

# Sensor/Actuator cable - SAC-4P-M 8MR/1,5-PUR - 1681813

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Sensor/Actuator cable, 4-position, PUR halogen-free, Black-gray RAL 7021, Plug angled M8, on Free cable end, Cable length: 1.5 m

## Why buy this product

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



## Key commercial data

Packing unit	1 pc
GTIN	 4 017918 158477
Weight per Piece (excluding packing)	42.3 g
Custom tariff number	85444290
Country of origin	Germany

## Technical data

### Dimensions

Length of cable	1.5 m
Stripping length of the free conductor end	50 mm

### Ambient conditions

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

### General

Rated current at 40°C	4 A
Rated voltage	30 V
Number of positions	4
Contact resistance	≤ 5 mΩ

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## Technical data

### General

Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M8 connector IEC 61076-2-104
Status display	No
Protective circuit/component	Unwired
Surge voltage category	II
Pollution degree	3
Insertion/withdrawal cycles	≥ 100
Torque	0.2 Nm (M8 connectors)

### Material

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

### Cable

Cable type	PUR halogen-free black
Cable type (abbreviation)	PUR
Cable abbreviation	Li9Y11Y-HF
Conductor cross section	4x 0.25 mm <sup>2</sup> (signal line)
AWG signal line	24
Conductor structure signal line	32x 0.10 mm
Core diameter including insulation	1.17 mm ±0.02 mm (signal line)
Thickness, insulation	≥ 0.21 mm (Core insulation)
	approx. 0.7 mm (Outer cable sheath)
Wire colors	brown, white, blue, black
Overall twist	4 wires, twisted
External sheath, color	RAL 9005 (black gray)
External cable diameter D	4.4 mm ±0.15 mm
Smallest bending radius, fixed installation	22 mm
Smallest bending radius, movable installation	44 mm
Number of bending cycles	4000000
Bending radius	44 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	5 m/s <sup>2</sup>
Cable weight	25 kg/km
Outer sheath, material	PUR
Material conductor insulation	PP

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### Technical data

#### Cable

Conductor material	Bare Cu litz wires
Insulation resistance	≥ 100 GΩ*km (at 20 °C)
Conductor resistance	max. 78000000 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
Flame resistance	in accordance with DIN UL-Style 20549
Halogen-free	in accordance with DIN VDE 0472 part 815
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
	partly UV-resistant in accordance with DIN EN ISO 4892-2-A
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

### Classifications

#### eCl@ss

eCl@ss 4.0	27060306
eCl@ss 4.1	27060306
eCl@ss 5.0	27061801
eCl@ss 5.1	27061801
eCl@ss 6.0	27061801
eCl@ss 7.0	27061801
eCl@ss 8.0	27061801

#### ETIM

ETIM 2.0	EC000830
ETIM 3.0	EC001855
ETIM 4.0	EC001855
ETIM 5.0	EC001855

#### UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	31251501

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## Approvals

Approvals

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Approvals

UL Listed / cUL Listed / GOST / cULus Listed

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Ex Approvals

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Approvals submitted

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## Approval details

UL Listed	
Nominal current IN	4 A
Nominal voltage UN	125 V

cUL Listed	
Nominal current IN	4 A
Nominal voltage UN	125 V

GOST	
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cULus Listed	
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## Accessories

Accessories

Conductor marking

## Sensor/Actuator cable - SAC-4P-M 8MR/1,5-PUR - 1681813

### Accessories

Insert label - PABA WH/15 - 1013151



Insert label, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Insert label - PABA YE/15 - 1013698



Insert label, Strip, yellow, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Insert label - PABA RD/15 - 1013944



Insert label, Strip, red, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

### Cutting tools

Cable-cutting tool - CUTFOX-S VDE - 1212207



Diagonal cutter for copper and aluminum conductors, VDE-tested

### Marker carrier cable

Conductor marker carrier - PATG 2/15 - 1013038



Conductor marker carrier, transparent, Unlabeled, Mounting type: Slide on, Cable diameter: 2-4 mm, Lettering field: 4 x 15 mm

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### Accessories

Conductor marker carrier - PATG 3/15 - 1013041



Conductor marker carrier, transparent, Unlabeled, Mounting type: Slide on, Cable diameter: 4-7 mm, Lettering field: 4 x 15 mm

Conductor marker carrier - PATG 4/15 - 1013054



Conductor marker carrier, transparent, Unlabeled, Mounting type: Slide on, Cable diameter: 6-10 mm, Lettering field: 4 x 15 mm

### Marker pen

Marker pen - B-STIFT - 1051993



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

### Protective cap

Sealing cap - PROT-M 8 FS-PA-CHAIN - 1430857



M8 sealing cap made of plastic with fixing band for sensor cables, for M8 plugs

### Screwdriver tools

Tool - SAC BIT M8-D10 - 1208461



Nut for assembling sensor/actuator cables with M8 connector and for M8 connectors with QUICKON fast connection technology, for 4 mm hexagonal drive

### Stripping tool

# Sensor/Actuator cable - SAC-4P-M 8MR/1,5-PUR - 1681813

## Accessories

Stripping tool - WIREFOX SAC-1 - 1212757



Abisolierzange, für halogenfreie Sensor-/Aktor-Leitungen (SAC-Leitungen), mit PUR und PVC Isolierung, von Ø 3,2 bis 4,4 mm, Abisolierlänge beliebig

Stripping tool - WIREFOX SAC - 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

Stripping tool - WIREFOX 10 - 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

Torque tool

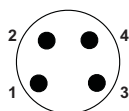
Torque screwdriver - TSD 02 SAC - 1208487



Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors

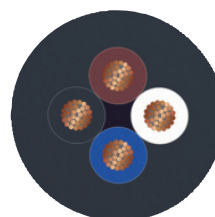
## Drawings

Schematic diagram



Pin assignment M8 plug, 4-pos., view male side

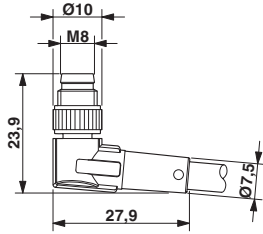
Cable cross section



PUR halogen-free black [PUR]

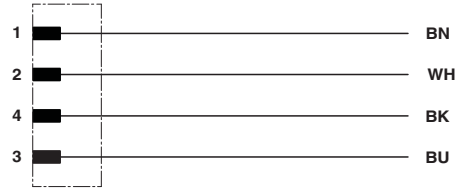
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Dimensioned drawing



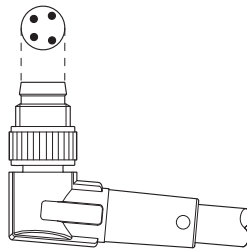
M8 x 1 male plug, angled version

Circuit diagram



Contact assignment of the M8 plug

Schematic diagram



Layout of connector pin assignments