

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Sensor/actuator cable, 5-position, Variable cable type, shielded (Advanced Shielding Technology), free cable end, 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	1697522
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	BF17
Product key	AF1CKA
Customs tariff number	85444290
Country of origin	PL

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

## Technical data

### Product properties

Product type	Sensor/actuator cable
Application	Standard
Number of positions	5
No. of cable outlets	1
Shielded	yes
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Material specifications

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

### Electrical properties

Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage $U_N$	48 V AC
	60 V DC
Nominal current $I_N$	4 A

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	$\geq 100$
-----------------------------	------------

### Signaling

Status display	no
Status display present	no

### Connection data

#### Conductor connection

Tightening torque	0.4 Nm (M12 connector)
-------------------	------------------------

### Connector

#### Connection 1

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

Type	free cable end
------	----------------

## Connection 2

Type	Socket straight M12
Number of positions	5
Coding type	A

## Cable/line

Cable length	Free input (0.2 ... 40.0 m)
--------------	-----------------------------

## PUR halogen-free black [PUR]

Cable weight	43 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	5
Shielded	yes
Cable type	PUR halogen-free black [PUR] PUR halogen-free black PUR
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross-section	5x 0.34 mm <sup>2</sup> (Signal line)
Wire diameter incl. insulation	1.27 mm ±0.02 mm (Signal line)
External cable diameter	5.25 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, blue, black, gray
Thickness, insulation	≥ 0.21 mm
Thickness, outer sheath	approx. 0.50 mm
Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	80 %
Max. conductor resistance	max. 57 Ω/km (at 20 °C)
Insulation resistance	70 GΩ*km (at 20 °C)
Nominal voltage, cable	300 V (at 20 °C)
Test voltage Core/Core	3000 V (at 20 °C)
Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	52 mm (up to +60 °C)
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 52 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup>
Dynamic load capacity (torsion)	Torsion: ±180 °/m, Torsion cycles: ≥5000000, Torsional frequency: 35 cycles/min.
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

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

	DIN EN 60332-2-2 (20 s)
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
	Resistant to salt water
	partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)
Special properties	abrasion-resistant
	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
Ambient temperature (operation)	Low adhesion surface
	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (Cable, flexible installation)

## PUR halogen-free gray [280]

Cable weight	43 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	5
Shielded	yes
Cable type	PUR halogen-free gray [280]
	PUR halogen-free gray 280
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross-section	5x 0.34 mm <sup>2</sup> (Signal line)
Wire diameter incl. insulation	1.27 mm ±0.02 mm (Signal line)
External cable diameter	5.25 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	gray RAL 7001
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	brown, white, blue, black, gray
Thickness, insulation	≥ 0.21 mm
Thickness, outer sheath	approx. 0.50 mm
Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	80 %
Max. conductor resistance	max. 57 Ω/km (at 20 °C)
Insulation resistance	70 GΩ*km (at 20 °C)
Nominal voltage, cable	300 V (at 20 °C)
Test voltage Core/Core	3000 V (at 20 °C)
Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	52 mm (up to +60 °C)
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 52 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

	m/s <sup>2</sup>
Dynamic load capacity (torsion)	Torsion: $\pm 180$ °/m, Torsion cycles: $\geq 5000000$
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
Other resistance	Highly resistant to acids, alkaline solutions and solvents
	hydrolysis and microbe resistant
	Resistant to salt water
	partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)
	abrasion-resistant
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
	Low adhesion surface
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (Cable, flexible installation)

## PVC black [PVC]

Cable weight	55 kg/km
Number of positions	5
Shielded	yes
Cable type	PVC black [PVC]
	PVC black PVC
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross-section	5x 0.34 mm <sup>2</sup> (Signal line)
Wire diameter incl. insulation	1.35 mm $\pm$ 0.02 mm
External cable diameter	5.90 mm $\pm$ 0.2 mm
Outer sheath, material	PVC
External sheath, color	black RAL 9005
Conductor material	Bare Cu litz wires
Material, filler	PVC
Material wire insulation	PVC
Single wire, color	brown, white, blue, black, gray
Thickness, insulation	$\geq 0.23$ mm (Core insulation)
	$\geq 0.76$ mm (Outer cable sheath)
Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	85 %
Max. conductor resistance	$\leq 58$ $\Omega$ /km (at 20 °C)
Insulation resistance	$\geq 10$ M $\Omega$ *km (at 20 °C)

