

## Bus system cable - VS-FSDBPS-OE-93G-LI/0,5 - 1419134

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Assembled EtherCAT<sup>®</sup> cable, shielded, star quad, AWG 22 stranded (7-wire), RAL 6018 (yellow-green), M12 flush-type socket, rear mounting, SPEEDCON, 4-pos. on free conductor end, length: 0.5 m

### 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



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 540599
GTIN	4046356540599
Weight per Piece (excluding packing)	59.000 g
Custom tariff number	85444290
Country of origin	Germany
Note	Made to Order (non-returnable)

### Technical data

#### Dimensions

Length of cable	0.5 m
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#### Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C (cable, fixed installation)
Degree of protection	IP67 (When plugged in)
	IP65 (When plugged in)

#### General

Rated current at 40°C	4 A
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## Technical data

### General

Rated voltage	250 V
Rated surge voltage	2.5 kV
Number of positions	4
Insulation resistance	≥ 100 MΩ
Coding	D - data
Signal type/category	EtherCAT®
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 6.6
Sealing material	FKM

### Standards and Regulations

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:

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### Technical data

#### Standards and Regulations

	<ul style="list-style-type: none"> <li>o On the product</li> <li>o On the packing label</li> <li>o In the supplied documentation</li> <li>o Online at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a> under the product</li> </ul>
	<ul style="list-style-type: none"> <li>• Only use tools recommended by Phoenix Contact</li> </ul>
	<ul style="list-style-type: none"> <li>• 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 <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a></li> </ul>
	<ul style="list-style-type: none"> <li>• Ensure that the protective or functional ground has been properly connected.</li> </ul>
	<ul style="list-style-type: none"> <li>• 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</li> </ul>
	<ul style="list-style-type: none"> <li>• 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).</li> </ul>

#### Cable

Cable type	PROFINET PVC stranded CAT5
Cable type (abbreviation)	93B
Cable abbreviation	2YY(ST)CY
UL AWM style	21694
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
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)

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### Technical data

#### Cable

	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)

