

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

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 documentation. Our general terms of use for downloads are valid.



Sensor/actuator cable, 5-position halogen-free, shielded, Plug angled M12, coding: A, on free cable end, cable length: 3 m

## Your advantages

- Easy and safe: 100% electrically tested plug-in components
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

## Commercial data

Item number	1682760
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF03
Product key	BF1CKA
Catalog page	Page 204 (C-2-2019)
GTIN	4017918169077
Weight per piece (including packing)	138.3 g
Weight per piece (excluding packing)	143 g
Customs tariff number	85444290
Country of origin	PL

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## Technical data

### Product properties

Product type	Sensor/actuator cable
Number of positions	5
Application	Standard
No. of cable outlets	1
Shielded	yes
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Material specifications

Flammability rating according to UL 94	HB
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 $U_N$	48 V AC
	60 V DC
Nominal current $I_N$	4 A
Protective circuit	unwired

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	$\geq 100$
-----------------------------	------------

### Signaling

Status display	No
Status display present	No

### Connection data

#### Conductor connection

Tightening torque	0.4 Nm (M12 connector)
-------------------	------------------------

### Connector

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## Connection 1

Type	Plug angled M12
Number of positions	5
Coding type	A
Number of positions	5

## Connection 2

Type	free cable end
------	----------------

## Cable/line

Cable length	3 m
--------------	-----

## PUR halogen-free black [PUR]

Dimensional drawing	
Cable weight	43 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	5
Shielded	yes
Cable type	PUR halogen-free black [PUR]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross section	5x 0.34 mm <sup>2</sup> (Signal line)
Wire diameter incl. insulation	1.27 mm ±0.02 mm (Signal line)
External cable diameter	5.25 mm ±0.2 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, white, blue, black, gray
Thickness, insulation	≥ 0.21 mm
Thickness, outer sheath	approx. 0.5 mm
Overall twist	5 wires around filler to the core
Optical shield covering	80 %
Max. conductor resistance	max. 57 Ω/km (at 20 °C)
Insulation resistance	70 GΩ*km (at 20 °C)
Nominal voltage, cable	300 V (at 20 °C)
Test voltage Core/Core	3000 V (at 20 °C)

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	52 mm (up to +60 °C)
Max. bending cycles	10000000
Halogen-free	in accordance with DIN VDE 0472 part 815
	in accordance with DIN EN 50267-2-1
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	Highly resistant to acids, alkaline solutions and solvents
	hydrolysis and microbe resistant
	Resistant to salt water
	partly UV-resistant in accordance with DIN EN ISO 4892-2-A
	abrasion-resistant
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
	Low adhesion surface
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
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (Cable, flexible installation)

## Standards and regulations

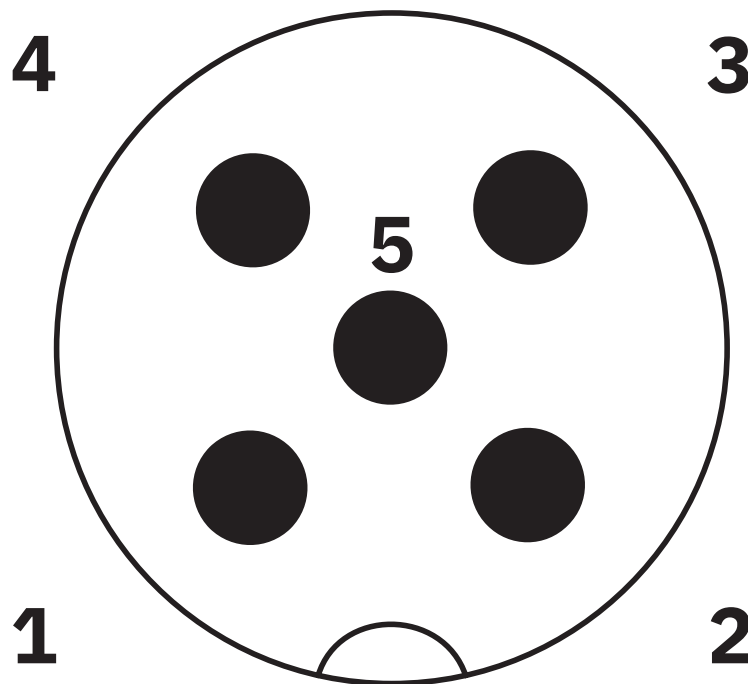
Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

