

# VS-M12FSBPS-IP20-93E-LI/0,5 - Device connector rear mounting



1404205

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Device connector rear mounting, degree of protection: **IP67/IP20**, cable length: 0.5 m, number of positions: 4, 100 Mbps, CAT5, cable outlet: straight, Ethernet, 2x2xAWG26/7, SF/UTP, water blue RAL 5021

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1404205       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | ABNPAB        |
| Product key                          | ABNPAB        |
| GTIN                                 | 4046356681490 |
| Weight per piece (including packing) | 58 g          |
| Weight per piece (excluding packing) | 49.884 g      |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |                                   |
|----------------------|-----------------------------------|
| Product type         | Circular connectors (device side) |
| Application          | Data                              |
|                      | On the device side                |
| Type                 | M12                               |
| Number of positions  | 4                                 |
| No. of cable outlets | 1                                 |
| Shielded             | yes                               |
| Cable outlet         | straight                          |

### Material specifications

|                                        |                    |
|----------------------------------------|--------------------|
| Flammability rating according to UL 94 | V0                 |
| Seal material, flat gasket             | FKM                |
| Outer sheath, material                 | PUR                |
| Conductor material                     | Bare Cu litz wires |

### Electrical properties

|                                         |                                                                                              |
|-----------------------------------------|----------------------------------------------------------------------------------------------|
| Nominal voltage $U_N$                   | 48 V                                                                                         |
| Nominal current $I_N$                   | 2 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed) |
| Transmission medium                     | Copper                                                                                       |
| Transmission speed                      | 100 Mbps                                                                                     |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002)                                                                        |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 100$ |
|-----------------------------|------------|

### Connector

#### Connection 1

|                      |                                          |
|----------------------|------------------------------------------|
| Type                 | Flush-type female connector straight M12 |
| Locking type         | SPEEDCON                                 |
| Coding type          | D                                        |
| Degree of protection | IP65/IP67                                |

#### Connection 2

|                      |                    |
|----------------------|--------------------|
| Type                 | Plug straight RJ45 |
| Degree of protection | IP20               |

### Cable/line

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|                                      |                                                                                    |
|--------------------------------------|------------------------------------------------------------------------------------|
| Cable length                         | 0.50 m                                                                             |
| Ethernet flexible CAT5, 2-pair [93E] |                                                                                    |
| Dimensional drawing                  |  |
| Cable weight                         | 42 kg/km                                                                           |
| UL AWM Style                         | 20963 (80°C/30 V)                                                                  |
| Wiring standards/regulations         | Electrical requirements EN 50288-2-2                                               |
| Number of positions                  | 4                                                                                  |
| Shielded                             | yes                                                                                |
| Cable type                           | Ethernet flexible CAT5, 2-pair [93E]                                               |
| Conductor structure                  | 2x2xAWG26/7, SF/UTP                                                                |
| Signal runtime                       | 5.3 ns/m                                                                           |
| Conductor structure signal line      | 7x 0.16 mm                                                                         |
| AWG signal line                      | 26                                                                                 |
| Conductor cross-section              | 2x 2x 0.14 mm <sup>2</sup>                                                         |
| Wire diameter incl. insulation       | 0.98 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/orange-orange, white/green-green                                             |
| Thickness, outer sheath              | 1.20 mm                                                                            |
| Twisted pairs                        | 2 cores to the pair                                                                |
| Overall twist                        | Two pairs with two fillers to the core                                             |
| Optical shield covering              | 70 %                                                                               |
| Insulation resistance                | ≥ 500 MΩ*km                                                                        |
| Coupling resistance                  | ≤ 100.00 mΩ/m (at 10 MHz)                                                          |
| Loop resistance                      | ≤ 290.00 Ω/km                                                                      |
| Wave impedance                       | 100 Ω ±5 Ω (at 100 MHz)                                                            |
| Cable capacity                       | approx. 45 nF/km (at 1 kHz)                                                        |
| Nominal voltage, cable               | ≤ 100 V (Peak value, not for high-power applications)                              |
| Test voltage Core/Core               | 700 V (50 Hz, 1 min.)                                                              |
| Test voltage Core/Shield             | 700.00 V (50 Hz, 1 min.)                                                           |
| Current carrying capacity of cable   | 2.00 A (according to DIN VDE 0891-1)                                               |

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|                                                        |                                              |
|--------------------------------------------------------|----------------------------------------------|
| Minimum bending radius, flexible installation          | 8 x D                                        |
| Smallest bending radius, fixed installation            | 26 mm                                        |
| Smallest bending radius, movable installation          | 52 mm                                        |
| Tensile strength                                       | ≤ 80 N                                       |
| Near end crosstalk attenuation (NEXT)                  | 65.3 dB (with 1 MHz)                         |
|                                                        | 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)                         |
| Power-summated near end crosstalk attenuation (PSNEXT) | 62.3 dB (with 1 MHz)                         |
|                                                        | 53.3 dB (at 4 MHz)                           |
|                                                        | 47.3 dB (at 10 MHz)                          |
|                                                        | 44.2 dB (at 16 MHz)                          |
|                                                        | 42.8 dB (at 20 MHz)                          |
|                                                        | 39.9 dB (at 31.25 MHz)                       |
|                                                        | 35.4 dB (at 62.5 MHz)                        |
|                                                        | 32.3 dB (at 100 MHz)                         |
| Return attenuation (RL)                                | 23 dB (at 4 MHz)                             |
|                                                        | 24.1 dB (at 8 MHz)                           |
|                                                        | 25 dB (at 10 MHz)                            |
|                                                        | 25 dB (at 16 MHz)                            |
|                                                        | 25 dB (at 20 MHz)                            |
|                                                        | 23.6 dB (at 31.25 MHz)                       |
|                                                        | 21.5 dB (at 62.5 MHz)                        |
|                                                        | 20.1 dB (at 100 MHz)                         |
| Shield attenuation                                     | 3.2 dB (with 1 MHz)                          |
|                                                        | 6 dB (at 4 MHz)                              |
|                                                        | 9.5 dB (at 10 MHz)                           |
|                                                        | 12.1 dB (at 16 MHz)                          |
|                                                        | 13.6 dB (at 20 MHz)                          |
|                                                        | 17.1 dB (at 31.25 MHz)                       |
|                                                        | 24.8 dB (at 62.5 MHz)                        |
|                                                        | 32 dB (at 100 MHz)                           |
| Halogen-free                                           | according to IEC 60754-1                     |
| Flame resistance                                       | according to IEC 60332-1-2                   |
|                                                        | in acc. to UL VW1                            |
|                                                        | in accordance with UN ECE-R 118.03           |
| Resistance to oil                                      | in accordance with EN 60811-2-1              |
| Ambient temperature (operation)                        | -40 °C ... 80 °C (cable, fixed installation) |

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|                                    |                                                 |
|------------------------------------|-------------------------------------------------|
|                                    | -20 °C ... 80 °C (Cable, flexible installation) |
| Ambient temperature (installation) | -20 °C ... 80 °C                                |

## Environmental and real-life conditions

### Ambient conditions

|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Degree of protection            | IP67/IP20                                       |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)    |
|                                 | -20 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

|                          |                              |
|--------------------------|------------------------------|
| Standard designation     | M12 circular connector       |
| Standards/specifications | according to IEC 61076-2-101 |

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## Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1404205>



**EAC**

Approval ID: 19060508

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27440103 |
| ECLASS-15.0 | 27440103 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC003570 |
|-----------|----------|

### UNSPSC

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

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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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