

Sensor/actuator cable - SAC-8P-M12MS/ 1,5-PUR/M12FS SH

1522985

<https://www.phoenixcontact.com/de/produkte/1522985>

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Sensor/actuator cable, 8-position, PUR halogen-free, black-gray RAL 7021, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 1.5 m

Your advantages

- Easy and safe: 100% electrically tested plug-in components
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

Sensor/actuator cable - SAC-8P-M12MS/ 1,5- PUR/M12FS SH



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Commercial Data

Item number	1522985
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C1 - Sensor-Aktor-Kabel
Product Key	BF1CMA
Catalog Page	Page 211 (C-2-2019)
GTIN	4017918957742
Weight per Piece (including packing)	109,9 g
Weight per Piece (excluding packing)	109,9 g
Customs tariff number	85444290
Country of origin	PL

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Technical Data

Product properties

Product type	Sensor/actuator cable
Number of positions	8
Application	Standard
No. of cable outlets	1
Shielded	yes
Coding	A - standard

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Material specifications

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

Electrical properties

Contact resistance	$\leq 5 \text{ m}\Omega$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage U_N	30 V AC
	30 V DC
Nominal current I_N	2 A
Protective circuit	unwired

Connection data

Conductor connection

Tightening torque	0.4 NmM12 connector
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Connector

Insertion/withdrawal cycles	≥ 100
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Header 1

Head design	Plug
Head cable outlet	straight
Head thread type	M12
Coding	A

Header 2

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

LED signaling

Status display	No
Status display present	No

Cable / line

Cable length	1.5 m
Cable weight	53 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	8
Shielded	yes
Cable type	PUR halogen-free black [PUR]
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Conductor cross section	8x 0.25 mm ² (Signal line)
Wire diameter incl. insulation	1.17 mm ±0.02 mm
External cable diameter	5.9 mm ±0.2 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, green, yellow, gray, pink, blue, red
Thickness, insulation	approx. 0.2 mm
Thickness, outer sheath	approx. 0.5 mm
Overall twist	8 wires around filler to the core
Optical shield covering	85 %
Max. conductor resistance	≤ 78 Ω/km (at 20 °C)
Insulation resistance	≥ 1 GΩ*km (at 20 °C)
Nominal voltage, cable	≤ 300 V AC
Test voltage	≥ 3000 V AC (Spark test)
Test voltage Core/Shield	≥ 2000 V AC (for 60 s)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Max. bending cycles	2000000
Halogen-free	in accordance with DIN VDE 0472 part 815 according to IEC 60754-1
Flame resistance	in acc. with UL FT-2 according to UL 758/1581 (horizontal) in accordance with UL 758/1581 FT2 According to DIN EN 60332-2-2 (20 s)

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Resistance to oil	in accordance with IEC 60811-404
Other resistance	hydrolysis and microbe resistant
	Resistant to salt water
	low-abrasion
	partly UV-resistant in accordance with DIN EN ISO 4892-2-A
Special properties	Flexible cable conduit capable
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (Cable, flexible installation)
Cable weight	54 kg/km

Cable structure

Cable abbreviation	Li9Y-V1-C-V1-11Y
Cable type	PUR halogen-free black
External cable diameter	5.90 mm
Outer sheath, material	PUR
External sheath, color	black-gray RAL 7021
Conductor material	Bare Cu litz wires
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Material, filler	PE
Material wire insulation	PP
Thickness, insulation	≥ 0.21 mm (Core insulation)
Wire diameter incl. insulation	1.17 mm ±0.02 mm
Single wire, color	brown, white, green, yellow, gray, pink, blue, red
Overall twist	8 wires around filler to the core
Shielding	Braided copper wires
Optical shield covering	85 %

Electrical properties

Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Conductor resistance	max. 78 Ω/km
Cable insulation resistance	≥ 100 GΩ*km

Mechanical properties

Smallest bending radius, fixed installation	59 mm
Smallest bending radius, movable installation	59 mm
Number of bending cycles	4000000
Bending radius	59 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s ²

Bending cycles

Smallest bending radius, fixed installation	59 mm
Smallest bending radius, movable installation	59 mm

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Number of bending cycles	4000000
Bending radius	59 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s ²

