

# SACCEC-M12MSB-5CON-M16/0,5-900 - Device connector front mounting



1529629

<https://www.phoenixcontact.com/us/products/1529629>

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Device connector front mounting, INTERBUS (16 Mbps), 5-position, Pin, straight, M12, B-coding, on free cable end, Cable connection, cable length: 0.5 m, this item is expected to be lead-free from Q4 2025 in accordance with RoHS II without exception 6c (Pb < 0.1%), a lead-free alternative is possible on request in advance

## Your advantages

- Preassembled with cables in various standard lengths for immediate use
- Customer-specific assemblies and cable lengths can be supplied
- Sealed on the cable side for optimum tightness of seal
- Cable designs for all common networks and fieldbuses
- For high transmission safety: shield connection to the housing with optional EMC nut

## Commercial data

Item number	1529629
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AB25
Product key	ABQDEA
GTIN	4017918982621
Weight per piece (including packing)	62 g
Weight per piece (excluding packing)	55.574 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.
Order information:	Positioning nut is included in the scope of supply
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 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 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 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> </ul>
	<ul style="list-style-type: none"> <li>• Only use tools recommended by Phoenix Contact</li> </ul>
	<ul style="list-style-type: none"> <li>• Use a protective cap to protect connectors that are not in use.</li> </ul>

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	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>
	<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>

## Mounting

Mounting type	Front mounting (M16 x 1,5, mit Kontermutter)
Tightening torque	3 Nm ... 4 Nm (Installation-side)

## Product properties

Product type	Circular connectors (device side)
Application	Data
Number of positions	5
No. of cable outlets	1
Coding	B
Thread type	M12

## Insulation characteristics

Overvoltage category	II
Degree of pollution	3

## Material specifications

Flammability rating according to UL 94	V0
Seal material	NBR
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Material for screw connection	Brass, nickel-plated
Contact carrier color	green

## Electrical properties

Rated surge voltage	1.5 kV
Contact resistance	≤ 3 mΩ
Insulation resistance	≥ 100 MΩ
Nominal voltage $U_N$	48 V AC 60 V DC
Nominal current $I_N$	4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed)
Test voltage	2500 V

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Transmission medium	Copper
Transmission speed	16 Mbps

## Connection data

### Conductor connection

Connection method	Cable connection
Contact connection type	Pin
Tightening torque	3 Nm ... 4 Nm (Installation-side)

## Mechanical properties

### Mechanical data

Insertion/withdrawal cycles	> 100
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## Connector

### Connection 1

Head design	Pin
Head cable outlet	straight
Head thread type	M12
Coding	B

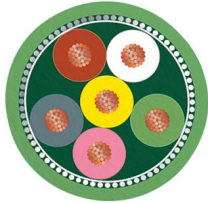
### Connection 2

Head design	free cable end
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## Cable/line

Cable length	0.5 m
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### INTERBUS [900]

Dimensional drawing	
Cable weight	70 kg/km
Number of positions	6
Shielded	yes
Cable type	INTERBUS [900]
Conductor structure	3 x 2 x 0.22 mm <sup>2</sup>
Signal speed	0.66 c
Conductor structure signal line	32x 0.10 mm

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AWG signal line	24
Conductor cross-section	3x 2x 0.22 mm <sup>2</sup>
External cable diameter	8.00 mm
Outer sheath, material	PUR
External sheath, color	may green RAL 6017
Conductor material	Bare Cu litz wires
Material wire insulation	PE
Single wire, color	green-yellow, white-brown, gray-pink
Twisted pairs	2 cores to the pair
Overall twist	3 pairs to the core
Insulation resistance	≥ 5 GΩ*km
Coupling resistance	< 250.00 mΩ/m (at 30 MHz)
Loop resistance	≤ 159.80 Ω/km
Wave impedance	120 Ω ±20 % (at 64 kHz) 100 Ω ±15 % (with 1 MHz)
Cable capacity	≤ 60 nF/km (At 800 Hz)
Nominal voltage, cable	250 V (Peak value, not for high-power applications)
Test voltage Core/Core	1500 V <sub>rms</sub>
Test voltage Core/Shield	1000.00 V <sub>rms</sub>
Minimum bending radius, fixed installation	7.5 x D
Minimum bending radius, flexible installation	15 x D
Smallest bending radius, fixed installation	60 mm
Smallest bending radius, movable installation	120 mm
Dynamic load capacity (bending)	Max. bending cycles: 5000000, Bending radius: 120 mm, Traversing path: 10 m, Traversing rate: 1.6 m/s, Acceleration: 3.2 m/s <sup>2</sup>
Near end crosstalk attenuation (NEXT)	≥ 61 dB (at 772 kHz) ≥ 59 dB (with 1 MHz) ≥ 55 dB (at 2 MHz) ≥ 50 dB (at 4 MHz) ≥ 46 dB (at 8 MHz) ≥ 44 dB (at 10 MHz) ≥ 41 dB (at 16 MHz) ≥ 40 dB (at 20 MHz)
Shield attenuation	≤ 15 dB/km (at 256 kHz) ≤ 24 dB/km (at 772 kHz) ≤ 27 dB/km (with 1 MHz) ≤ 52 dB/km (at 4 MHz) ≤ 84 dB/km (at 10 MHz) ≤ 112 dB/km (at 16 MHz) ≤ 119 dB/km (at 20 MHz)
Flame resistance	according to VDE 0472, Part 4, test type B according to IEC 60332-1

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Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-30 °C ... 70 °C (Cable, flexible installation)

## Environmental and real-life conditions

### Ambient conditions

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

## Standards and regulations

Standard designation	M12 circular connector
Standards/specifications	according to IEC 61076-2-101

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## Drawings

Schematic diagram



Pin assignment M12 male connector, 5-pos., B-coded, male side

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Circuit diagram



Contact assignment of the M12 plug

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1529629>

 <b>cUL Recognized</b> Approval ID: E221474-20220907				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
	60 V	1.5 A	24	-

 <b>UL Recognized</b> Approval ID: E221474-20220907				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine				
	60 V	2 A	24	-

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## Classifications

### ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

### ETIM

ETIM 10.0	EC001855
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### UNSPSC

UNSPSC 21.0	26121600
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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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