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Bus system flat-type plug - VS-MSDBPS-OE-93G-LI/5,0

1419141

https://www.phoenixcontact.com/gb/products/1419141

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Bus system flat-type plug, EtherCAT® CAT5 (IEC 11801:2002) (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC, green RAL 6018, shielded, Flush-type male connector, straight, M12-SPEEDCON, D-coded, on free cable end, M16 x 1.5, Cable connection, cable length: 5 m, PROFINET PVC stranded CAT5

Your advantages

- 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

Commercial Data

Item number	1419141
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	ABQCEC
Product Key	ABQCEC
Catalog Page	Page 315 (PC-2011)
GTIN	4046356540650
Weight per Piece (including packing)	349.3 g
Weight per Piece (excluding packing)	222.22 g
Customs tariff number	85444290
Country of origin	DE

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Technical Data

Notes

Notes on operation	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.

Safety note

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
	• 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.

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	• 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).

Product properties

Product type	Data cable preassembled
Number of positions	4
No. of cable outlets	1
Shielded	yes
Coding	D - data

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Interfaces

Bus system	EtherCAT®
Signal type/category	EtherCAT® CAT5 (IEC 11801:2002), 100 Mbps
	EtherCAT® CAT5 (IEC 11801), 100 Mbps
	EtherCAT® CAT5 (IEC 11801:2002), 100 Mbps
	EtherCAT® CAT5 (IEC 11801), 100 Mbps

Electrical properties

Rated surge voltage	2.5 kV
Contact resistance	≤ 3 mΩ
Insulation resistance	≥ 100 MΩ
Nominal voltage U_N	250 V
Nominal current I_N	4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed)
Transmission medium	Copper

Material specifications

Flammability rating according to UL 94	V0
Sealing material	FKM
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Cable gland material	Nickel-plated brass

Connection data

Connection technology

Connection method	Cable connection

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Conductor connection

Type of contact	Crimp contacts
Connection method	Cable connection

Connector

Insertion/withdrawal cycles	≥ 100

Connection 1

Head design	Flush-type male connector
Head cable outlet	straight
Head thread type	M12
Head locking type	SPEEDCON
Coding	D-coded

Connection 2

Head design	free cable end

Cable / line

Cable length	5 m
Cable weight	67 kg/km
UL AWM Style	21694
Number of positions	4
Shielded	yes
Cable type	PROFINET PVC stranded CAT5 [93B]
Signal runtime	5.3 ns/m
Signal speed	0.66 c
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm²
Wire diameter incl. insulation	1.55 mm
External cable diameter	6.5 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	green RAL 6018
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PE
Single wire, color	White, yellow, blue, orange
Thickness, outer sheath	approx. 0.9 mm
Overall twist	Star quad
Optical shield covering	85 %
Insulation resistance	≥ 500 MΩ*km
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
Nominal voltage, cable	600 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)

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Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	7 x D
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)
Shield 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)
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)
Ambient temperature (installation)	-20 °C ... 60 °C
Cable type	PROFINET PVC stranded CAT5
Signal type/category	EtherCAT® CAT5 (IEC 11801:2002), 100 Mbps
	EtherCAT® CAT5 (IEC 11801), 100 Mbps
Outer sheath, material	PVC
External sheath, color	green RAL 6018

