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Bus system flush-type socket, PROFINET, 4-pos., M12, shielded, D-coded, SPEEDCON, rear/screw mounting with Pg9 thread, with 5.0 m bus cable, 2 x 2 x 0.34 mm<sup>2</sup>

### Your advantages

- ${\ensuremath{\,^{\odot}}}$  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



## Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 458535
GTIN	4046356458535
Weight per Piece (excluding packing)	354.000 g
Custom tariff number	85444290
Country of origin	Germany

### Technical data

#### Dimensions

Length of cable	5 m
Ambient conditions	
Ambient temperature (operation)	-20 °C 60 °C (cable, fixed installation)
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



## Technical data

#### General

	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	250 V
Rated surge voltage	2.5 kV
Number of positions 4	
Coding	D - data
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT <sup>®</sup> CAT5 (IEC 11801), 100 Mbps
Overvoltage category	
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 6.6

Nickel-plated brass

FKM

### Standards and Regulations

ĺ	Flammability rating according to UL 94	V0

Cable

Material, knurls

Sealing material

Cable type	PROFINET PVC stranded CAT5
Cable type (abbreviation)	93B
UL AWM style	21694
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT <sup>®</sup> CAT5 (IEC 11801), 100 Mbps
Cable structure	1x4xAWG22/7; SF/TQ
Conductor cross section	4x 0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	7x 0.25 mm
Core diameter including insulation	1.55 mm
Wire colors	White, yellow, blue, orange
Overall twist	Star quad
Shielding	Aluminum-coated foil, tinned copper braided shield
Optical shield covering	85 %
External sheath, color	green RAL 6018



## Technical data

Cable

00010	
Outer sheath thickness	approx. 0.9 mm
External cable diameter D	6.5 mm ±0.2 mm
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	7 x D
Cable weight	67 kg/km
Outer sheath, material	PVC
Material, inner sheath	PVC
Material conductor insulation	PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
Near end crosstalk attenuation (NEXT)	80 dB (with 1 MHz)
	76 dB (at 4 MHz)
	70 dB (at 10 MHz)
	65 dB (at 16 MHz)
	63 dB (at 20 MHz)
	60 dB (at 31.25 MHz)
	55 dB (at 62.5 MHz)
	50 dB (at 100 MHz)
Attenuation	2.1 dB (with 1 MHz)
	4 dB (at 4 MHz)
	6.3 dB (at 10 MHz)
	8 dB (at 16 MHz)
	9 dB (at 20 MHz)
	11.4 dB (at 31.25 MHz)
	16.5 dB (at 62.5 MHz)
	21.3 dB (at 100 MHz)
Signal speed	0.66 c
Signal runtime	5.3 ns/m
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)
Nominal voltage, cable	600 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Flame resistance	According to UL 1685 (CSA FT 4)
Resistance to oil	Resistant to oil to a limited extent
Other resistance	UV resistant According to UL 1581, Section 1200
Ambient temperature (operation)	-40 °C 70 °C (cable, fixed installation)
	-40 °C 70 °C (cable, flexible installation)



## Technical data

#### Cable

Ambient temperature (installation)	-20 °C 60 °C
Ambient temperature (storage/transport)	-50 °C 70 °C

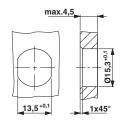
#### **Environmental Product Compliance**

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"

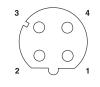
M12 panel feed-through

## Drawings

### Dimensional drawing



#### Schematic diagram



Pin assignment M12 socket, 4-pos., D-coded, female side

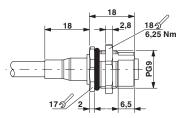
Housing cutout for Pg9 fastening thread, mounting panel with feedthrough hole (alternatively with surface as protection against rotation)

Cable cross section



PROFINET PVC stranded CAT5 [93B]

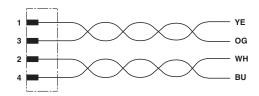
**Dimensional drawing** 



12/31/2018 Page 4 / 12



#### Circuit diagram



Contact assignment of the M12 socket

## Classifications

eCl@ss

eCl@ss 4.0	27250313
eCl@ss 4.1	27250313
eCl@ss 5.0	27143423
eCl@ss 5.1	27143400
eCl@ss 6.0	27279200
eCl@ss 7.0	27440103
eCl@ss 8.0	27440103
eCl@ss 9.0	27440102

### ETIM

ETIM 3.0	EC002061
ETIM 4.0	EC000830
ETIM 5.0	EC002061
ETIM 6.0	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



