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## Bus system cable - SAC-5P-MS/20,0-923/FR CAN SCO - 1419072

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, gray RAL 7001, shielded, Plug straight M12 SPEEDCON, A-coded, on Socket angled M12 SPEEDCON, A-coded, Cable length: 20 m, Connector, unshielded



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 543330

### Technical data

#### Dimensions

Length of cable	20 m
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#### Ambient conditions

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

#### General

Rated current at 40°C	4 A
Rated voltage	60 V
Number of positions	5
Coding	A - standard
Signal type/category	CANopen <sup>®</sup> DeviceNet <sup>™</sup>
Status display	No
Overvoltage category	II
Degree of pollution	3
Torque	0.4 Nm (M12 connector)

#### Material

# Bus system cable - SAC-5P-MS/20,0-923/FR CAN SCO - 1419072

## Technical data

### Material

Flammability rating according to UL 94	HB
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material of grip body	TPU, hardly inflammable, self-extinguishing
Material, knurls	Zinc die-cast, nickel-plated
Sealing material	NBR

### Pin assignment

Position = wire color (signal) = position (optional)	1 (Plug) = SR (shield) = 1 (Socket)
	2 (Plug) = RD (V+) = 2 (Socket)
	3 (Plug) = BK (V-) = 3 (Socket)
	4 (Plug) = WH (CAN_H) = 4 (Socket)
	5 (Plug) = BU (CAN_L) = 5 (Socket)

### Standards and Regulations

Flammability rating according to UL 94	HB
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### Cable

Cable type	CAN Bus/DeviceNet drop cable
Cable type (abbreviation)	923
UL AWM style	21198 (80°C/300 V)
Cable structure	2xAWG24/19+2xAWG22/19
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)
AWG signal line	24
AWG power supply	22
Conductor structure signal line	19x 0.13 mm
Conductor structure, voltage supply	19x 0.15 mm
Core diameter including insulation	1.95 mm ±0.05 mm (Data cable)
	1.4 mm ±0.05 mm (Power supply)
Wire colors	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
Shielding	Tinned copper braided shield
Optical shield covering	80 %
External sheath, color	Silver-gray RAL 7001
External cable diameter D	6.7 mm ±0,3 mm
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	5000000

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### Technical data

#### Cable

Bending radius	70 mm
Traversing path	4.5 m
Traversing rate	3 m/s
Acceleration	3 m/s <sup>2</sup>
Outer sheath, material	PUR
Material conductor insulation	Foamed PE (Data cable)
	PE (Power supply)
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 5 GΩ*km (Data cable)
	≥ 5 GΩ*km (Power supply)
Loop resistance	≤ 181.8 Ω (Data cable)
	≤ 114.8 Ω (Power supply)
Working capacitance	nom. 40 nF (Data cable)
Wave impedance	120 Ω ±12 Ω (f = 1 MHz)
Shield attenuation	≤ 0.95 dB (f = 125 kHz)
	≤ 1.64 dB (f = 500 kHz)
	≤ 2.29 dB (f = 1 MHz)
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.)
Flame resistance	UL 1581, Sec. 1060 (FT-1)
	IEC 60332-1
Other resistance	Low adhesion
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 70 °C (cable, flexible installation)

### Classifications

#### eCl@ss

eCl@ss 4.0	27060307
eCl@ss 4.1	27060307
eCl@ss 5.0	27061801
eCl@ss 5.1	27060307
eCl@ss 6.0	27279218
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218

#### ETIM

ETIM 2.0	EC000830
ETIM 3.0	EC000830
ETIM 4.0	EC001855

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## Classifications

### ETIM

ETIM 5.0	EC001855
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### UNSPSC

UNSPSC 6.01	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	26121616
UNSPSC 13.2	26121616

## Approvals

### Approvals

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#### Approvals

EAC

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#### Ex Approvals

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#### Approvals submitted

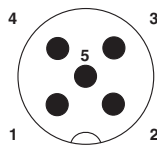
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### Approval details

EAC
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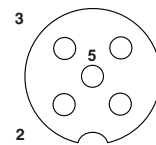
## Drawings

Schematic diagram



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

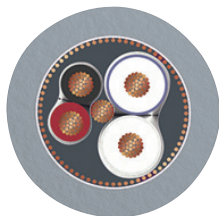
Schematic diagram



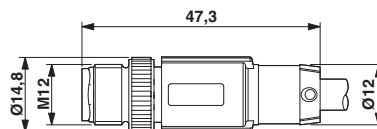
Pin assignment M12 socket, 5-pos., A-coded, socket side view

# Bus system cable - SAC-5P-MS/20,0-923/FR CAN SCO - 1419072

Cable cross section



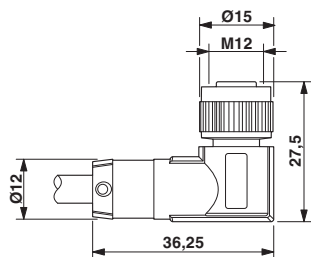
Dimensional drawing



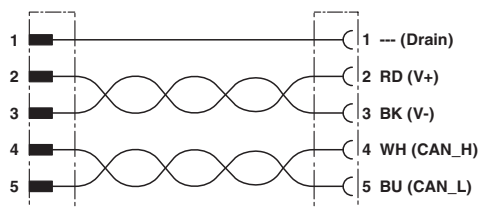
CAN Bus/DeviceNet [923]

M12 x 1 plug, straight

Dimensional drawing



Circuit diagram



Contact assignment of the M12 plug and the M12 socket

M12 x 1 socket, angled



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