

# Sensor/actuator cable - SAC-4P-M12MS/2,0-28X/M12FS OD - 1454105

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Sensor/actuator cable, 4-position, PE-X halogen-free, black-gray RAL 7021, Plug straight M12, coding: A, 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



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 568715
GTIN	4046356568715

## Technical data

### Dimensions

Length of cable	2 m
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### 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	250 V AC
	250 V DC

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## Technical data

### General

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
Overvoltage category	II
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
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. 0.6 mm (Outer cable sheath)
Wire colors	brown, white, blue, black
Overall twist	4 wires, twisted
Length of twist, overall twist	61.6 mm
External sheath, color	black-gray RAL 7021
External cable diameter D	5.2 mm ±0.2 mm
Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	52 mm
Number of bending cycles	2000000

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## Technical data

### Cable

Bending radius	52 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s <sup>2</sup>
Cable weight	44 kg/km
Outer sheath, material	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)
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
	according to IEC 60332-3-25 (bunched fire test)
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
Concentration of fumes	according to DIN EN 61034
Fume corrosiveness	according to IEC 60754
Ambient temperature (operation)	-40 °C ... 105 °C (cable, fixed installation)
	-15 °C ... 105 °C (cable, flexible installation)

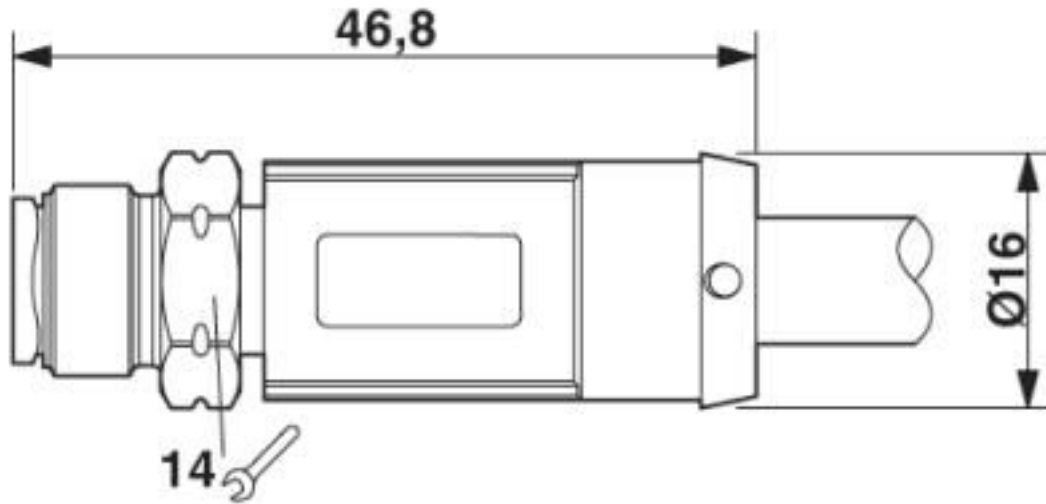
### Environmental Product Compliance

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

### Drawings

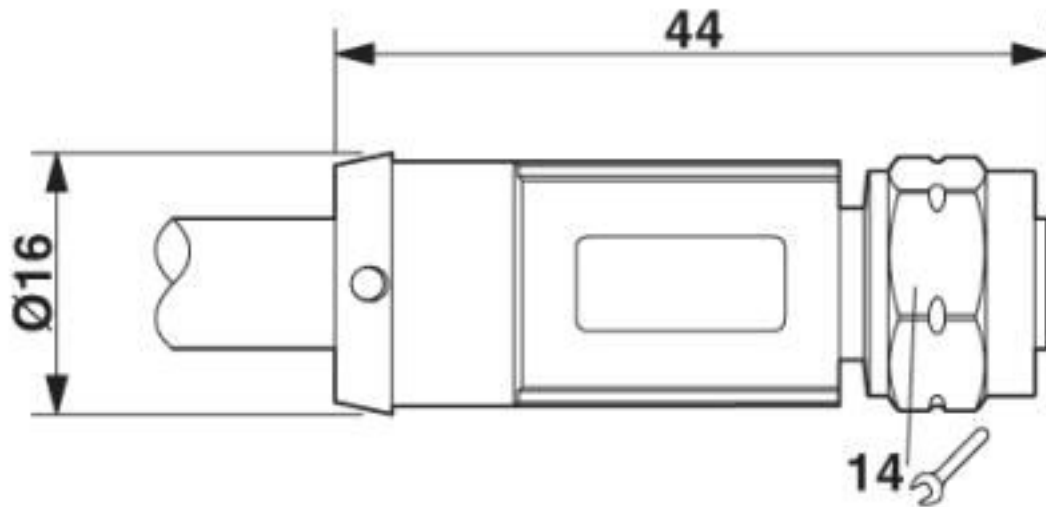
# Sensor/actuator cable - SAC-4P-M12MS/2,0-28X/M12FS OD - 1454105