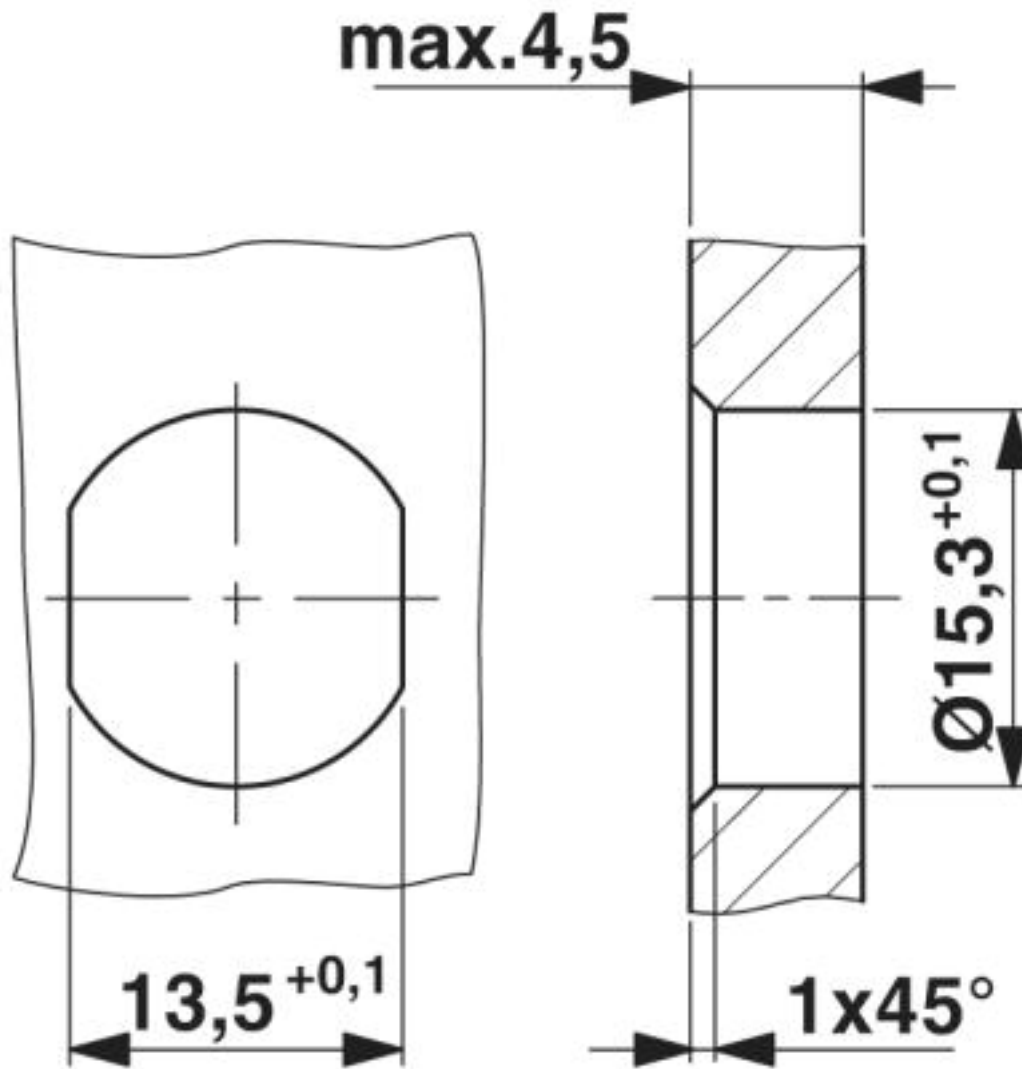
#### Environmental Product Compliance

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

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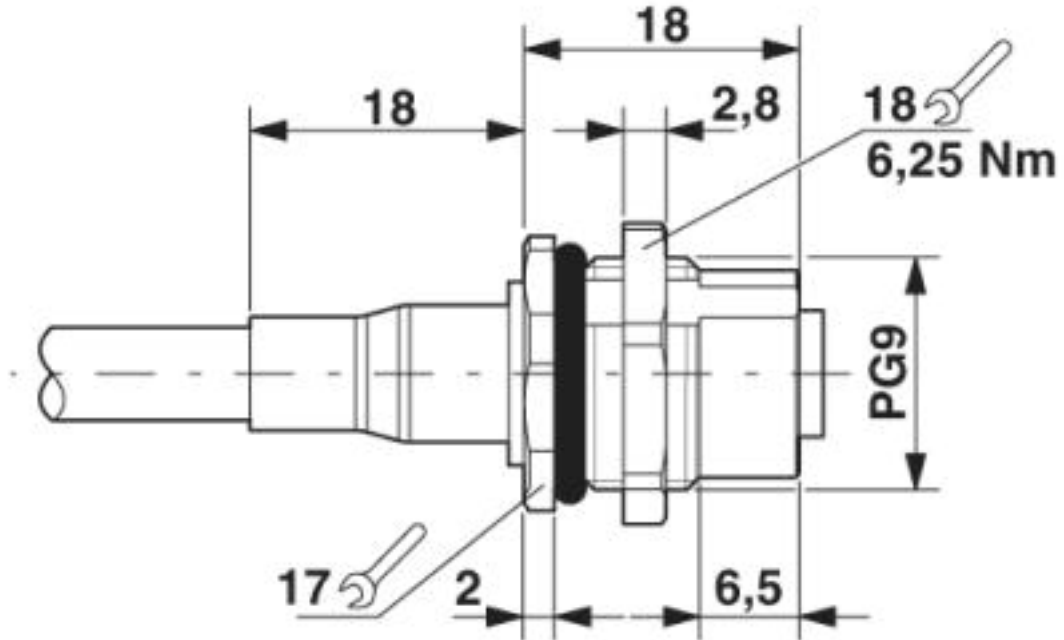
Dimensional drawing



