

# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF



1436165

<https://www.phoenixcontact.com/de/produkte/1436165>

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Sensor/actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12 SPEEDCON, coding: A and Socket straight M12 SPEEDCON, coding: A, cable length: 1.5 m

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# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF



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## Commercial Data

Item number	1436165
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C1 - Sensor-Aktor-Kabel
Product Key	BF1GAD
Catalog Page	Page 249 (C-2-2019)
GTIN	4046356432412
Weight per Piece (including packing)	75,8 g
Weight per Piece (excluding packing)	65,84 g
Customs tariff number	85444290
Country of origin	PL

# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF



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## Technical Data

### Product properties

Product type	Distributor with cable
Number of positions	4
Application	Standard
No. of cable outlets	1
Shielded	no
Coding	A - standard
Thread type	M12 x 1

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

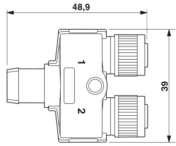
### Electrical properties

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

### LED signaling

Status display	No
Status display present	No

### Dimensions

Dimensional drawing	
Center distance	21 mm

### Material specifications

Flammability rating according to UL 94	HB
Sealing material	NBR
Material of grip body	TPU, hardly inflammable, self-extinguishing
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Cable gland material	Zinc die-cast, nickel-plated

### Connector

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Insertion/withdrawal cycles	≥ 100
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## Header 1

Head design	free cable end
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## Head 2

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

## Cable / line

Cable length	1.5 m
Cable weight	30 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	4
Shielded	no
Cable type	PUR halogen-free black [PUR]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm <sup>2</sup>
Wire diameter incl. insulation	1.27 mm ±0.02 mm
External cable diameter	4.2 mm ±0.15 mm
Outer sheath, material	PUR
External sheath, color	black-gray RAL 7021
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	brown, white, blue, black
Thickness, insulation	≥ 0.21 mm
Thickness, outer sheath	approx. 0.5 mm
Overall twist	4 wires, twisted
Max. conductor resistance	≤ 58 Ω/km
Insulation resistance	≥ 1 GΩ*km
Nominal voltage, cable	≤ 300 V
Test voltage	≥ 3000 V
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Max. bending cycles	10000000
Halogen-free	in accordance with DIN VDE 0472 part 815 in accordance with DIN EN 50267-2-1
Flame resistance	in accordance with UL 758/1581 FT2 DIN EN 60332-2-2 (20 s)
Resistance to oil	in accordance with DIN EN 60811-2-1 Highly resistant to acids, alkaline solutions and solvents

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Other resistance	hydrolysis and microbe resistant
	partly UV-resistant in accordance with DIN EN ISO 4892-2-A
	Low adhesion
	abrasion-resistant
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
	flexible
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (Cable, flexible installation)
Cable weight	30 kg/km

## Cable structure

Cable abbreviation	Li9Y11Y-HF
Cable type	PUR halogen-free black
External cable diameter	4.70 mm
Outer sheath, material	PUR
External sheath, color	black-gray RAL 7021
Conductor material	Bare Cu litz wires
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Material wire insulation	PP
Thickness, insulation	≥ 0.21 mm (Core insulation)
Wire diameter incl. insulation	1.27 mm ±0.02 mm
Single wire, color	brown, blue, black, white
Overall twist	4 wires, twisted

## Electrical properties

Nominal voltage, cable	300 V
Test voltage, cable	3000 V
Conductor resistance	≤ 58 Ω/m
Cable insulation resistance	≥ 100 GΩ*km

## Mechanical properties

Smallest bending radius, movable installation	47 mm
Number of bending cycles	4000000
Bending radius	47 mm
Traversing path	10 m
Traversing rate	3 m/s

## Bending cycles

Smallest bending radius, movable installation	47 mm
Number of bending cycles	4000000
Bending radius	47 mm
Traversing path	10 m

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Traversing rate	3 m/s
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
	-40 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (Cable, flexible installation)

