

Sensor/actuator cable - SAC-5P-M12FR SH/.../... - 1697535

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Sensor/actuator cable, 5-position, Variable cable type, shielded, free cable end, on Socket angled M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

Why buy this product

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Flexible solutions - configurable materials with variable cable types and cable lengths
- ✓ Reliable signal transmission – 360° shielding in environments with electromagnetic interference



Key Commercial Data

Packing unit	1 STK
Minimum order quantity	25 STK

Technical data

Dimensions

Length of cable	Free input (0.2 ... 40.0 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

General

Rated current at 40°C	4 A
Rated voltage	48 V AC
	60 V DC
Number of positions	5
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No

Sensor/actuator cable - SAC-5P-M12FR SH/.../... - 1697535

Technical data

General

Protective circuit/component	Unwired
Overvoltage category	II
Degree of pollution	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

Material

Flammability rating 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
Sealing material	NBR

Line characteristics

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.
------	---

Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101
Flammability rating according to UL 94	HB

PUR halogen-free black [PUR]

Cable type	PUR halogen-free black
Cable type (abbreviation)	PUR
Cable abbreviation	LiF9YC11Y
UL AWM style	20549
Conductor cross section	5x 0.34 mm ² (Signal line)
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.27 mm ±0.02 mm (Signal line)
Thickness, insulation	≥ 0.21 mm
Wire colors	Brown, white, blue, black, gray
Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	85 %
External sheath, color	black-gray RAL 7021
External cable diameter D	5.9 mm ±0.2 mm
Smallest bending radius, fixed installation	29.5 mm
Smallest bending radius, movable installation	59 mm (up to +60°C)
Number of bending cycles	4000000

Sensor/actuator cable - SAC-5P-M12FR SH/.../... - 1697535

Technical data

PUR halogen-free black [PUR]

Bending radius	59 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s ²
Cable weight	48 kg/km
Outer sheath, material	PUR
Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Insulation resistance	70 GΩ*km (at 20 °C)
Conductor resistance	max. 57 Ω/km (at 20 °C)
Nominal voltage, cable	300 V (at 20 °C)
Test voltage Core/Core	3000 V (at 20 °C)
Special properties	Flexible cable conduit capable
Flame resistance	in acc. with UL FT-2
Halogen-free	in accordance with DIN VDE 0472 part 815
Other resistance	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)

PUR/PVC shielded, gray [100]

Cable type	PUR/PVC shielded, gray
Cable type (abbreviation)	100
Cable abbreviation	LiYV1-C-Y-11Y
UL AWM style	20549 / 1729 (80°C/300 V)
Conductor cross section	5x 0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.5 mm ±0.05 mm
Thickness, insulation	≥ 0.23 mm
Wire colors	Brown, white, blue, black, gray
Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	85 %
External sheath, color	gray RAL 7001
Inner sheath thickness	approx. 0.25 mm
Outer sheath thickness	≥ 0.38 mm
External cable diameter D	5.9 mm ±0.2 mm
Cable weight	55 kg/km
Outer sheath, material	PUR
Material, inner sheath	PVC

Sensor/actuator cable - SAC-5P-M12FR SH/.../... - 1697535

Technical data

PUR/PVC shielded, gray [100]

Material, filler	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	$\geq 100 \text{ M}\Omega \cdot \text{km}$ (at 20 °C)
Conductor resistance	$58 \text{ }\Omega/\text{km}$ (at 20 °C)
Nominal voltage, cable	$\leq 300 \text{ V}$
Test voltage, cable	$\geq 3000 \text{ V}$
Flame resistance	in accordance with DIN UL-Style 20549
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)

PVC black [PVC]

Cable type	PVC black
Cable type (abbreviation)	PVC
Conductor cross section	5x 0.34 mm ² (Signal line)
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.35 mm \pm 0.02 mm
Thickness, insulation	$\geq 0.23 \text{ mm}$ (Core insulation)
	$\geq 0.76 \text{ mm}$ (Outer cable sheath)
Wire colors	Brown, white, blue, black, gray
Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	85 %
External sheath, color	black RAL 9005
External cable diameter D	5.9 mm \pm 0.2 mm
Cable weight	55 kg/km
Outer sheath, material	PVC
Material, filler	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	$\geq 10 \text{ M}\Omega \cdot \text{km}$ (at 20 °C)
Conductor resistance	$\leq 58 \text{ }\Omega/\text{km}$ (at 20 °C)
Nominal voltage, cable	$\leq 300 \text{ V}$
Test voltage, cable	$\geq 3000 \text{ V}$
Flame resistance	As per UL-Style 2464
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

PVC gray [500]

Cable type	PVC gray
Cable type (abbreviation)	500
Cable abbreviation	LiYCY

Sensor/actuator cable - SAC-5P-M12FR SH/.../... - 1697535

Technical data

PVC gray [500]

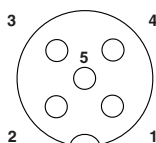
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.35 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.76 mm (Outer cable sheath)
Wire colors	Brown, white, blue, black, gray
Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	85 %
External sheath, color	gray RAL 7001
External cable diameter D	5.9 mm ±0.2 mm
Cable weight	55 kg/km
Outer sheath, material	PVC
Material, filler	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 1 GΩ*km (at 20 °C)
Conductor resistance	max. 58 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Flame resistance	As per UL-Style 2464
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

Environmental Product Compliance

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

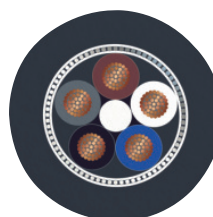
Drawings

Schematic diagram



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

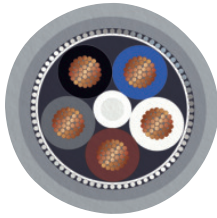
Cable cross section



PUR halogen-free black [PUR]

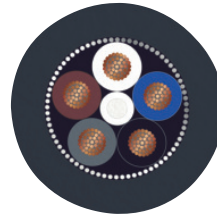
Sensor/actuator cable - SAC-5P-M12FR SH/.../... - 1697535

Cable cross section



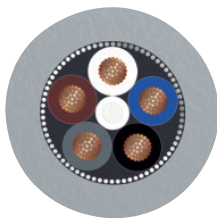
PUR/PVC shielded, gray [100]

Cable cross section



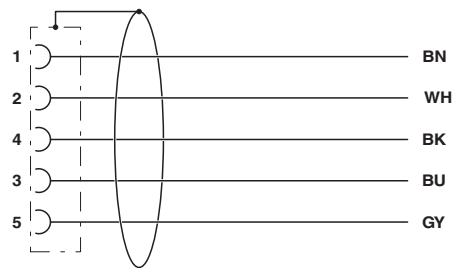
PVC black [PVC]

Cable cross section



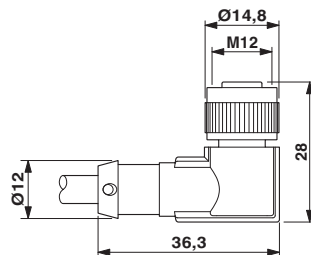
PVC gray [500]

Circuit diagram



Contact assignment of the M12 socket

Dimensional drawing



M12 x 1 socket, angled, shielded

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

Sensor/actuator cable - SAC-5P-M12FR SH/.../... - 1697535

Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 221474
Nominal voltage UN		125 V	
Nominal current IN		4 A	

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 221474
Nominal voltage UN		125 V	
Nominal current IN		4 A	

EAC		EAC-Zulassung
-----	--	---------------

cULus Listed	
--------------	--

Phoenix Contact 2018 © - all rights reserved
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>