

Bus system cable - SAC-5PY-F/2X10,0-920-MS-FS



1436068

<https://www.phoenixcontact.com/pc/products/1436068>

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Bus system cable, CANopen[®], DeviceNet[™], 5-position, PUR halogen-free, red lilac RAL 4001, shielded, Socket straight M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A and Plug straight M12 SPEEDCON, coding: A, cable length: 10 m, all connectors unshielded, Shield connected to pin 1

Commercial Data

Item number	1436068
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	BF1GAD
Catalog Page	Page 434 (C-2-2019)
GTIN	4046356432313
Weight per Piece (including packing)	1,221.39 g
Weight per Piece (excluding packing)	1,159.44 g
Customs tariff number	85444290
Country of origin	PL

Technical Data

Product properties

Product type	Data cable preassembled
Number of positions	5
Application	Standard
No. of cable outlets	1
Shielded	no
Coding	A - standard

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Interfaces

Bus system	CANopen [®] /DeviceNet [™]
Signal type/category	CANopen [®]
	DeviceNet [™]

LED signaling

Status display	No
Status display present	No

Electrical properties

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

Material specifications

Color Handle area	black
Flammability rating according to UL 94	HB
Sealing 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

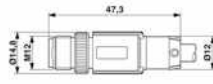
Dimensions

Bus system cable - SAC-5PY-F/2X10,0-920-MS-FS



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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

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


Connection 2

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

Cable / line

Cable length	10 m
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CANopen[®]/DeviceNet[™], PUR, violet [920]

Dimensional drawing	
Cable weight	90 kg/km
UL AWM Style	21198 (80°C/300 V)

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Number of positions	4
Shielded	yes
Cable type	CANopen [®] /DeviceNet [™] , 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 ² (Data cable) 2x 0.34 mm ² (Power supply) 1x 0.34 mm ² (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
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation) -30 °C ... 70 °C (Cable, flexible installation)

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	-20 °C ... 60 °C (for installation)
	-20 °C ... 60 °C (cable, drag chain applications)

Ambient conditions

Degree of protection	IP65
	IP67
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 75 °C (Cable, flexible installation)

Standards and regulations

Standards/specifications	IEC 61076-2-101
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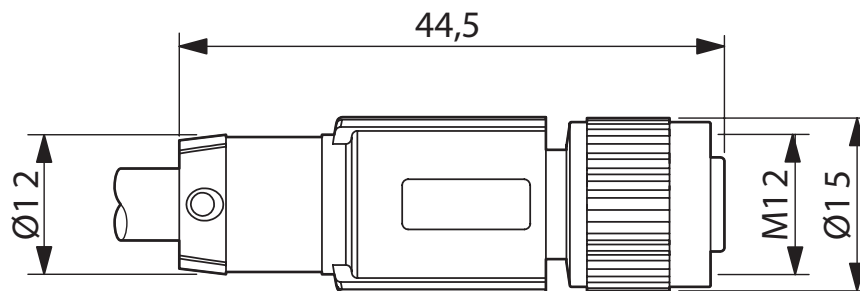
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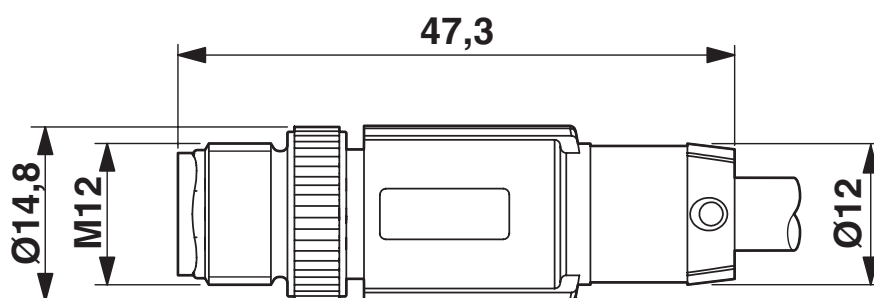
Drawings

