

# Sensor/Actuator cable - SAC-4P-M12MR/1,5-PUR/M12FR - 1668739

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Sensor/Actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug angled M12, A-coded, on Socket angled M12, A-coded, Cable length: 1.5 m

## Product Features

- Easy and safe: 100% electrically tested plug-in components
- Our standard: robust halogen-free PUR cable

## Key commercial data

package_quantity	1
GTIN	4017918137298

## Technical data

### Dimensions

Length of cable	1.5 m
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### Ambient conditions

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

### General

Rated current at 40°C	4 A
Rated voltage	250 V
Number of positions	4
Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 10 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No
Protective circuit/component	Unwired
Surge voltage category	II
Pollution degree	3
Insertion/withdrawal cycles	≥ 100

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## Technical data

### General

<b>Torque</b>	0.4 Nm (M12 connector)
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### Material

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

### Cable

<b>Cable type</b>	PUR halogen-free black
<b>Cable type (abbreviation)</b>	PUR
<b>Cable abbreviation</b>	Li9Y11Y-HF
<b>UL AWM style</b>	20549 / 10493 (80°C/300 V)
<b>Conductor cross section</b>	4x 0.34 mm <sup>2</sup>
<b>AWG signal line</b>	22
<b>Conductor structure signal line</b>	42x 0.10 mm
<b>Core diameter including insulation</b>	1.27 mm ±0.02 mm
<b>Thickness, insulation</b>	≥ 0.21 mm
<b>Wire colors</b>	brown, white, blue, black
<b>Overall twist</b>	4 wires, twisted
<b>External sheath, color</b>	black-gray RAL 7021
<b>Outer sheath thickness</b>	approx. 0.8 mm
<b>External cable diameter D</b>	4.7 mm ±0.15 mm
<b>Minimum bending radius, fixed installation</b>	5 x D
<b>Minimum bending radius, flexible installation</b>	10 x D
<b>Number of bending cycles</b>	4000000
<b>Minimum bending radius, drag chain applications</b>	10 x D
<b>Traversing path</b>	10 m
<b>Traversing rate</b>	3 m/s
<b>Acceleration</b>	10 m/s <sup>2</sup>
<b>Cable weight</b>	30 kg/km
<b>Outer sheath, material</b>	PUR
<b>Material conductor insulation</b>	PP
<b>Conductor material</b>	Bare Cu litz wires
<b>Insulation resistance</b>	≥ 1 GΩ*km
<b>Conductor resistance</b>	≤ 58 Ω/km
<b>Nominal voltage, cable</b>	≤ 300 V
<b>Test voltage, cable</b>	≥ 3000 V

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## Technical data

### Cable

<b>Special properties</b>	Flexible cable conduit capable
<b>Special properties</b>	Silicone-free
<b>Special properties</b>	Free of substances which would hinder coating with paint or varnish
<b>Special properties</b>	Flexible
<b>Flame resistance</b>	in accordance with DIN UL-Style 20549
<b>Flame resistance</b>	in accordance with FT1 as per UL 758
<b>Halogen-free</b>	in accordance with DIN VDE 0472 part 815
<b>Halogen-free</b>	in accordance with DIN EN 50267-2-1
<b>Resistance to oil</b>	in accordance with DIN EN 60811-2-1
<b>Other resistance</b>	Highly resistant to acids, alkaline solutions and solvents
<b>Other resistance</b>	hydrolysis and microbe resistant
<b>Other resistance</b>	partly UV-resistant in accordance with DIN EN ISO 4892-2-A
<b>Other resistance</b>	Low adhesion
<b>Other resistance</b>	abrasion-resistant
<b>Ambient temperature (operation)</b>	-40 °C ... 80 °C (cable, fixed installation)
<b>Ambient temperature (operation)</b>	-25 °C ... 80 °C (cable, flexible installation)

