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

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

RoHS

DeviceNet CANopen

Key Commercial Data

Packing unit	1 pc
Minimum order quantity	25 pc
Weight per Piece (excluding packing)	0.010 g
Custom tariff number	85444290
Country of origin	Poland

Technical data

Dimensions

Length of cable	Free input (0.2 ... 40.0 m)

Ambient conditions

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

General

Note	Further products with fixed cable length can be found in the accessories section
Rated current at 40°C	4 A
Rated voltage	48 V AC
	60 V DC
Number of positions	5
Insulation resistance	≥ 100 MΩ

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Technical data

General

Coding	A - standard
Signal type/category	CANopen®
	DeviceNet™
Status display	No
Overvoltage category	II
Degree of pollution	3
Torque	0.4 Nm (M12 connector)

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

Contact | Color (signal designation) | Contact (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

Cable

Cable type	CANopen®/DeviceNet™, PUR, violet
Cable type (abbreviation)	920
UL AWM style	21198 (80°C/300 V)
Cable structure	2xAWG24/19+2xAWG22/19
Conductor cross section	2x 0.25 mm² (Data cable)
	2x 0.34 mm² (Power supply)
	1x 0.34 mm² (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

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Technical data

Cable

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	violet RAL 4001
External cable diameter D	6.7 mm ±0.3 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	5000000
Bending radius	70 mm
Minimum bending radius, drag chain applications	10 x D
Traversing path	4.5 m
Traversing rate	3 m/s
Acceleration	3 m/s²
Cable weight	90 kg/km
Outer sheath, material	PUR
Material conductor insulation	Foamed PE (Data cable)
	PE (Power supply)
Conductor material	Tin-plated Cu litz wires
Insulation resistance	$\geq$ 5 GΩ*km (Data cable)
	$\geq$ 5 GΩ*km (Power supply)
Loop resistance	$\leq$ 181.80 Ω/km (Data cable)
	$\leq$ 114.80 Ω/km (Power supply)
Cable capacity	nom. 40 nF/km (Data cable)
Wave impedance	120 Ω ±10 % (with 1 MHz)
Attenuation	$\leq$ 22.9 dB/km (with 1 MHz)
	$\leq$ 16.4 dB/km (At 500 kHz)
	$\leq$ 9.5 dB/km (At 125 kHz)
Nominal voltage, cable	$\leq$ 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

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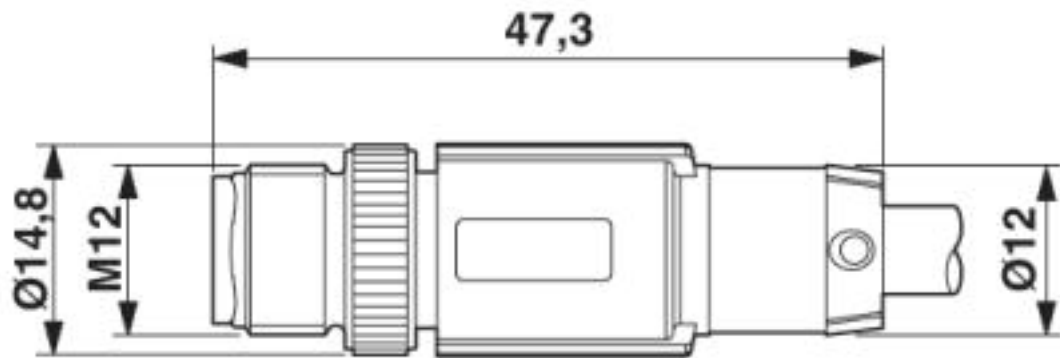
Technical data

Cable

	in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)
Halogen-free	in accordance with DIN VDE 0472 part 815
	according to IEC 60754-1
Other resistance	Low adhesion
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (cable, flexible installation)

