

## Sensor/actuator cable - SAC-4P- 2,0-28X/M12FS SH OD - 1454150

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, 4-position, PE-X/PE-X halogen-free, black-gray RAL 7021, shielded, free cable end, on Socket straight M12, coding: A, cable length: 2 m, for outdoor applications, with high-grade steel knurl

### Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Corrosion protection for all exposed metal parts, thanks to the use of stainless steel type 1.4404
- ✓ Robust throughout: resistant to oil, UV, and ozone, withstands temperatures from -40°C to +105°C
- ✓ Reliable signal transmission – 360° shielding in environments with electromagnetic interference

### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356568760

### Technical data

#### Dimensions

Length of cable	2 m
-----------------	-----

#### Ambient conditions

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

#### General

Rated current at 40°C	4 A
Rated voltage	48 V AC

# Sensor/actuator cable - SAC-4P- 2,0-28X/M12FS SH OD - 1454150

## Technical data

### General

	60 V DC
Number of positions	4
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No
Protective circuit/component	unwired
Degree of pollution	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

### Material

Flammability rating according to UL 94	V0
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	PP
Material of grip body	PP
Material, knurls	Stainless steel
Sealing material	FPM

### Standards and Regulations

Standards/specifications	M12 connector IEC 61076-2-101
Flammability rating according to UL 94	V0

### Cable

Cable type	PE-X black
Cable type (abbreviation)	28X
Cable abbreviation	Li2X2X-C-VI-2X
Conductor cross section	4x 0.5 mm <sup>2</sup> (Signal line)
AWG signal line	20
Conductor structure signal line	28x 0.15 mm
Core diameter including insulation	1.6 mm ±0.05 mm (Signal line)
Thickness, insulation	approx. 0.3 mm (Core insulation)
	approx. 0.7 mm (Outer cable sheath)
	approx. 0.45 mm (Inner sheath)
Wire colors	brown, white, blue, black
Overall twist	4 wires, twisted
Length of twist, overall twist	108.8 mm
Shielding	Braided copper wires
Optical shield covering	85 %
External sheath, color	black-gray RAL 7021
External cable diameter D	6.8 mm ±0.2 mm

## Sensor/actuator cable - SAC-4P- 2,0-28X/M12FS SH OD - 1454150

### Technical data

#### Cable

Smallest bending radius, fixed installation	34 mm
Smallest bending radius, movable installation	68 mm
Number of bending cycles	1000000
Bending radius	68 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s <sup>2</sup>
Cable weight	74 kg/km
Outer sheath, material	PE-X
Material, inner sheath	PE-X
Material conductor insulation	PE-X
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 100 MΩ*km (at 20 °C)
Conductor resistance	≤ 39 Ω/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)
Conductor inductance	0.64 mH/km (at 1 kHz)
	0.46 mH/km (at 10 MHz)
Nominal voltage, cable	≤ 300 V AC
Test voltage, cable	≥ 3000 V AC
Special properties	Irradiated
Flame resistance	according to DIN 60332-1-2
	according to DIN EN 50266-2-5
Halogen-free	in accordance with DIN VDE 0472 part 815
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	UV resistant according to DIN VDE 0276-605
Ambient temperature (operation)	-40 °C ... 105 °C (cable, fixed installation)
	-15 °C ... 105 °C (cable, flexible installation)

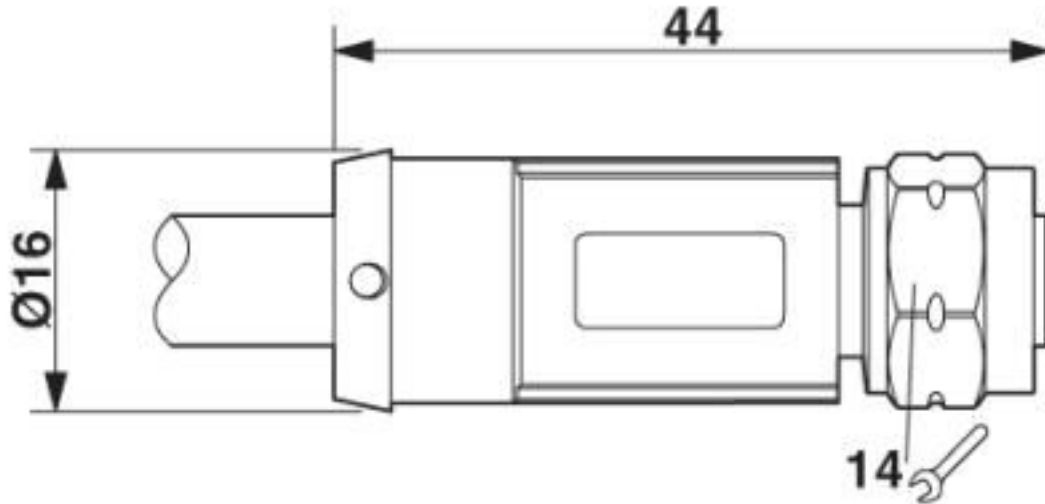
#### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