## Standards and regulations

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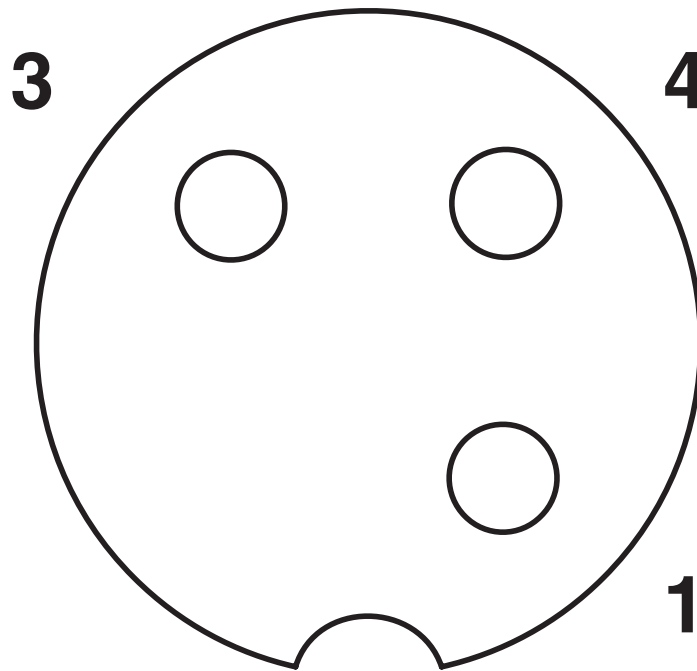
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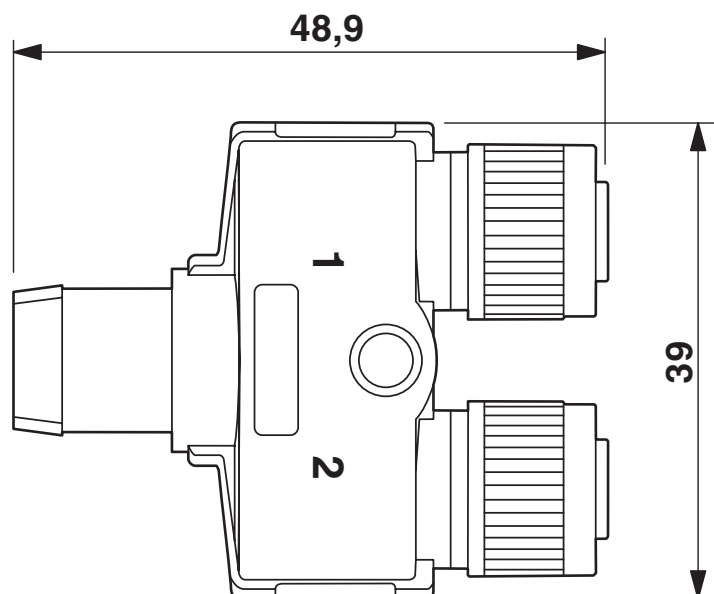
## Drawings

Schematic diagram



Pin assignment M12 socket, 3-pos., A-coded, view female side

Dimensional drawing



Y distributor, 2 x socket M12 x 1

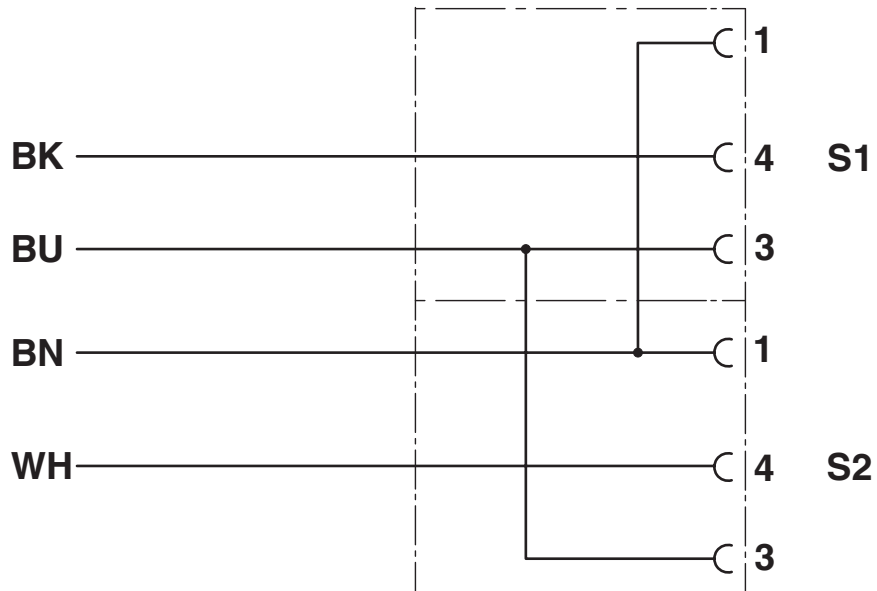
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Circuit diagram



Contact assignment of the M12 Y distributor



# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF



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## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC001855
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### UNSPSC

