

# Sensor/actuator cable - SAC-3P-M12MS/ 0,6-800/M12FS



1456789

<https://www.phoenixcontact.com/pc/products/1456789>

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Sensor/actuator cable, 3-position, PUR halogen-free, resistant to welding sparks, highly flexible, gray RAL 7001, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 0.6 m, for robots and drag chains

## Your advantages

- Easy and safe: 100% electrically tested plug-in components
- Reliable solution for the body shop as cable is resistant to welding sparks

## Commercial Data

Item number	1456789
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	BF1CBA
Catalog Page	Page 192 (C-2-2019)
GTIN	4046356593144
Weight per Piece (including packing)	35.12 g
Weight per Piece (excluding packing)	35.1 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	Robots and drag chains
No. of cable outlets	1
Shielded	no
Coding	A - standard

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Material specifications

Flammability rating according to UL 94	HB
Sealing 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

### Electrical properties

Contact resistance	$\leq 5 \text{ m}\Omega$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage $U_N$	250 V AC
	250 V DC
Nominal current $I_N$	4 A
Protective circuit	unwired

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	$\geq 100$
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### LED signaling

Status display	No
Status display present	No

### Connection data

#### Conductor connection

Tightening torque	0.4 Nm (M12 connector)
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## Connector

### Connection 1

Head design	Plug
Head cable outlet	straight
Head thread type	M12
Coding	A

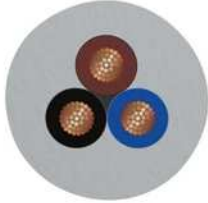
### Connection 2

Head design	Socket
Head cable outlet	straight
Head thread type	M12
Coding	A

## Cable / line

Cable length	0.6 m
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### Gray, highly flexible PUR [800]

Dimensional drawing	
Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
Cable weight	28.3 kg/km
UL AWM Style	20549
Number of positions	3
Shielded	no
Cable type	Gray, highly flexible PUR [800]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross section	3x 0.34 mm <sup>2</sup> (Signal line)
Wire diameter incl. insulation	1.3 mm ±0.05 mm (Signal line)
External cable diameter	4.5 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	gray RAL 7001
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	brown, blue, black
Overall twist	3 wires, twisted
Max. conductor resistance	approx. 53 Ω/km

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Insulation resistance	≥ 20 MΩ*km
Nominal voltage, cable	300 V
Test voltage	2000 V
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	7.5 x D
Max. bending cycles	10000000
	15000000
Torsion force	± 360 °/m
Torsion cycles	1000000
Halogen-free	in accordance with DIN VDE 0472 part 815
Flame resistance	in accordance with UL 758/1581 FT2
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	Highly resistant to acids, alkaline solutions and solvents
	Silicone-free
Special properties	Cable jacket is welding spark-resistant, recyclable, matt, low-adhesion, abrasion-resistant, flame-retardant, and self-extinguishing
	Free from silicone and cadmium
	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)

## Ambient conditions

Degree of protection	IP65
	IP67
	IP68
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
	-40 °C ... 90 °C (cable, fixed installation)
	-30 °C ... 90 °C (Cable, flexible installation)
	to 120 °C (for 3000 h)
	to 90 °C (in acc. with UL)

## Standards and regulations

Standards/specifications	IEC 61076-2-101
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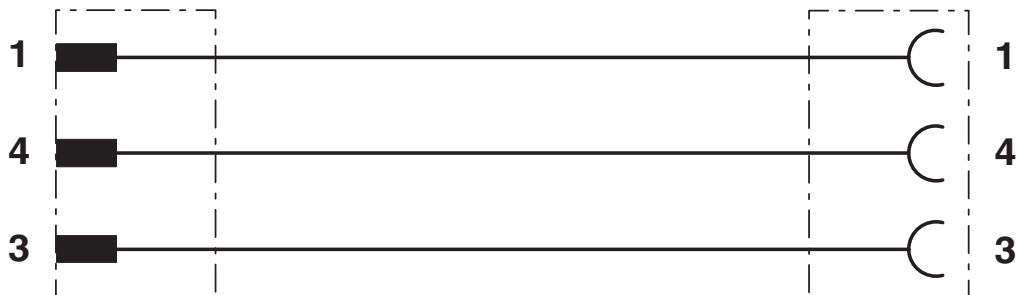
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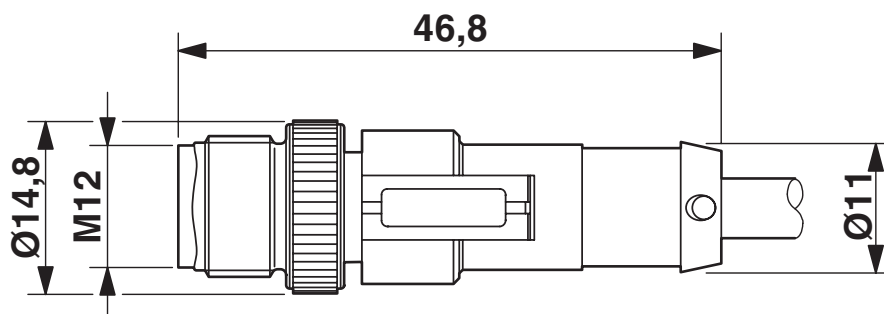
<https://www.phoenixcontact.com/pc/products/1456789>

