

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



1407505

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

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## Technical data

### Notes

General	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	<p data-bbox="849 819 1449 902">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 data-bbox="849 916 1469 2087" style="list-style-type: none"><li data-bbox="849 916 1430 1025">• 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 data-bbox="849 1041 1469 1234">• 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 data-bbox="849 1249 1437 1305">• The products are suitable for applications in plant, controller, and electrical device engineering.</li><li data-bbox="849 1321 1449 1377">• When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li><li data-bbox="849 1393 1425 1449">• Assembled products may not be manipulated or improperly opened.</li><li data-bbox="849 1464 1449 1543">• 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 data-bbox="849 1559 1430 1615">• When using the product in direct connection with third-party manufacturers, the user is responsible.</li><li data-bbox="849 1630 1398 1686">• For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li><li data-bbox="849 1702 1409 1780">• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.</li><li data-bbox="849 1796 1417 1960">• Observe the corresponding technical data. You will find information:<ul data-bbox="849 1848 1417 1960" style="list-style-type: none"><li data-bbox="849 1848 1011 1877">o On the product</li><li data-bbox="849 1877 1062 1906">o On the packing label</li><li data-bbox="849 1906 1153 1935">o In the supplied documentation</li><li data-bbox="849 1935 1417 1960">o Online at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a> under the product</li></ul></li><li data-bbox="849 1975 1337 2004">• Only use tools recommended by Phoenix Contact</li><li data-bbox="849 2020 1449 2087">• 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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	<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>

## Mounting

Mounting type	Rear mounting M16 x 1.5
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## 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 <sub>N</sub>	48 V AC (Power and data) 50 V DC (Power and data)
Nominal current I <sub>N</sub>	0.5 A (Data) 6 A (Power)
Transmission medium	Copper
Transmission characteristics (category)	CAT5

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## 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
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## 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
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## Cable/line

Cable length	1 m
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### 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 mm <sup>2</sup> (Data) 4x 0.6 mm <sup>2</sup> (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

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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	$\geq 5 \text{ G}\Omega\cdot\text{km}$
Loop resistance	$\leq 280.00 \text{ }\Omega/\text{km}$ (Data)
	$\leq 34.60 \text{ }\Omega/\text{km}$ (Power)
Wave impedance	$100 \text{ }\Omega \pm 15 \text{ }\Omega$ (4 MHz ... 100 MHz)
Working capacitance	nom. 50 nF (per kilometer)
Differential impedance	$100 \text{ }\Omega \pm 5 \%$ (at 100 MHz)
Nominal voltage, cable	$\leq 300 \text{ V}$ (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)
	$\geq 80.00 \text{ dB}$ (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

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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

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## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC003570
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### 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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