Approvals

Ex Approvals

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### Approval details

UL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 118976
Nominal voltage UN	250 V	
Nominal current IN	4 A	
mm²/AWG/kcmil	22	

EAC **ERE** B.00767

### Accessories

Accessories

Cable connector

Conductor connectors - SACC-CC-4QO SH PN - 1414416



Cable connector, PROFINET CAT5 (100 Mbps), 4-pos., halogen-free, shielded, insulation displacement connection, housing material: zinc die-cast, nickel-plated, outer cable diameter of 5 mm ... 9.7 mm

Circular connector (cable-side)

Connector - SACC-MSD-4QO SH PN SCO - 1411068



Connector, PROFINET CAT5 (100 Mbps), 4-position, halogen-free, shielded, Plug straight M12 SPEEDCON, Dcoded, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm



### Accessories

Bus system connector - SACC-M12MRD-4Q SH PN - 1554539



Bus system connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D-coded, Insulation displacement connection, knurl material: Nickel-plated brass, external cable diameter 4 mm ... 8 mm

#### Connector - SACC-FSD-4QO SH PN SCO - 1411071



Connector, PROFINET CAT5 (100 Mbps), 4-position, halogen-free, shielded, Socket straight M12 SPEEDCON, Dcoded, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

Bus system connector - SACC-M12FRD-4Q SH PN - 1554542



Bus system connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D-coded, Insulation displacement connection, knurl material: Nickel-plated brass, external cable diameter 4 mm ... 8 mm

Connector - SACC-M12MSD-4PL SH PN - 1424682



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, D-coded, Push-in connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

Connector - SACC-M12MRD-4PL SH PN - 1424684



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D-coded, Push-in connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm



### Accessories

Connector - SACC-M12FSD-4PL SH PN - 1424683



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket straight M12, D-coded, Push-in connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

#### Connector - SACC-M12FRD-4PL SH PN - 1424685



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D-coded, Push-in connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

#### Connector - SACC-M12MSD-4CT-CM SH PN - 1422846



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, D-coded, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

#### Connector - SACC-M12MRD-4CT-CM SH PN - 1422847



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D-coded, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

#### Connector - SACC-M12FSD-4CT-CM SH PN - 1422848



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket straight M12, D-coded, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts



## Accessories

Connector - SACC-M12FRD-4CT-CM SH PN - 1422849



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D-coded, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

### Corrugated pipe

Protective hose - WP-PA HF 13,0 BK - 3240681



Polyamide protective hose, inflammability class V0, UV resistant

Protective hose - WP-PA HF-HB 13,0 BK - 3240839



Polyamide protective hose, inflammability class HB, UV resistant

Cutting tools

Cable-cutting tool - CUTFOX 12 - 1212128



Cable cutter, for copper and aluminum up to 12 mm diameter (up to 35 mm<sup>2</sup>)

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

Data plug

12/31/2018 Page 9 / 12



## Accessories

RJ45 connector - VS-PN-RJ45-5-Q/IP20 - 1658435



RJ45 connector, degree of protection: IP20, number of positions: 4, 100 Mbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, connection cross section: AWG 22- 22, cable outlet: straight, color: traffic grey A RAL 7042

RJ45 connector - CUC-IND-C1ZNI-S/R4IP8 - 1421126



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: straight

RJ45 connector - CUC-IND-C1ZNI-T/R4IP8 - 1421128



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: angled

RJ45 connector - CUC-IND-C1ZNI-B/R4IP8 - 1421127



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: angled

RJ45 connector - CUC-V14-C1ZNI-S/R4P8 - 1422664



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm



## Accessories

RJ45 connector - CUC-V14-C1ZNI-T/R4P8 - 1422667



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm

RJ45 connector - CUC-V14-C1ZNI-B/R4P8 - 1422665



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm

**Electronics pliers** 

Diagonal cutter - MICROFOX-SP-1 - 1212487



Electronic diagonal cutter, tapered head, without chamfer, with opening spring, non-reflective phosphate-treated surface, punched version

Stripping tool

Stripping tool - WIREFOX 4 - 1212156



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm<sup>2</sup>, selfadjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

Stripping tool - WIREFOX-E 4 - 1212704



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm<sup>2</sup>, selfadjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade



### Accessories

Stripping tool - WIREFOX 10 - 1212150



Stripping tool, for cables and conductors from 0.02 - 10 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

Stripping tool - VS-CABLE-STRIP-VARIO - 1657407



Stripping tool, for the multi-level stripping of shielded cables

Protective hose adapter - WP-CTA POM 13,0 BK - 1422884



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

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