SAC-12P-MS/20,0-35T/FS SH SCO - Sensor/actuator cable

PHŒNIX CONTACT

1421789

https://www.phoenixcontact.com/us/products/1421789

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Sensor/actuator cable, 12-position, PUR/PVC, black RAL 9005, shielded, Plug straight M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, cable length: 20 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
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

Commercial data

Item number	1421789
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	BF03
Product key	BF1CNA
GTIN	4055626285689
Weight per piece (including packing)	1,866.3 g
Weight per piece (excluding packing)	1,860 g
Customs tariff number	85444290
Country of origin	DE

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Technical data

Product properties

Product type	Sensor/actuator cable
Application	Standard
Number of positions	12
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	V0
Seal material	NBR
Material of grip body	TPU, hardly inflammable, self-extinguishing
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Material for screw connection	Zinc die-cast, nickel-plated

Electrical properties

Nominal voltage U_N	30 V AC
	30 V DC
Nominal current I_N	1.5 A

Signaling

Status display	No
Status display present	No

Connector

Connection 1

Type	Plug straight M12 SPEEDCON
Number of positions	12
Locking type	SPEEDCON
Coding type	A

Connection 2

Type	Socket straight M12 SPEEDCON
Number of positions	12
Locking type	SPEEDCON

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Cable/line

Cable length	20 m

Black PUR/PVC twisted pair [35T]

Dimensional drawing

Cable weight	87 kg/km
UL AWM Style	20233 / 1061 (80°C/300 V)
Number of positions	12
Shielded	yes
Cable type	Black PUR/PVC twisted pair [35T]
Conductor structure signal line	18x 0.10 mm
AWG signal line	26
Conductor cross section	12x 0.14 mm² (Signal line)
Wire diameter incl. insulation	1 mm ±0.05 mm (Signal line)
External cable diameter	8.50 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	black RAL 9005
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PVC
Single wire, color	white-brown, green-yellow, gray-pink, blue-red, black-violet, gray/pink-red/blue
Twisted pairs	2 cores to the pair
Overall twist	Six pairs around the filler to the core
Optical shield covering	85 %
Max. conductor resistance	≤ 142 Ω/km (at 20 °C)
Insulation resistance	≥ 10 MΩ*km (at 20 °C)
Nominal voltage, cable	42 V AC
Test voltage	1500 V AC
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	43 mm
Smallest bending radius, movable installation	85 mm
Max. bending cycles	2000000
Bending radius	85 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s²

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Flame resistance	According to DIN EN 60332-1-2
	According to VW-1
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	hydrolysis and microbe resistant (in accordance with EN 50396)
Special properties	Flexible cable conduit capable
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (Cable, flexible installation)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65
	IP68

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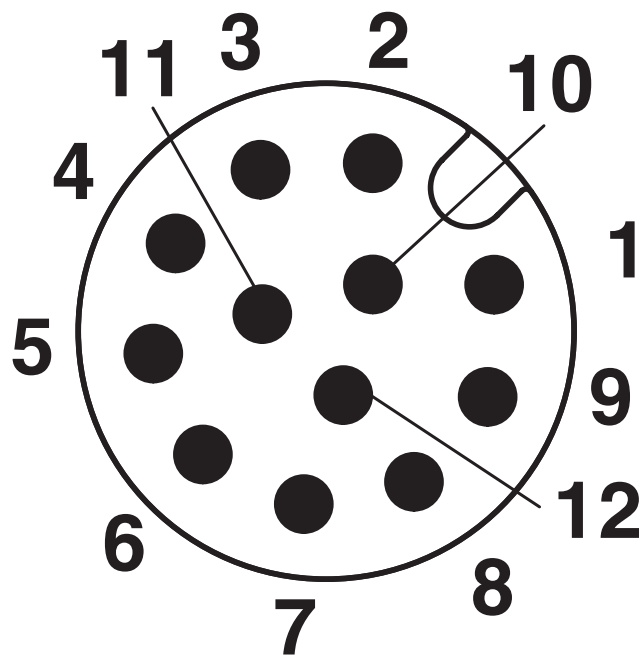https://www.phoenixcontact.com/us/products/1421789

