

# Bus system cable - SAC-5P- 5,0-920/M12FS

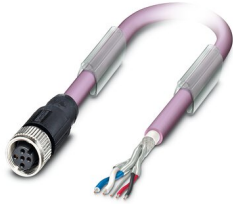


1507489

<https://www.phoenixcontact.com/pc/products/1507489>

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, red lilac RAL 4001, shielded, free cable end, on Socket straight M12, coding: A, cable length: 5 m

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# Bus system cable - SAC-5P- 5,0-920/M12FS



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## Commercial Data

Item number	1507489
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	BF1CKD
Catalog Page	Page 433 (C-2-2019)
GTIN	4017918900281
Weight per Piece (including packing)	310.7 g
Weight per Piece (excluding packing)	310.7 g
Customs tariff number	85444290
Country of origin	PL

# Bus system cable - SAC-5P- 5,0-920/M12FS



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## Technical Data

### Notes

General	Further products with variable cable lengths can be found in the accessories section
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### Product properties

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

### 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>
	CANopen <sup>®</sup>
	DeviceNet <sup>™</sup>

### LED 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

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
Cable gland material	Zinc die-cast, nickel-plated

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## Connection data

### Pin assignment

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

## Connector

Insertion/withdrawal cycles	≥ 100
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### Header 1

Head design	free cable end
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### Header 2

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

## Cable / line

Cable length	5 m
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 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

# Bus system cable - SAC-5P- 5,0-920/M12FS



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

## Cable structure

Cable type	CANopen <sup>®</sup> /DeviceNet <sup>™</sup> , PUR, violet
Signal type/category	CANopen <sup>®</sup>
	DeviceNet <sup>™</sup>
Outer sheath, material	PUR
External sheath, color	red lilac RAL 4001

## Ambient conditions

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

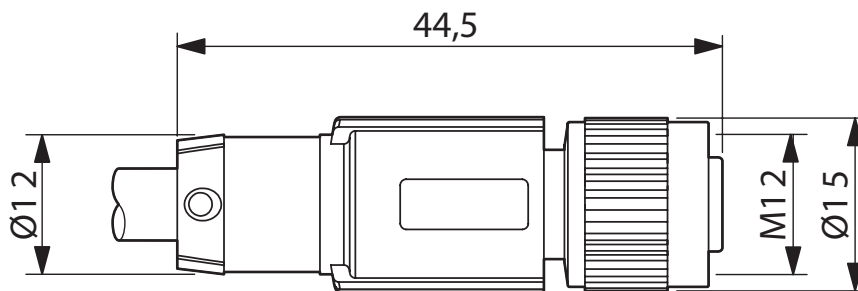
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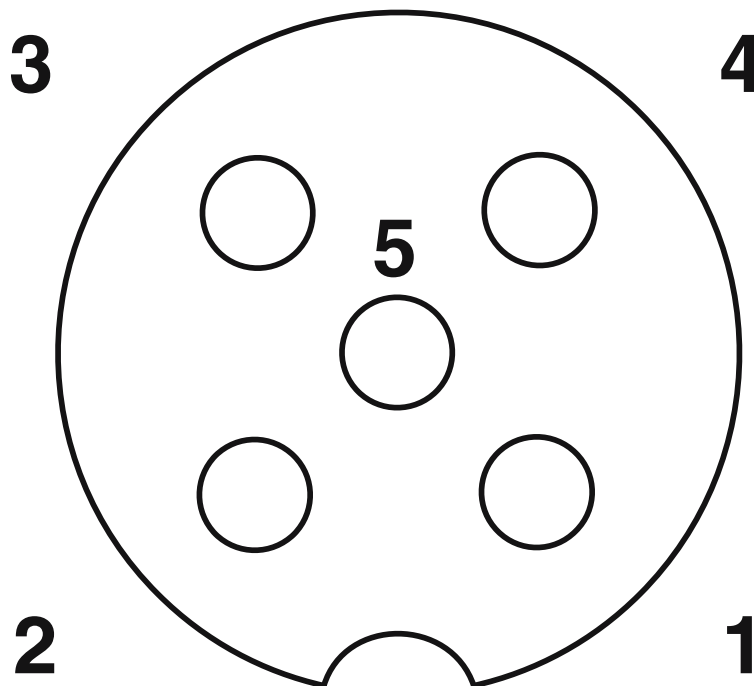
## Drawings