Dimensional drawing



Plug, M12 x 1, straight, shielded

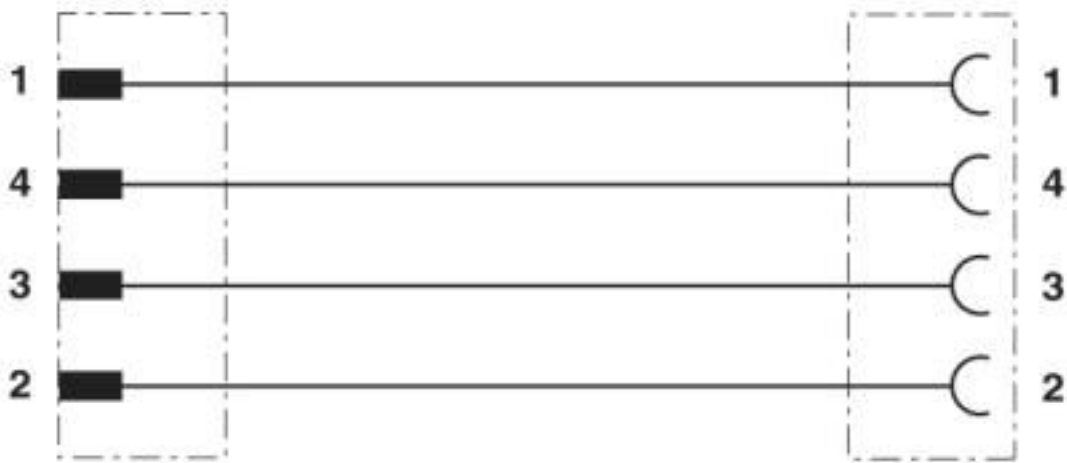
Dimensional drawing



M12 x 1 socket, straight

# Sensor/actuator cable - SAC-4P-M12MS/2,0-28X/M12FS OD - 1454105

Circuit diagram



Contact assignment of the M12 connector and the M12 socket

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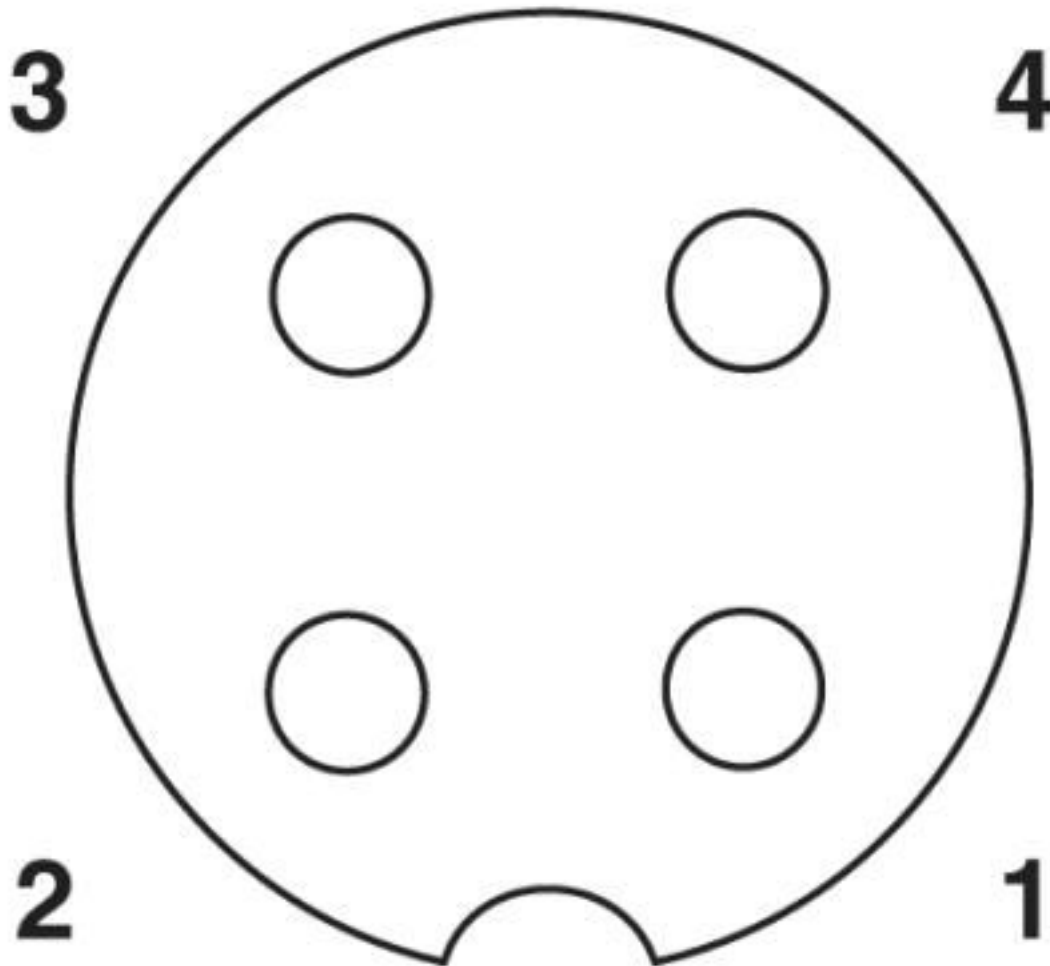
Schematic diagram