Environmental Product Compliance

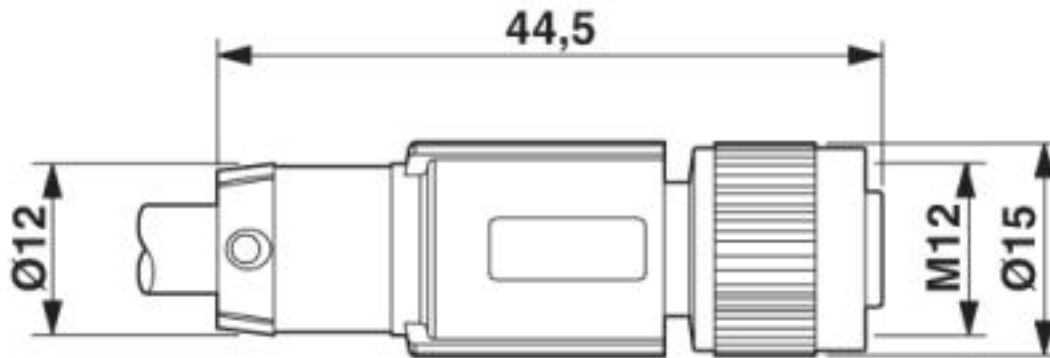|	
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

