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Bus system flush-type plug, DeviceNet/CANopen, 5-pos., M12, shielded, A-coded, front/screw mounting with M16 thread, with 0.5 m bus cable,  $2 \times 0.2 \text{ mm}^2$ ,  $2 \times 0.32 \text{ mm}^2$ 

## Why buy this product

- ${\ensuremath{\,^{\odot}}}$  Pre-assembled with cables in various standard lengths for immediate use
- Customer-specific assemblies and cable lengths can be supplied
- Sealed on the cable side for optimum tightness of seal
- ☑ Cable designs for all common networks and fieldbuses
- For high transmission safety: shield connection to the housing with optional EMC nut

## RoHS

# Device Net CANOpen

## Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 022361
GTIN	4046356022361

## Technical data

#### Dimensions

Length of cable	0.5 m	
Ambient conditions		
Ambient temperature (operation)	-25 °C 85 °C (Plug / socket)	
Degree of protection	IP67	

#### General

Note	The electrical and mechanical data specified assume that the connector pair is correctly locked and mounted. If the connector is unlocked and if there is a danger of contamination, the connector must be sealed using a protective cap > IP54. Influences arising from litz wires, cables or PCB assembly must also be taken into consideration.
Rated current at 40°C	4 A



## Technical data

### General

Rated voltage	60 V
Rated surge voltage	1.5 kV
Number of positions	5
Insulation resistance	$\geq$ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No
Overvoltage category	Ш
Degree of pollution	3
Test voltage	2500 V
Connection method	CAN Bus / DeviceNet
Insertion/withdrawal cycles	> 100
Torque	3 Nm 4 Nm (Installation-side)
Mounting type	Front mounting M16 x 1.5 With locking nut

### Material

Flammability rating according to UL 94	V0
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Material, knurls	Nickel-plated brass
Sealing material	NBR

### Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101
Flammability rating according to UL 94	V0

Cable

Cable type	CAN Bus/DeviceNet
Cable type (abbreviation)	920
UL AWM style	21198 (80°C/300 V)
Signal type/category	CANopen <sup>®</sup>
	DeviceNet™
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 mm² (Drain wire)
AWG signal line	24
AWG power supply	22
Conductor structure signal line	19x 0.13 mm



## Technical data

### Cable

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	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/s <sup>2</sup>
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 $\Omega$ /km (Data cable)
	$\leq$ 114.80 $\Omega$ /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)
	≤ 16.4 dB/km (At 500 kHz)
	≤ 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
	in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)



## Technical data

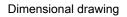
### Cable

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)
Ambient temperature (storage/transport)	-40 °C 80 °C

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings





Schematic diagram



Housing cutout for M16 fastening thread, mounting panel with thread

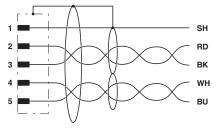
#### Cable cross section



CAN Bus/DeviceNet [920]

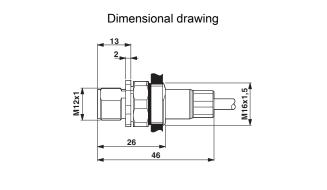
Pin assignment M12 male connector, 5-pos., A-coded, male side

### Circuit diagram



Contact assignment of the M12 plug





M12 flush-type plug

Approvals

Approvals

### Approvals

EAC

Ex Approvals

#### Approval details

EAC

EHC

B.00767

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