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27060306
<b>eCl@ss 4.1</b>	27060306
<b>eCl@ss 5.0</b>	27061801
<b>eCl@ss 5.1</b>	27061801
<b>eCl@ss 6.0</b>	27061801
<b>eCl@ss 7.0</b>	27061801
<b>eCl@ss 8.0</b>	27061801

### ETIM

<b>ETIM 2.0</b>	EC000830
<b>ETIM 3.0</b>	EC001855
<b>ETIM 4.0</b>	EC001855
<b>ETIM 5.0</b>	EC001855

### UNSPSC

<b>UNSPSC 6.01</b>	31251501
<b>UNSPSC 7.0901</b>	31251501
<b>UNSPSC 11</b>	31251501
<b>UNSPSC 12.01</b>	31251501
<b>UNSPSC 13.2</b>	31251501

# Sensor/Actuator cable - SAC-4P-M12MR/1,5-PUR/ M12FR - 1668739

## approvals

UL Listed / cUL Listed / GOST / cULus Listed /

### Approval details

<b>UL Listed</b>	
Nominal voltage UN	300 V
Nominal current IN	4 A
mm <sup>2</sup> /AWG/kcmil	

<b>cUL Listed</b>	
Nominal voltage UN	300 V
Nominal current IN	4 A
mm <sup>2</sup> /AWG/kcmil	

<b>GOST</b>	
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<b>cULus Listed</b>	
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## accessories

