

VS-FSBPYS-OE-94H/10,0 SCO - Device connector rear mounting



1425374

<https://www.phoenixcontact.com/us/products/1425374>

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M12 panel feed-through, rear mounting

Device connector rear mounting, Ethernet hybrid CAT5 (IEC 11801:2002) (100 Mbps) CAT5 (100 Mbps), 8-position, Socket, straight, M12-SPEEDCON, Y-coding, on free cable end, Hybrid cable, Alternative product in accordance with RoHS II without Exemption 6c (Pb < 0.1 %) item no.: 1239507

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 | 1425374 |
| Packing unit | 1 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Product key | ABQDGI |
| GTIN | 4055626399096 |
| Weight per piece (including packing) | 904.6 g |
| Weight per piece (excluding packing) | 904.264 g |
| 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. |
|--------------------|--|

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. |
| | <ul style="list-style-type: none">• 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. |
| | <ul style="list-style-type: none">• 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. |
| | <ul style="list-style-type: none">• The products are suitable for applications in plant, controller, and electrical device engineering. |
| | <ul style="list-style-type: none">• When operating the connectors in outdoor applications, they must be separately protected against environmental influences. |
| | <ul style="list-style-type: none">• Assembled products may not be manipulated or improperly opened. |
| | <ul style="list-style-type: none">• 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). |
| | <ul style="list-style-type: none">• When using the product in direct connection with third-party manufacturers, the user is responsible. |
| | <ul style="list-style-type: none">• For operating voltages > 50 V AC, conductive connector housings must be grounded |
| | <ul style="list-style-type: none">• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards. |
| | <ul style="list-style-type: none">• Observe the corresponding technical data. You will find information:<ul style="list-style-type: none">o On the producto On the packing labelo In the supplied documentationo Online at phoenixcontact.com/products under the product |
| | <ul style="list-style-type: none">• Only use tools recommended by Phoenix Contact |
| | <ul style="list-style-type: none">• 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 |

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| | |
|--|---|
| | <ul style="list-style-type: none"> • 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 |
| Tightening torque | 2 Nm ... 3 Nm (Installation-side) |

Product properties

| | |
|---------------------|-----------------------------------|
| Product type | Circular connectors (device side) |
| Sensor type | Ethernet hybrid |
| Number of positions | 8 |
| Coding | Y |

Insulation characteristics

| | |
|----------------------|----|
| Overvoltage category | II |
| 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

| | |
|---|--------------------------|
| 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 speed | 100 Mbps |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002) |

Connection data

Conductor connection

| | |
|-------------------|--------------|
| Connection method | Hybrid cable |
|-------------------|--------------|

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| | |
|-------------------|-----------------------------------|
| 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

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 structure, voltage supply | 19x 0.20 mm |
| AWG power supply | 20 |
| Conductor cross-section | 4x 0.15 mm ² (Data) 4x 0.6 mm ² (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 |

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|---|--|
| 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 |
| Dynamic load capacity (bending) | Max. bending cycles: 2000000, Traversing path: 4.5 m, Traversing rate: 3 m/s, Acceleration: 4 m/s ² |
| 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 |
| 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 |

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| | |
|---------------------------------|---|
| | 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) (male connector/female connector) | -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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Drawings



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



I = current strength, T = ambient temperature

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Circuit diagram



Contact assignment of the M12 connector

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
|-------------|----------|

UNSPSC

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| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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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 | b9fd551d-5297-4f3f-8a64-6ec8a78f92d6 |

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