Dimensional drawing



M12-SPEEDCON socket, straight

Dimensional drawing



M12 SPEEDCON plug, straight

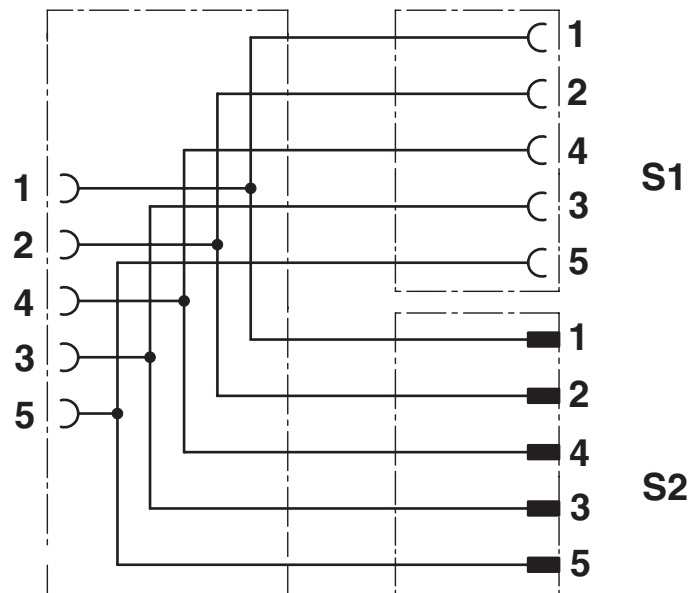
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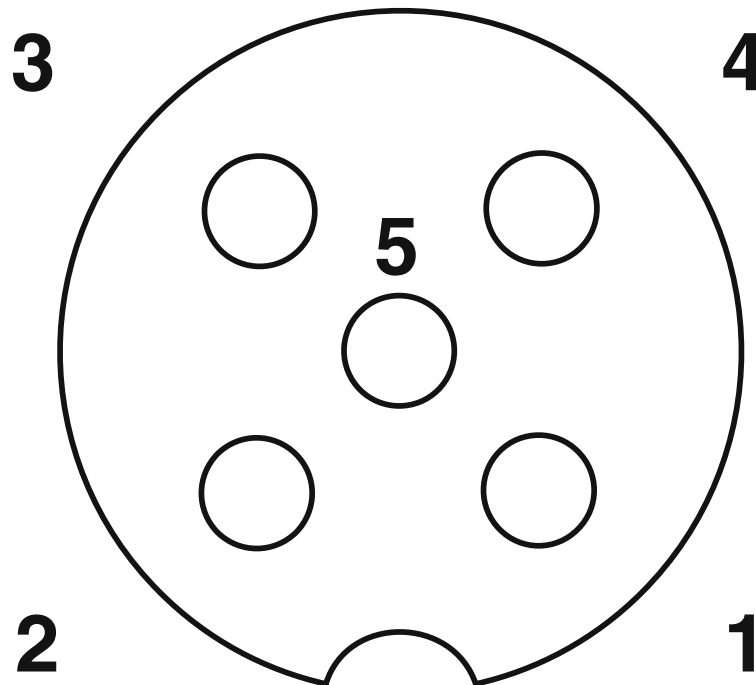
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Circuit diagram



Schematic diagram



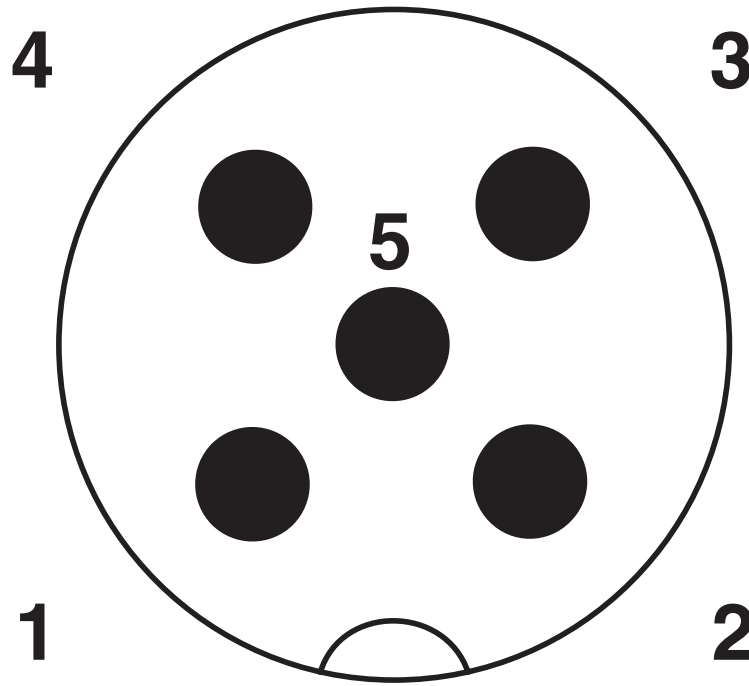
Pin assignment M12 socket, 5-pos., A-coded, socket side view

