

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

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, 4-position, PE-X/PE-X halogen-free, black-gray RAL 7021, shielded, free cable end, on Socket straight M12, coding: A, cable length: 5 m, for outdoor applications, with high-grade steel knurl

## Your advantages

- Easy and safe: 100% electrically tested plug-in components
- Robust throughout: resistant to oil, UV, and ozone, withstands temperatures from -40°C ... +105°C
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

## Commercial Data

Item number	1454163
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	BF1CJA
Catalog Page	Page 154 (C-4-2013)
GTIN	4046356568777
Weight per Piece (including packing)	379.7 g
Weight per Piece (excluding packing)	379.7 g
Customs tariff number	85444290
Country of origin	PL

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

## Technical Data

### Product properties

Product type	Sensor/actuator cable
Number of positions	4
Application	External areas
No. of cable outlets	1
Shielded	yes
Coding	A - standard

### Insulation characteristics

Degree of pollution	3
---------------------	---

### Material specifications

Color	black
Flammability rating according to UL 94	V0
Sealing material	FPM
Material of grip body	PP
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	PP
Material for screw connection	Stainless steel

### 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	$\geq 100$
-----------------------------	------------

### LED signaling

Status display	No
Status display present	No

### Connection data

#### Conductor connection

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

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

## Connector

### Connection 1

Head design	free cable end
-------------	----------------

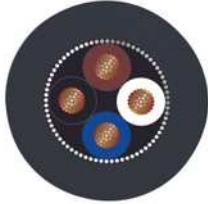
### Connection 2

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

## Cable / line

Cable length	5 m
--------------	-----

### PE-X black [28X]

Dimensional drawing	
Cable weight	74 kg/km
Number of positions	4
Shielded	yes
Cable type	PE-X black [28X]
Conductor structure signal line	28x 0.15 mm
AWG signal line	20
Conductor cross section	4x 0.5 mm <sup>2</sup> (Signal line)
Wire diameter incl. insulation	1.6 mm ±0.05 mm (Signal line)
External cable diameter	6.8 mm ±0.2 mm
Outer sheath, material	PE-X
External sheath, color	black-gray RAL 7021
Conductor material	Bare Cu litz wires
Material wire insulation	PE-X
Single wire, color	brown, white, blue, black
Thickness, insulation	approx. 0.3 mm (Core insulation) approx. 0.7 mm (Outer cable sheath) approx. 0.45 mm (Inner sheath)
Overall twist	4 wires, twisted
Length of twist, overall twist	108.8 mm
Optical shield covering	85 %
Max. conductor resistance	≤ 39 Ω/km (at 20 °C)

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

Insulation resistance	≥ 100 MΩ*km (at 20 °C)
Cable capacity	≤ 100 nF/km (Conductor-conductor, asymmetrical/touching)
	≤ 85 nF/km (Conductor-conductor, symmetrical/star quad)
	≤ 150 nF/km (Wire/shield)
Nominal voltage, cable	≤ 300 V AC
Test voltage	≥ 3000 V AC
Smallest bending radius, fixed installation	34 mm
Smallest bending radius, movable installation	68 mm
Max. bending cycles	1000000
Halogen-free	in accordance with DIN VDE 0472 part 815
Flame resistance	according to DIN 60332-1-2
	according to DIN EN 50266-2-5
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	UV resistant according to DIN VDE 0276-605
Special properties	Irradiated
Ambient temperature (operation)	-40 °C ... 105 °C (cable, fixed installation)
	-15 °C ... 105 °C (Cable, flexible installation)

## Ambient conditions

Degree of protection	IP65
	IP67
	IP68
	IP69K
Ambient temperature (operation)	-40 °C ... 105 °C (Plug / socket)
	-40 °C ... 85 °C (On sudden changes in temperature (according to IEC 60512-11-4))

## Standards and regulations

M12

Standards/specifications	IEC 61076-2-101
--------------------------	-----------------

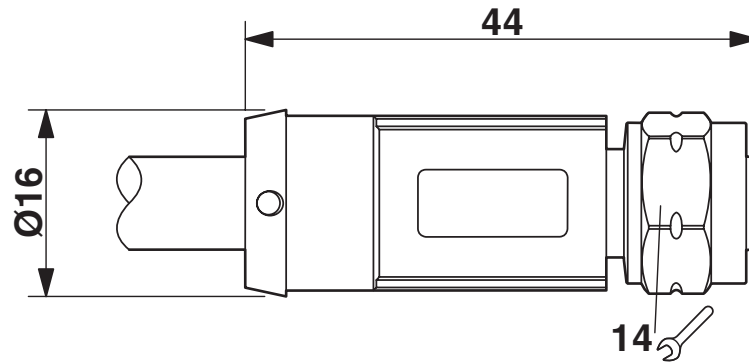
# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD

