

# SAC-5PY-F/2X 1,0-920-MS-FS - Bus system cable



1436039

<https://www.phoenixcontact.com/de/produkte/1436039>

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position halogen-free, shielded, Socket straight M12, coding: A SPEEDCON, on Socket straight M12, coding: A SPEEDCON and Plug straight M12, coding: A SPEEDCON, cable length: 1 m, all connectors unshielded, Shield connected to pin 1

## Commercial Data

Item number	1436039
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C1 - Sensor-Aktor-Kabel
Product Key	BF1GAD
Catalog Page	Page 434 (C-2-2019)
GTIN	4046356432283
Weight per Piece (including packing)	170,4 g
Weight per Piece (excluding packing)	153,24 g
Customs tariff number	85444290
Country of origin	PL

## Technical Data

### Product properties

Product type	Data cable preassembled
Sensor type	CANopen <sup>®</sup>
Number of positions	5
Application	Standard
No. of cable outlets	1
Shielded	no
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Interfaces

Bus system	CANopen <sup>®</sup> /DeviceNet <sup>™</sup>
Signal type/category	CANopen <sup>®</sup> DeviceNet <sup>™</sup>

### Signaling

Status display	No
Status display present	No

### Electrical properties

Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 100 MΩ
Nominal voltage U <sub>N</sub>	48 V AC 60 V DC
Nominal current I <sub>N</sub>	4 A
Transmission medium	Copper

### Material specifications

Color Handle area	black
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

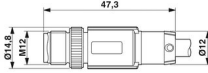
### Dimensions

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Dimensional drawing	
Center distance	21 mm

## Connection data

### Pin assignment

Contact   Color (signal designation)   Contact (optional)	1 (Distributor)   SR (shield)   1 (Plug)  1 (Socket)
	2 (Distributor)   RD (V+)   2 (Plug)  2 (Socket)
	3 (Distributor)   BK (V-)   3 (Plug)  3 (Socket)
	4 (Distributor)   WH (CAN_H)   4 (Plug)  4 (Socket)
	5 (Distributor)   BU (CAN_L)   5 (Plug)  5 (Socket)

## Connector

### Connection 1

Type	Socket straight M12 SPEEDCON
Number of positions	5
Coding type	A (Standard)
Ambient temperature (operation)	-25 °C ... 90 °C
Number of positions	5
Locking type	SPEEDCON


### Connection 2

Type	Socket straight M12 SPEEDCON
Number of positions	5
Coding type	A (Standard)
Ambient temperature (operation)	-25 °C ... 90 °C
Number of positions	5
Locking type	SPEEDCON

## Cable/line

Cable length	1 m
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CANopen<sup>®</sup>/DeviceNet<sup>™</sup>, PUR, violet [920]

Dimensional drawing	
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Cable weight	90 kg/km
UL AWM Style	21198 (80°C/300 V)
Number of positions	4
Shielded	yes
Cable type	CANopen <sup>®</sup> /DeviceNet <sup>™</sup> , PUR, violet [920]
Conductor structure	2xAWG24/19+2xAWG22/19
Conductor structure signal line	19x 0.13 mm
AWG signal line	24
Conductor cross section	2x 0.25 mm <sup>2</sup> (Data cable) 2x 0.34 mm <sup>2</sup> (Power supply) 1x 0.34 mm <sup>2</sup> (Drain wire)
Wire diameter incl. insulation	1.95 mm ±0.05 mm (Data cable) 1.4 mm ±0.05 mm (Power supply)
External cable diameter	6.7 mm ±0.3 mm
Outer sheath, material	PUR
External sheath, color	red lilac RAL 4001
Conductor material	Tin-plated Cu litz wires
Material wire insulation	Foamed PE (Data cable) PE (Power supply)
Single wire, color	red-black, blue-white
Twisted pairs	2 cores to the pair
Type of pair shielding	Plastic-coated aluminum foil, aluminum side outside
Overall twist	2 pairs around a drain wire in the center to the core
Optical shield covering	80 %
Insulation resistance	≥ 5 GΩ*km (Data cable) ≥ 5 GΩ*km (Power supply)
Loop resistance	≤ 181.80 Ω/km (Data cable) ≤ 114.80 Ω/km (Power supply)
Wave impedance	120 Ω ±10 % (with 1 MHz)
Cable capacity	nom. 40 nF/km (Data cable)
Nominal voltage, cable	≤ 300 V (Peak value, not for high-power applications)
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Max. bending cycles	5000000
Shield attenuation	≤ 22.9 dB/km (with 1 MHz) ≤ 16.4 dB/km (At 500 kHz) ≤ 9.5 dB/km (At 125 kHz)
Halogen-free	in accordance with DIN VDE 0472 part 815 according to IEC 60754-1
Flame resistance	IEC 60332-1-2 in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)
Other resistance	Low adhesion