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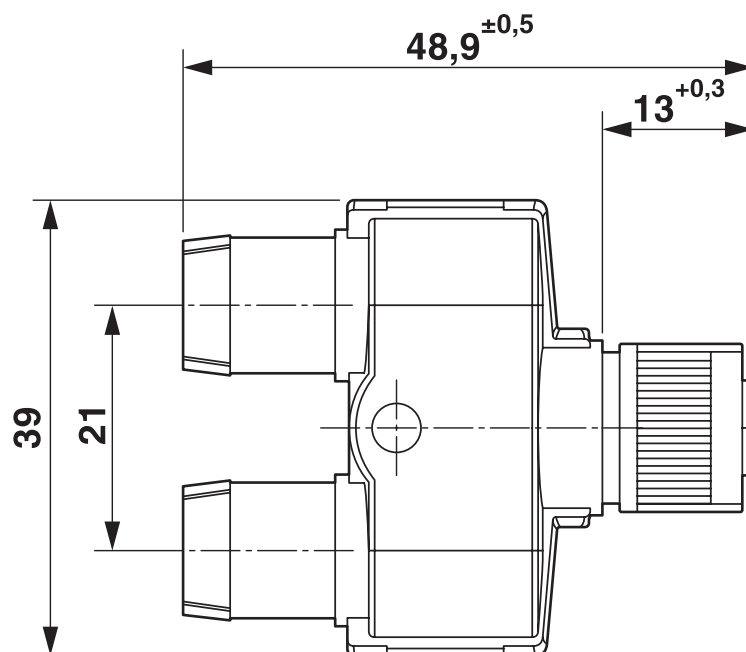
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Schematic diagram



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

Dimensional drawing



M12-SPEEDCON socket, Y-distributor


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Approvals

 **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 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 mm^2
	125 V	4 A	-	-

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

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27060308
ECLASS-10.0.1	27060308
ECLASS-11.0	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

Torque screwdriver

Torque screwdriver - TSD 04 SAC - 1208429

<https://www.phoenixcontact.com/pc/products/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/pc/products/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/pc/products/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/pc/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

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Sealing cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

<https://www.phoenixcontact.com/pc/products/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/pc/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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Screw plug

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

<https://www.phoenixcontact.com/pc/products/1430899>

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



Locking clip

Locking clip - SAC-M12-EXCLIP-F - 1558991

<https://www.phoenixcontact.com/pc/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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H distributor

H distributor - SAC-5PH-M-F/2XF SH1 SCO - 1417414

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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

T distributor

T distributor - SAC-5P-M12T/2XM12 VP - 1541186

<https://www.phoenixcontact.com/pc/products/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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T distributor

T distributor - SAC-5PT-F/F-M VP - 1424712

<https://www.phoenixcontact.com/pc/products/1424712>



T distributor, CANopen[®], DeviceNet[™], 5-position, unshielded, Socket straight M12, coding: A - standard, on Socket straight M12, coding: A - standard and Plug straight M12, coding: A - standard, Parallel distributor

Termination resistor

Termination resistor - SAC-5P-M12MS CAN TR - 1507816

<https://www.phoenixcontact.com/pc/products/1507816>



Terminating resistor CANopen[®]/DeviceNet[™] M12

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