## Drawings

Circuit diagram



Dimensional drawing



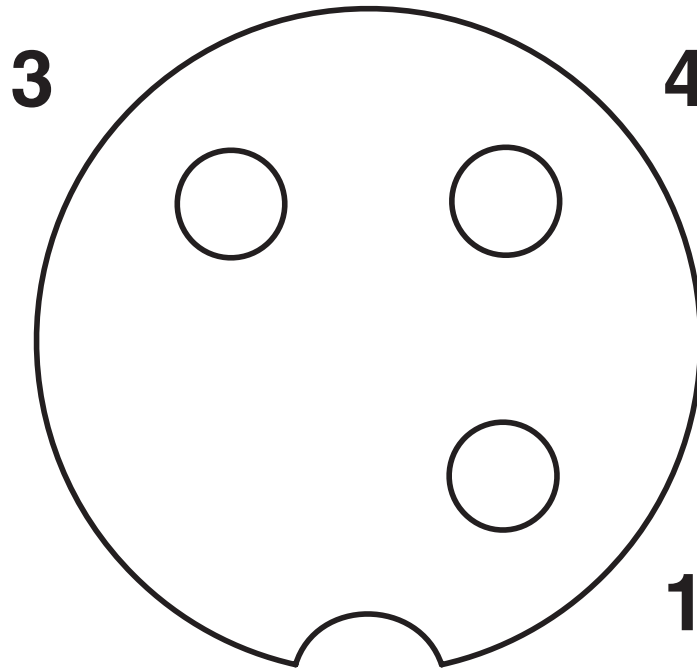
Plug, M12 x 1, straight, shielded

# Sensor/actuator cable - SAC-3P-M12MS/ 0,6-800/M12FS

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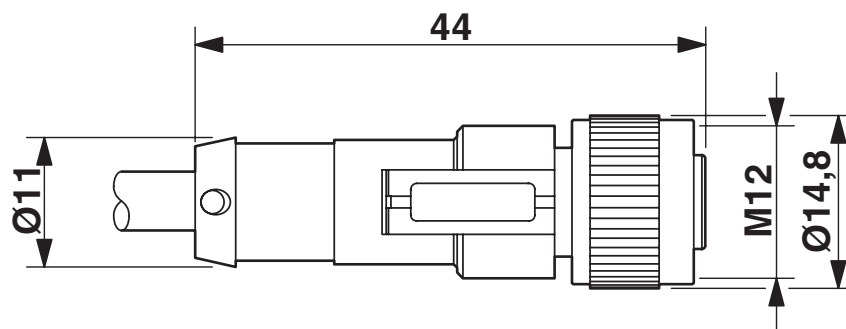
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Schematic diagram



Pin assignment socket M 12

Dimensional drawing



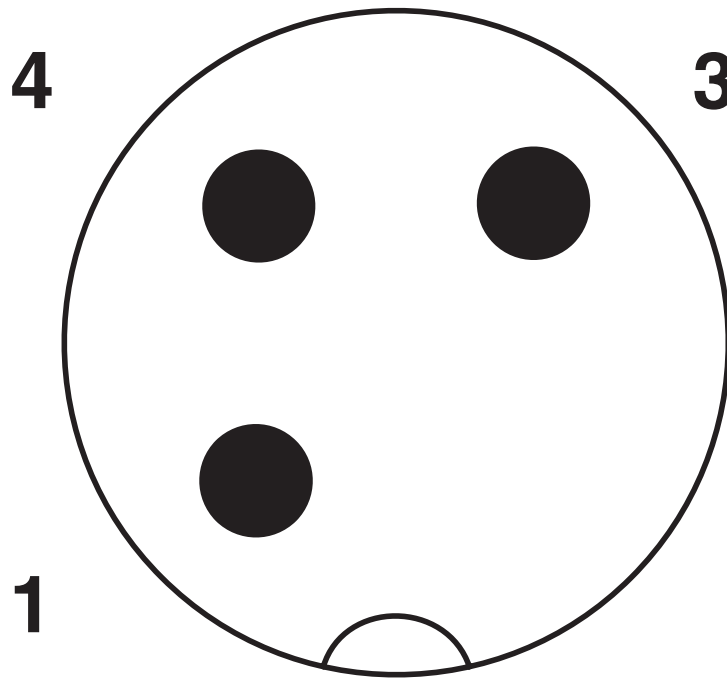
M12 x 1 socket, straight

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Schematic diagram



Pin assignment M12 plug, 3-pos., A-coded, view male side

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## Approvals



**EAC**

Approval ID: RU C-DE.BL08.B.00286



**UL Listed**

Approval ID: FILE E 221474

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	300 V	4 A	-	-



**cUL Listed**

Approval ID: FILE E 221474

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	300 V	4 A	-	-



**EAC**

Approval ID: RU D-DE.HB35.B.00387

**cULus Listed**

# Sensor/actuator cable - SAC-3P-M12MS/ 0,6-800/M12FS



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## Classifications

### ECLASS

ECLASS-9.0	27060311
ECLASS-10.0.1	27060311
ECLASS-11.0	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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## Accessories

### Torque screwdriver

Torque screwdriver - TSD 04 SAC - 1208429

<https://www.phoenixcontact.com/pc/products/1208429>



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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### Tool

Tool - SAC BIT M12-D15 - 1208432

<https://www.phoenixcontact.com/pc/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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## Sealing cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

<https://www.phoenixcontact.com/pc/products/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



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## Screw plug

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

<https://www.phoenixcontact.com/pc/products/1430899>

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



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