VS-FSBPYS-OE-94H/1,0 SCO - Device connector rear mounting

1407505

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Device connector rear mounting, Ethernet hybrid CAT5 (100 Mbps) CAT5 (100 Mbps), 8-position, Socket, straight, M12-SPEEDCON, coding: Y, on free cable end, Rear mounting, M16 x 1.5, Hybrid cable, cable length: 1 m, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1238750

Your advantages

- Preassembled with cables in various standard lengths for immediate use
- Customer-specific assemblies and cable lengths can be supplied
- 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	1407505
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AB25
Product key	ABQDGI
Catalog page	Page 405 (C-2-2019)
GTIN	4046356807906
Weight per piece (including packing)	118.6 g
Weight per piece (excluding packing)	118.5 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.

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.
	• 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

Product properties

Product type	Circular connectors (device side)
Sensor type	Ethernet hybrid
Number of positions	8
No. of cable outlets	1
Shielded	yes
Coding	Y
Thread type	M12

Insulation characteristics

Overvoltage category	III
Degree of pollution	3

Material specifications

Material	Zinc die-cast (nickel-plated)
Flammability rating according to UL 94	V0
Seal material	FKM
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Material for screw connection	Brass, nickel-plated

Electrical properties

Contact resistance	≤ 3 mΩ
Insulation resistance	≥ 100 MΩ
Nominal voltage U_N	48 V AC (Power and data)
	50 V DC (Power and data)
Nominal current I_N	0.5 A (Data)
	6 A (Power)
Transmission medium	Copper
Transmission characteristics (category)	CAT5

Connection data

Conductor connection

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

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100

Connector

Connection 1

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

Connection 2

Head design	free cable end

Cable/line

Cable length	1 m

Ethernet hybrid [94H]

Cable weight	87 kg/km
UL AWM Style	21815 (80°C/300 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet hybrid [94H]
Conductor structure	1x4xAWG26 + 1x4xAWG20
Conductor structure signal line	19x 0.10 mm
AWG signal line	26
Conductor cross section	4x 0.15 mm² (Data)
	4x 0.6 mm² (Power)
Wire diameter incl. insulation	1.05 mm (Data)
	1.4 mm (Power)
External cable diameter	7.60 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	black RAL 9005
Conductor material	Bare Cu litz wires

Material wire insulation	PP (Data)
	PP (Power)
Single wire, color	white/orange, orange, white/green, green, white, blue, brown, black
Overall twist	1 star quad and 4 wires with 2 fillers
Optical shield covering	85 %
Insulation resistance	≥ 5 GΩ*km
Loop resistance	≤ 280.00 Ω/km (Data)
	≤ 34.60 Ω/km (Power)
Wave impedance	100 Ω ±15 Ω (4 MHz ... 100 MHz)
Working capacitance	nom. 50 nF (per kilometer)
Differential impedance	100 Ω ±5 % (at 100 MHz)
Nominal voltage, cable	≤ 300 V (Peak value, not for high-power applications)
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	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	38 mm
Smallest bending radius, movable installation	76 mm
Max. bending cycles	2000000
Tensile strength	70 N (in accordance with DIN EN 50565-1 for flexible installation)
	240 N (in accordance with DIN EN 50565-1 for fixed installation)
Near end crosstalk attenuation (NEXT)	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)
Shield attenuation	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.5 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
	≥ 80.00 dB (30 MHz ... 125 MHz)
Halogen-free	according to IEC 60754
	in accordance with DIN VDE 0472 part 815
Flame resistance	in accordance with UL 2556, Section 9.1 and UL 1581, Section 1100
	in accordance with UL 2556, Section 9.3 and UL 1581, Section 1060

Resistance to oil	in accordance with IEC 60811-404
	According to DIN EN 50363-10-2
Other resistance	Low adhesion
Special properties	Free of substances which would hinder coating with paint or varnish
	Silicone-free
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-30 °C ... 70 °C (Cable, flexible installation)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP67
	IP65/IP67
Ambient temperature (operation)	-25 °C ... 80 °C (Plug / socket)
	-40 °C ... 80 °C (without mechanical actuation)