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Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-30 °C ... 70 °C (Cable, flexible installation)
	-20 °C ... 60 °C (for installation)
	-20 °C ... 60 °C (cable, drag chain applications)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67

## Standards and regulations

Standards/specifications	IEC 61076-2-101
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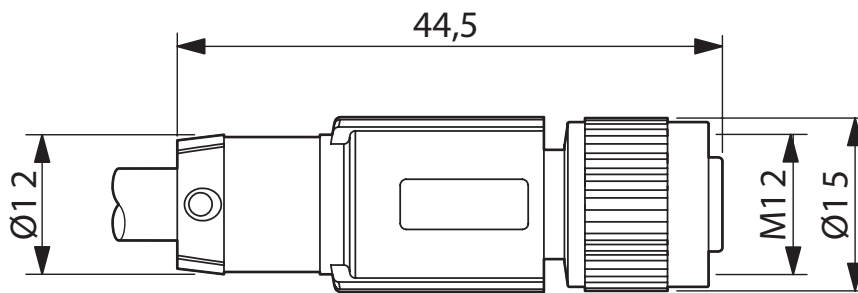
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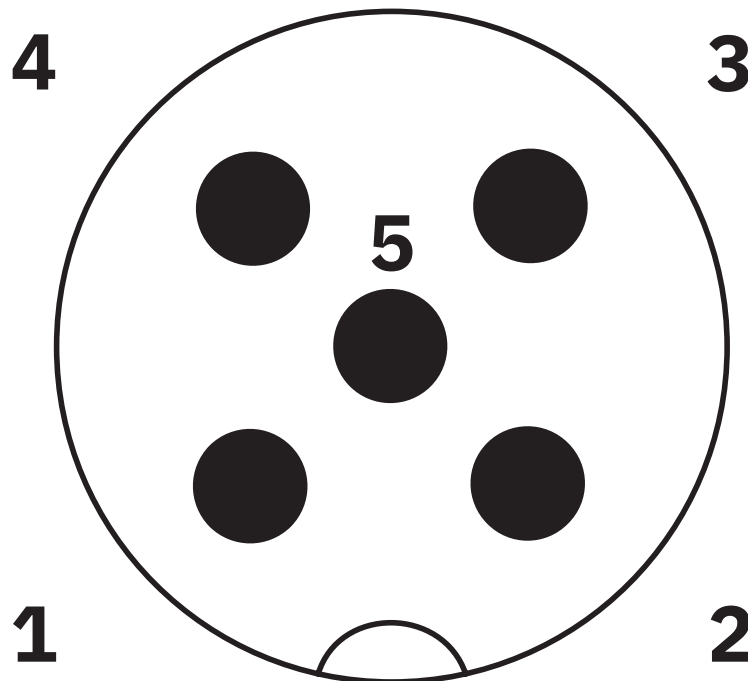
## Drawings

