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Bus system flush-type female connector, Ethernet , 4-pos., M12, shielded, D-coded, SPEEDCON, rear/screw mounting with Pg9 thread, can be positioned, with 0.5 m bus line, $2 \times 2 \times 0.14 \text{ mm}^2$

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 458429
GTIN	4046356458429

Technical data

Dimensions

RoHS

Length of cable	0.5 m
Ambient conditions	
Ambient temperature (operation)	-25 °C 85 °C (Plug / socket)
	-40 °C 85 °C (without mechanical actuation)
Degree of protection	IP67 (When plugged in)
	IP65 (When plugged in)

General

Rated current at 40°C	4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed)
Rated voltage	48 V AC
	60 V DC
Number of positions	4
Coding	D - data
Standards/regulations	M12 connector IEC 61076-2-101
Signal type/category	Ethernet CAT5 (IEC 11801:2002), 100 Mbps
	Ethernet

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Technical data

General

Overvoltage category	Ш
Degree of pollution	3
Transmission characteristics (category)	CAT5

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

Standards/specifications	M12 connector IEC 61076-2-101
Flammability rating according to UL 94	V0
Safety note	WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.
	WARNING: Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible.
	• WARNING: Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar with electrical engineering are allowed to install and operate the product.
	The products are suitable for applications in plant, controller, and electrical device engineering.
	When operating the connectors in outdoor applications, they must be separately protected against environmental influences.
	Assembled products may not be manipulated or improperly opened.
	Only use mating connectors that are specified in the technical data of the standards listed (e.g. the ones listed in the product accessories online at phoenixcontact.com/products).
	When using the product in direct connection with third-party manufacturers, the user is responsible.
	For operating voltages > 50 V AC, conductive connector housings must be grounded
	• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.
	Observe the corresponding technical data. You will find information: o On the product o On the packing label o In the supplied documentation o Online at phoenixcontact.com/products under the product
	Only use tools recommended by Phoenix Contact

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Technical data

Standards and Regulations

• Use a protective cap to protect connectors that are not in use. The suitable accessories are available online in the accessory section of the product at phoenixcontact.com/products
• Ensure that the protective or functional ground has been properly connected.
VDE 0100/1.97 § 411.1.3.2 and DIN EN 60 204/11.98 § 14.1.3 are applicable when combining several circuits in a cable and/or connector
• The connector warms up in normal operation. Depending on the ambient conditions, the surface of the connector can continue to warm up. In this case, the user is responsible for posting warnings (e.g. DIN EN ISO 13732-1:2008-12).

Cable

Cable typeEthernet flexible CAT5, 2-pCable type (abbreviation)93EUL AWM style20963 (80°C/30 V)Signal type/categoryEthernet CAT5 (IEC 11801)Cable structure2x2xAWG26/7; SF/UTPConductor cross section2x 2x 0.14 mm²AWG signal line26Conductor structure signal line7x 0.16 mmCore diameter including insulation0.98 mmWire colorswhite/orange-orange, whiteTwisted pairs2 cores to the pairOverall twistTwo pairs with two fillers toShieldingAluminum-coated foil, tinneOptical shield covering70 %External sheath, color8 x DMinimum bending radius, fixed installation4 x DMinimum bending radius, fixed installation8 x DTensile strength GRP< 80 NCable weight42 kg/kmOuter sheath, materialPURMaterial conductor insulationFoarmed PEConductor materialBare Cu litz wires	
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Outer sheath, material PUR Material conductor insulation Foamed PE	
Material conductor insulation Foamed PE	
Conductor material Bare Cu litz wires	
Standards/specifications Electrical requirements EN	50288-2-2
Insulation resistance $\ge 500 \text{ M}\Omega^*\text{km}$	
Loop resistance $\leq 290.00 \ \Omega/km$	
Cable capacity approx. 45 nF/km (at 1 kHz)
Wave impedance $100 \Omega \pm 5 \Omega$ (at 100 MHz)	