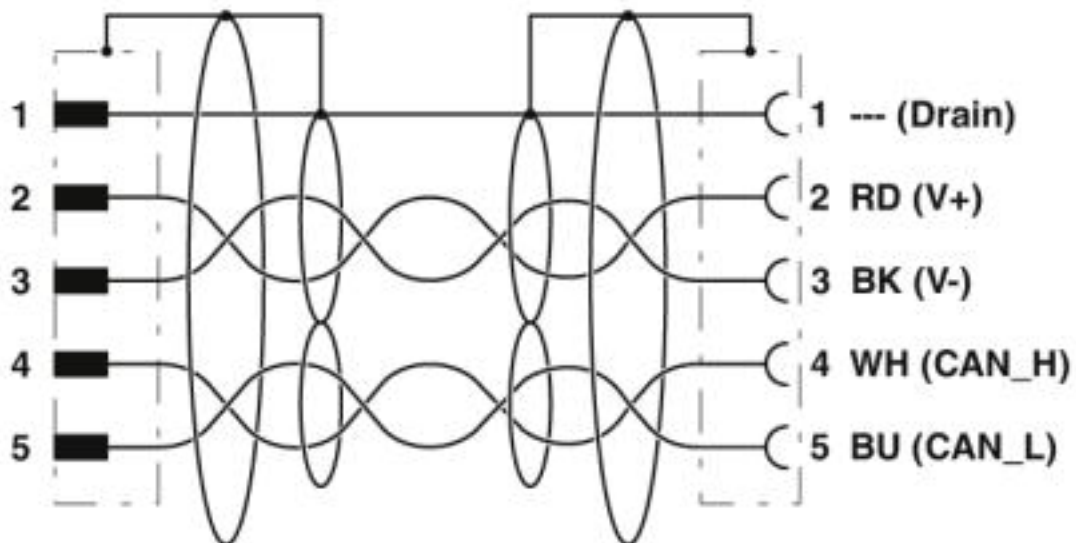Dimensional drawing

Plug, M12 x 1, straight, shielded

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

Dimensional drawing

M12 x 1 socket, straight, shielded

Circuit diagram

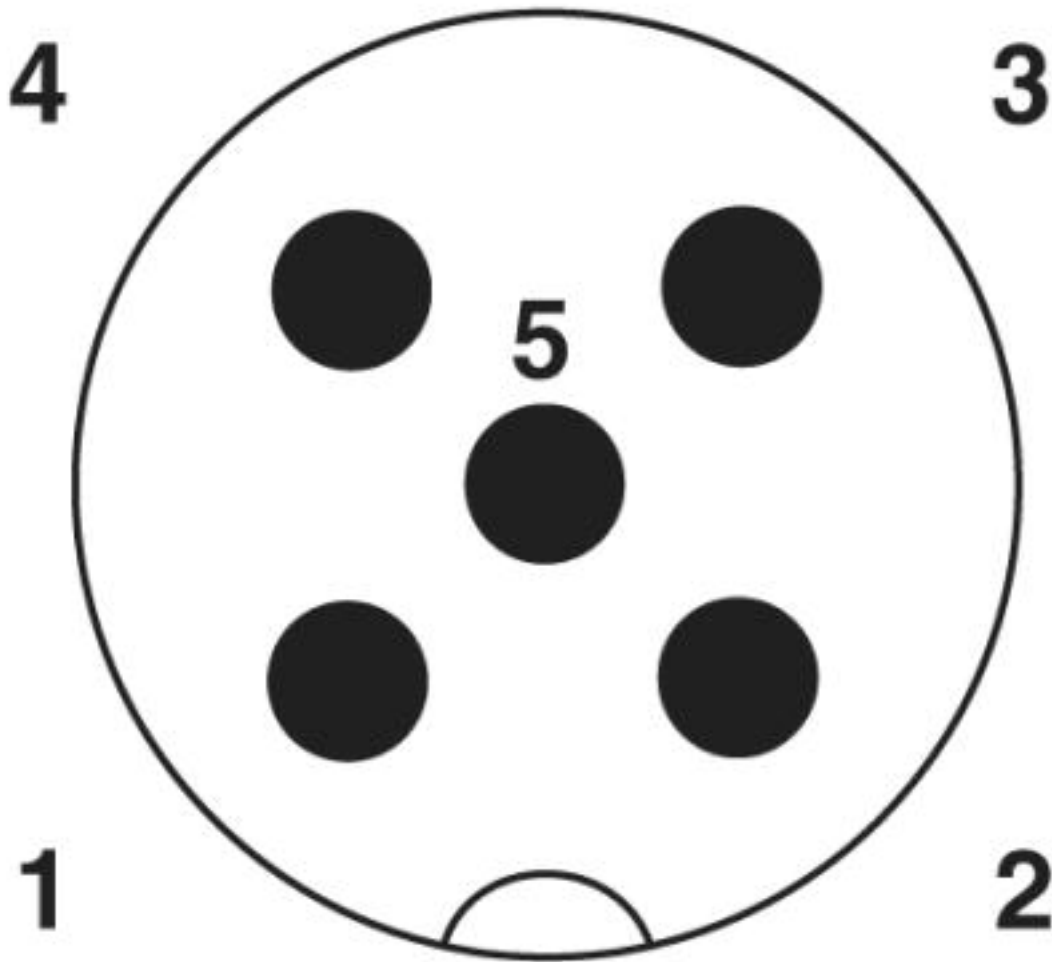|	
1	--- (Drain)
2	RD (V+)
3	BK (V-)
4	WH (CAN_H)
5	BU (CAN_L)