Dimensional drawing



M12-SPEEDCON socket, straight

Schematic diagram



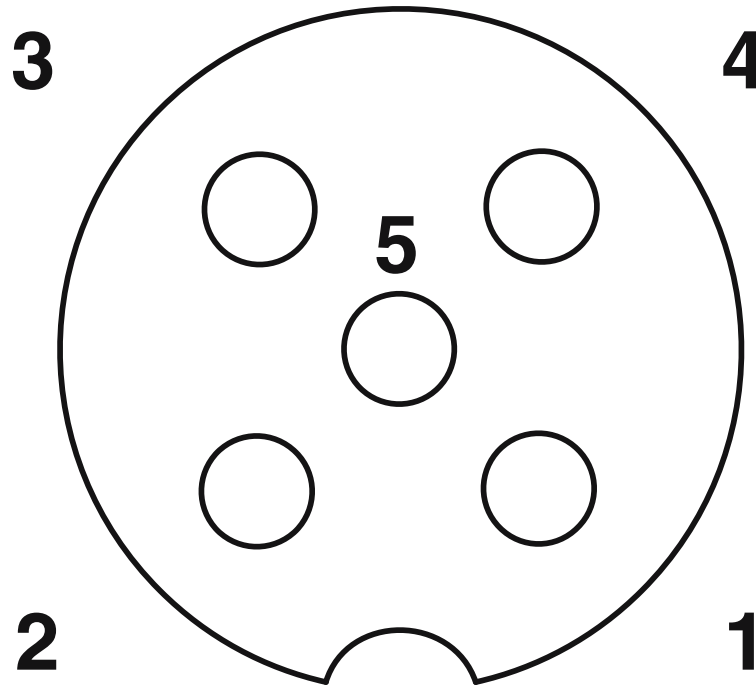
Pin assignment M12 male connector, 5-pos., A-coded, male side

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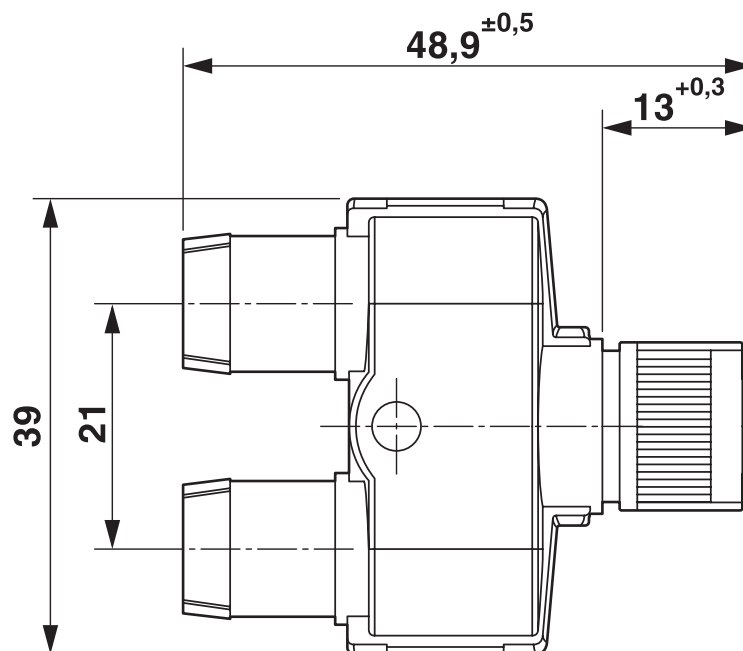
<https://www.phoenixcontact.com/de/produkte/1436039>