Technical data

Cable

Near end crosstalk attenuation (NEXT)	65.3 dB (with 1 MHz)
	56.3 dB (at 4 MHz)
	50.3 dB (at 10 MHz)
	47.2 dB (at 16 MHz)
	45.8 dB (at 20 MHz)
	42.9 dB (at 31.25 MHz)
	38.4 dB (at 62.5 MHz)
	35.3 dB (at 100 MHz)
Power-summated near end crosstalk attenuation (PSNEXT)	62.3 dB (with 1 MHz)
	53.3 dB (at 4 MHz)
	47.3 dB (at 10 MHz)
	44.2 dB (at 16 MHz)
	42.8 dB (at 20 MHz)
	39.9 dB (at 31.25 MHz)
	35.4 dB (at 62.5 MHz)
	32.3 dB (at 100 MHz)
Attenuation	3.2 dB (with 1 MHz)
	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.6 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
Return loss (RL)	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
Signal runtime	5.3 ns/m
Coupling resistance	≤ 100.00 mΩ/m (at 10 MHz)
Nominal voltage, cable	≤ 100 V (Peak value, not for high-power applications)
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700 V (50 Hz, 1 min.)
Current carrying capacity of cable	2 A (according to DIN VDE 0891-1)
Flame resistance	according to IEC 60332-1-2



Technical data

Cable

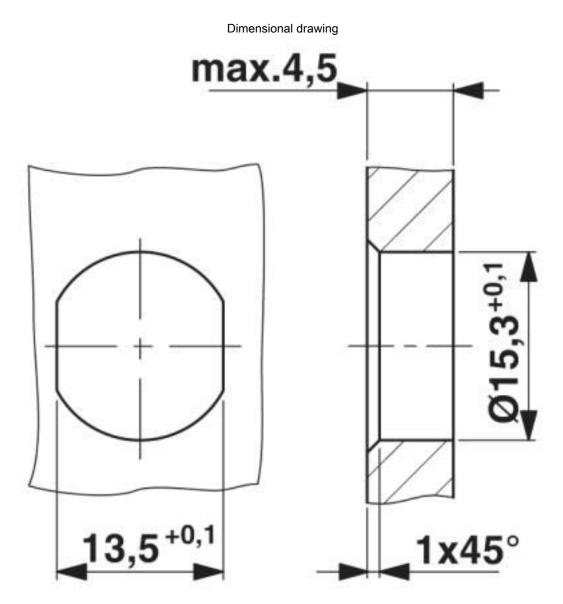
	in acc. to UL VW1
Halogen-free	according to IEC 60754-1
Resistance to oil	according to EN 60811-2-1
Ambient temperature (operation)	-40 °C 80 °C (cable, fixed installation)
	-20 °C 80 °C (cable, flexible installation)
Ambient temperature (installation)	-20 °C 80 °C
Ambient temperature (storage/transport)	-20 °C 80 °C

Environmental Product Compliance

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

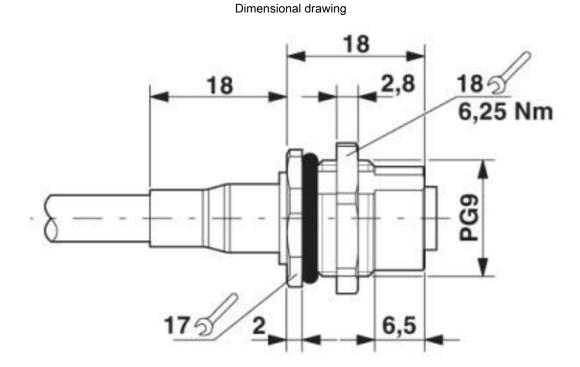
Drawings





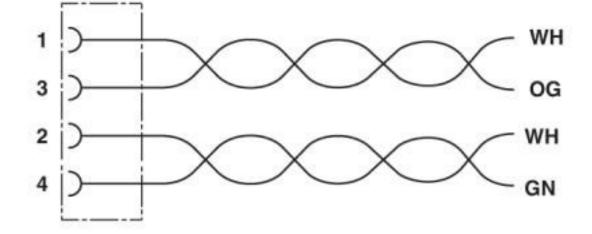
Housing cutout for Pg9 fastening thread, mounting panel with feed-through hole (alternatively with surface as protection against rotation)