### Protective cap

PROT-M12 FS-PA-CHAIN - 1430873



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### accessories

PROT-M12 MS-PA-CHAIN - 1430899



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### Safety locking

SAC-M12-EXCLIP-M - 1558988



SAC-M12-EXCLIP-F - 1558991



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### Conductor marking

PABA WH/15 - 1013151



PABA YE/15 - 1013698



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### accessories

PABA RD/15 - 1013944



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### Marker carrier cable

PATO 2/15 - 1013122



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PATO 3/15 - 1013135



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PATO 4/15 - 1013148



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### Marker pen

B-STIFT - 1051993



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accessories

### Torque tool

TSD 04 SAC - 1208429



TSD-M 1,2NM - 1212224



### Screwdriver tools

TSD-M SAC-BIT ADAPTER - 1212600



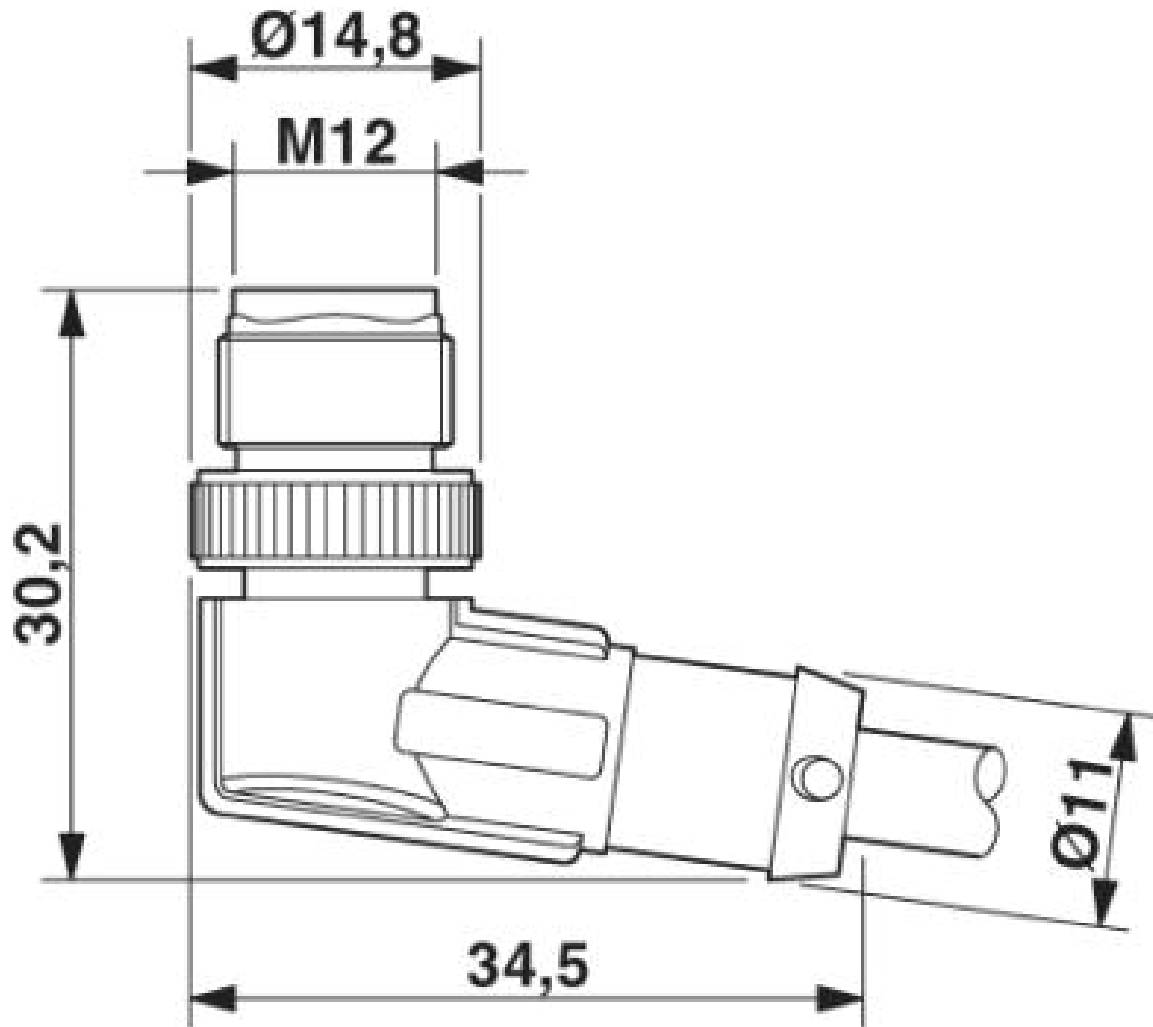
SAC BIT M12-D15 - 1208432



### Drawings

# Sensor/Actuator cable - SAC-4P-M12MR/1,5-PUR/ M12FR - 1668739

Dimensioned drawing

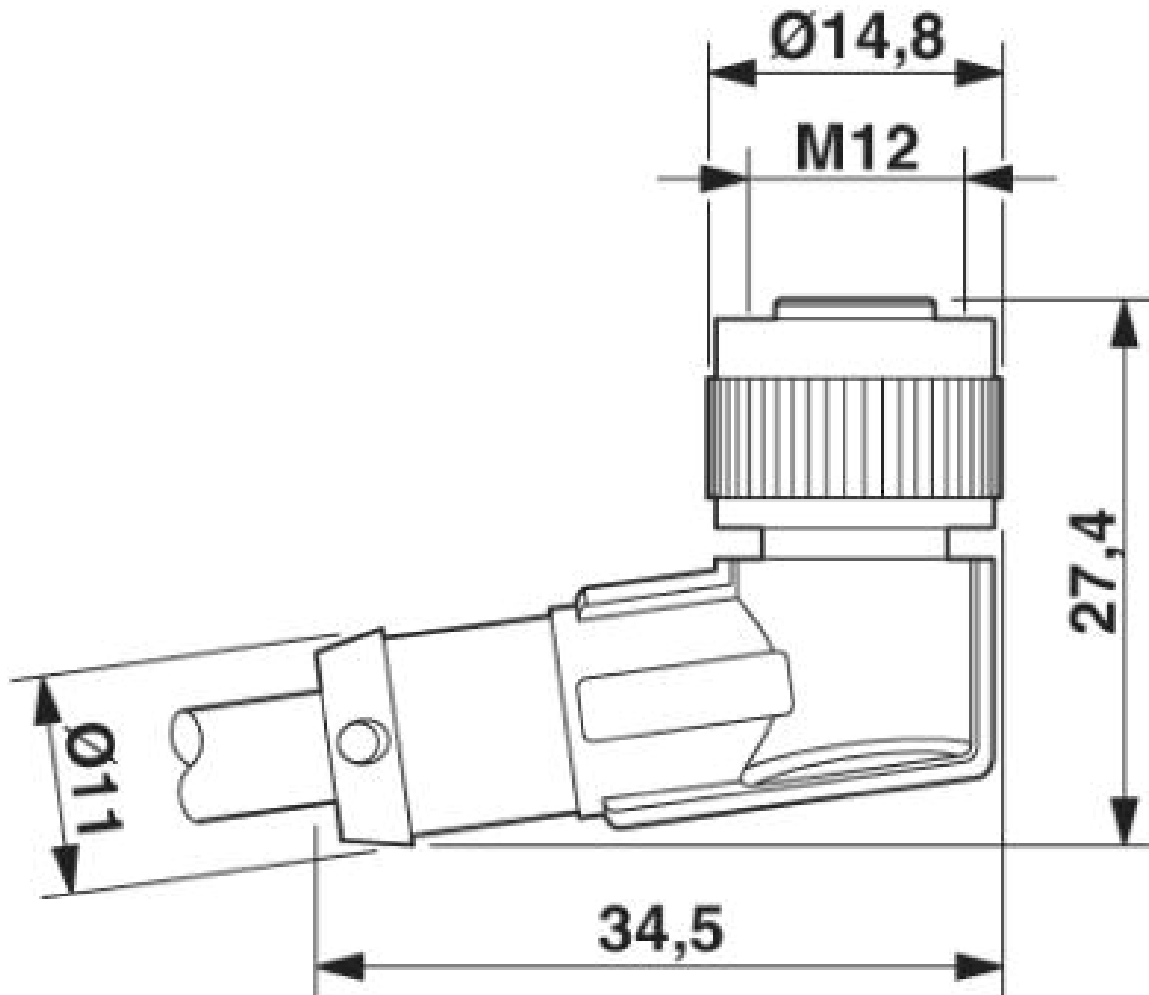


M12 x 1 male plug, angled



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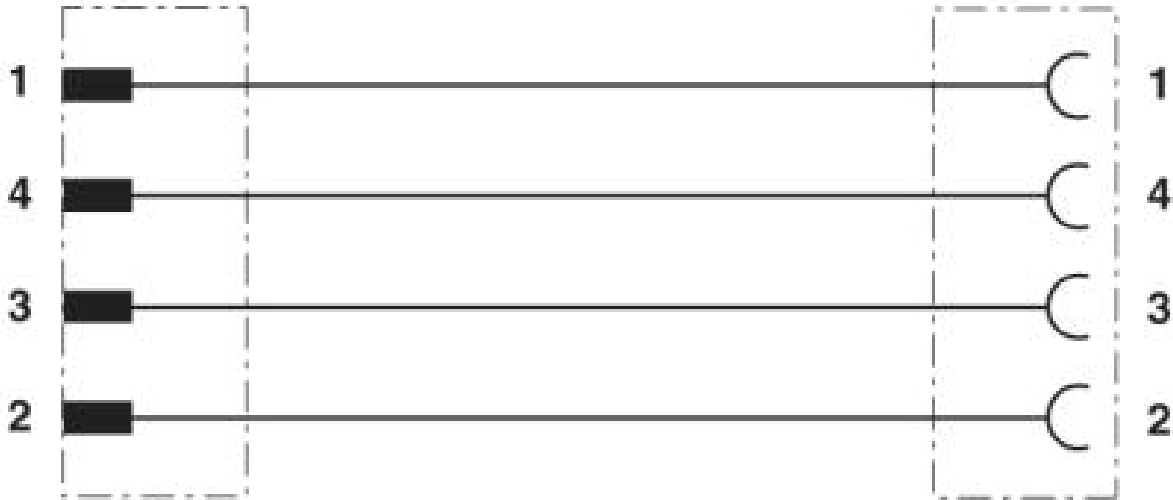
Dimensioned drawing



M12 x 1 socket, angled

# Sensor/Actuator cable - SAC-4P-M12MR/1,5-PUR/ M12FR - 1668739

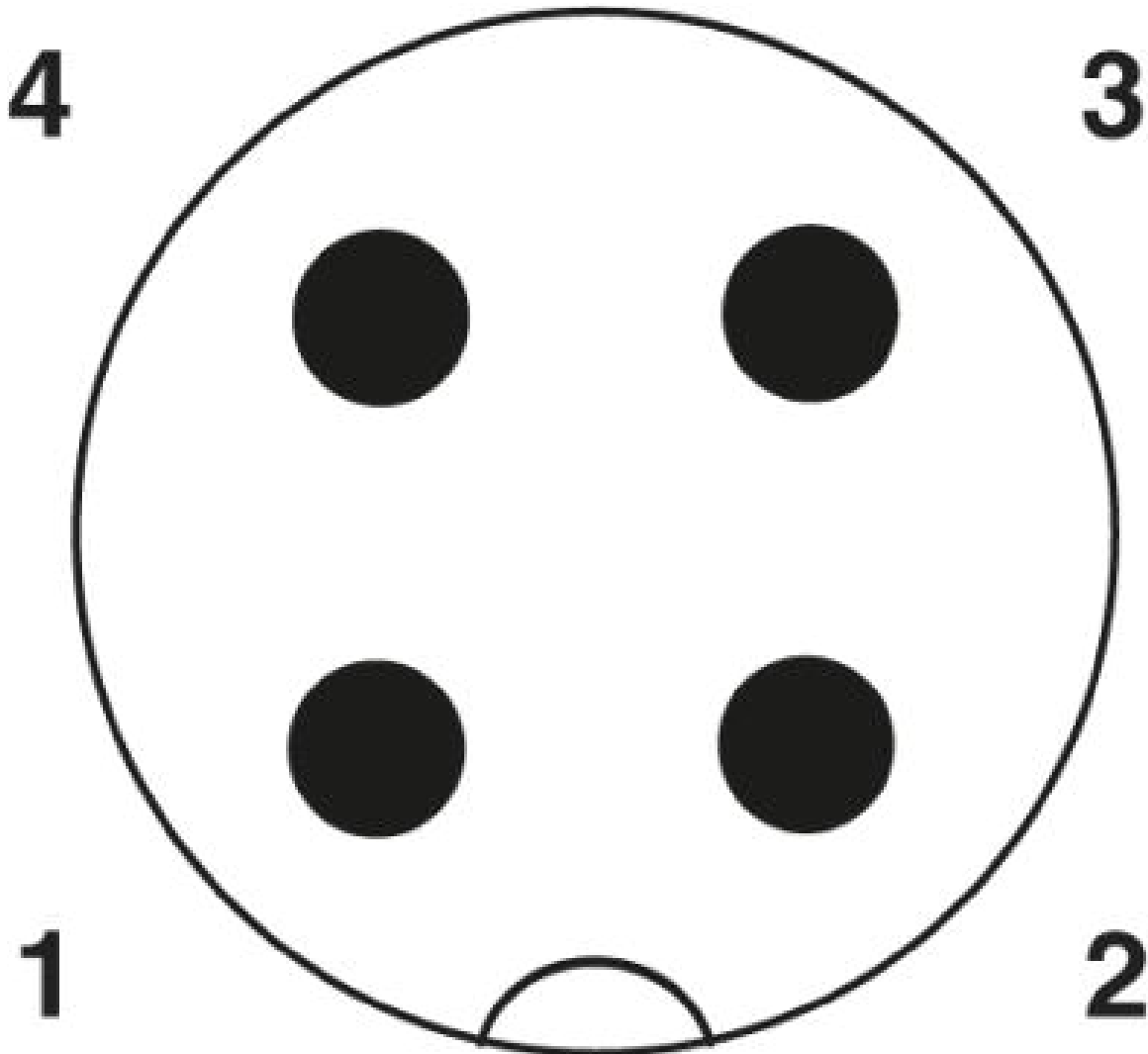
Circuit diagram