Ambient conditions

Ambient temperature (operation)	-5 °C ... 80 °C (Cable, flexible installation)
	-25 °C ... 80 °C (cable, fixed installation)

Ambient conditions

Degree of protection	IP65
	IP67
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
	-25 °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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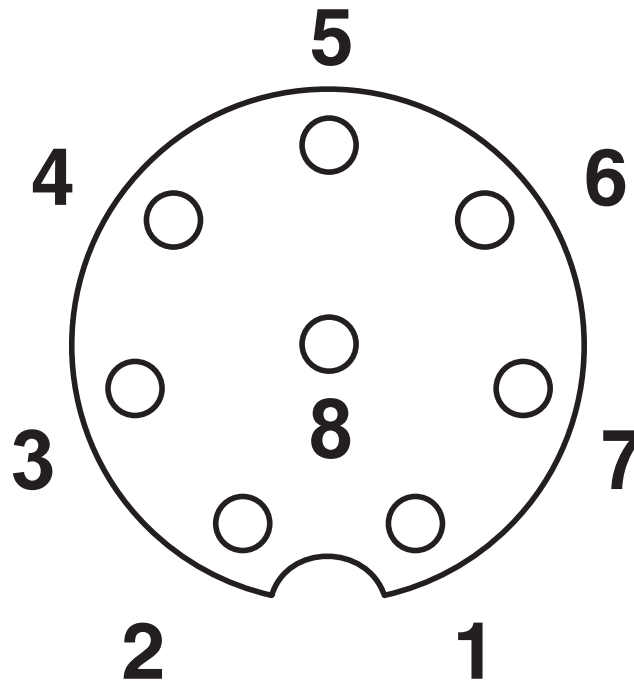
Sensor/actuator cable - SAC-8P-M12MS/ 1,5-PUR/M12FS SH

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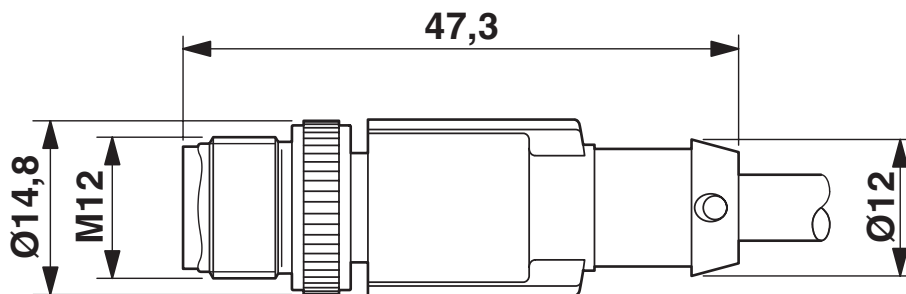
Drawings