#### Drawings

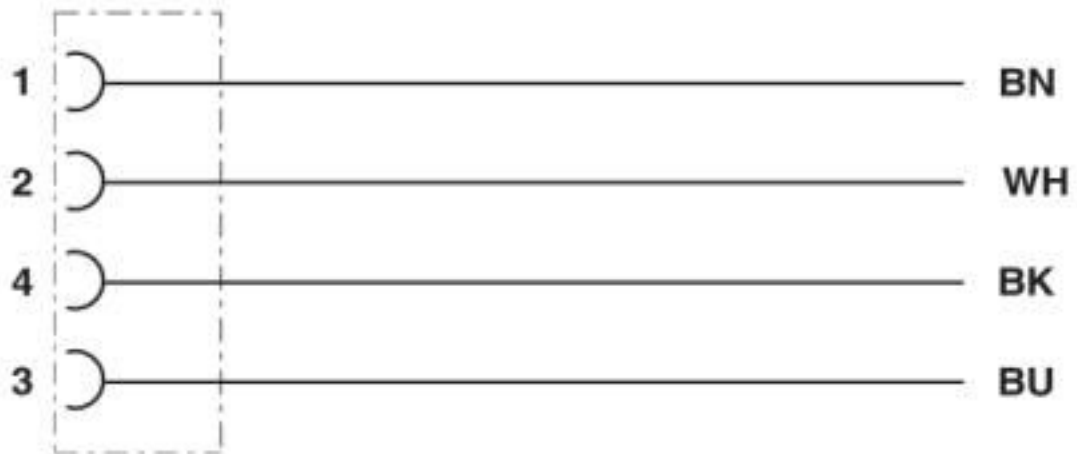
# Sensor/actuator cable - SAC-4P- 2,0-28X/M12FS SH OD - 1454150

Dimensional drawing



M12 x 1 socket, straight

Circuit diagram



Contact assignment of the M12 socket

## Sensor/actuator cable - SAC-4P- 2,0-28X/M12FS SH OD - 1454150

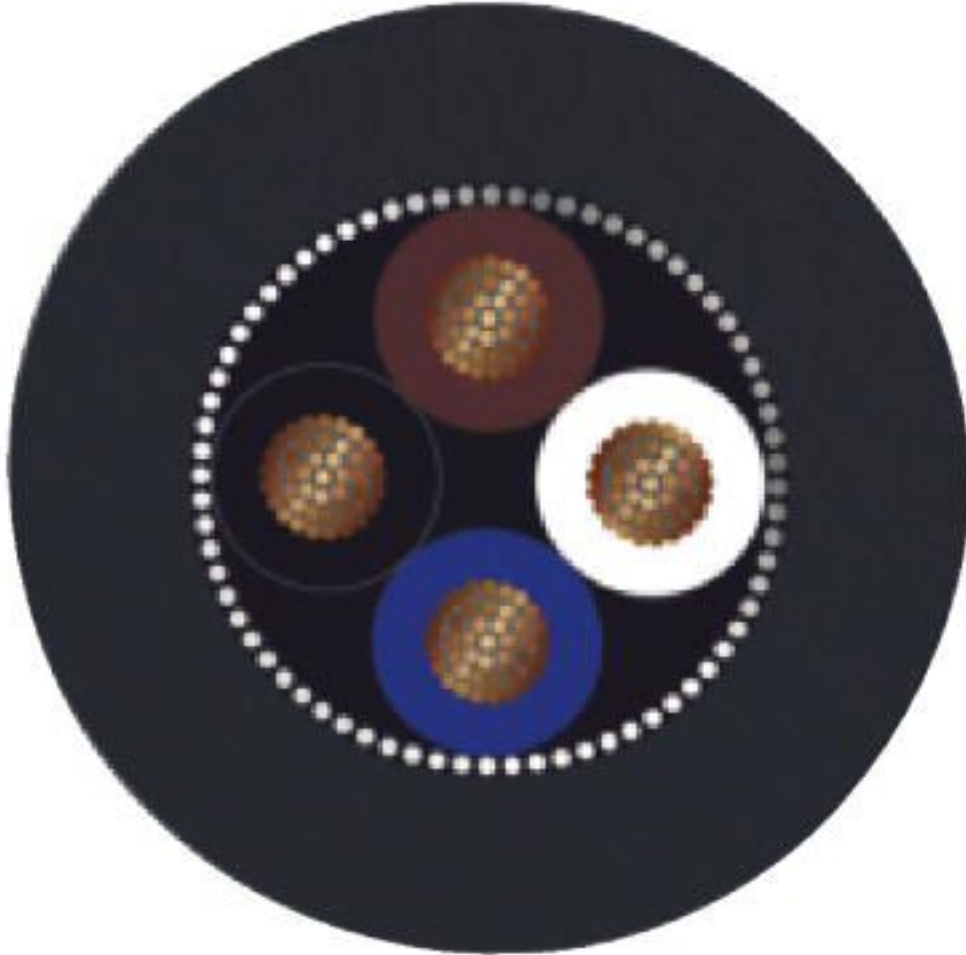
Schematic diagram



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

# Sensor/actuator cable - SAC-4P- 2,0-28X/M12FS SH OD - 1454150

Cable cross section



PE-X black [28X]

## 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-4P- 2,0-28X/M12FS SH OD - 1454150

## Classifications

### ETIM

ETIM 4.0	EC001855
ETIM 5.0	EC001855
ETIM 6.0	EC001855
ETIM 7.0	EC001855

### UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	31251501
UNSPSC 19.0	31251501
UNSPSC 20.0	31251501
UNSPSC 21.0	31251501

## Approvals

### Approvals

#### Approvals

DNV GL / EAC-RoHS / EAC

#### Ex Approvals

### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAE00002K4
--------	--	---	------------

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

EAC			RU C- DE.BL08.B.00286
-----	--	--	--------------------------

## Accessories

### Accessories

## Sensor/actuator cable - SAC-4P- 2,0-28X/M12FS SH OD - 1454150

### Accessories

#### Circular connector (cable-side)

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



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

---

#### 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

---

Adapter - SAC BIT M12-W14 - 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

---

#### Torque tool

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  
Flachmarktstr. 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](#)