Contact assignment of the M12 plug and the M12 socket

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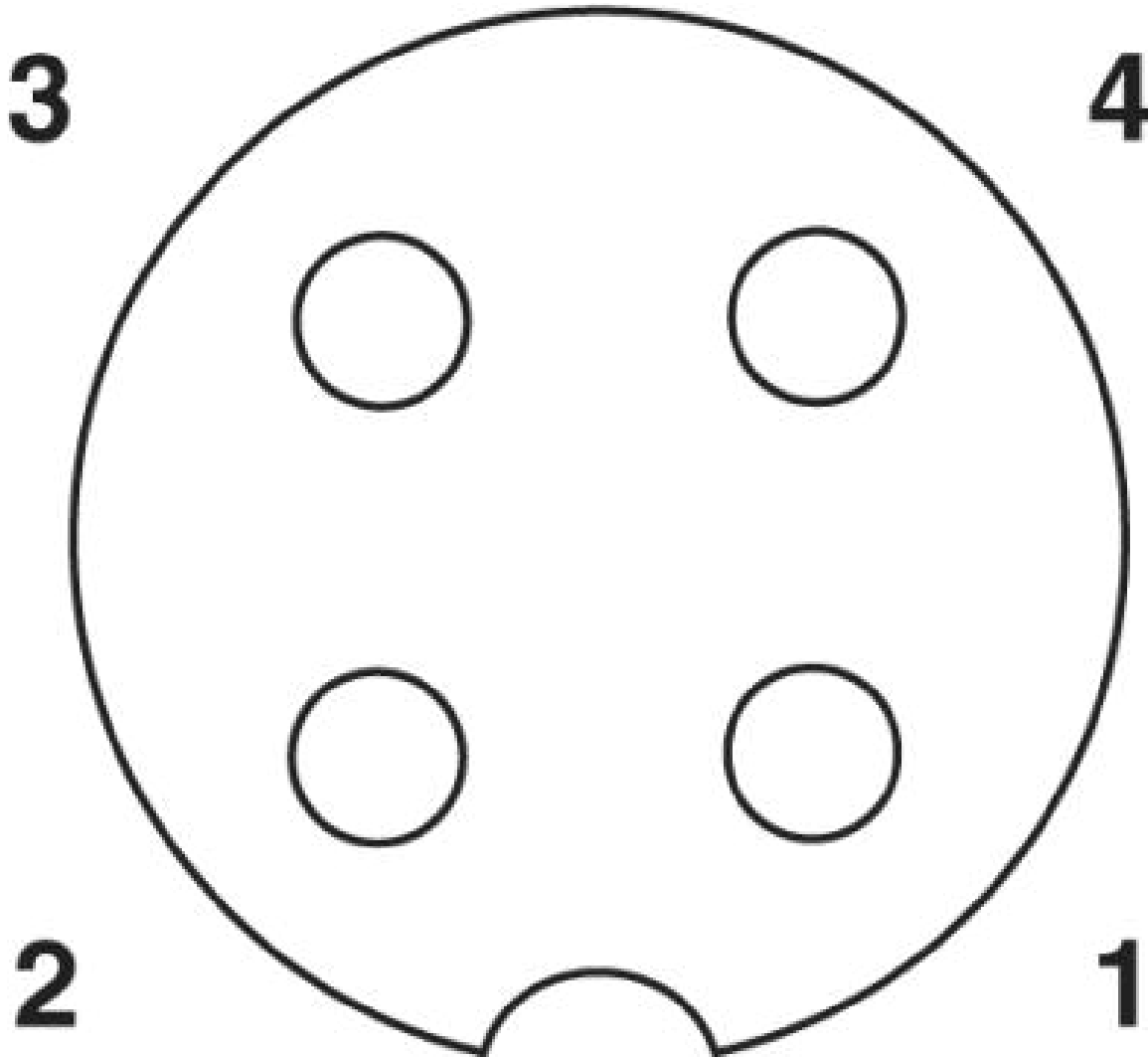
Schematic diagram