1682760

<https://www.phoenixcontact.com/us/products/1682760>

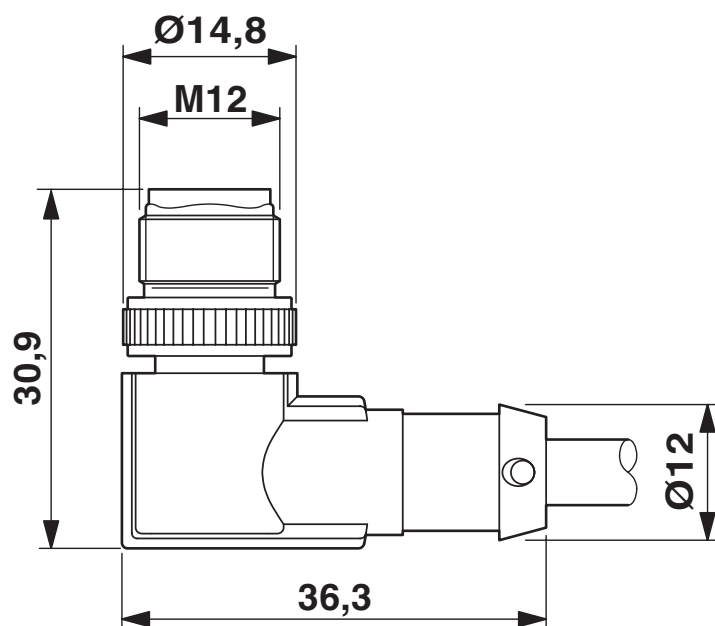
## Drawings

Schematic diagram



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

Dimensional drawing



M12 x 1 male plug, angled, shielded

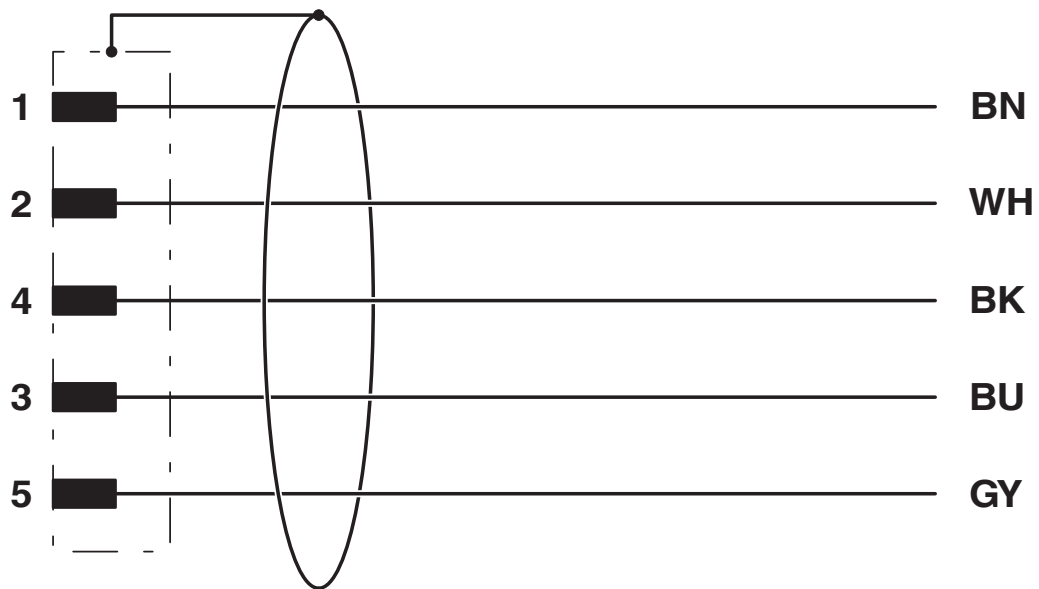
# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

Circuit diagram



# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1682760>



### UL Listed

Approval ID: FILE E 221474

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	125 V	4 A	-	-



### cUL Listed

Approval ID: FILE E 221474

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	125 V	4 A	-	-



### EAC-RoHS

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

### cULus Listed

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC001855
----------	----------

### UNSPSC

UNSPSC 21.0	26121600
-------------	----------



# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## Environmental product compliance

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

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## Accessories

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

1430873

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

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



---

### SAC-M12-EXCLIP-M - Locking clip

1558988

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



# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## UCT-WMT (23X4) - Conductor marker

0801453

<https://www.phoenixcontact.com/us/products/0801453>



Conductor marker, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 30

---

## UC-WMT (23X4) - Conductor marker

0819411

<https://www.phoenixcontact.com/us/products/0819411>



Conductor marker, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 24

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## US-WMT (23X4) - Cable marker

0828769

<https://www.phoenixcontact.com/us/products/0828769>



Cable marker, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: slide-on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 56

---

## WMTW (23X4)R - Cable marker

0831004

<https://www.phoenixcontact.com/us/products/0831004>



Cable marker, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 3000

## SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/us/products/1051993>



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

---

## CUTFOX-S VDE - Diagonal cutter

1212207

<https://www.phoenixcontact.com/us/products/1212207>



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## WIREFOX SAC-1 - Stripping tool

1212757

<https://www.phoenixcontact.com/us/products/1212757>



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø of 3.2 to 4.4 mm, any stripping length

---

## WIREFOX SAC - Stripping tool

1212623

<https://www.phoenixcontact.com/us/products/1212623>



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø of 4.4 to 7 mm, any stripping length

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## WIREFOX 10 - Stripping tool

1212150

<https://www.phoenixcontact.com/us/products/1212150>



Stripping tool, for cables and conductors from 0.02 - 10 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

---

## WP-CTA POM 13,0 BK - Protective hose adapter

1422884

<https://www.phoenixcontact.com/us/products/1422884>



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## WP-PA HF 13,0 BK - Protective hose

3240681

<https://www.phoenixcontact.com/us/products/3240681>



Protective hose, material: PA 6, UV-resistant: yes, flexible, degree of protection: IP68, color: black, flammability rating in acc. with UL 94: V0, inner diameter: 10 mm, Total length: 50 m

---

## WP-PA HF-HB 13,0 BK - Protective hose

3240839

<https://www.phoenixcontact.com/us/products/3240839>



Protective hose, material: PA 6, UV-resistant: yes, flexible, degree of protection: IP68, color: black, flammability rating in acc. with UL 94: HB, inner diameter: 10 mm, Total length: 50 m



# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

## TSD 04 SAC - Torque screwdriver

1208429

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



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

---

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

1212224

<https://www.phoenixcontact.com/us/products/1212224>



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

# SAC-5P-M12MR/ 3,0-PUR SH - Sensor/actuator cable



1682760

<https://www.phoenixcontact.com/us/products/1682760>

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

1212600

<https://www.phoenixcontact.com/us/products/1212600>



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

---

## SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/us/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

---

Phoenix Contact 2023 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)