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

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
Smallest bending radius, fixed installation	30 mm
Smallest bending radius, movable installation	59 mm
Flame resistance	As per UL-Style 2464
Resistance to oil	in accordance with DIN EN 60811-2-1
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (Cable, flexible installation)

## PVC gray [500]

Cable weight	55 kg/km
Number of positions	5
Shielded	yes
Cable type	PVC gray [500] PVC gray 500
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross-section	5x 0.34 mm <sup>2</sup> (Signal line)
Wire diameter incl. insulation	1.35 mm ±0.02 mm
External cable diameter	5.90 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	gray RAL 7001
Conductor material	Bare Cu litz wires
Material, filler	PVC
Material wire insulation	PVC
Single wire, color	brown, white, blue, black, gray
Thickness, insulation	≥ 0.23 mm (Core insulation) ≥ 0.76 mm (Outer cable sheath)
Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	85 %
Max. conductor resistance	max. 58 Ω/km (at 20 °C)
Insulation resistance	≥ 1 GΩ*km (at 20 °C)
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
Smallest bending radius, fixed installation	30 mm
Smallest bending radius, movable installation	59 mm
Flame resistance	As per UL-Style 2464
Resistance to oil	in accordance with DIN EN 60811-2-1
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

	-5 °C ... 80 °C (Cable, flexible installation)
--	--

## Environmental and real-life conditions

### Ambient conditions

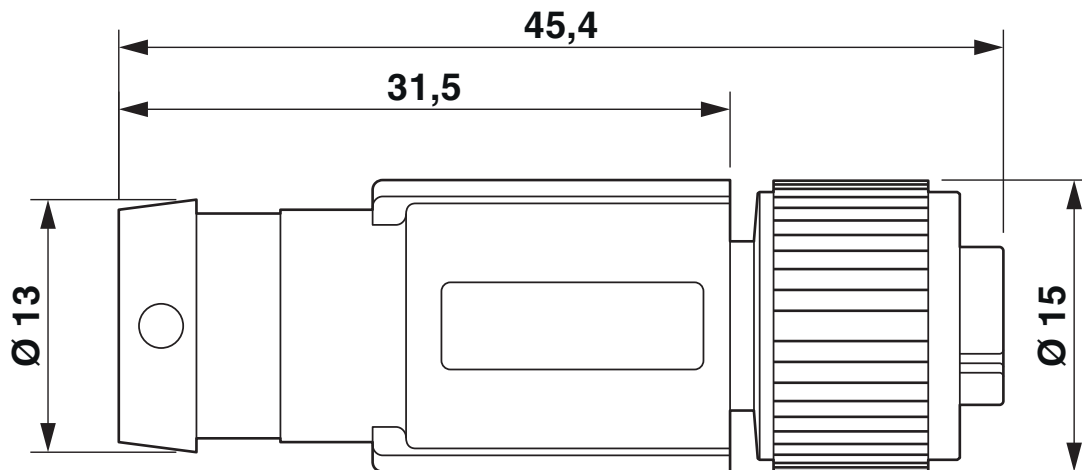
Degree of protection	IP65
	IP67
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 90 °C (Plug / socket)

