VS-FSBPXS-OE-94F/5,0 - Device connector rear mounting

1424164

https://www.phoenixcontact.com/us/products/1424164

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Device connector rear mounting, Ethernet CAT6$_A$ (10 Gbps) CAT6$_A$, 8-position, Socket, straight, M12-SPEEDCON, X-coding, on free cable end, Bus line, cable length: 5 m, For railway applications, this item is expected to be lead-free from Q3 2026 in accordance with RoHS II without exception 6c (Pb < 0.1%), a lead-free alternative is possible on request in advance

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	1424164
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AB25
Product key	ABQDGI
GTIN	4046356692649
Weight per piece (including packing)	270.5 g
Weight per piece (excluding packing)	246.51 g
Customs tariff number	85444290
Country of origin	DE

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	• 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.

Product properties

Product type	Data cable preassembled
Application	Railway applications
	On the device side
Number of positions	8
No. of cable outlets	1
Coding	X
Thread type	M12

Insulation characteristics

Overvoltage category	III
Degree of pollution	3

Interfaces

Bus system	Ethernet
Signal type/category	Ethernet $CAT6_A$, 10 Gbps

Signaling

Status display	no
Status display present	no

Electrical properties

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

Transmission medium	Copper
Transmission speed	10 Gbps
Transmission characteristics (category)	$CAT6_A$

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100

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
Material grommet GRP	FKM

Connection data

Connection technology

Connection method	Bus line

Conductor connection

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

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

Cable/line

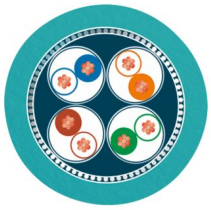
Cable length	5 m

Ethernet 10 Gbit [94F]

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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 mm²
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

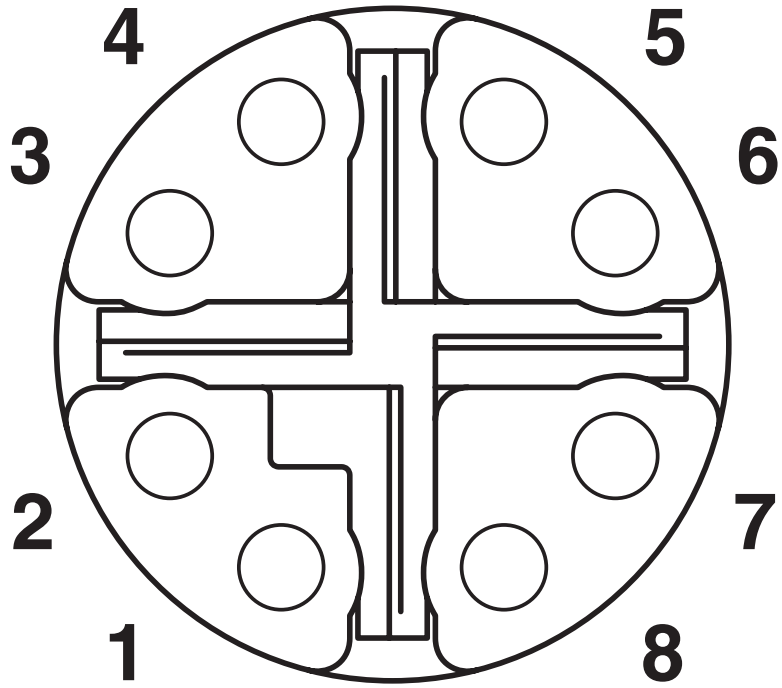
Degree of protection	IP65
	IP67
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 85 °C (Plug / socket)
	-40 °C ... 85 °C (without mechanical actuation)
UL Type Rating	Type 4 (indoor use only)