Dimensional drawing



M12 x 1 socket, straight, shielded

Schematic diagram



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

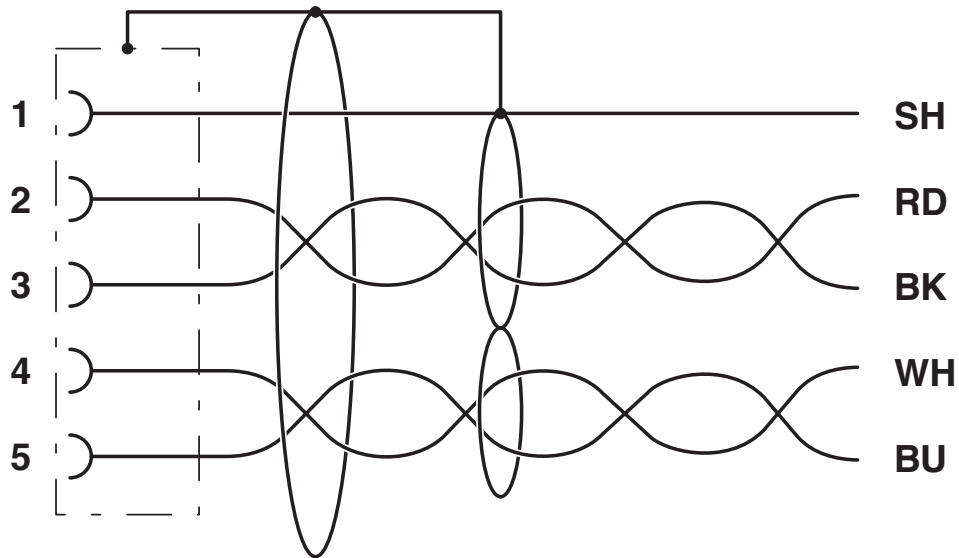
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Circuit diagram



Contact assignment of the M12 socket

# Bus system cable - SAC-5P- 5,0-920/M12FS



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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 $\text{mm}^2$
	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

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

### cULus Listed



# Bus system cable - SAC-5P- 5,0-920/M12FS



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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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# Bus system cable - SAC-5P- 5,0-920/M12FS



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## Environmental Product Compliance

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

# Bus system cable - SAC-5P- 5,0-920/M12FS



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## Accessories

### 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



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### Termination resistor

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

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

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



# Bus system cable - SAC-5P- 5,0-920/M12FS

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## 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<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

# Bus system cable - SAC-5P- 5,0-920/M12FS



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## H distributor

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

<https://www.phoenixcontact.com/pc/products/1417414>



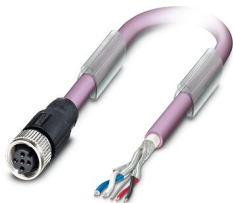
H distributor, 5-position, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Thread M12 not rotatable, Parallel distributor

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## Bus system cable

Bus system cable - SAC-5P-M12FS/920/... - 1538128

<https://www.phoenixcontact.com/pc/products/1538128>



Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, red lilac RAL 4001, shielded, free cable end, on Socket straight M12, coding: A, cable length: Free input (0.2 ... 40.0 m)

# Bus system cable - SAC-5P- 5,0-920/M12FS

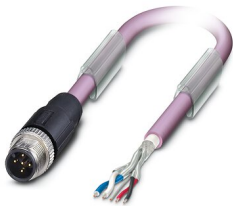
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## Bus system cable

Bus system cable - SAC-5P-M12MS/920/... - 1538102

<https://www.phoenixcontact.com/pc/products/1538102>



Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, red lilac RAL 4001, shielded, Plug straight M12, coding: A, on free cable end, cable length: Free input (0.2 ... 40.0 m)

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## Bus system cable

Bus system cable - SAC-5P-M12MS-M12FS/920/... - 1538144

<https://www.phoenixcontact.com/pc/products/1538144>



Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, red lilac RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: Free input (0.2 ... 40.0 m)

# Bus system cable - SAC-5P- 5,0-920/M12FS

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## Data connector

Data connector - SACC-M12FS-5PL SH DN - 1424672

<https://www.phoenixcontact.com/pc/products/1424672>



Data connector, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, shielded, Socket straight M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

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## Data connector

Data connector - SACC-M12MS-5PL SH DN - 1424670

<https://www.phoenixcontact.com/pc/products/1424670>



Data connector, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, shielded, Plug straight M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

# Bus system cable - SAC-5P- 5,0-920/M12FS

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## Data connector

Data connector - SACC-M12FR-5PL SH DN - 1424673

<https://www.phoenixcontact.com/pc/products/1424673>



Data connector, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, shielded, Socket angled M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

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## Data connector

Data connector - SACC-M12MR-5PL SH DN - 1424671

<https://www.phoenixcontact.com/pc/products/1424671>



Data connector, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, shielded, Plug angled M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm



# Bus system cable - SAC-5P- 5,0-920/M12FS

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## Data connector

Data connector - SACC-FS-5QO SH DN - 1422760

<https://www.phoenixcontact.com/pc/products/1422760>



Data connector, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, halogen-free, shielded, Socket straight M12 SPEEDCON, Coding: A, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

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## Data connector

Data connector - SACC-MS-5QO SH DN - 1422759

<https://www.phoenixcontact.com/pc/products/1422759>



Data connector, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, halogen-free, shielded, Plug straight M12 SPEEDCON, Coding: A, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

# Bus system cable - SAC-5P- 5,0-920/M12FS

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## 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

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## 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

# Bus system cable - SAC-5P- 5,0-920/M12FS



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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

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## 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

# Bus system cable - SAC-5P- 5,0-920/M12FS



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## 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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