



# Automatización Eléctrica

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Bus system flush-type plug, DeviceNet/CANopen, 5-pos., M12, shielded, A-coded, SPEEDCON, rear/screw mounting with Pg9 thread, with 2.0 m bus cable,  $2 \times 0.2 \text{ mm}^2$ ,  $2 \times 0.32 \text{ mm}^2$ 



## Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 457712

## Technical data

#### Dimensions

Length of cable	2 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
Rated voltage	60 V
Rated surge voltage	1.5 kV
Number of positions	5
Insulation resistance	100 ΜΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Signal type/category	DeviceNet™



## Technical data

General

Overvoltage category	II
Degree of pollution	3
Insertion/withdrawal cycles	> 100
Torque	2 Nm 3 Nm (Installation-side)

### Material

Flammability rating according to UL 94	V0
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	PA 66
Material, knurls	Zinc die-cast, nickel-plated
Sealing material	FKM

### 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®
	DeviceNet™
Cable structure	2xAWG24/19+2xAWG22/19
Conductor cross section	2x 0.25 mm² (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
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



## Technical data

Cable

External cable diameter D	6.7 mm ±0,3 mm
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	500000
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	$\geq$ 5 GΩ*km (Data cable)
	$\geq$ 5 GΩ*km (Power supply)
Conductor resistance	$\leq$ 90.9 $\Omega$ /km (Data cable)
	$\leq$ 57.4 $\Omega$ /km (Power supply)
Cable capacity	nom. 40 pF/m (Data cable)
Wave impedance	120 Ω ±10 % (with 1 MHz)
Wave attenuation	≥ 0.0229 dB/m (with 1 MHz)
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)
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)
	$\leq$ 70 °C (cable, drag chain applications)
Ambient temperature (storage/transport)	-40 °C 80 °C

## Classifications

eCl@ss

eCl@ss 4.0	27250313
eCl@ss 4.1	27250313
eCl@ss 5.0	27143423
eCl@ss 5.1	27143423



## Classifications

eCl@ss

eCl@ss 6.0	27143423
eCl@ss 7.0	27449001
eCl@ss 8.0	27440103

#### ETIM

ETIM 3.0	EC002061
ETIM 4.0	EC002061
ETIM 5.0	EC002061

#### UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	39121413

### Approvals

Approvals

#### Approvals

UL Recognized / EAC

#### Ex Approvals

Approvals submitted

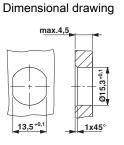
### Approval details

mm²/AWG/kcmil	26-20	
Nominal current IN	4 A	
Nominal voltage UN	60 V	

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### Drawings



Housing cutout for Pg9 fastening thread, mounting panel with feedthrough hole (alternatively with surface as protection against rotation)

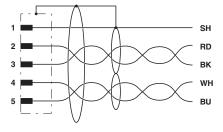
#### Cable cross section



Circuit diagram

Schematic diagram

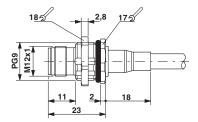
Pin assignment M12 male connector, 5-pos., A-coded, male side



CAN Bus/DeviceNet [920]

#### Contact assignment of the M12 plug

#### **Dimensional drawing**



M12 panel feed-through

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