Drawings

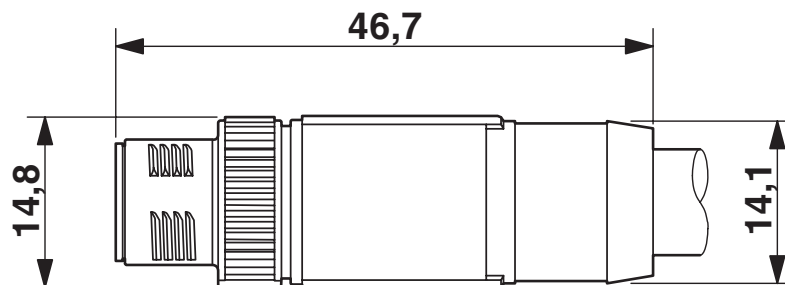### Schematic diagram

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

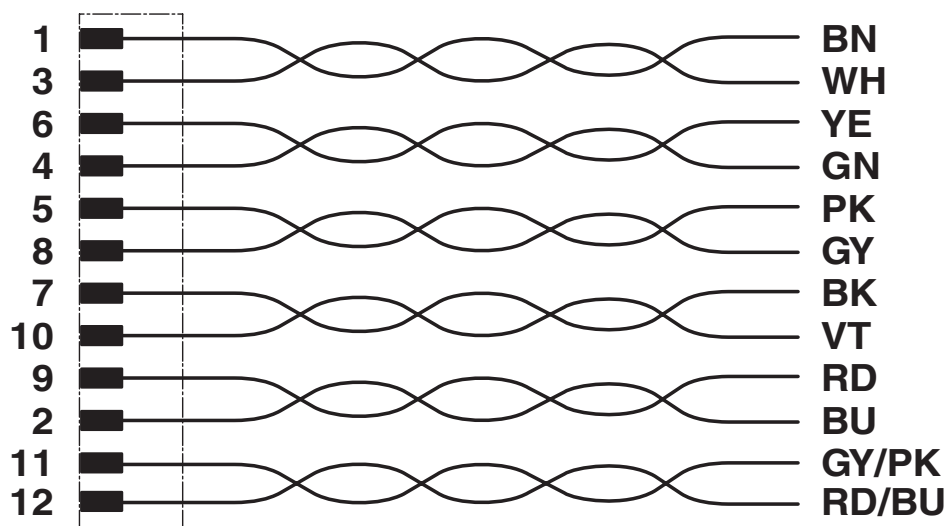### Dimensional drawing

M12 SPEEDCON plug, straight, shielded

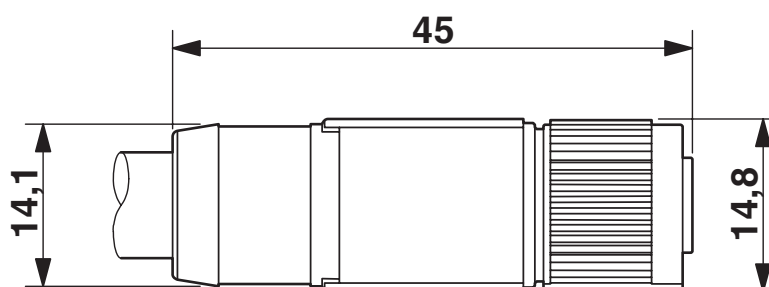# SAC-12P-MS/20,0-35T/FS SH SCO - Sensor/actuator cable

Circuit diagram

1	▬	BN
3	▬	WH
6	▬	YE
4	▬	GN
5	▬	PK
8	▬	GY
7	▬	BK
10	▬	VT
9	▬	RD
2	▬	BU
11	▬	GY/PK
12	▬	RD/BU

Dimensional drawing

45

14,1

14,8

Socket M12-SPEEDCON, straight, shielded

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Schematic diagram

Pin assignment M12, 12-pos., female side view

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Approvals

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		Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
UL Listed Approval ID: FILE E 221474					
		30 V	1 A	-	-

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Classifications

ECLASS

ECLASS-11.0	27060311
ECLASS-12.0	27060311
ECLASS-13.0	27060311

ETIM

ETIM 8.0	EC001855

UNSPSC

UNSPSC 21.0	26121600

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%

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Accessories

PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

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

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

SAC-M12-EXCLIP-M - Locking clip

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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UCT-WMT (23X4) - Conductor marker

0801453

https://www.phoenixcontact.com/us/products/0801453

Conductor marker, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 30

UC-WMT (23X4) - Conductor marker

0819411

https://www.phoenixcontact.com/us/products/0819411

Conductor marker, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 24

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US-WMT (23X4) - Cable marker

0828769

https://www.phoenixcontact.com/us/products/0828769

Cable marker, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: slide-on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 56

WMTW (23X4)R - Cable marker

0831004

https://www.phoenixcontact.com/us/products/0831004

Cable marker, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 3000

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PROT-M12 MS-PA-CHAIN - Screw plug

1430899

https://www.phoenixcontact.com/us/products/1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets

SAC-M12-EXCLIP-F - Locking clip

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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B-STIFT - Marker pen

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

TSD 04 SAC - Torque screwdriver

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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TSD-M 1,2NM - Torque screwdriver

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

TSD-M SAC-BIT ADAPTER - Adapter insert

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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SAC BIT M12-D15 - Tool

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