Ambient conditions

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

Standards and regulations

M12

Standards/specifications	IEC 61076-2-101

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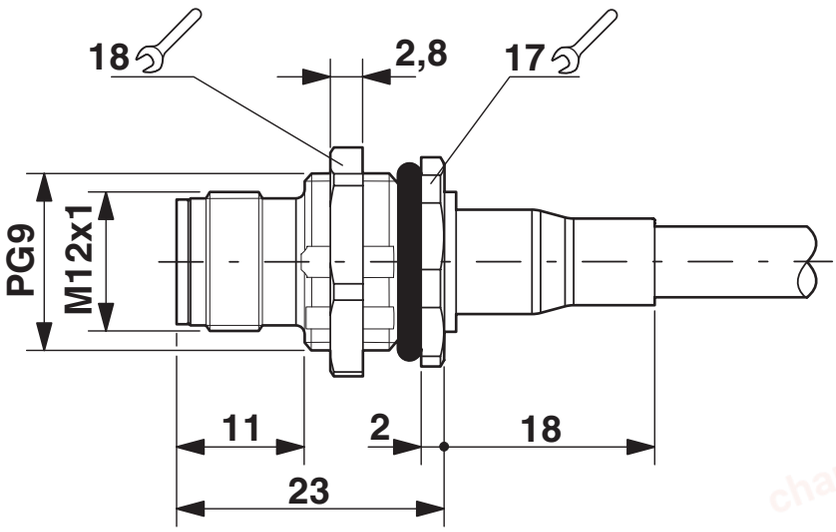
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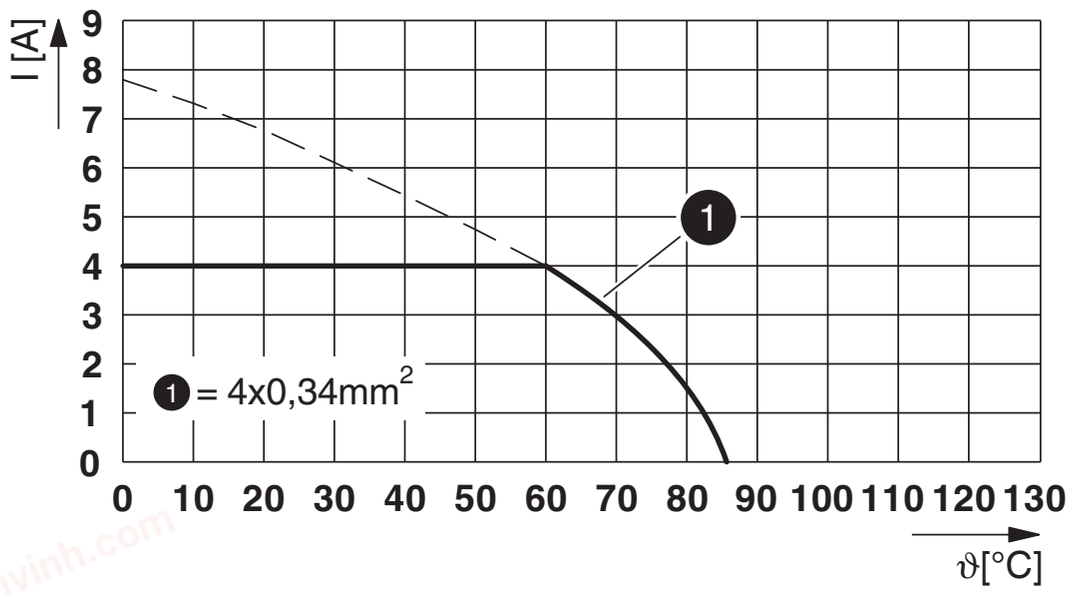
Drawings

