

# Sensor/actuator cable - SAC-8P-M12MS-M12FS SH/...



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1523007/PUR/20.0

<https://www.phoenixcontact.com/us/products/1523007?orderkey=MTUyMzAwNy9QVVVlMjAuMA>

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Sensor/actuator cable, 8-position, Variable cable type, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: Free input (0.2 ... 40.0 m)

## Your advantages

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

## Commercial Data

Item number	1523007/PUR/20.0
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	B27
Product Key	BF1CMA
Catalog Page	Page 211 (C-2-2019)
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	≤ 5 mΩ
Insulation resistance	≥ 100 MΩ
Nominal voltage $U_N$	30 V AC
	30 V DC
Nominal current $I_N$	2 A
Protective circuit	unwired

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	≥ 100
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### LED signaling

Status display	No
Status display present	No

### Connection data

#### Conductor connection

Tightening torque	0.4 Nm (M12 connector)
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## Connector

### Connection 1

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


### Connection 2

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

## Cable / line

Cable length	Free input (0.2 ... 40.0 m)
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### PUR halogen-free black [PUR]

Dimensional drawing	
Shielded	yes
UL AWM Style	20549 / 10493 (80°C/300 V)
Cable weight	53 kg/km
Cable type	PUR halogen-free black
Short symbol	LiF9YC11Y
Cable type (abbreviation)	PUR
External cable diameter	5.9 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	black-gray RAL 7021
Thickness, outer sheath	approx. 0.5 mm
Conductor material	Bare Cu litz wires
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Conductor cross section	8x 0.25 mm <sup>2</sup> (Signal line)
Material wire insulation	PP
Thickness, insulation	approx. 0.2 mm
Wire diameter incl. insulation	1.17 mm ±0.02 mm
Single wire, color	brown, white, green, yellow, gray, pink, blue, red

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Overall twist	8 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	85 %
Nominal voltage, cable	≤ 300 V AC
Test voltage Core/Shield	≥ 2000 V AC (for 60 s)
Test voltage, cable	≥ 3000 V AC (Spark test)
Cable resistance	≤ 78 Ω/km (at 20 °C)
Cable insulation resistance	≥ 1 GΩ*km (at 20 °C)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	2000000
Minimum bending radius, drag chain applications	10 x D
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s <sup>2</sup>
Halogen-free	in accordance with DIN VDE 0472 part 815 according to IEC 60754-1
Resistance to oil	in accordance with IEC 60811-404
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)
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)	-25 °C ... 80 °C (Cable, flexible installation) -40 °C ... 80 °C (cable, fixed installation)

## PUR halogen-free gray [280]

Dimensional drawing	
Shielded	yes
UL AWM Style	20549 / 10493 (80°C/300 V)
Cable weight	53 kg/km
Cable type	PUR halogen-free gray
Short symbol	LiY-FC11Y

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Cable type (abbreviation)	280
External cable diameter	5.9 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	gray RAL 7001
Thickness, outer sheath	approx. 0.5 mm
Conductor material	Bare Cu litz wires
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Conductor cross section	8x 0.25 mm <sup>2</sup> (Signal line)
Material wire insulation	PP
Thickness, insulation	approx. 0.2 mm
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	Tinned copper braided shield
Optical shield covering	85 %
Nominal voltage, cable	≤ 300 V AC
Test voltage Core/Shield	≥ 2000 V AC (for 60 s)
Test voltage, cable	≥ 3000 V AC (Spark test)
Cable resistance	≤ 78 Ω/km (at 20 °C)
Cable insulation resistance	≥ 1 GΩ*km (at 20 °C)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	2000000
Minimum bending radius, drag chain applications	10 x D
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s <sup>2</sup>
Halogen-free	in accordance with DIN VDE 0472 part 815 according to IEC 60754-1
Resistance to oil	in accordance with DIN EN 60811-404
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)
Other resistance	hydrolysis and microbe resistant Resistant to salt water low-abrasion
Special properties	Flexible cable conduit capable
Ambient temperature (operation)	-25 °C ... 80 °C (Cable, flexible installation) -40 °C ... 80 °C (cable, fixed installation)
Note	This item is a sensor/actuator cable with a freely selectable cable type. The technical data for all possible cable types is listed in the table below.

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Cable type	PUR halogen-free black
	PUR halogen-free gray
	PVC black

## Ambient conditions

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

## Standards and regulations

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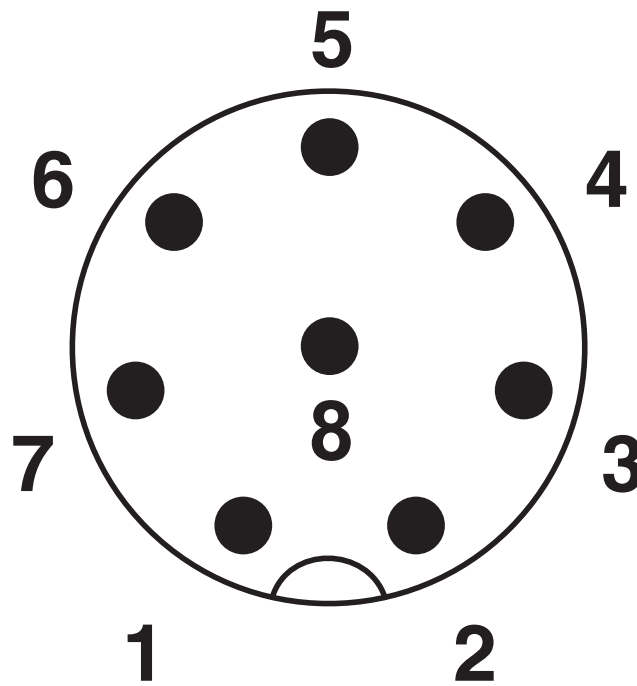
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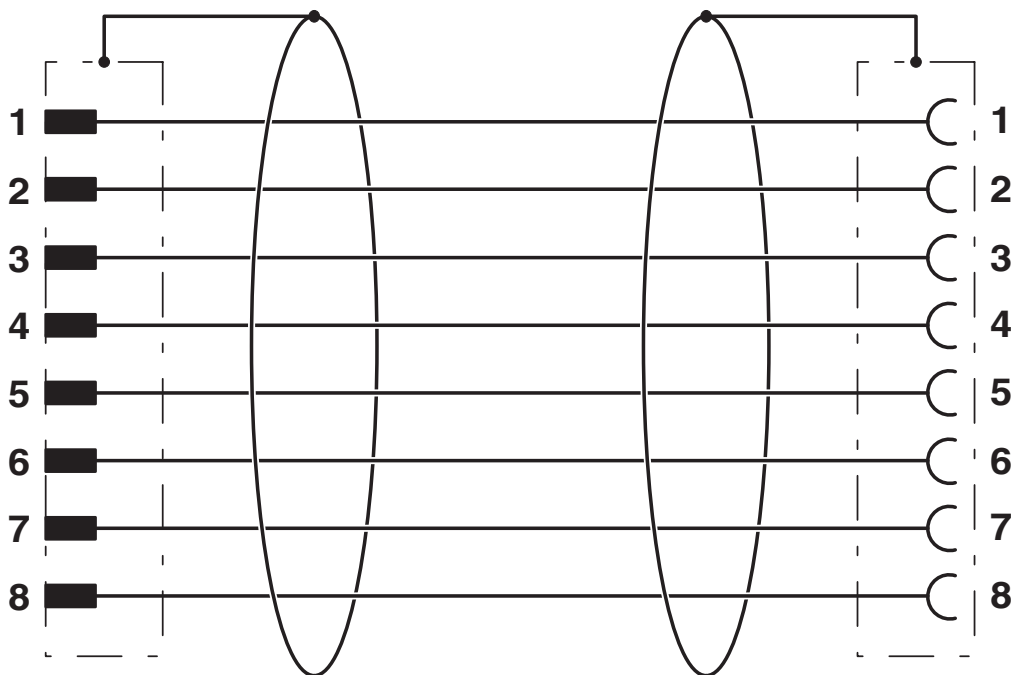
### Drawings