Contact assignment of the M12 connector and the M12 socket

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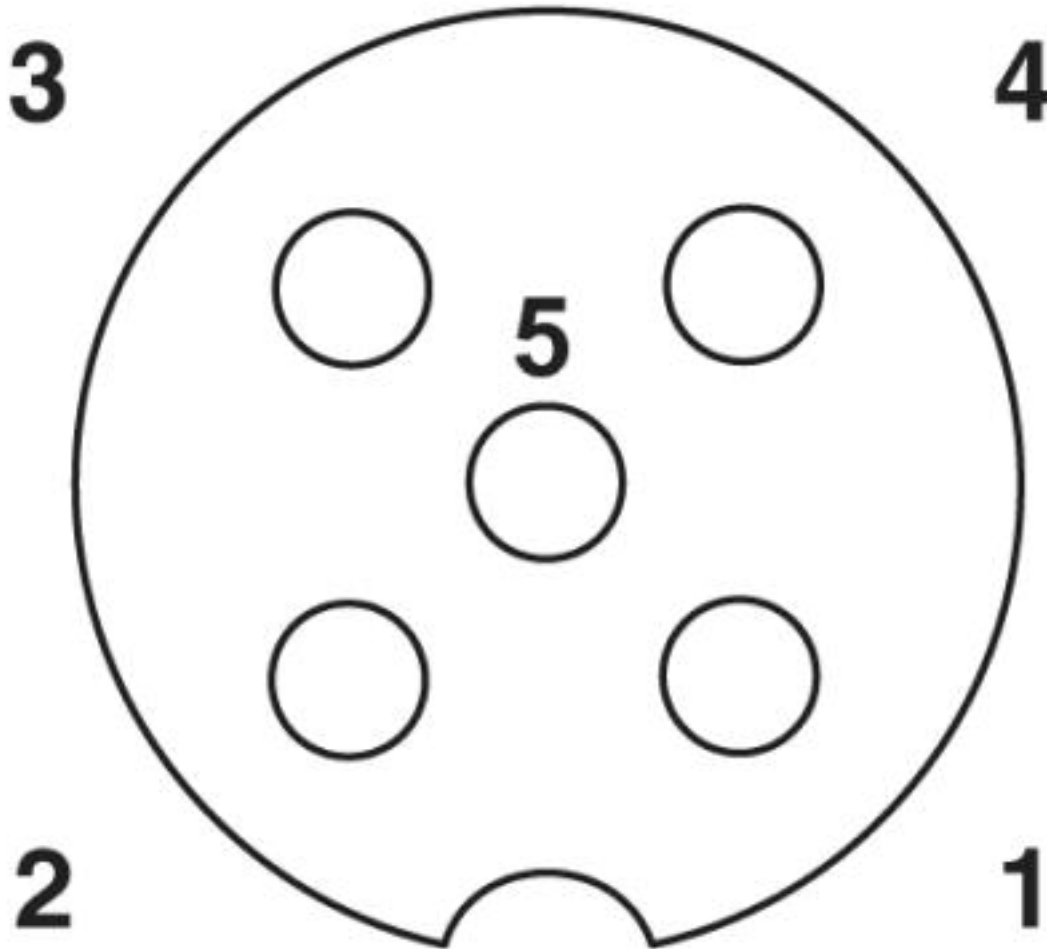# Bus system cable - SAC-5P-M12MS-M12FS/920/... - 1538144

Schematic diagram

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

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

Schematic diagram

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

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Cable cross section

CANopen®/DeviceNet™, PUR, violet [920]

Classifications

eCl@ss

eCl@ss 4.0	27060300
eCl@ss 4.1	27060300
eCl@ss 5.0	27061800
eCl@ss 5.1	27061800
eCl@ss 6.0	27279200
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218

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Classifications

eCl@ss

eCl@ss 9.0	27060308

ETIM

ETIM 3.0	EC001855
ETIM 4.0	EC001855
ETIM 5.0	EC002599
ETIM 6.0	EC001855
ETIM 7.0	EC001855

UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	31251501
UNSPSC 18.0	26121604
UNSPSC 19.0	26121604
UNSPSC 20.0	26121604
UNSPSC 21.0	26121604

Approvals

Approvals

Approvals

null / null / null

Ex Approvals

Approval details

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Accessories

Accessories

Data cable preassembled

Bus system cable - SAC-5P-M12MS/ 0,3-920/M12FS - 1507528

Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 0.3 m

Bus system cable - SAC-5P-M12MS/ 0,5-920/M12FS - 1507531

Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 0.5 m

Bus system cable - SAC-5P-M12MS/ 1,0-920/M12FS - 1507544

Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 1 m

Bus system cable - SAC-5P-M12MS/ 2,0-920/M12FS - 1507557

Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 2 m

Bus system cable - SAC-5P-M12MS/ 5,0-920/M12FS - 1507560

Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 5 m

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

Accessories

Bus system cable - SAC-5P-M12MS/10,0-920/M12FS - 1507573

Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 10 m

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Bus system cable - SAC-5P-M12MS/15,0-920/M12FS - 1507586

Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, violet RAL 4001, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 15 m

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H-distributor

H distributor - SAC-5PH-M-F/2XF SH1 SCO - 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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Plug for cable screw gland

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

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

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Protective cap

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

Accessories

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

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

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Safety locking

Locking clip - SAC-M12-EXCLIP-M - 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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Locking clip - SAC-M12-EXCLIP-F - 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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Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 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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Tool - SAC BIT M12-D15 - 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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Accessories

T-distributor

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

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

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

Terminal resistor

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

Terminating resistor CANopen®/DeviceNet™ M12

Torque tool

Torque screwdriver - TSD 04 SAC - 1208429

Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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

Accessories

Torque screwdriver - TSD-M 1,2NM - 1212224

Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm