

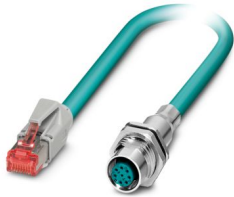
# VS-M12FSBP-IP20-94B-LI/0,5 - Network cable



1403535

<https://www.phoenixcontact.com/us/products/1403535>

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Network cable, cable length: 0.5 m, number of positions: 8, 1 Gbps, CAT5, cable outlet: straight, Ethernet, 4x2xAWG26/7, SF/UTP, water blue RAL 5021

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1403535       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | AB18          |
| Product key                          | ABNPAA        |
| GTIN                                 | 4046356656924 |
| Weight per piece (including packing) | 60.6 g        |
| Weight per piece (excluding packing) | 52.067 g      |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

## Technical data

### Product properties

|                      |                                   |
|----------------------|-----------------------------------|
| Product type         | Circular connectors (device side) |
| Type                 | M12                               |
| Sensor type          | Ethernet                          |
| Number of positions  | 8                                 |
| No. of cable outlets | 1                                 |
| Shielded             | yes                               |
| Cable outlet         | straight                          |

### Insulation characteristics

|                     |   |
|---------------------|---|
| Degree of pollution | 3 |
|---------------------|---|

### Material specifications

|                                        |                    |
|----------------------------------------|--------------------|
| Flammability rating according to UL 94 | V2                 |
| Seal material, flat gasket             | FKM / FPM          |
| Outer sheath, material                 | PUR                |
| Conductor material                     | Bare Cu litz wires |

### Electrical properties

|                                         |                       |
|-----------------------------------------|-----------------------|
| Transmission medium                     | Copper                |
| Transmission speed                      | 1 Gbps                |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002) |
| Transmission speed                      | 1 Gbps                |
| Wave impedance                          | 100 $\Omega$          |

### Mechanical properties

#### Mechanical data

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

### Connector

#### Connection 1

|                      |                                          |
|----------------------|------------------------------------------|
| Type                 | Flush-type female connector straight M12 |
| Coding type          | A                                        |
| Degree of protection | IP20                                     |

#### Connection 2

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

### Cable/line

|              |        |
|--------------|--------|
| Cable length | 0.50 m |
|--------------|--------|

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Ethernet flexible CAT5, 4-pair [94B]

|                                               |                                                                                    |
|-----------------------------------------------|------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 47 kg/km                                                                           |
| UL AWM Style                                  | 20963 (80°C/30 V)                                                                  |
| Number of positions                           | 8                                                                                  |
| Shielded                                      | yes                                                                                |
| Cable type                                    | Ethernet flexible CAT5, 4-pair [94B]                                               |
| Conductor structure                           | 4x2xAWG26/7, SF/UTP                                                                |
| Signal runtime                                | 5.3 ns/m                                                                           |
| Conductor structure signal line               | 7x 0.16 mm                                                                         |
| AWG signal line                               | 26                                                                                 |
| Conductor cross section                       | 4x 2x 0.14 mm <sup>2</sup>                                                         |
| Wire diameter incl. insulation                | 0.96 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         |
| Thickness, outer sheath                       | 1.05 mm                                                                            |
| Twisted pairs                                 | 2 cores to the pair                                                                |
| Overall twist                                 | 4 pairs for core                                                                   |
| Optical shield covering                       | 70 %                                                                               |
| Insulation resistance                         | ≥ 5 GΩ*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                                | 48 nF/km (at 1 kHz)                                                                |
| Nominal voltage, cable                        | ≤ 100 V                                                                            |
| Test voltage Core/Core                        | 700 V (50 Hz, 1 min.)                                                              |
| Test voltage Core/Shield                      | 700.00 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 | 52 mm                                                                              |

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|                                                      |                                                 |
|------------------------------------------------------|-------------------------------------------------|
| Tensile strength                                     | ≤ 100 N                                         |
| Near end crosstalk attenuation (NEXT)                | 71.3 dB (with 1 MHz)                            |
|                                                      | 62.3 dB (at 4 MHz)                              |
|                                                      | 56.3 dB (at 10 MHz)                             |
|                                                      | 53.2 dB (at 16 MHz)                             |
|                                                      | 51.8 dB (at 20 MHz)                             |
|                                                      | 48.9 dB (at 31.25 MHz)                          |
|                                                      | 44.4 dB (at 62.5 MHz)                           |
|                                                      | 41.3 dB (at 100 MHz)                            |
| Power-summed 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                      |
| Resistance to oil                                    | in accordance with EN 60811-2-1                 |
| Ambient temperature (operation)                      | -40 °C ... 80 °C (cable, fixed installation)    |
|                                                      | -20 °C ... 80 °C (Cable, flexible installation) |
| Ambient temperature (installation)                   | -20 °C ... 80 °C                                |

## Environmental and real-life conditions

### Ambient conditions

|                                                                   |                                  |
|-------------------------------------------------------------------|----------------------------------|
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 80 °C (Plug / socket) |
|-------------------------------------------------------------------|----------------------------------|

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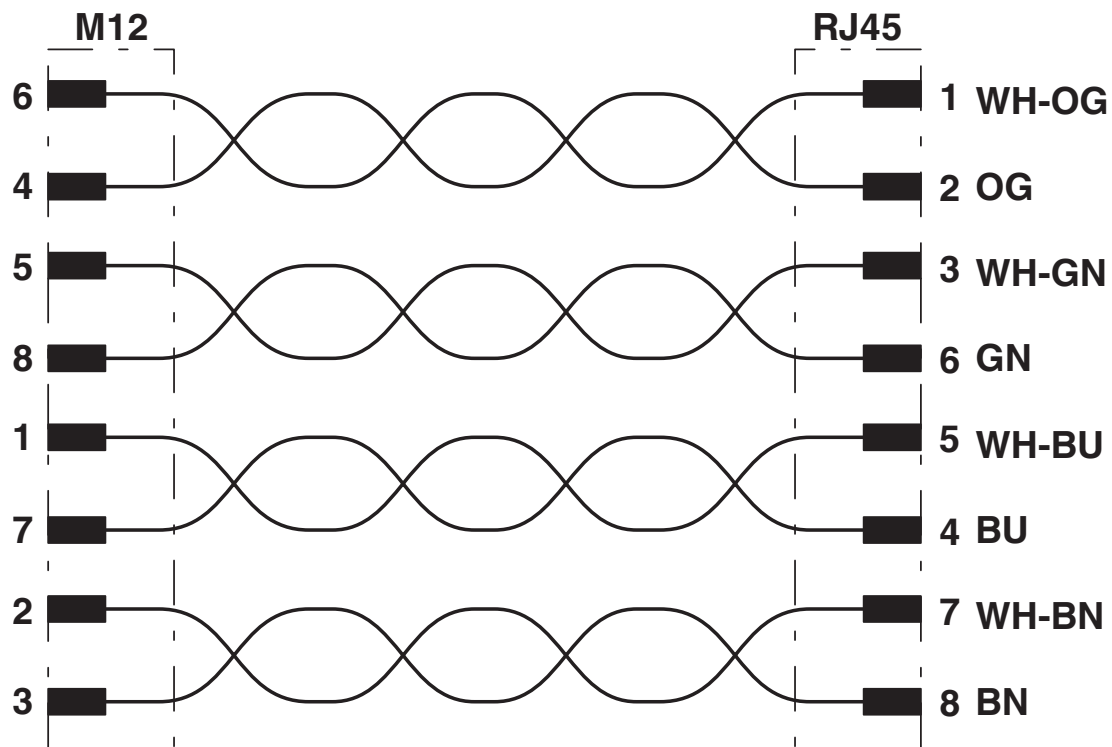
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|                                                                |                                                 |
|----------------------------------------------------------------|-------------------------------------------------|
|                                                                | -40 °C ... 80 °C (without mechanical actuation) |
| Ambient temperature (operation) (Cable, flexible installation) | -25 °C ... 80 °C (Cable, flexible installation) |

## Drawings

Circuit diagram



# VS-M12FSBP-IP20-94B-LI/0,5 - Network cable



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## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1403535>



**EAC**

Approval ID: 19060508

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC003570 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| 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                                | 943ee816-9118-471d-9bde-c5646a61ac8f |

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