Schematic diagram



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

Circuit diagram

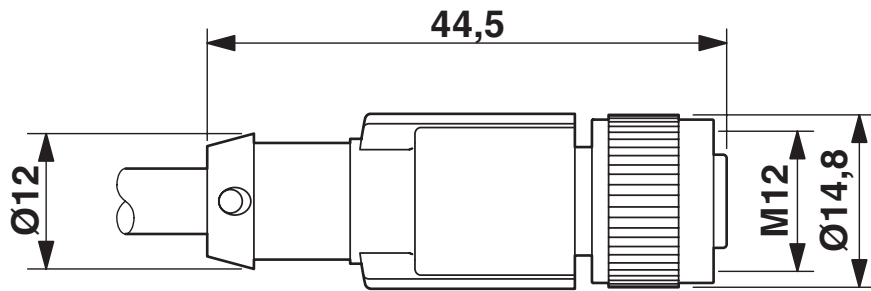


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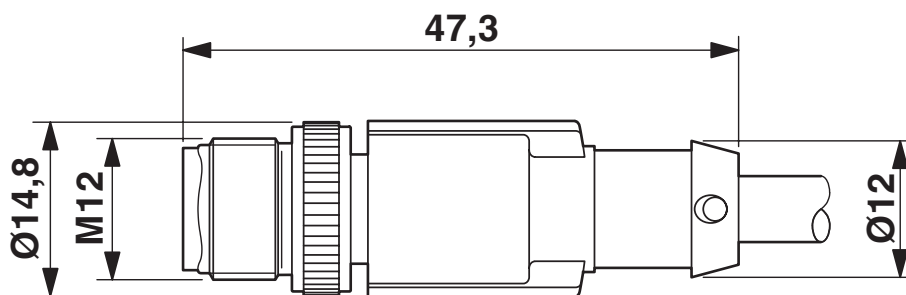
<https://www.phoenixcontact.com/us/products/1523007?orderkey=MTUyMzAwNy9QVVVlMjAuMA>

Dimensional drawing



M12 x 1 socket, straight, shielded

Dimensional drawing



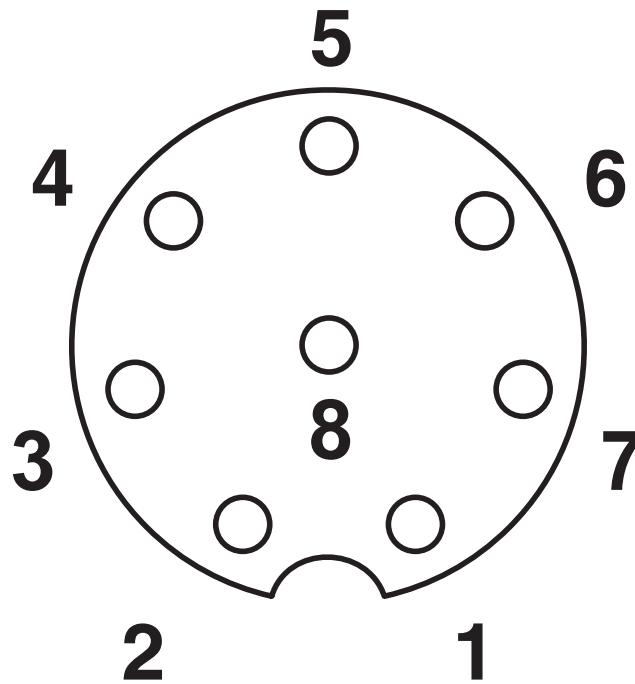
Plug, M12 x 1, straight, shielded



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Schematic diagram



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


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## Approvals

 <b>UL Listed</b> Approval ID: FILE E 221474				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	30 V	2 A	-	-

 <b>cUL Listed</b> Approval ID: FILE E 221474				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	30 V	2 A	-	-

 <b>EAC</b> Approval ID: RU D-DE.HB35.B.00387	
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<b>cULus Listed</b>
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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

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

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## Accessories

### Sealing cap

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

<https://www.phoenixcontact.com/us/products/1430873>

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



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### Locking clip

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

<https://www.phoenixcontact.com/us/products/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/us/products/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

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## Insert label

Insert label - PABA YE/23 - 1013782

<https://www.phoenixcontact.com/us/products/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-8P-M12MS-M12FS SH/... /...



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## Marker pen

Marker pen - B-STIFT - 1051993

<https://www.phoenixcontact.com/us/products/1051993>



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

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## Screw plug

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

<https://www.phoenixcontact.com/us/products/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/us/products/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/us/products/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/us/products/1212224>



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

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## Adapter insert

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

<https://www.phoenixcontact.com/us/products/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/us/products/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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