

# VS-FSBPXS-OE-94F/1,0X - Device connector rear mounting



1239447

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Device connector rear mounting, Ethernet CAT6<sub>A</sub> (10 Gbps) CAT6<sub>A</sub>, 8-position, PUR, water blue RAL 5021, shielded, Socket, straight, M12-SPEEDCON, X-coding, on free cable end, Bus line, cable length: 1 m, For railway applications, Ethernet 10 Gbit, Item is lead-free in accordance with RoHS II without Exemption 6c (Pb < 0.1 %)

## Your advantages

- Preassembled 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	1239447
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AB25
Product key	ABQDGI
GTIN	4063151391072
Weight per piece (including packing)	86.8 g
Weight per piece (excluding packing)	68.44 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.
Order information:	Lock nut is included in the scope of delivery
Note on the contact	Contact connection method: Crimp connection

### Safety note

Safety note	<p>WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.</p> <ul style="list-style-type: none"><li>• 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.</li><li>• 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.</li><li>• The products are suitable for applications in plant, controller, and electrical device engineering.</li><li>• When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li><li>• Assembled products may not be manipulated or improperly opened.</li><li>• 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 <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a>).</li><li>• When using the product in direct connection with third-party manufacturers, the user is responsible.</li><li>• For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li><li>• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.</li><li>• Observe the corresponding technical data. You will find information:<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></li><li>• Only use tools recommended by Phoenix Contact</li><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>
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- 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).

## Mounting

Mounting type	Rear mounting (M16 x 1,5)
Tightening torque	2 Nm ... 3 Nm (Installation-side)

## Product properties

Product type	Circular connectors (device side)
Application	Railway applications
	On the device side
Sensor type	Ethernet
Number of positions	8
No. of cable outlets	1
Shielded	yes
Coding	X
Thread type	M12

## Insulation characteristics

Overvoltage category	III
Degree of pollution	3

## Material specifications

Material Housing	GD-Zn
Material Housing surface	Ni
Material Insulating body	PPA
Material Contact	CuZn
Material Contact surface	Au
Material Seal	FKM
Flammability rating according to UL 94	V0
Outer sheath, material	PUR

## Electrical properties

Rated surge voltage	0.8 kV
Contact resistance	≤ 3 mΩ
Insulation resistance	≥ 100 MΩ
Nominal voltage U <sub>N</sub>	50 V AC
	60 V DC
Nominal current I <sub>N</sub>	0.5 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed)

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Transmission medium	Copper
Transmission speed	10 Gbps
Transmission characteristics (category)	CAT6 <sub>A</sub>

## Connection data

### Conductor connection

Connection method	Bus line
Contact connection type	Socket
Tightening torque	2 Nm ... 3 Nm (Installation-side)

## Mechanical properties

### Mechanical data

Insertion/withdrawal cycles	≥ 100
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## Connector

### Connection 1

Head design	Socket
Head cable outlet	straight
Head thread type	M12
Head locking type	SPEEDCON
Coding	X


### Connection 2

Head design	free cable end
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## Cable/line

Cable length	1 m
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### Ethernet 10 Gbit [94F]

Dimensional drawing	
UL AWM Style	21238 (80 °C / 600 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet 10 Gbit [94F]
Conductor structure	4x2xAWG26/7; S/FTP
AWG signal line	26
Conductor cross section	4x 2x 0.14 mm <sup>2</sup>

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Wire diameter incl. insulation	1 mm ±0.05 mm
External cable diameter	6.40 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	water blue RAL 5021
Conductor material	Bare Cu litz wires
Material wire insulation	Foamed PE
Single wire, color	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Twisted pairs	2 cores to the pair
Overall twist	4 pairs for core
Optical shield covering	70 %
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 290.00 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Nominal voltage, cable	≤ 100 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	51 mm
Halogen-free	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2
	in accordance with UN ECE-R 118.03
	according to CSA C 22.2 No. 210-FT1
Resistance to oil	in accordance with DIN EN 60811-404
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (Cable, flexible installation)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 85 °C (Plug / socket)
	-40 °C ... 85 °C (without mechanical actuation)
UL Type Rating	Type 4 (indoor use only)

## Standards and regulations

Standard designation	M12 circular connector
Standards/specifications	according to IEC 61076-2-109
Standard designation	Shock, vibration
Standards/specifications	according to EN 50155
Standard designation	Shock, vibration
Standards/specifications	according to EN 61373:2011

