

Sensor/actuator cable - SAC-12P-MS/ 3,0-PVC SCO



1554788

<https://www.phoenixcontact.com/de/produkte/1554788>

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Sensor/actuator cable, 12-position, PVC, black RAL 9005, Plug straight M12 SPEEDCON, coding: A, on free cable end, cable length: 3 m

Your advantages

- Easy and safe: 100% electrically tested plug-in components
- Save time, thanks to installation with SPEEDCON fast locking system
- Save space – with high-pos. connectors

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Commercial Data

Item number	1554788
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C1 - Sensor-Aktor-Kabel
Product Key	BF1CGA
Catalog Page	Page 213 (C-2-2019)
GTIN	4046356176200
Weight per Piece (including packing)	164,7 g
Weight per Piece (excluding packing)	163,3 g
Customs tariff number	85444290
Country of origin	DE

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Technical Data

Product properties

Product type	Sensor/actuator cable
Number of positions	12
Application	Standard
No. of cable outlets	1
Shielded	no
Coding	A - standard

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Material specifications

Flammability rating according to UL 94	HB
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	$\geq 10 \text{ M}\Omega$
Nominal voltage U_N	30 V AC
	30 V DC
Nominal current I_N	1.5 A
Protective circuit	unwired

Connection data

Conductor connection

Tightening torque	0.4 NmM12 connector
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Connector

Header 1

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

Head 2

Head design	free cable end
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LED signaling

Status display	No
Status display present	No

Cable / line

Cable length	3 m
Number of positions	12
Shielded	no
Cable type	PVC black [PVC]
Conductor structure signal line	18x 0.10 mm
AWG signal line	26
Conductor cross section	12x 0.14 mm ² (Signal line)
Wire diameter incl. insulation	1 mm ±0.05 mm (Signal line)
External cable diameter	5.8 mm
Outer sheath, material	PVC
External sheath, color	black RAL 9005
Conductor material	Bare Cu litz wires
Material wire insulation	PVC
Single wire, color	White-brown, green-yellow, gray-pink, blue-red, black-violet, gray/pink-red/blue
Overall twist	12 wires twisted in layers
Max. conductor resistance	≤ 142 Ω/km (at 20 °C)
Insulation resistance	> 10 MΩ*km
Nominal voltage, cable	250 V
Test voltage Core/Core	1500 V AC
Smallest bending radius, fixed installation	29 mm
Smallest bending radius, movable installation	87 mm
Flame resistance	DIN EN 50265-2-1
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation) -5 °C ... 80 °C (Cable, flexible installation)

Cable structure

Cable type	PVC black
External cable diameter	5.90 mm 5.9 mm
Outer sheath, material	PVC
External sheath, color	black RAL 9005
Conductor material	Bare Cu litz wires
Conductor structure signal line	18x 0.10 mm
AWG signal line	26
Material wire insulation	PVC
Single wire, color	Color-coded DIN 47100
Overall twist	Wires twisted in layers

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Electrical properties

Conductor resistance	142 Ω/m
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Mechanical properties

Smallest bending radius, movable installation	88.5 mm
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Bending cycles

Smallest bending radius, movable installation	88.5 mm
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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
	IP68
Ambient temperature (operation)	-25 °C ... 85 °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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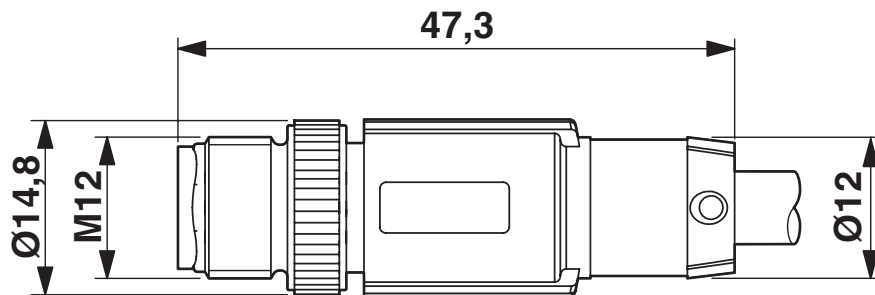
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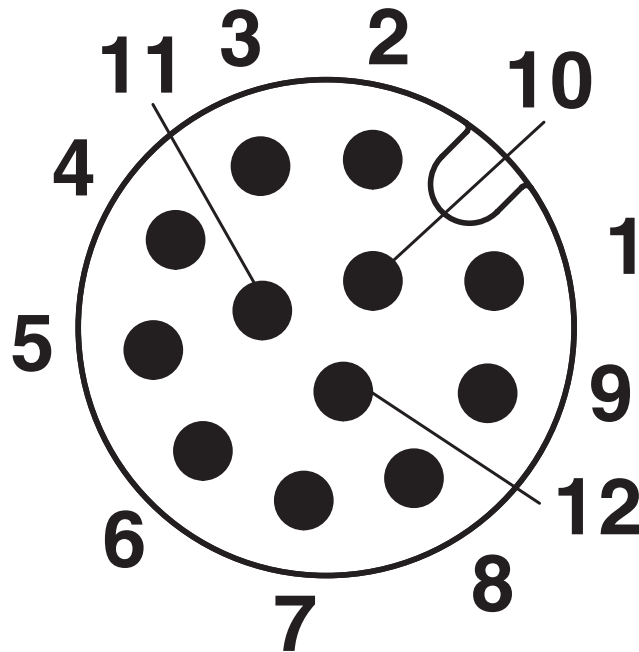
Drawings

Dimensional drawing



M12 SPEEDCON plug, straight

Schematic diagram



Pin assignment M12 male connector, 12-pos., male side view

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Circuit diagram



Contact assignment of the M12 plug

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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	1 A	-	-



EAC

Approval ID: RU D-DE.HB35.B.00387

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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

Diagonal cutter

Diagonal cutter - CUTFOX-S VDE - 1212207

<https://www.phoenixcontact.com/de/produkte/1212207>



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

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Stripping tool

Stripping tool - WIREFOX SAC-1 - 1212757

<https://www.phoenixcontact.com/de/produkte/1212757>



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø of 3.2 to 4.4 mm, any stripping length

Stripping tool

Stripping tool - WIREFOX SAC - 1212623

<https://www.phoenixcontact.com/de/produkte/1212623>



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø of 4.4 to 7 mm, any stripping length

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Stripping tool

Stripping tool - WIREFOX 10 - 1212150

<https://www.phoenixcontact.com/de/produkte/1212150>



Stripping tool, for cables and conductors from 0.02 - 10 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

Protective hose adapter

Protective hose adapter - WP-CTA POM 13,0 BK - 1422884

<https://www.phoenixcontact.com/de/produkte/1422884>



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

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Protective hose

Protective hose - WP-PA HF 13,0 BK - 3240681

<https://www.phoenixcontact.com/de/produkte/3240681>



Protective hose, material: PA 6, filament: without, UV-resistant: yes, flexible, degree of protection: IP68, color: black, inflammability class in acc. with UL 94: V0, inner diameter: 10 mm, Total length: 50 m

Protective hose

Protective hose - WP-PA HF-HB 13,0 BK - 3240839

<https://www.phoenixcontact.com/de/produkte/3240839>



Protective hose, material: PA 6, filament: without, UV-resistant: yes, flexible, degree of protection: IP68, color: black, inflammability class in acc. with UL 94: HB, inner diameter: 10 mm, Total length: 50 m

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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

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

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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

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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