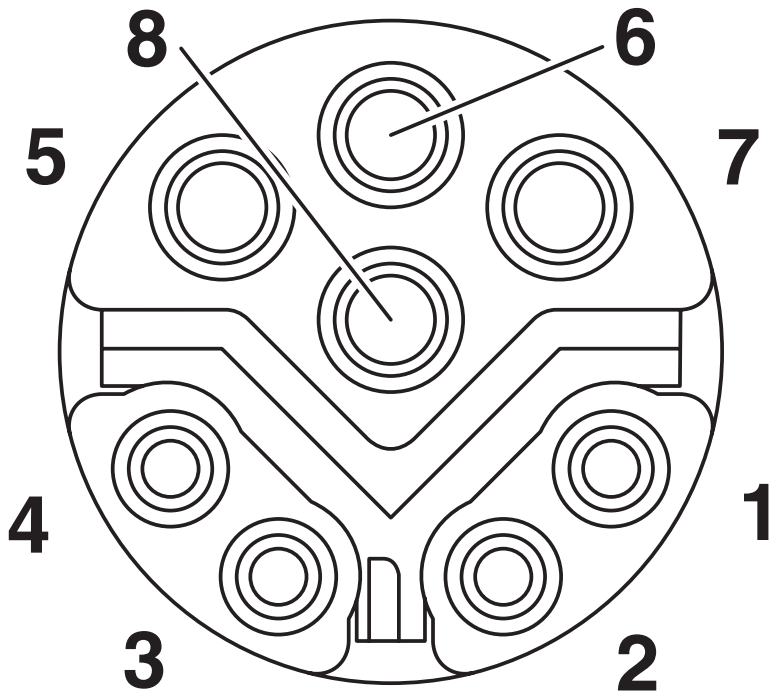
Standards and regulations

M12

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-113

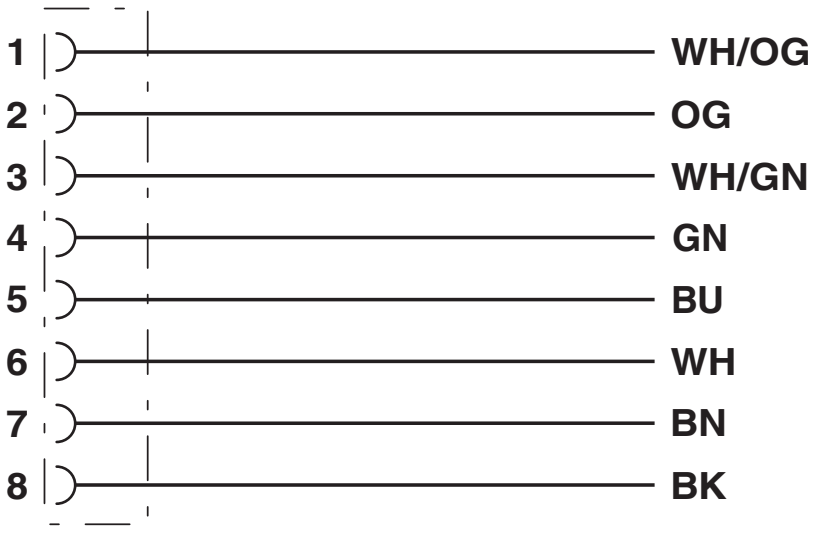
Drawings

Schematic diagram

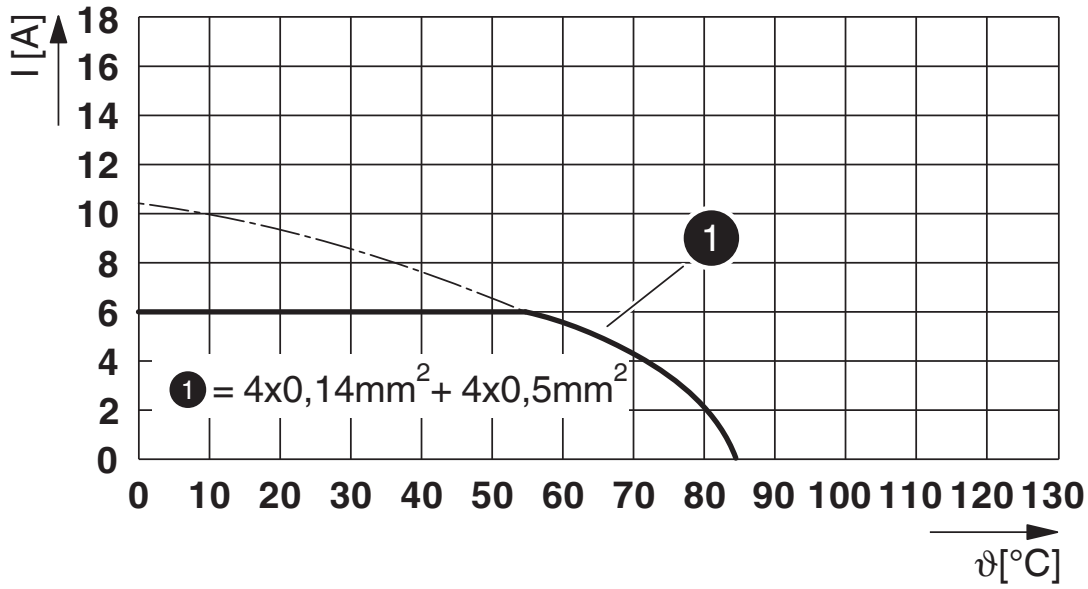


Pin assignment of socket, 8-pos., Y-coded, socket side view

Circuit diagram



Diagram



I = current strength, T = ambient temperature

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1407505

cUL Recognized
Approval ID: E335024-20120308

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Classifications

ECLASS

ECLASS-11.0	27440102
ECLASS-12.0	27440116
ECLASS-13.0	27440103

ETIM

ETIM 9.0	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	5ed381c1-9263-4cb8-b934-f9a60b1ab97d

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