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

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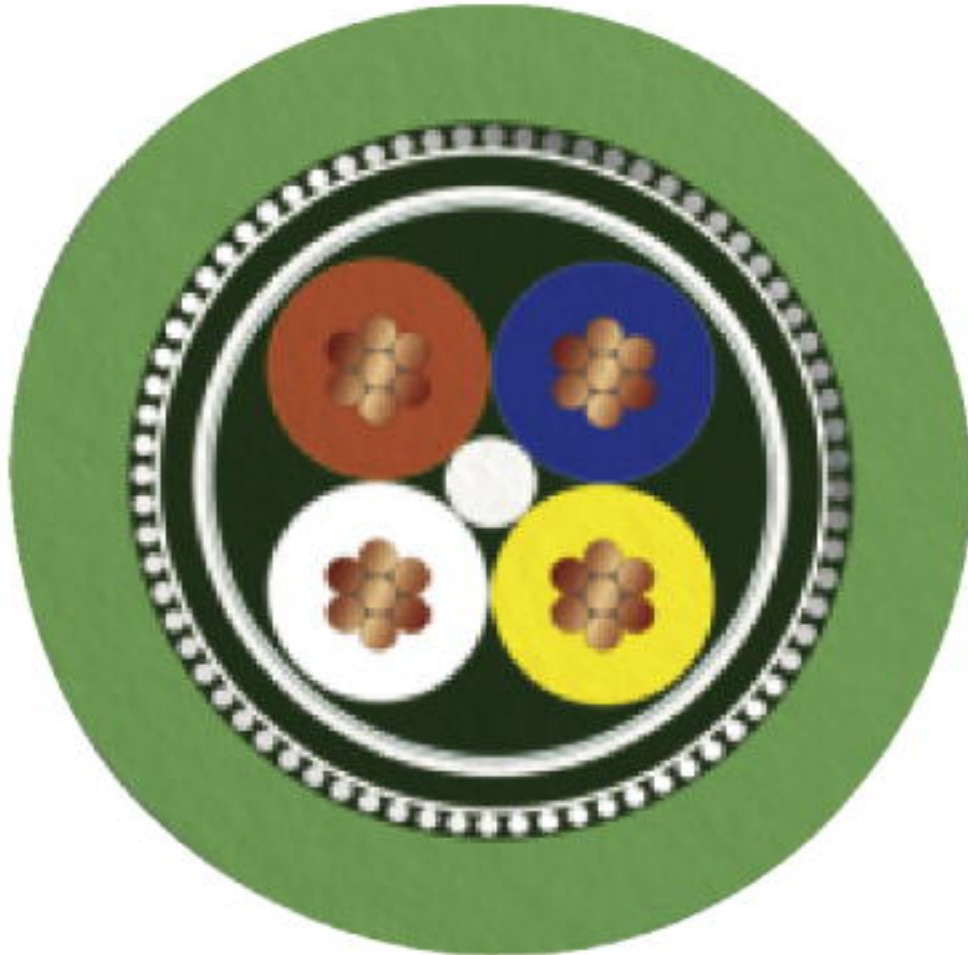
Dimensional drawing



M12 panel feed-through

## Bus system cable - VS-FSDBPS-OE-93G-LI/0,5 - 1419134

Cable cross section



PROFINET PVC stranded CAT5 [93B]

### Classifications

eCl@ss

eCl@ss 10.0.1	27440102
eCl@ss 4.0	27060300
eCl@ss 4.1	27060300
eCl@ss 5.0	27060300
eCl@ss 5.1	27060300
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 2.0	EC000830
ETIM 3.0	EC000830
ETIM 4.0	EC002599
ETIM 5.0	EC002061
ETIM 6.0	EC002061

### UNSPSC

UNSPSC 6.01	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	26121616
UNSPSC 13.2	39121413
UNSPSC 18.0	39121413
UNSPSC 19.0	39121413
UNSPSC 20.0	39121413
UNSPSC 21.0	39121413

## Approvals

### Approvals

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Approvals

EAC

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Ex Approvals

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### Approval details

EAC		19060508
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