Schematic diagram



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

Dimensional drawing

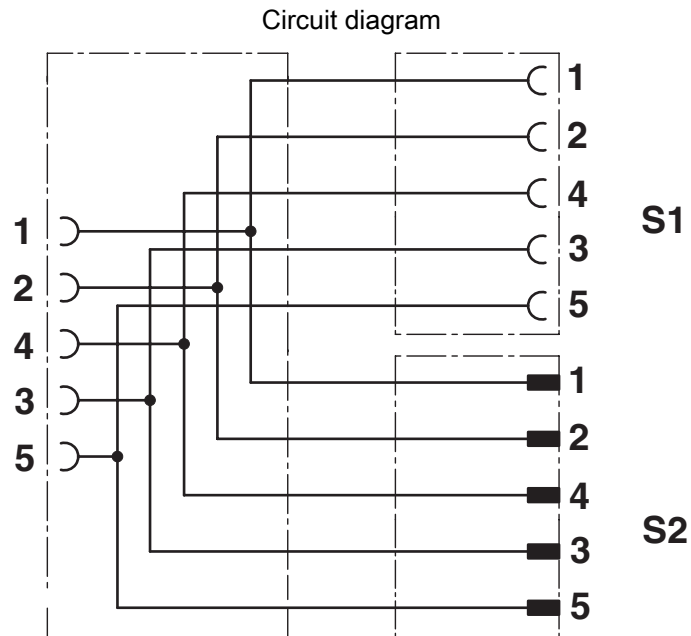


M12-SPEEDCON socket, Y-distributor

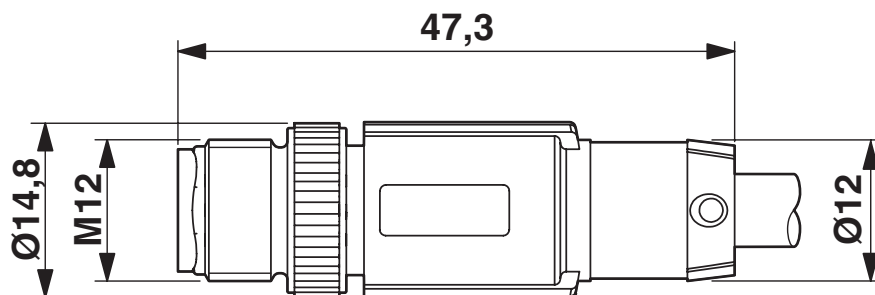
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Dimensional drawing



M12 SPEEDCON plug, straight



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/de/produkte/1436039>



### EAC

Approval ID: RU C-DE.BL08.B.00286



### UL Listed

Approval ID: FILE E 221474

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	125 V	4 A	-	-



### cUL Listed

Approval ID: FILE E 221474

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	125 V	4 A	-	-



### EAC-RoHS

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

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## Classifications

### ECLASS

ECLASS-11.0	27060307
ECLASS-12.0	27060307
ECLASS-13.0	27060307

### ETIM

ETIM 8.0	EC001855
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### UNSPSC

UNSPSC 21.0	26121600
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## Environmental Product Compliance

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

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## Accessories

### TSD 04 SAC - Torque screwdriver

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

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### TSD-M 1,2NM - Torque screwdriver

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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## TSD-M SAC-BIT ADAPTER - Adapter insert

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

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## SAC BIT M12-D15 - Tool

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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## PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/de/produkte/1430873>

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



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## SAC-M12-EXCLIP-M - Locking clip

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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## PROT-M12 MS-PA-CHAIN - Screw plug

1430899

<https://www.phoenixcontact.com/de/produkte/1430899>

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



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## SAC-M12-EXCLIP-F - Locking clip

1558991

<https://www.phoenixcontact.com/de/produkte/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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## SAC-5PH-M-F/2XF SH1 SCO - H distributor

1417414

<https://www.phoenixcontact.com/de/produkte/1417414>



H distributor, 5-position, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Thread M12 not rotatable, Parallel distributor

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## SAC-5P-M12T/2XM12 VP - T distributor

1541186

<https://www.phoenixcontact.com/de/produkte/1541186>



T distributor, 5-position, unshielded, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Parallel distributor



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## SAC-5PT-F/F-M VP - T distributor

1424712

<https://www.phoenixcontact.com/de/produkte/1424712>



T distributor, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, unshielded, Socket straight M12, coding: A, on Socket straight M12, coding: A and Plug straight M12, coding: A, Parallel distributor

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## SAC-5P-M12MS CAN TR - Termination resistor

1507816

<https://www.phoenixcontact.com/de/produkte/1507816>



Terminating resistor CANopen<sup>®</sup>/DeviceNet<sup>™</sup> M12

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