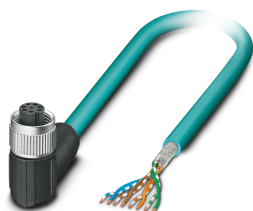


## Network cable - NBC- 5,0-94B/M12FR US - 1408754

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, shielded, free cable end, on Socket angled M12 / IP67, coding: A, cable length: 5 m



### Key Commercial Data

|                        |                                                                                      |
|------------------------|--------------------------------------------------------------------------------------|
| Packing unit           | 1 pc                                                                                 |
| Minimum order quantity | 50 pc                                                                                |
| GTIN                   |  |
| GTIN                   | 4046356827645                                                                        |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 5 m |
|-----------------|-----|

#### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Degree of protection            | IP65                             |
|                                 | IP67                             |
| Ambient temperature (operation) | -25 °C ... 85 °C (M12 connector) |

#### General data

|                                         |                                                   |
|-----------------------------------------|---------------------------------------------------|
| Rated current at 40°C                   | 2 A                                               |
| Rated voltage                           | 48 V AC                                           |
|                                         | 60 V DC                                           |
| Number of positions                     | 8                                                 |
| Signal type/category                    | Ethernet CAT5 (on the basis of IEC 11801), 1 Gbps |
| Standards/regulations                   | M12 connector IEC 61076-2-101                     |
| Contact material                        | CuSn                                              |
| Contact carrier material                | TPU GF                                            |
| Contact surface material                | Ni/Au                                             |
| Transmission characteristics (category) | CAT5                                              |
| Transmission speed                      | 1 Gbps                                            |

# Network cable - NBC- 5,0-94B/M12FR US - 1408754

## Technical data

### Characteristics head 1

|           |                |
|-----------|----------------|
| Head type | free cable end |
|-----------|----------------|

### Characteristics head 2

|           |                          |
|-----------|--------------------------|
| Head type | Socket angled M12 / IP67 |
| Coding    | A (Standard)             |

### Standards and Regulations

|                          |                               |
|--------------------------|-------------------------------|
| Standards/specifications | M12 connector IEC 61076-2-101 |
|--------------------------|-------------------------------|

### Cable

|                                               |                                                                            |
|-----------------------------------------------|----------------------------------------------------------------------------|
| Cable type                                    | Ethernet flexible CAT5, 4-pair                                             |
| Cable type (abbreviation)                     | 94B                                                                        |
| UL AWM style                                  | 20963 (80°C/30 V)                                                          |
| Signal type/category                          | Ethernet CAT5 (IEC 11801), 1 Gbps                                          |
| Cable structure                               | 4x2xAWG26/7; SF/UTP                                                        |
| Conductor cross section                       | 4x 2x 0.14 mm <sup>2</sup>                                                 |
| AWG signal line                               | 26                                                                         |
| Conductor structure signal line               | 7x 0.16 mm                                                                 |
| Core diameter including insulation            | 0.96 mm                                                                    |
| Wire colors                                   | white/blue-blue, white/orange-orange, white/green-green, white/brown-brown |
| Twisted pairs                                 | 2 cores to the pair                                                        |
| Overall twist                                 | 4 pairs for core                                                           |
| Shielding                                     | Aluminum-coated foil, tinned copper braided shield                         |
| Optical shield covering                       | 70 %                                                                       |
| External sheath, color                        | water blue RAL 5021                                                        |
| Outer sheath thickness                        | 1.05 mm                                                                    |
| External cable diameter D                     | 6.4 mm ±0.2 mm                                                             |
| Minimum bending radius, fixed installation    | 4 x D                                                                      |
| Minimum bending radius, flexible installation | 8 x D                                                                      |
| Tensile strength GRP                          | ≤ 100 N                                                                    |
| Cable weight                                  | 47 kg/km                                                                   |
| Outer sheath, material                        | PUR                                                                        |
| Material conductor insulation                 | Foamed PE                                                                  |
| Conductor material                            | Bare Cu litz wires                                                         |
| Insulation resistance                         | ≥ 5 GΩ*km                                                                  |
| Loop resistance                               | ≤ 290.00 Ω/km                                                              |
| Cable capacity                                | 48 nF/km (at 1 kHz)                                                        |
| Wave impedance                                | 100 Ω ±5 Ω (at 100 MHz)                                                    |
| 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)                                                        |