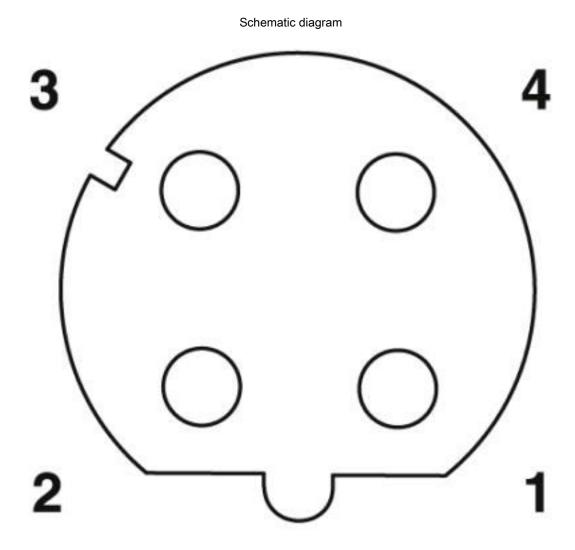
M12 panel feed-through

Circuit diagram



Contact assignment of the M12 socket

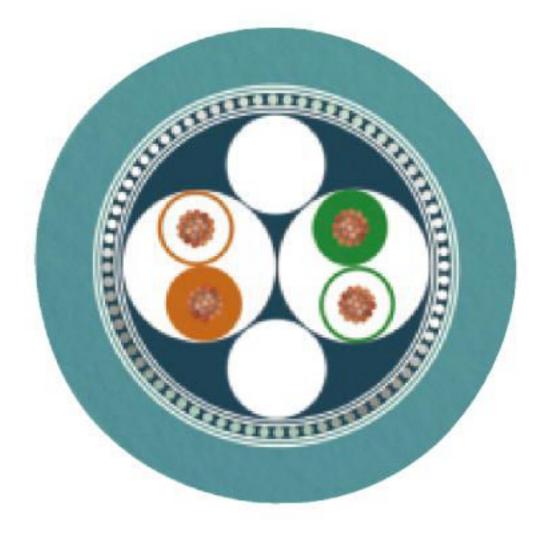




Pin assignment M12 socket, 4-pos., D-coded, female side



Cable cross section



Ethernet flexible CAT5, 2-pair [93E]

Classifications

eCl@ss

eCl@ss 10.0.1	27440102
eCl@ss 4.0	27140800
eCl@ss 4.1	27140800
eCl@ss 5.0	27143400
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

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Classifications

ETIM

ETIM 3.0	EC002061
ETIM 4.0	EC002061
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
UNSPSC 18.0	39121413
UNSPSC 19.0	39121413
UNSPSC 20.0	39121413
UNSPSC 21.0	39121413

Approvals

Approvals

Approvals

UL Recognized / EAC

Ex Approvals

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Approval details

UL Recognized	http://database.ul.co	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	EAC	B.01687

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 17-103530
 ERWPAB3002M005
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 NK5EPC18RDY
 NK5EPC18VLY
 NK5EPC18YLY

 NK5EPC1GRY
 NK5EPC4Y
 NK5EPC6YLY
 NK5EPC8BLY
 NK5EPC9YLY
 1969343-6
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 C501106002
 C501106007

 C501106015
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 C601104010
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 C601106015
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 21949-1
 2J1866A

 RJF SFTP 5E 0500
 AX100351
 MN14CEC/ST
 C501106004
 C501106010
 C551108007
 C601104004
 C601106004

 CA21106004
 CA21106010
 CA21106015
 CA21109007
 C601104004
 C601106004