Schematic diagram



Pin assignment M12 socket, 8-pos., A-coded, view female side

Dimensional drawing



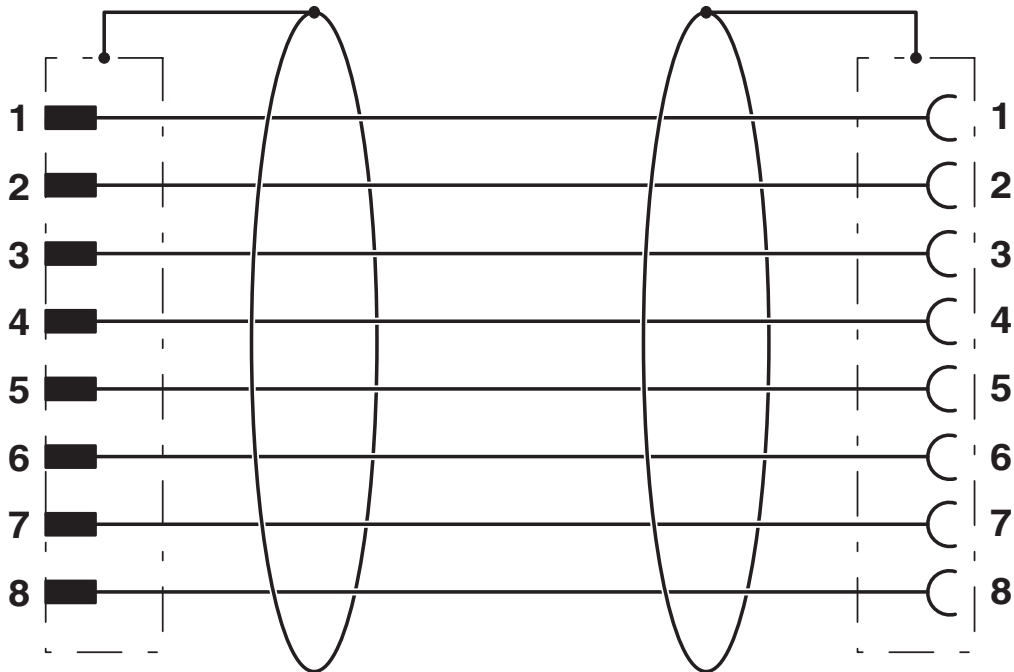
Plug, M12 x 1, straight, shielded

Sensor/actuator cable - SAC-8P-M12MS/ 1,5-PUR/M12FS SH

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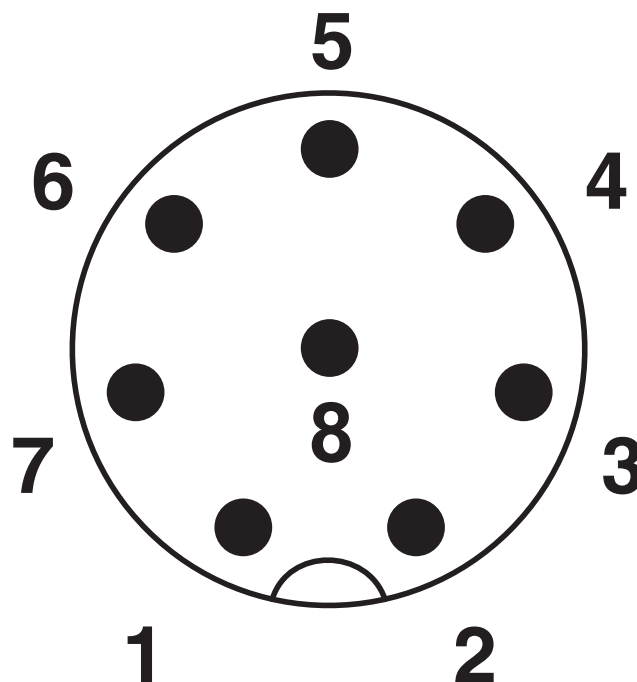
<https://www.phoenixcontact.com/de/produkte/1522985>

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

Schematic diagram



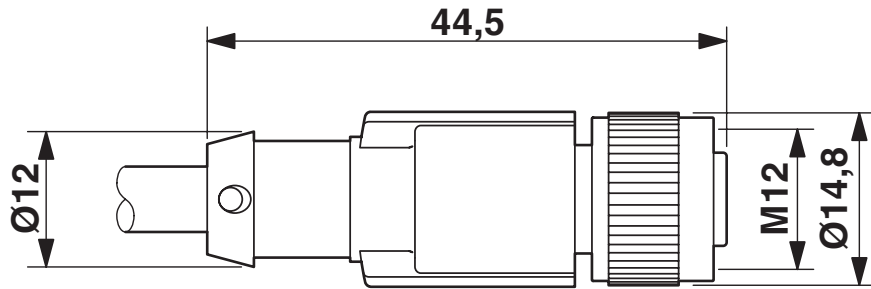
Pin assignment M12 plug, 8-pos., view plug side

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Dimensional drawing



M12 x 1 socket, straight, shielded

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Approvals

 UL Listed Approval ID: FILE E 221474				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	30 V	2 A	-	-

 cUL Listed Approval ID: FILE E 221474				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	30 V	2 A	-	-

 EAC Approval ID: RU D-DE.HB35.B.00387				
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cULus Listed				
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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 = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Sealing cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

<https://www.phoenixcontact.com/de/produkte/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



Locking clip

Locking clip - SAC-M12-EXCLIP-M - 1558988

<https://www.phoenixcontact.com/de/produkte/1558988>

Locking clip for the pin 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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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

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

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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

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

Sensor/actuator cable - SAC-8P-M12MS/ 1,5-PUR/M12FS SH

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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

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

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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