Dimensional drawing



M12 panel feed-through

Diagram



I = current strength, T = ambient temperature

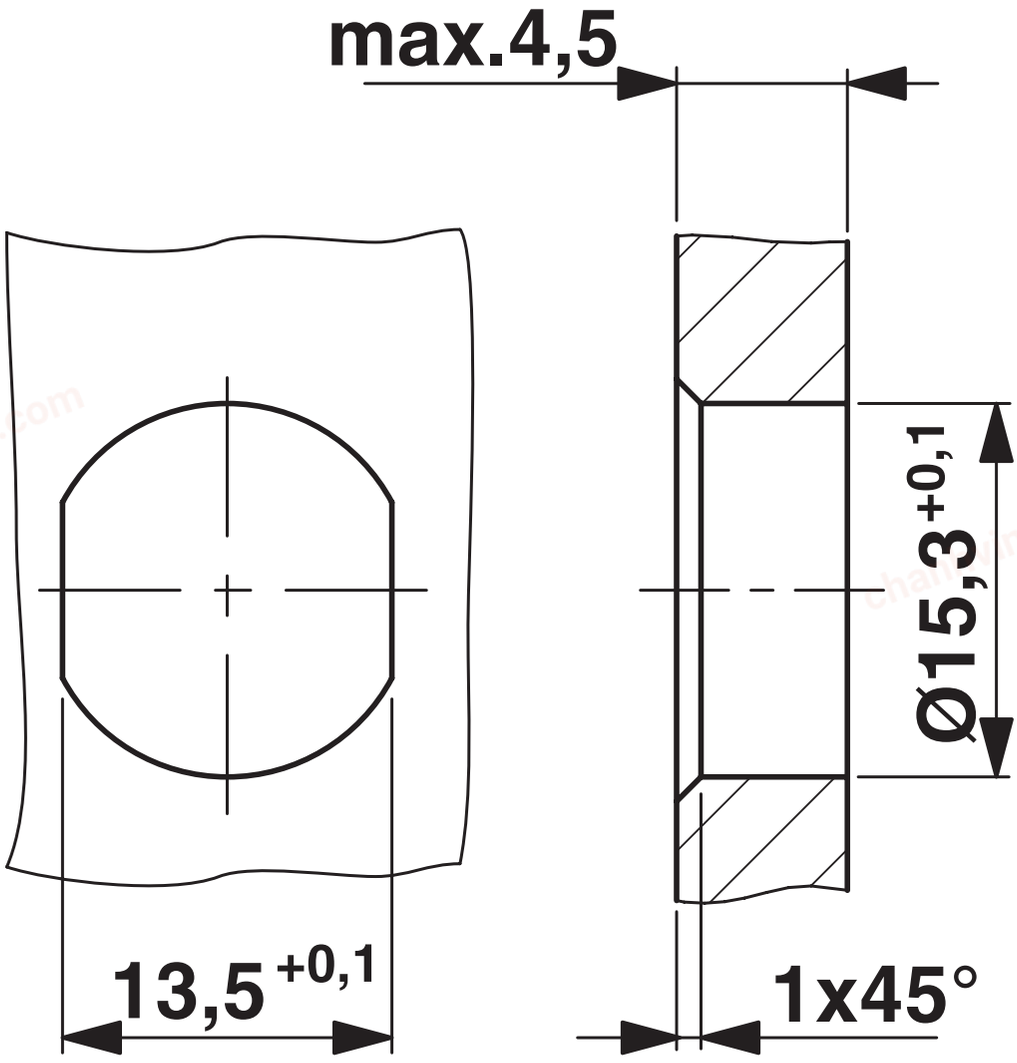
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Dimensional drawing



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

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Approvals

EAC
Approval ID: 19060508

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Classifications

ECLASS

ECLASS-9.0	27440102
ECLASS-10.0.1	27440102
ECLASS-11.0	27440102

ETIM

ETIM 8.0	EC002635

UNSPSC

UNSPSC 21.0	39121400

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Environmental Product Compliance

REACh SVHC	Lead 7439-92-1

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer’s declaration available under “Downloads”

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Accessories

Screw plug

Screw plug - SACC-M16-SEALING PLUG SET - 1453368

https://www.phoenixcontact.com/gb/products/1453368



Screw plug, Rear mounting, M16 x 1.5

Sealing cap

Sealing cap - PROT-M12 FS - 1560251

https://www.phoenixcontact.com/gb/products/1560251



M12 sealing cap for unoccupied M12 plugs of the sensor/actuator cable, flush-type plugs and I/O devices in the field

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Sealing cap

Sealing cap - PROT-M12 FS-M - 1430488

https://www.phoenixcontact.com/gb/products/1430488



M12 metal sealing cap for unoccupied M12 plugs of the sensor/actuator cable, flush-type plugs and I/O devices in the field

Flat gasket

Flat gasket - SACC-M16-SEAL CLM - 1430394

https://www.phoenixcontact.com/gb/products/1430394

M16 flat gasket for M12 flush-type connectors with M16 fastening thread



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