$	630 V
Nominal current $I_N$	12 A
Test voltage	6 kV

## Connection data

### Conductor connection

Connection method	Individual wires
Contact connection type	Socket
Conductor cross-section	1.31 mm <sup>2</sup>
Tightening torque	1.5 Nm ... 2 Nm (Installation-side)

## Mechanical properties

### Mechanical data

Insertion/withdrawal cycles	> 100
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## Connector

### 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
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## Cable/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 ±0.07 mm
Single wire, color	black 1, black 2, black 3, 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)

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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 85 °C (Plug / socket)
Ambient temperature (operation) (Cable, fixed installation)	-40 °C ... 85 °C (without mechanical actuation)
Ambient temperature (operation) (Cable, flexible installation)	-25 °C ... 105 °C (Cable, flexible installation)
Ambient temperature (operation) (Cable, fixed installation)	-40 °C ... 105 °C (cable, fixed installation)
UL Type Rating	Type 4 (indoor use only)

## Standards and regulations

Flame resistance	in acc. to UL 1581 VW1
Standard designation	M12 circular connector
Standards/specifications	according to IEC 61076-2-111

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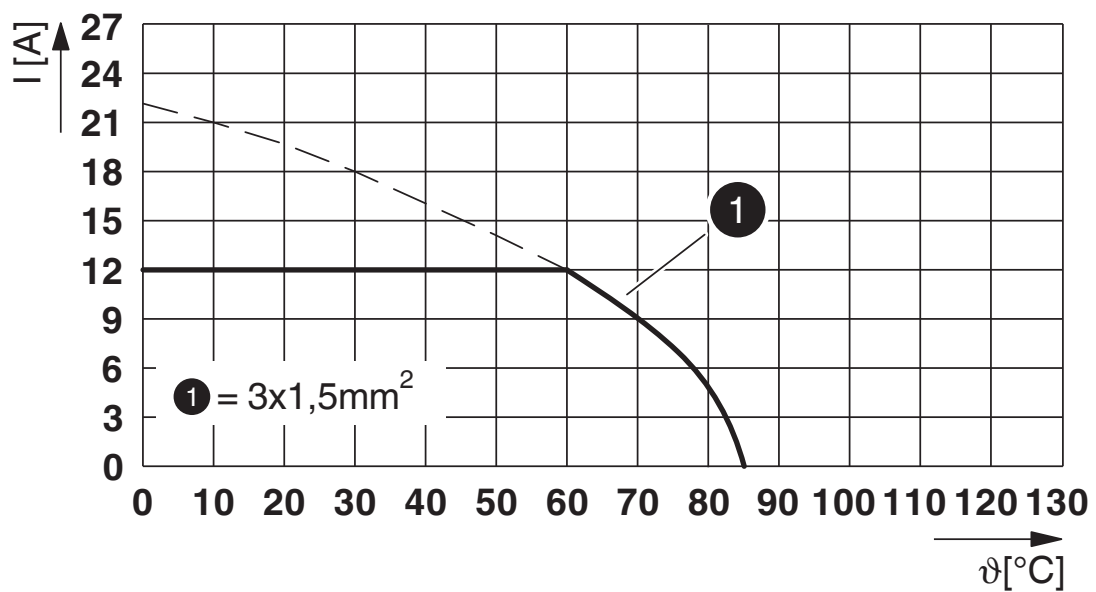
## Drawings

Schematic diagram



Pin assignment of M12 socket, 4-pos., S-coded, socket side view

Diagram



$I$  = current strength,  $T$  = ambient temperature

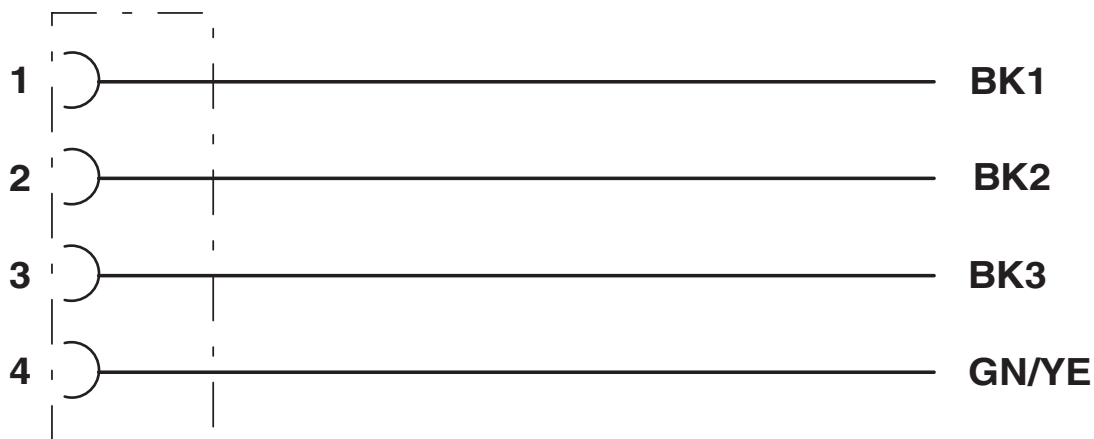
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Circuit diagram



Contact assignment of the M12 socket

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1411605>

 <b>cUL Recognized</b> Approval ID: E468743-20190917				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
	600 V	12 A	16	-

 <b>UL Recognized</b> Approval ID: E468743-20190917				
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## Classifications

### ECLASS

ECLASS-13.0	27440103
ECLASS-15.0	27440103

### ETIM

ETIM 10.0	EC003570
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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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