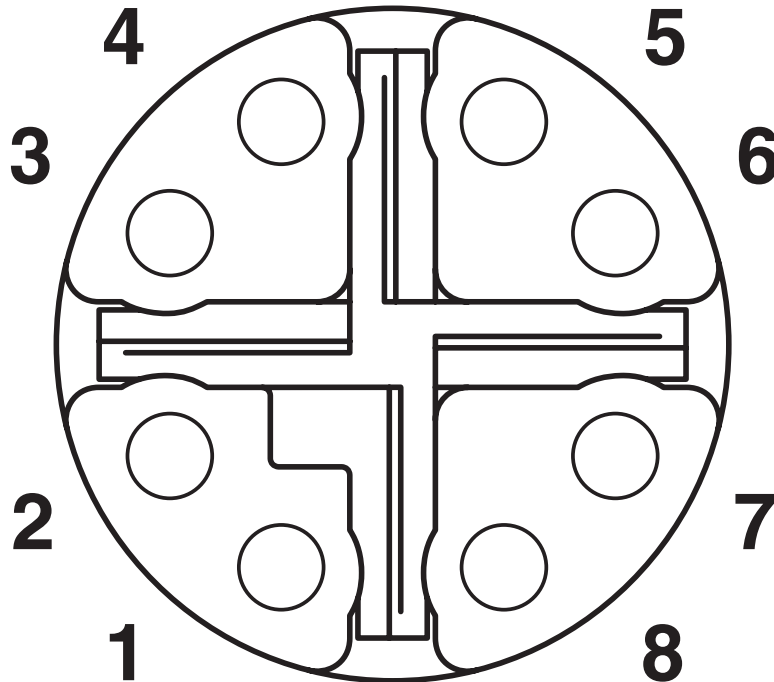
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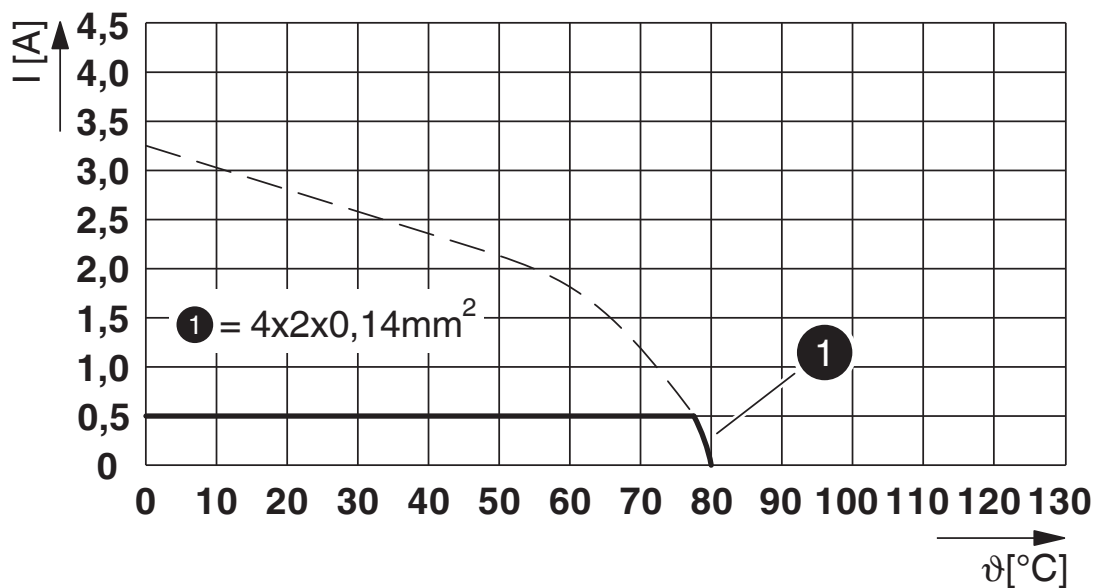
## Drawings

Schematic diagram



M12 socket pin assignment, 8-pos, view of socket side

Diagram



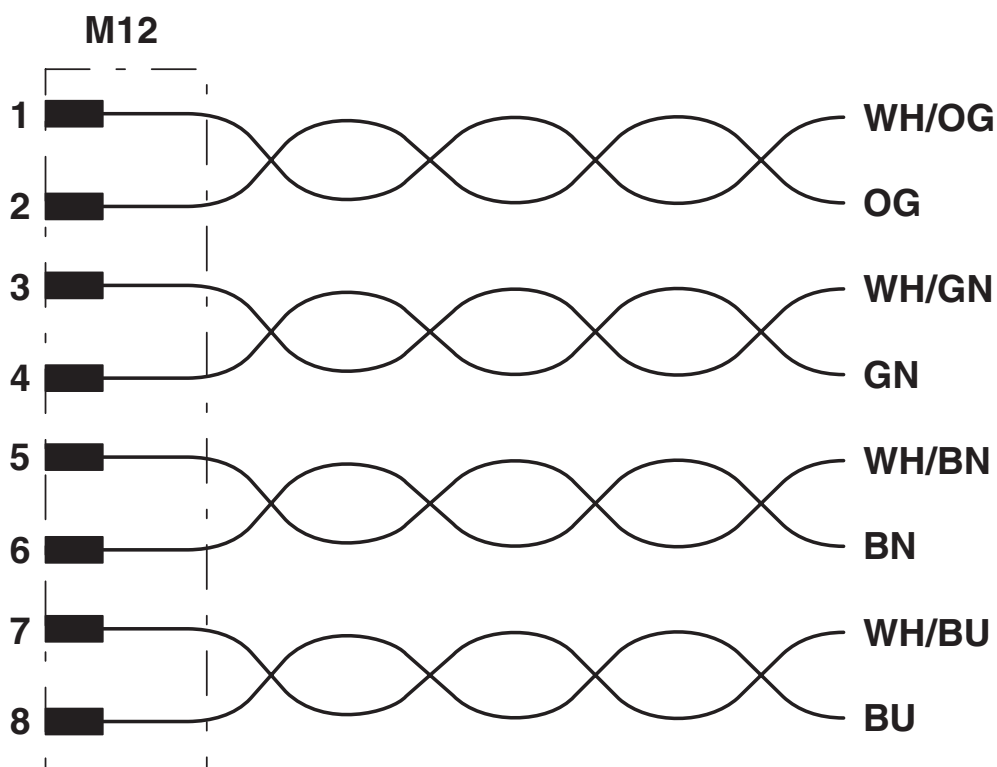
$I$  = current strength,  $T$  = ambient temperature

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Circuit diagram



Contact assignment of the M12 plug

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## Classifications

### ECLASS

ECLASS-13.0	27440103
ECLASS-15.0	27440103

### ETIM

ETIM 9.0	EC003570
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## Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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