

# SAC-3P-M 8MS/ 2,0-PUR/M12FS - Sensor/actuator cable



1501456

<https://www.phoenixcontact.com/us/products/1501456>

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Sensor/actuator cable, 3-position, PUR halogen-free, black-gray RAL 7021, Plug straight M8, coding: A, connected with unwired, on Socket straight M12, coding: A, cable length: 2 m

## Your advantages

- Easy and safe: 100% electrically tested plug-in components

## Commercial data

Item number	1501456
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	BF03
Product key	BF1CBA
GTIN	4017918617608
Weight per piece (including packing)	52.5 g
Weight per piece (excluding packing)	48.5 g
Customs tariff number	85444290
Country of origin	PL

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## Technical data

### Product properties

Product type	Sensor/actuator cable
Number of positions	3
Application	Standard
No. of cable outlets	1
Shielded	no
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Material specifications

Flammability rating according to UL 94	HB
Seal material	NBR
Material of grip body	TPU, hardly inflammable, self-extinguishing
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material for screw connection	Zinc die-cast, nickel-plated
Outer sheath, material	PUR
Conductor material	Bare Cu litz wires

### Electrical properties

Contact resistance	$\leq 5 \text{ m}\Omega$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage $U_N$	48 V AC
	60 V DC
Nominal current $I_N$	4 A
Protective circuit	unwired
Max. conductor resistance	77.6 $\Omega/\text{m}$

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	$\geq 100$
Max. bending cycles	4000000

### Signaling

Status display	No
Status display present	No

### Connection data

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## Conductor connection

Tightening torque	0.4 Nm (M12 connector)
	0.2 Nm (M8 connectors)

## Connector

### Connection 1

Type	Plug straight M8
Number of positions	3
Coding type	A
Number of positions	3


### Connection 2

Type	Socket straight M12
Number of positions	3
Coding type	A
Number of positions	3

## Cable/line

Cable length	2 m
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### PUR halogen-free black [PUR]

Dimensional drawing	
Cable weight	18 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	3
Shielded	no
Cable type	PUR halogen-free black [PUR]
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Conductor cross section	3x 0.25 mm <sup>2</sup> (Signal line)
Wire diameter incl. insulation	1.17 mm ±0.02 mm
External cable diameter	3.6 mm ±0.15 mm
Outer sheath, material	PUR
External sheath, color	black-gray RAL 7021
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	brown, blue, black

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Thickness, insulation	≥ 0.21 mm (Core insulation)
Thickness, outer sheath	approx. 0.5 mm
Overall twist	3 wires, twisted
Length of twist, overall twist	40 mm
Max. conductor resistance	≤ 78 Ω/km (at 20 °C)
Insulation resistance	≥ 100 GΩ*km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage	≥ 3000 V
Smallest bending radius, fixed installation	18 mm
Smallest bending radius, movable installation	36 mm
Max. bending cycles	10000000
Halogen-free	in accordance with DIN VDE 0472 part 815
Flame resistance	in accordance with UL 758/1581 FT2 DIN EN 60332-2-2 (20 s)
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	hydrolysis and microbe resistant Highly resistant to acids, alkaline solutions and solvents Resistant to salt water partly UV-resistant in accordance with DIN EN ISO 4892-2-A
Special properties	Flexible cable conduit capable Silicone-free Free of substances which would hinder coating with paint or varnish
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation) -25 °C ... 80 °C (Cable, flexible installation)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67
	IP68
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)

## Standards and regulations

Standard designation	M12 connector
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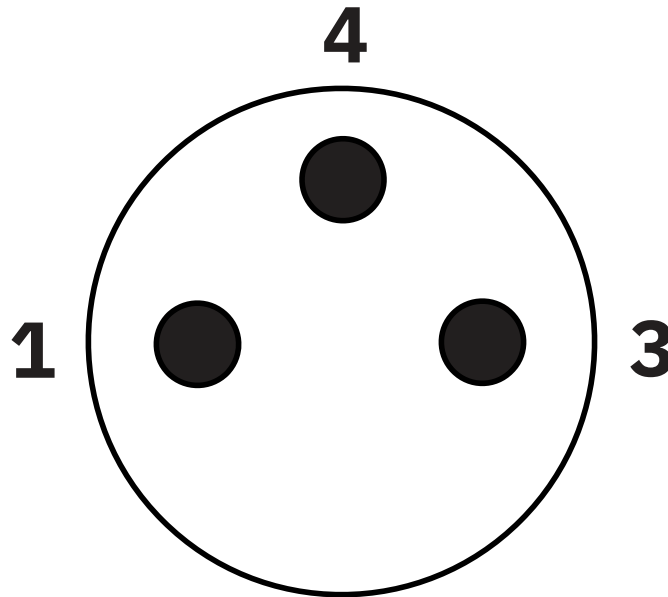
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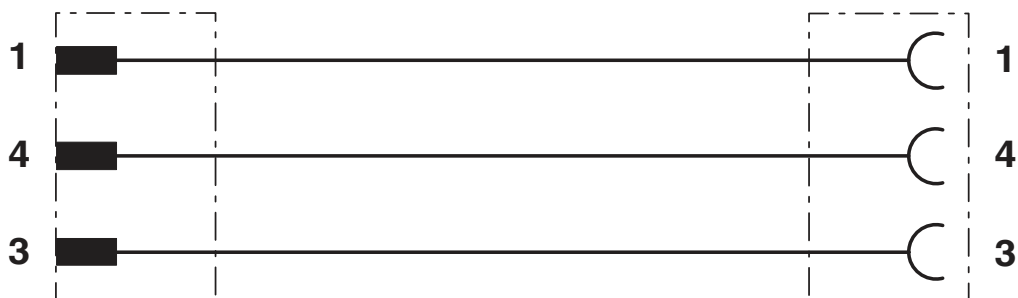
## Drawings