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

# Sensor/actuator cable - SAC-4P-M12MS/2,0-28X/M12FS OD - 1454105

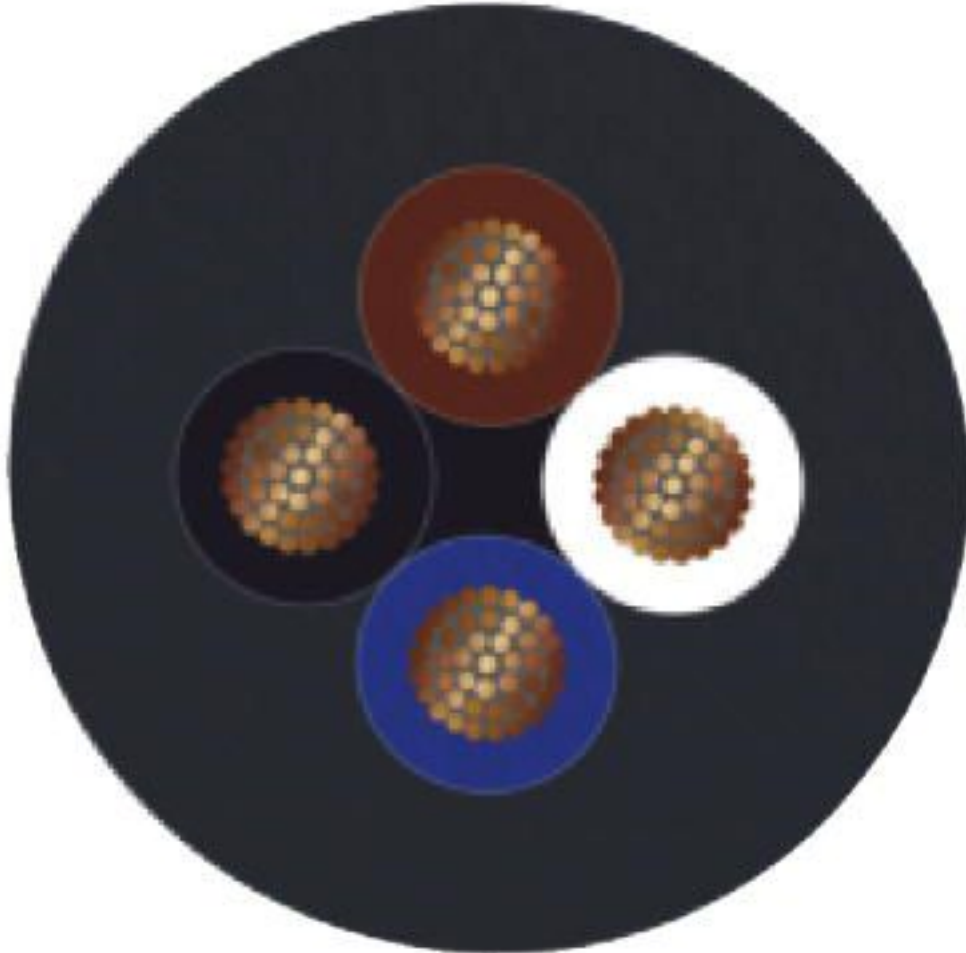
Schematic diagram



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

# Sensor/actuator cable - SAC-4P-M12MS/2,0-28X/M12FS OD - 1454105

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



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## 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
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EAC-RoHS			RU D- DE.HB35.B.00387
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EAC			RU C- DE.BL08.B.00286
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## Accessories

### Accessories

## Sensor/actuator cable - SAC-4P-M12MS/2,0-28X/M12FS OD - 1454105

### Accessories

#### 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

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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

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#### 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

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



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

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