

# SAC-5P-M12MS/ 2,0-920 - Bus system cable



1507421

<https://www.phoenixcontact.com/us/products/1507421>

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, red lilac RAL 4001, shielded (Tinned copper braided shield), Plug straight M12, coding: A, on free cable end, cable length: 2 m

## Commercial data

Item number	1507421
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	BF1CKD
Catalog page	Page 433 (C-2-2019)
GTIN	4017918900236
Weight per piece (including packing)	137.966 g
Weight per piece (excluding packing)	134.5 g
Customs tariff number	85444290
Country of origin	PL

# SAC-5P-M12MS/ 2,0-920 - Bus system cable



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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
Application	Standard
Sensor type	CANopen®
Number of positions	5
No. of cable outlets	1
Shielded	yes
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Approvals

#### National Marine Electronics Association

Certificate	approved
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### Interfaces

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

### Signaling

Status display	No
Status display present	No

### Electrical properties

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

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	≥ 100
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### Material specifications

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Flammability rating according to UL 94	HB
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

## Connection data

### Pin assignment

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

## Connector

### Connection 1

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

### Connection 2

Type	free cable end
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## Cable/line

Cable length	2 m
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### CANopen<sup>®</sup>/DeviceNet<sup>™</sup>, PUR, violet [920]

Dimensional drawing	
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

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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	6.70 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	2000.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	34 mm
Smallest bending radius, movable installation	67 mm
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)

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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67