UNSPSC 21.0	26121600
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF



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## Accessories

### Connector

Connector - SACC-M12FR-4PL M - 1424656

<https://www.phoenixcontact.com/de/produkte/1424656>

Connector, Universal, 4-position, unshielded, Socket angled M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm



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### Insert label

Insert label - PABA WH/23 - 1013779

<https://www.phoenixcontact.com/de/produkte/1013779>

Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: slide-on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20



# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF

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## Connector

Connector - SACC-M12MR-4PL M - 1424654

<https://www.phoenixcontact.com/de/produkte/1424654>



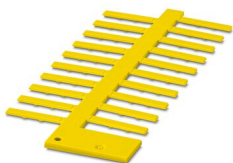
Connector, Universal, 4-position, unshielded, Plug angled M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

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## Insert label

Insert label - PABA YE/23 - 1013782

<https://www.phoenixcontact.com/de/produkte/1013782>



Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: slide-on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF

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<https://www.phoenixcontact.com/de/produkte/1436165>

## Connector

Connector - SACC-M12FS-4PL M - 1424655

<https://www.phoenixcontact.com/de/produkte/1424655>



Connector, Universal, 4-position, unshielded, Socket straight M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

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## Marker pen

Marker pen - B-STIFT - 1051993

<https://www.phoenixcontact.com/de/produkte/1051993>



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

# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF

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<https://www.phoenixcontact.com/de/produkte/1436165>

## Connector

Connector - SACC-M12MS-4PL M - 1424657

<https://www.phoenixcontact.com/de/produkte/1424657>



Connector, Universal, 4-position, unshielded, Plug straight M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

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## Diagonal cutter

Diagonal cutter - CUTFOX-S VDE - 1212207

<https://www.phoenixcontact.com/de/produkte/1212207>



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF

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<https://www.phoenixcontact.com/de/produkte/1436165>

## Connector

Connector - SACC-M12FS-4QO-0,34-M - 1641688

<https://www.phoenixcontact.com/de/produkte/1641688>



Connector, Universal, 4-position, Socket straight M12, Coding: A, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 3.5 mm ... 6 mm

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## Stripping tool

Stripping tool - WIREFOX SAC-1 - 1212757

<https://www.phoenixcontact.com/de/produkte/1212757>



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø of 3.2 to 4.4 mm, any stripping length

# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF

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<https://www.phoenixcontact.com/de/produkte/1436165>

## Connector

Connector - SACC-M12MS-4QO-0,34-M - 1641691

<https://www.phoenixcontact.com/de/produkte/1641691>



Connector, Universal, 4-position, Plug straight M12, Coding: A, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 3.5 mm ... 6 mm

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## Stripping tool

Stripping tool - WIREFOX SAC - 1212623

<https://www.phoenixcontact.com/de/produkte/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



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## Stripping tool

Stripping tool - WIREFOX 10 - 1212150

<https://www.phoenixcontact.com/de/produkte/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

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## Protective hose adapter

Protective hose adapter - WP-CTA POM 13,0 BK - 1422884

<https://www.phoenixcontact.com/de/produkte/1422884>



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

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## Protective hose

Protective hose - WP-PA HF 13,0 BK - 3240681

<https://www.phoenixcontact.com/de/produkte/3240681>



Protective hose, material: PA 6, filament: without, UV-resistant: yes, flexible, degree of protection: IP68, color: black, inflammability class in acc. with UL 94: V0, inner diameter: 10 mm, Total length: 50 m

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## Protective hose

Protective hose - WP-PA HF-HB 13,0 BK - 3240839

<https://www.phoenixcontact.com/de/produkte/3240839>



Protective hose, material: PA 6, filament: without, UV-resistant: yes, flexible, degree of protection: IP68, color: black, inflammability class in acc. with UL 94: HB, inner diameter: 10 mm, Total length: 50 m

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## Screw plug

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

<https://www.phoenixcontact.com/de/produkte/1430899>

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



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## Locking clip

Locking clip - SAC-M12-EXCLIP-F - 1558991

<https://www.phoenixcontact.com/de/produkte/1558991>

Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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## Torque screwdriver

Torque screwdriver - TSD 04 SAC - 1208429

<https://www.phoenixcontact.com/de/produkte/1208429>



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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## Torque screwdriver

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

<https://www.phoenixcontact.com/de/produkte/1212224>



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

# Sensor/actuator cable - SAC-4PY- 1,5-PUR/2XF



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## Adapter insert

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

<https://www.phoenixcontact.com/de/produkte/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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## Tool

Tool - SAC BIT M12-D15 - 1208432

<https://www.phoenixcontact.com/de/produkte/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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