## Standards and regulations

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

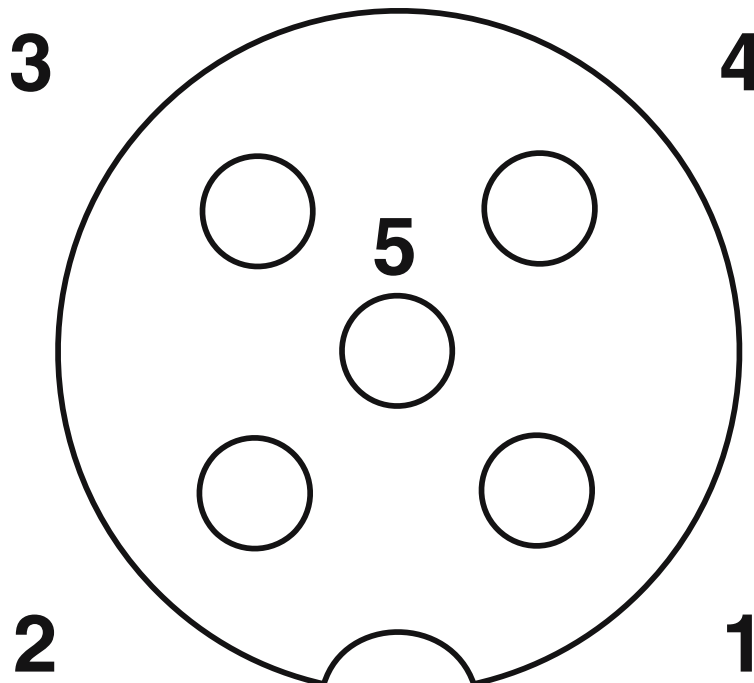
Drawings

Dimensional drawing



M12 x 1 socket, straight, shielded

Schematic diagram



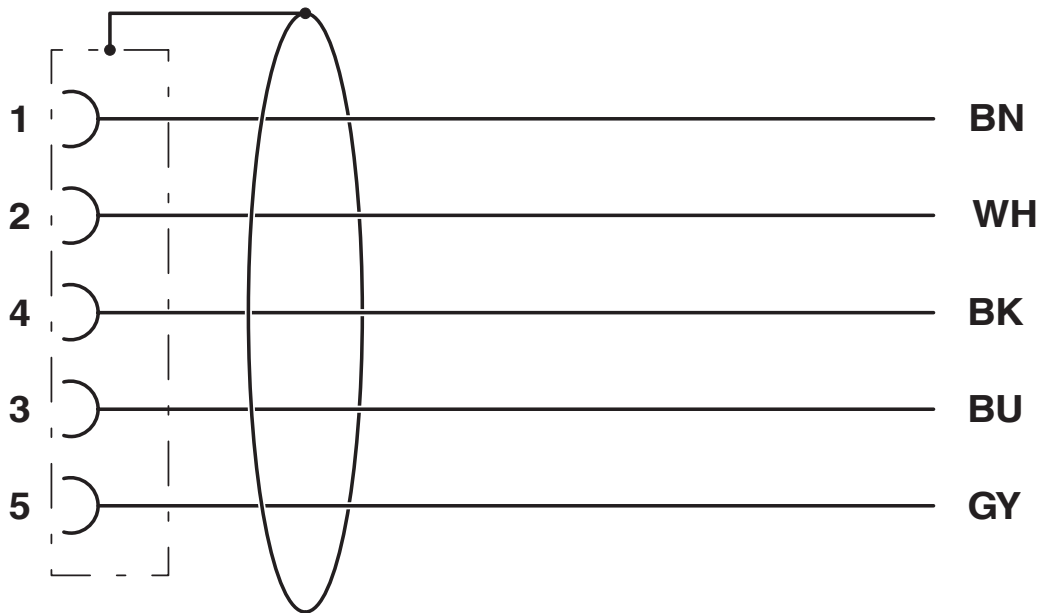
Pin assignment M12 socket, 5-pos., A-coded, socket side view

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable

1697522

<https://www.phoenixcontact.com/us/products/1697522>

Circuit diagram



Contact assignment of the M12 socket

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable





1697522

<https://www.phoenixcontact.com/us/products/1697522>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1697522>

 <b>UL Listed</b> Approval ID: FILE E 221474				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
	125 V	4 A	-	-

 <b>cUL Listed</b> Approval ID: FILE E 221474				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
	125 V	4 A	-	-

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

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

## Classifications

### ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

### ETIM

ETIM 10.0	EC001855
-----------	----------

### UNSPSC

UNSPSC 21.0	26121600
-------------	----------

# SAC-5P-M12FS SH/.../... - Sensor/actuator cable



1697522

<https://www.phoenixcontact.com/us/products/1697522>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)