## Network cable - NBC- 5,0-94B/M12FR US - 1408754

### Technical data

#### Cable

|                                                      |                                                 |
|------------------------------------------------------|-------------------------------------------------|
|                                                      | 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)                            |
| 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)                              |
| Return loss (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)                            |
| Signal runtime                                       | 5.3 ns/m                                        |
| Coupling resistance                                  | ≤ 100.00 mΩ/m (at 10 MHz)                       |
| Nominal voltage, cable                               | ≤ 100 V                                         |
| Test voltage Core/Core                               | 700 V (50 Hz, 1 min.)                           |
| Test voltage Core/Shield                             | 700 V (50 Hz, 1 min.)                           |
| Flame resistance                                     | according to IEC 60332-1-2                      |
| Halogen-free                                         | according to IEC 60754-1                        |
| Resistance to oil                                    | according to 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                                |
| Ambient temperature (storage/transport)              | -20 °C ... 80 °C                                |

Network cable - NBC- 5,0-94B/M12FR US - 1408754

Technical data

Cable

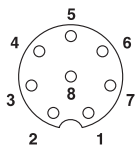
|          |     |
|----------|-----|
| Shielded | yes |
|----------|-----|

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" |

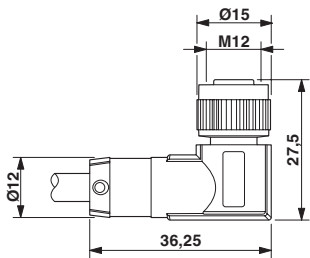
Drawings

Schematic diagram



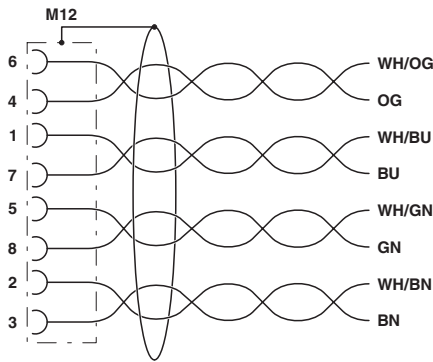
Pin assignment M12 socket, 8-pos., A-coded, view female side

Dimensional drawing



M12 x 1 socket, angled, shielded

Circuit diagram



Contact assignment of the M12 socket

## Network cable - NBC- 5,0-94B/M12FR US - 1408754

Cable cross section



Ethernet flexible CAT5, 4-pair [94B]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 11.0   | 27060307 |
| eCl@ss 4.0    | 24010400 |
| eCl@ss 4.1    | 24010400 |
| eCl@ss 5.0    | 19030300 |
| eCl@ss 5.1    | 19030300 |
| eCl@ss 6.0    | 27061800 |
| eCl@ss 7.0    | 27061801 |
| eCl@ss 9.0    | 27060308 |

## Network cable - NBC- 5,0-94B/M12FR US - 1408754

### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC002599 |
| ETIM 6.0 | EC000830 |
| ETIM 7.0 | EC001855 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |
| UNSPSC 18.0   | 26121604 |
| UNSPSC 19.0   | 26121604 |
| UNSPSC 20.0   | 26121604 |
| UNSPSC 21.0   | 26121600 |

### Approvals

#### Approvals

#### Approvals

UL Recognized / EAC-RoHS

#### Ex Approvals

#### Approval details

|                    |                                                                                     |                                                                                                                                                       |               |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Recognized      |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 335024 |
| Nominal voltage UN | 30 V                                                                                |                                                                                                                                                       |               |
| Nominal current IN | 1.5 A                                                                               |                                                                                                                                                       |               |

|          |                                                                                     |                          |
|----------|-------------------------------------------------------------------------------------|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00387 |
|----------|-------------------------------------------------------------------------------------|--------------------------|

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