1454163

<https://www.phoenixcontact.com/pc/products/1454163>

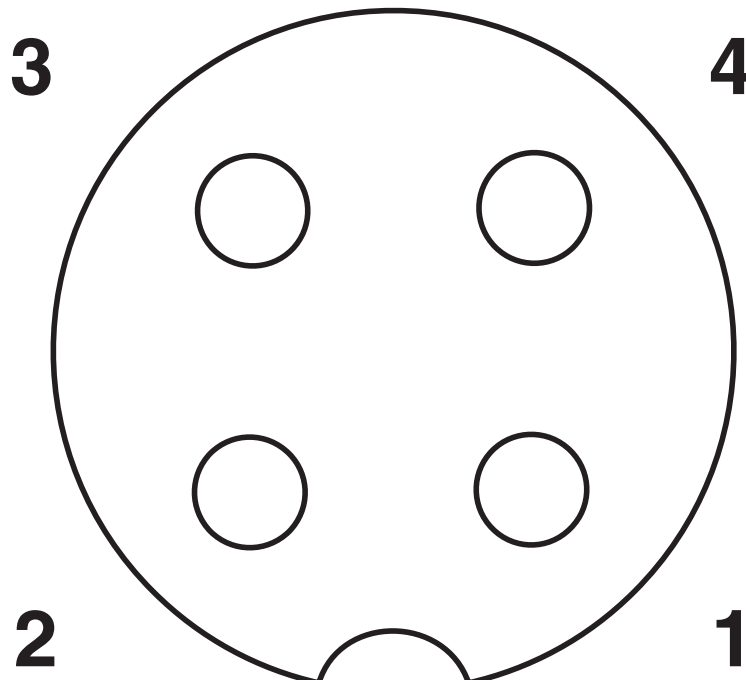
## Drawings

Dimensional drawing



M12 x 1 socket, straight

Schematic diagram



Pin assignment M12 socket, 4-pos., A-coded, view female side

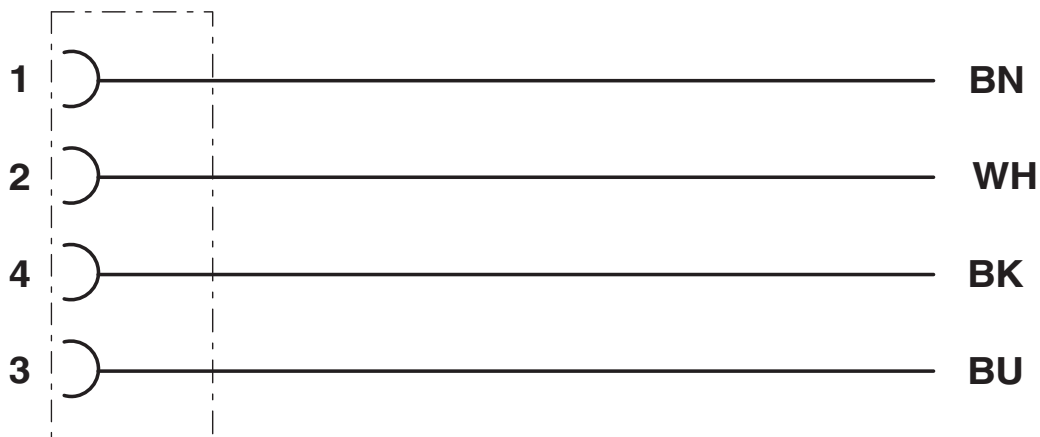
# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

Circuit diagram



# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

## Approvals

**DNV**

Approval ID: TAE00002K4

**ERC**

**EAC**

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

**ERC**

**EAC**

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

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

## Classifications

### ECLASS

ECLASS-9.0	27060311
ECLASS-10.0.1	27060311
ECLASS-11.0	27060311

### ETIM

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

### UNSPSC

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

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

## Environmental Product Compliance

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

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

## Accessories

### Connector

Connector - SACC-M12MS-5CON-DM 5-8 SH VA - 1440025

<https://www.phoenixcontact.com/pc/products/1440025>



Connector, 5-position, shielded, Plug straight M12, A-coded, Screw connection, knurl material: Stainless steel 1.4404, cable gland M16, external cable diameter 5.5 mm ... 8.6 mm

---

### 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

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

## Torque screwdriver

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

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



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

---

## Adapter insert

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

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



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

# Sensor/actuator cable - SAC-4P- 5,0-28X/M12FS SH OD



1454163

<https://www.phoenixcontact.com/pc/products/1454163>

## Tool

Tool - SAC BIT M12-W14 - 1212513

<https://www.phoenixcontact.com/pc/products/1212513>

Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive



---

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG

Flachsmarktstraße 8

D-32825 Blomberg

+49 (0) 5235-3 00

[info@phoenixcontact.com](mailto:info@phoenixcontact.com)