Schematic diagram



Pin assignment M8 plug, 3-pos., view male side

Circuit diagram

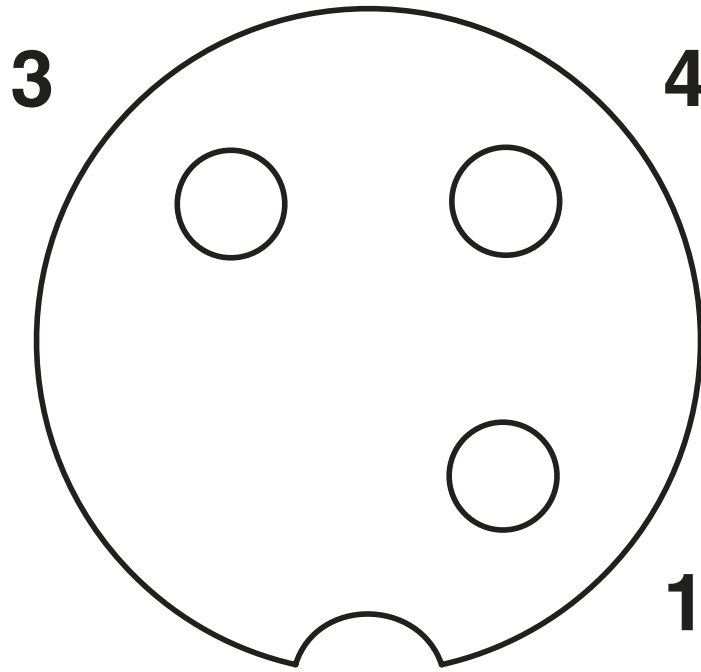


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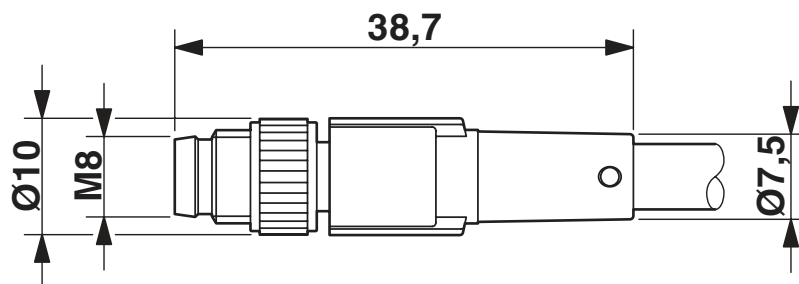
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Schematic diagram



Pin assignment M12 socket, 3-pos., A-coded, view female side

Dimensional drawing



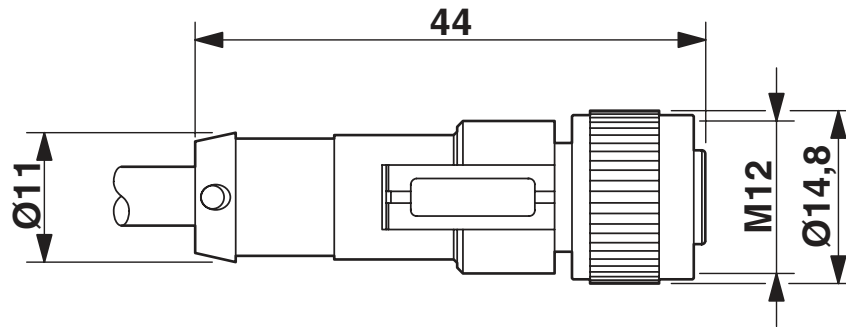
M8 x 1 male plug, straight version

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Dimensional drawing



M12 x 1 socket, straight

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1501456>

 <b>UL Listed</b> Approval ID: FILE E 221474				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	60 V	4 A	-	-

 <b>cUL Listed</b> Approval ID: FILE E 221474				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	60 V	4 A	-	-

<b>cULus Listed</b>				
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## Classifications

### ECLASS

ECLASS-11.0	27060311
ECLASS-12.0	27060311
ECLASS-13.0	27060311

### ETIM

ETIM 8.0	EC001855
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### UNSPSC

UNSPSC 21.0	26121600
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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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