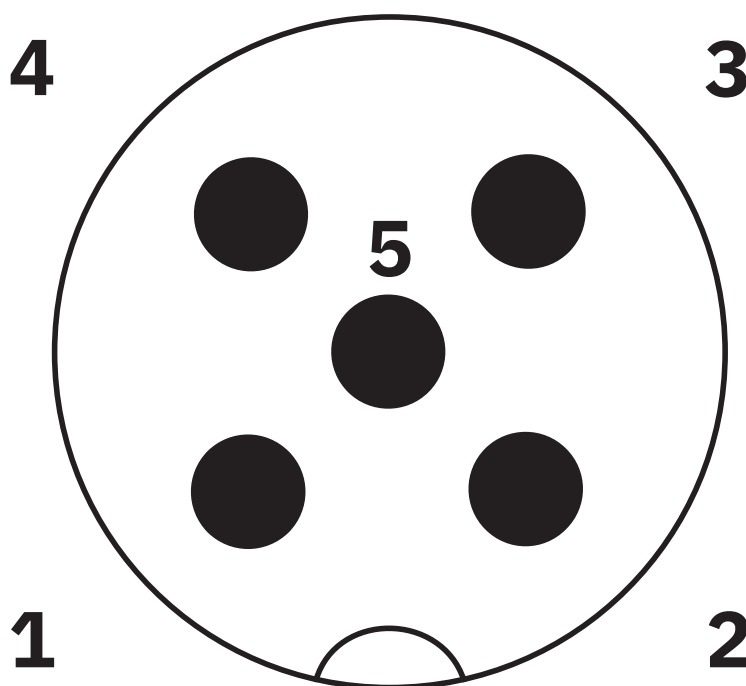
## Approvals

### National Marine Electronics Association

Certificate	approved
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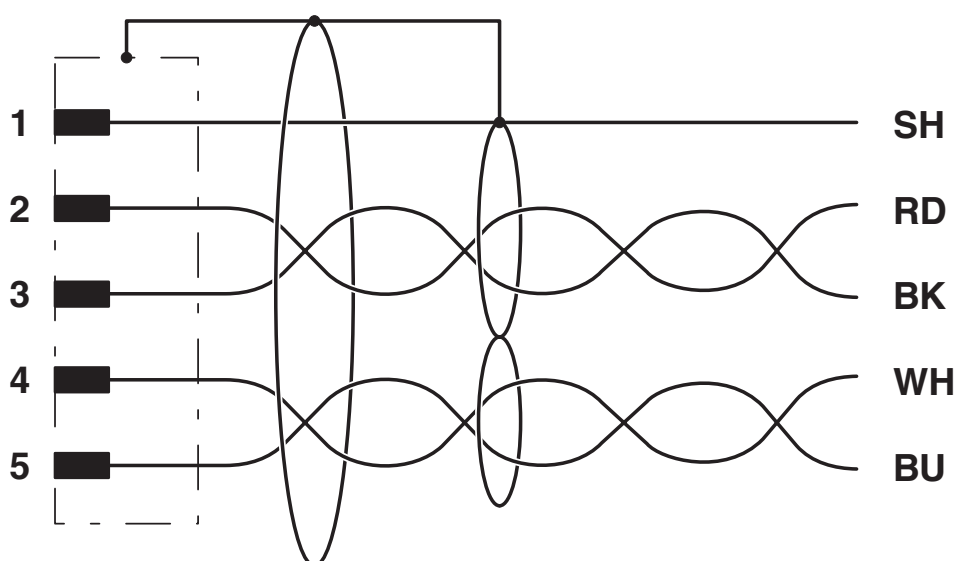
## Drawings

Schematic diagram



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

Circuit diagram



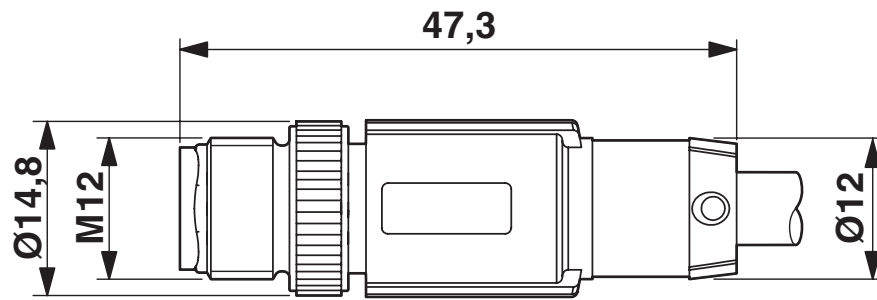
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Dimensional drawing



Plug, M12 x 1, straight, shielded

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1507421>

	<b>UL Listed</b> 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	-	-

	<b>cUL Listed</b> 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	-	-

	<b>EAC-RoHS</b> Approval ID: RU D-DE.HB35.B.00387			

<b>cULus Listed</b>				
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## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC001855
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### UNSPSC

UNSPSC 21.0	26121600
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# SAC-5P-M12MS/ 2,0-920 - Bus system cable



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## 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%

# SAC-5P-M12MS/ 2,0-920 - Bus system cable



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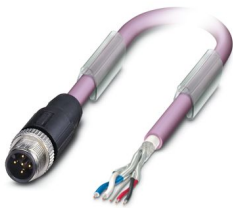
<https://www.phoenixcontact.com/us/products/1507421>

## Accessories

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

1538102

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



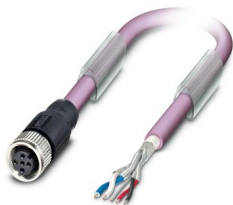
Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, red lilac RAL 4001, shielded (Tinned copper braided shield), Plug straight M12, coding: A, on free cable end, cable length: Free input (0.2 ... 40.0 m)

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

1538128

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



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

## SAC-5P-M12MS/ 2,0-920 - Bus system cable

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

1538144

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



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

## 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

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

1424672

<https://www.phoenixcontact.com/us/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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## SACC-M12MS-5PL SH DN - Data connector

1424670

<https://www.phoenixcontact.com/us/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

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

1424673

<https://www.phoenixcontact.com/us/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

# SAC-5P-M12MS/ 2,0-920 - Bus system cable



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

1424671

<https://www.phoenixcontact.com/us/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

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## SACC-M12FS-5QO SH DN - Data connector

1422760

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



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

# SAC-5P-M12MS/ 2,0-920 - Bus system cable



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## SACC-M12MS-5QO SH DN - Data connector

1422759

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



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

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

1417414

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



H distributor, 5-position, 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/us/products/1541186>



T distributor, 5-position, 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/us/products/1424712>



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

## SAC-5P-M12MS/ 2,0-920 - Bus system cable

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

1507816

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

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



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## 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

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## 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

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