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

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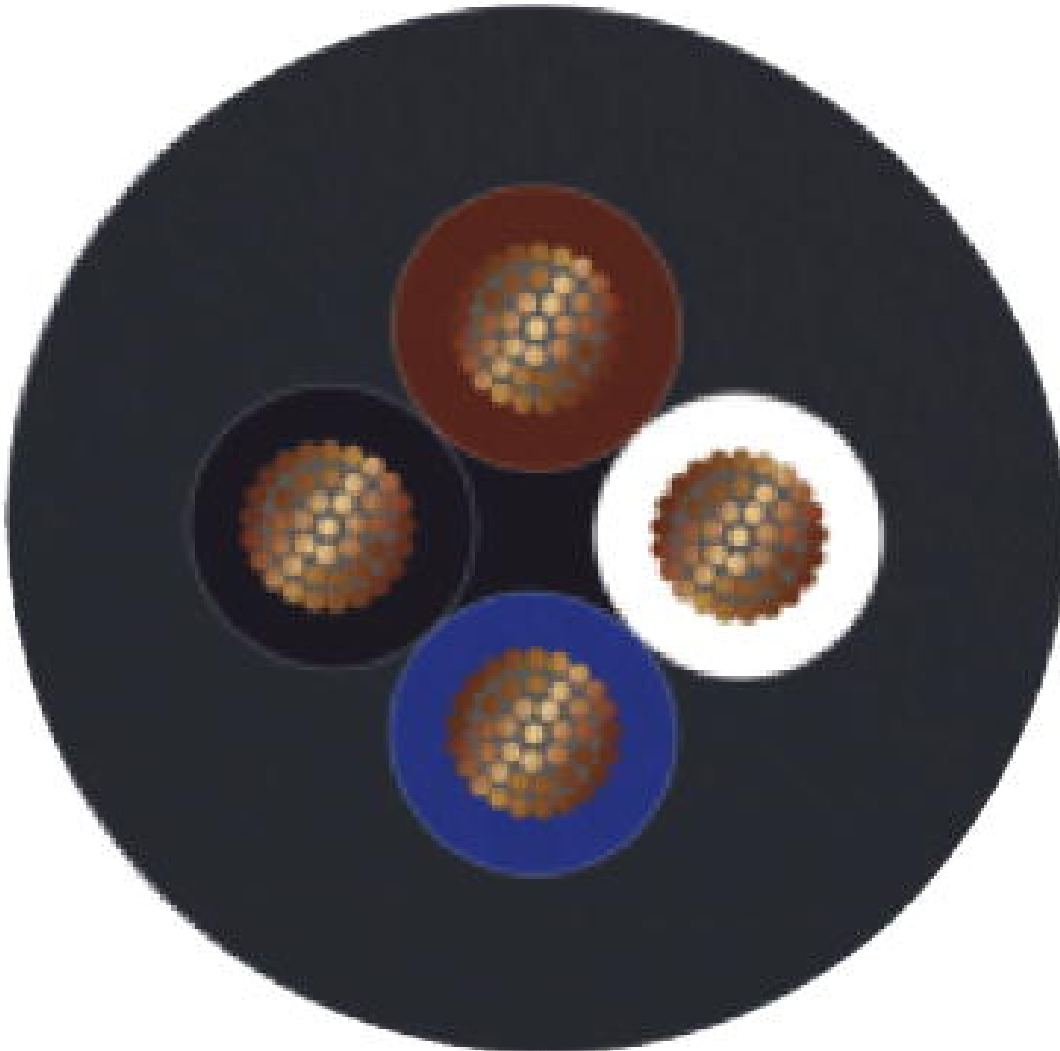
Schematic diagram



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

## Sensor/Actuator cable - SAC-4P-M12MR/1,5-PUR/ M12FR - 1668739

Cable cross section



PUR halogen-free black [PUR]

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