

# Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



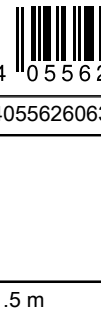
Sensor/actuator cable, 5-position, PUR halogen-free, welding sputter-resistant, orange RAL 2003, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 1.5 m, for robots and drag chains

## Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Flexible: cable supports a high degree of torsion and bending
- ✓ Reliable solution for the body shop as cable is welding sputter resistant



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 063744
GTIN	4055626063744

## Technical data

### Dimensions

Length of cable	1.5 m
-----------------	-------

### Ambient conditions

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

### General

Rated current at 40°C	4 A
Rated voltage	48 V AC
	60 V DC
Number of positions	5
Insulation resistance	≥ 100 MΩ

# Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

## Technical data

### General

Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No
Protective circuit/component	unwired
Overvoltage category	II
Degree of pollution	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

### Material

Flammability rating according to UL 94	HB
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material of grip body	TPU, hardly inflammable, self-extinguishing
Material, knurls	Zinc die-cast, nickel-plated
Sealing material	NBR

### Standards and Regulations

Standards/specifications	M12 connector IEC 61076-2-101
Flammability rating according to UL 94	HB

### Cable

Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
Cable type	PUR, halogen-free, highly flexible, welding-sputter resistant, orange
Cable type (abbreviation)	810
Cable abbreviation	LiF9Y11Y
UL AWM style	20549 (80°C/300 V)
Conductor cross section	5x 0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.55 mm ±0.05 mm (Signal line)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
External sheath, color	orange RAL 2003
External cable diameter D	6.9 mm ±0.1 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	5000000
Minimum bending radius, drag chain applications	10 x D
Traversing path	10 m
Traversing rate	3 m/s

## Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

### Technical data

#### Cable

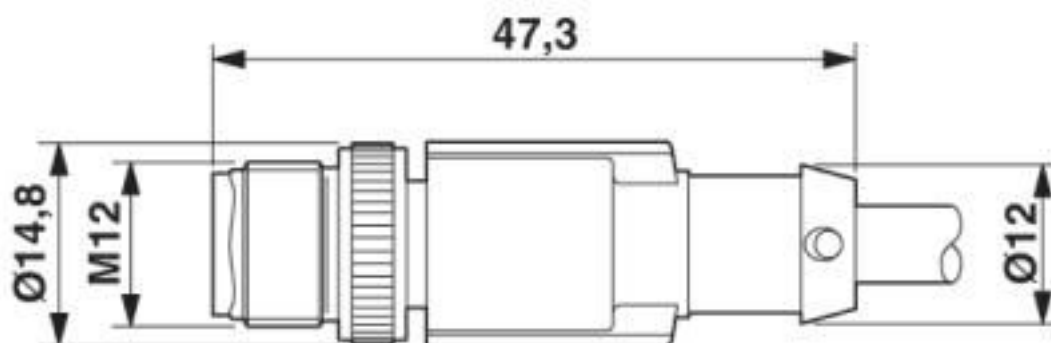
Acceleration	10 m/s <sup>2</sup>
Outer sheath, material	PUR
Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 20 MΩ*km
Conductor resistance	approx. 57 Ω/km
Nominal voltage, cable	300 V (Peak value, not for high-power applications)
Test voltage Core/Core	3000 V (Spark test)
Special properties	Sheath resistant to welding beads, can be recycled, matt, without adhesion, wear-resistant, flame resistant and self-extinguishing
	Free from silicone and cadmium
	Free of substances which would hinder coating with paint or varnish
Flame resistance	in acc. with UL FT-2
Halogen-free	in accordance with DIN VDE 0472 part 815
Other resistance	hydrolysis and microbe resistant
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)
	≤ 60 °C (cable, drag chain applications)

#### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

### Drawings

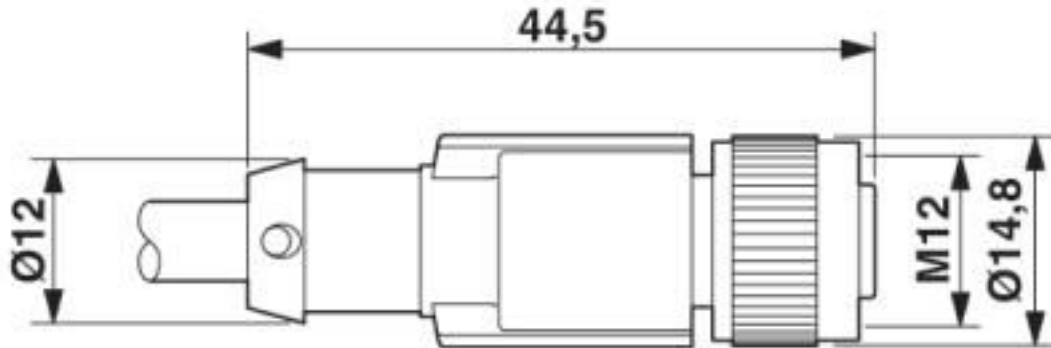
Dimensional drawing



Plug, M12 x 1, straight, shielded

# Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

Dimensional drawing



M12 x 1 socket, straight

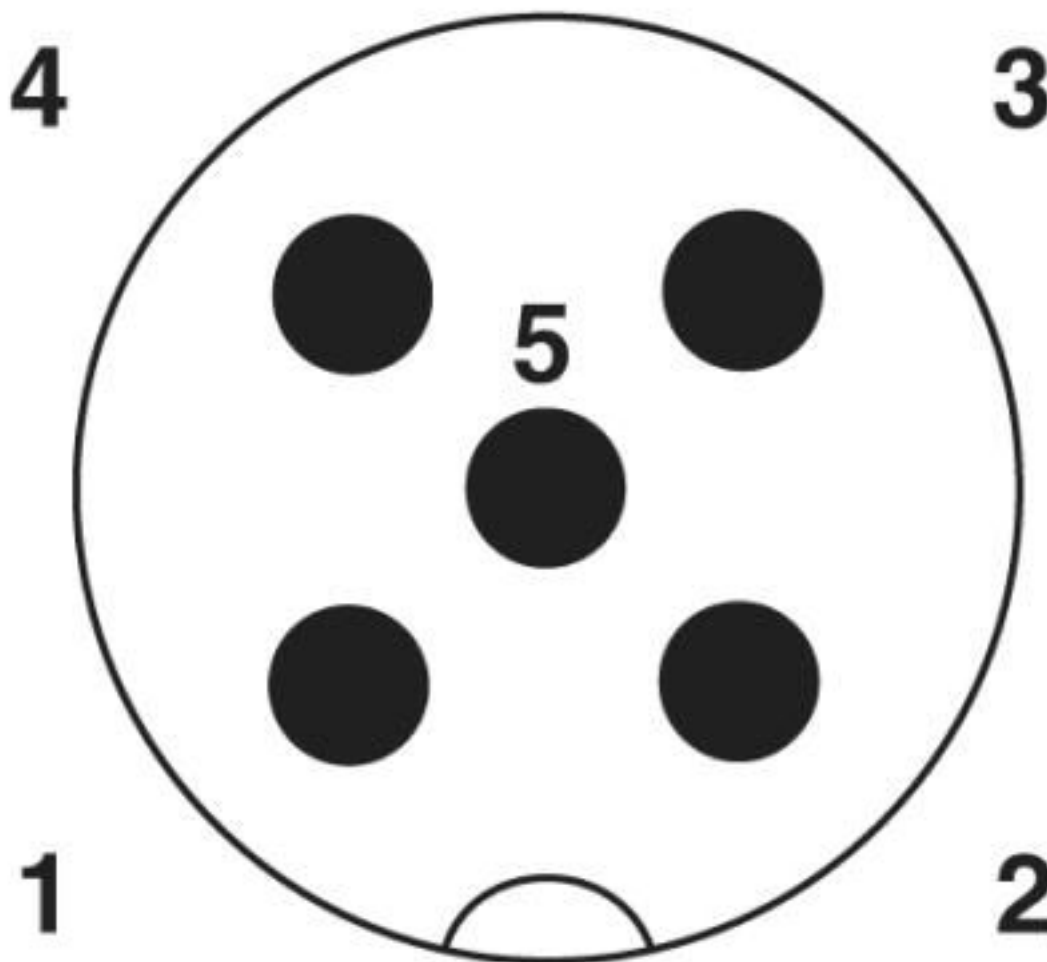
Circuit diagram



Contact assignment of the M12 plug and the M12 socket

# Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

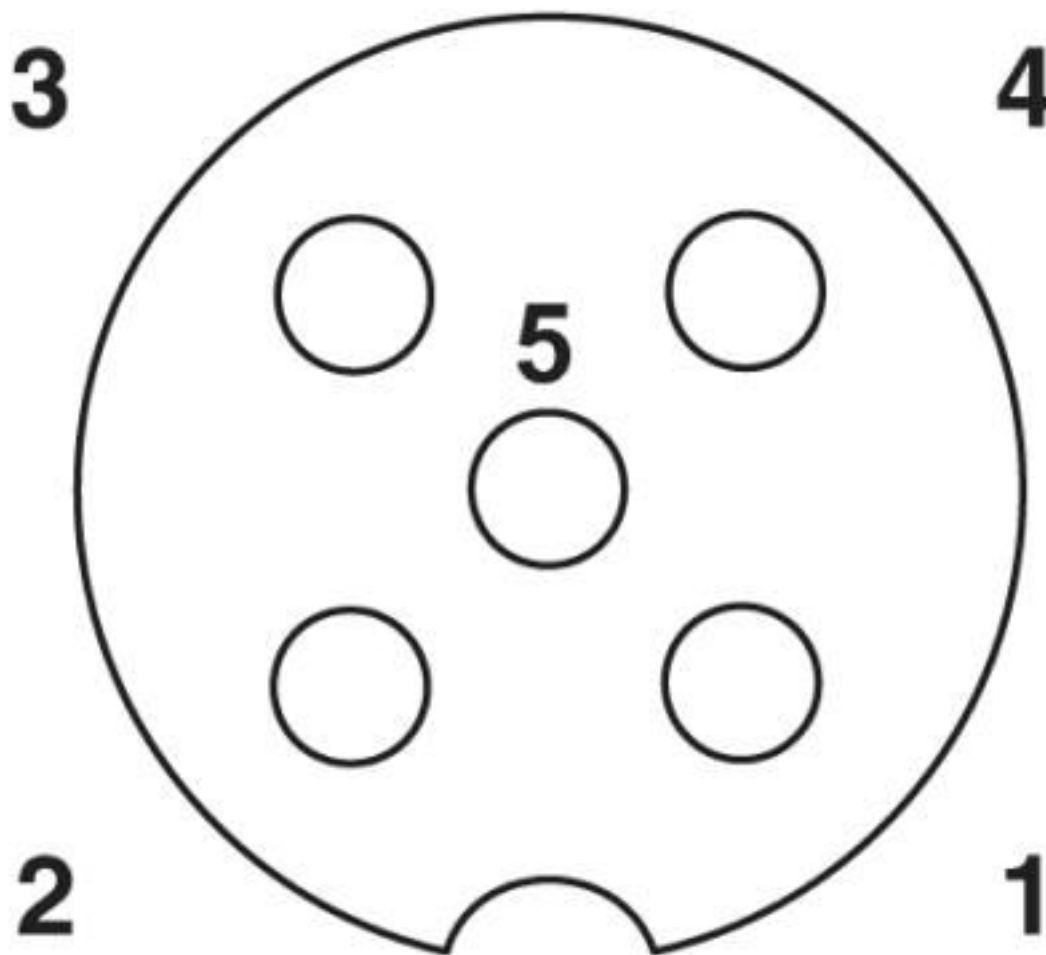
Schematic diagram



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

# Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

Schematic diagram



Pin assignment M12 socket, 5-pos., A-coded, socket side view

## Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

Cable cross section



PUR, halogen-free, highly flexible, welding-sputter resistant, orange [810]

### Classifications

eCl@ss

eCl@ss 10.0.1	27060311
eCl@ss 4.0	27060300
eCl@ss 4.1	27060300
eCl@ss 5.0	27061800
eCl@ss 5.1	27061800
eCl@ss 6.0	27279200
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218
eCl@ss 9.0	27060311

# Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

## Classifications

### ETIM

ETIM 5.0	EC001855
ETIM 6.0	EC001855
ETIM 7.0	EC001855

### UNSPSC

UNSPSC 13.2	31251501
UNSPSC 19.0	31251501
UNSPSC 20.0	31251501
UNSPSC 21.0	31251501

## Approvals


### Approvals


#### Approvals


UL Listed / cUL Listed / EAC-RoHS / cULus Listed

#### Ex Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 221474
Nominal voltage UN	125 V		
Nominal current IN	4 A		

cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 221474
Nominal voltage UN	125 V		
Nominal current IN	4 A		

EAC-RoHS		RU D-DE.HB35.B.00387
----------	---	----------------------



## Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

### Approvals

cULus Listed



### Accessories

#### Accessories

#### Conductor marking

Insert label - PABA WH/23 - 1013779



Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

Insert label - PABA YE/23 - 1013782



Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

#### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

#### Plug for cable screw gland

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

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



#### Protective cap

## Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

### Accessories

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

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



---

### Safety locking

Locking clip - SAC-M12-EXCLIP-M - 1558988



Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

Locking clip - SAC-M12-EXCLIP-F - 1558991



Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

---

### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

Tool - SAC BIT M12-D15 - 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

---

### Torque tool

## Sensor/actuator cable - SAC-5P-M12MS/1,5-810/M12FS - 1416104

### Accessories

Torque screwdriver - TSD 04 SAC - 1208429



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

---

Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

---

---

Phoenix Contact 2020 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Sensor Cables / Actuator Cables](#) category:*

*Click to view products by [Phoenix Contact](#) manufacturer:*

Other Similar products are found below :

[60963](#) [60964](#) [703000D02F2002](#) [703001D02F0602](#) [703001D02F300](#) [704000D02F120](#) [773032K02F030](#) [802027107404-1](#) [802027213811-1](#)  
[804001A09M150](#) [805001A09M0502](#) [84914-0235](#) [84914-0237](#) [885030A09M020](#) [8R4J30E03C3003](#) [1200651332](#) [1200651713](#) [1200660844](#)  
[1200660845](#) [1200661173](#) [1200680071](#) [1200720053](#) [1200720081](#) [1200720099](#) [1200720217](#) [1200800231](#) [1200860125](#) [1200870123](#)  
[1200980102](#) [1200650267](#) [1200650298](#) [1200660183](#) [1200660782](#) [1200660849](#) [1200661295](#) [1200661297](#) [1200661342](#) [1200661343](#)  
[1200670080](#) [1200670220](#) [1200680331](#) [1200720252](#) [1200730184](#) [1200860344](#) [1200870359](#) [1200870643](#) [1200980008](#) [1200980031](#)  
[1210502211](#) [1210400542](#)