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

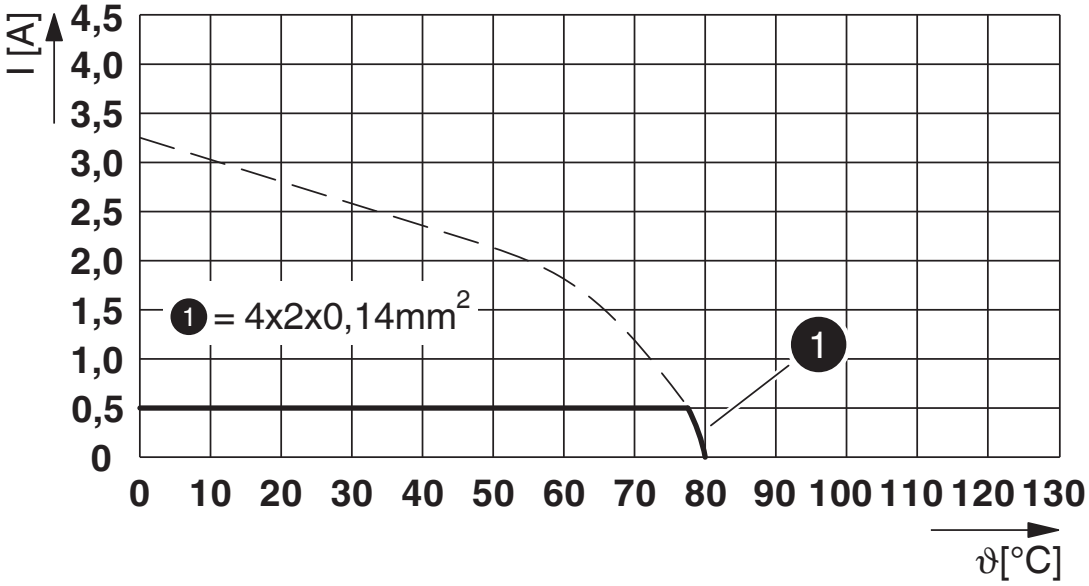
Drawings

Schematic diagram



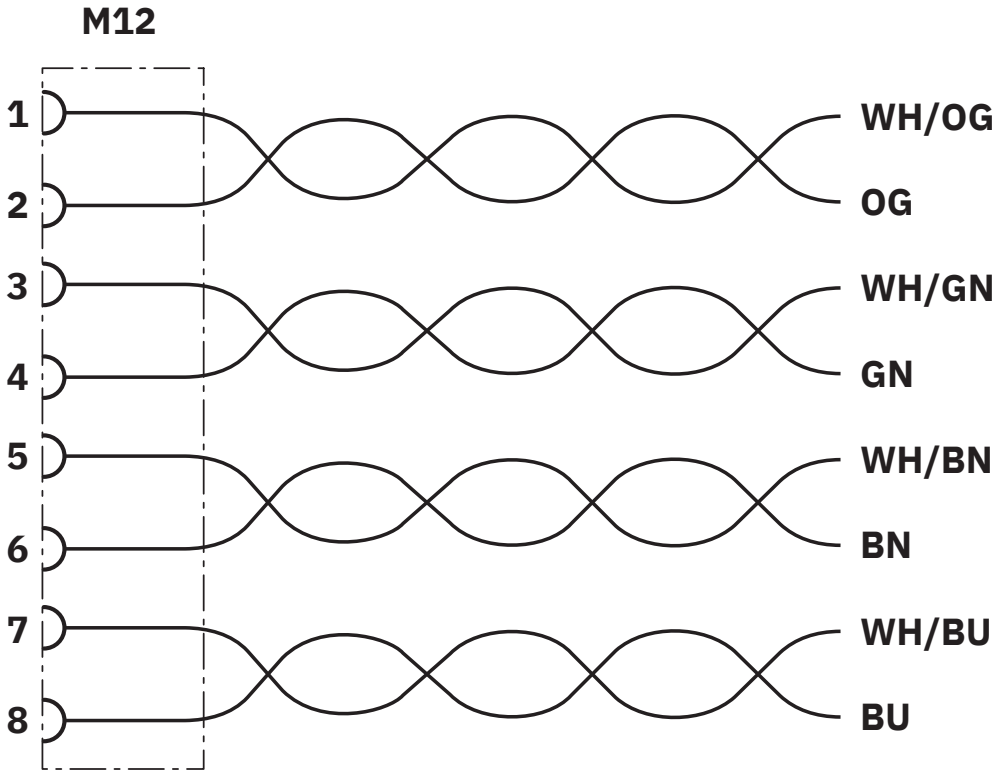
M12 socket pin assignment, 8-pos, view of socket side

Diagram



I = current strength, T = ambient temperature

Circuit diagram



Contact assignment of the M12 socket

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1424164

cUL Recognized
Approval ID: E335024-20120308

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	60 V	0.5 A	-	-

UL Recognized
Approval ID: E335024-20120308

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	60 V	0.5 A	-	-

EAC
Approval ID: 19060508

Classifications

ECLASS

ECLASS-13.0	27440103
ECLASS-15.0	27440103

ETIM

ETIM 10.0	EC003570

UNSPSC

UNSPSC 21.0	39121400

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c)

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	73df6054-0ece-446c-afb6-0ea914931fcb

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