

SAC-5P-MS-FR SH SCO/.../... - Sensor/actuator cable



1523874

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Sensor/actuator cable, 5-position, Variable cable type, shielded, Plug straight M12 SPEEDCON, coding: A, on Socket angled M12 SPEEDCON, coding: A, cable length: Free input (0.2 ... 40.0 m)

Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Save time, thanks to installation with SPEEDCON fast locking system
- Flexible solutions - configurable materials with variable cable types and cable lengths
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

Commercial data

Item number	1523874
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	BF03
Product key	AF1CKA
Customs tariff number	85444290
Country of origin	PL

1523874

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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

Rated voltage in acc. with IEC 61076-2-101	60 V
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	≥ 100
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Signaling

Status display	no
Status display present	no

Connection data

Conductor connection

Tightening torque	0.4 Nm (M12 connector)
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Connector

SAC-5P-MS-FR SH SCO/.../... - Sensor/actuator cable



1523874

<https://www.phoenixcontact.com/us/products/1523874>

Connection 1

Type	Plug straight M12 SPEEDCON
Number of positions	5
Locking type	SPEEDCON
Coding type	A

Connection 2

Type	Socket angled M12 SPEEDCON
Number of positions	5
Locking type	SPEEDCON
Coding type	A

Cable/line

Cable length	Free input (0.2 ... 40.0 m)
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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 ² (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

SAC-5P-MS-FR SH SCO/.../... - Sensor/actuator cable



1523874

<https://www.phoenixcontact.com/us/products/1523874>

	m/s ²
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
	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 ² (Signal line)
Wire diameter incl. insulation	1.27 mm \pm 0.02 mm (Signal line)
External cable diameter	5.25 mm \pm 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 G Ω *km (at 20 °C)

SAC-5P-MS-FR SH SCO/.../... - Sensor/actuator cable



1523874

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Dynamic load capacity (torsion)	Torsion: ±180 °/m, Torsion cycles: ≥5000000
Halogen-free	in accordance with DIN VDE 0472 part 815
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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)

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 ² (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	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	≥ 0.23 mm (Core insulation)
	≥ 0.76 mm (Outer cable sheath)

SAC-5P-MS-FR SH SCO/.../... - Sensor/actuator cable



1523874

<https://www.phoenixcontact.com/us/products/1523874>

Overall twist	5 wires around filler to the core
Shielding	Tinned copper braided shield
Optical shield covering	85 %
Max. conductor resistance	≤ 58 Ω/km (at 20 °C)
Insulation resistance	≥ 10 MΩ*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) -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 ² (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

SAC-5P-MS-FR SH SCO/.../... - Sensor/actuator cable



1523874

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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)

Environmental and real-life conditions

Ambient conditions

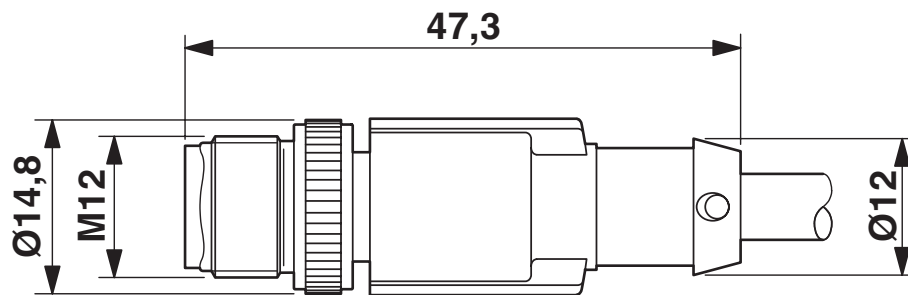
Degree of protection	IP65 IP67
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 90 °C (Plug / socket)

Standards and regulations

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

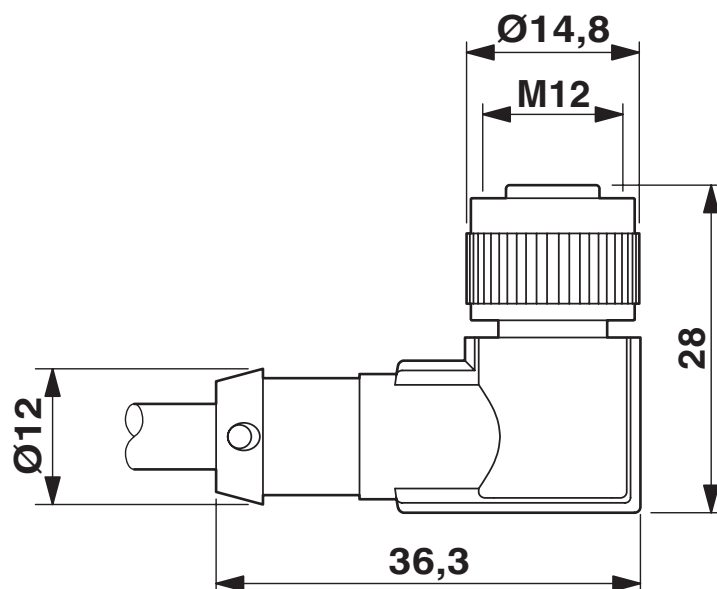
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing

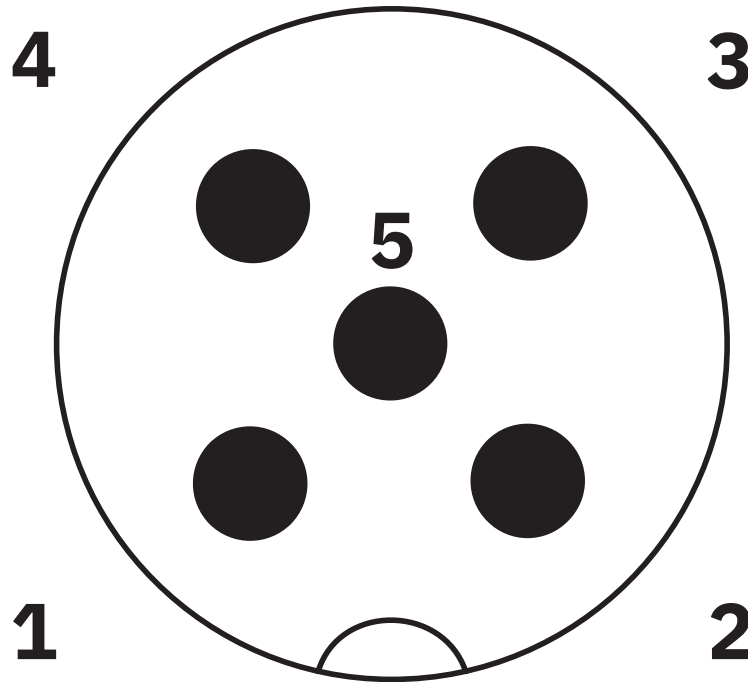


M12 x 1 socket, angled, shielded

1523874

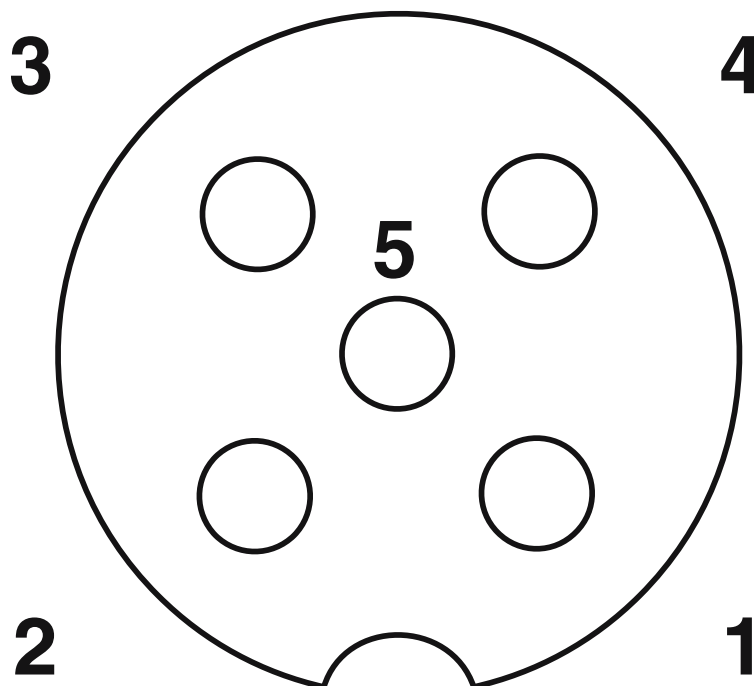
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Schematic diagram



Pin assignment M12 male connector, 5-pos., A-coded, male side

Schematic diagram



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

SAC-5P-MS-FR SH SCO/.../... - Sensor/actuator cable



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Circuit diagram



Contact assignment of the M12 plug and the M12 socket

SAC-5P-MS-FR SH SCO/.../... - Sensor/actuator cable



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Classifications

ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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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%
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