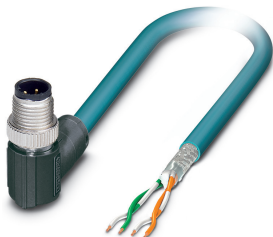


## Network cable - NBC-M12MRD/10,0-93F - 1192165

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Network cable, Ethernet CAT5e (100 Mbps), 4-position, TPE, Teal, shielded, Plug angled M12 / IP65, coding: D, on free cable end, cable length: 10 m



Ethernet



### Key Commercial Data

|                   |                                                                                                         |
|-------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit      | 1 pc                                                                                                    |
| GTIN              | <br>4 063151 251079 |
| GTIN              | 4063151251079                                                                                           |
| Country of origin | United States                                                                                           |

### Technical data

#### Dimensions

|                 |      |
|-----------------|------|
| Length of cable | 10 m |
|-----------------|------|

#### Ambient conditions

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

#### General data

|                       |                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------|
| Rated current at 40°C | 4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed) |
| Rated voltage         | 48 V AC                                                                                      |
|                       | 60 V DC                                                                                      |
| Number of positions   | 4                                                                                            |
| Signal type/category  | Ethernet CAT5e, 100 Mbps                                                                     |
| Standards/regulations | M12 connector IEC 61076-2-101                                                                |

# Network cable - NBC-M12MRD/10,0-93F - 1192165

## Technical data

### General data

|                                         |          |
|-----------------------------------------|----------|
| Contact material                        | CuSn     |
| Contact carrier material                | TPU GF   |
| Contact surface material                | Ni/Au    |
| Transmission characteristics (category) | CAT5e    |
| Transmission speed                      | 100 Mbps |

### Characteristics head 1

|           |                        |
|-----------|------------------------|
| Head type | Plug angled M12 / IP65 |
| Coding    | D (Data)               |

### Characteristics head 2

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

### Standards and Regulations

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

### Cable

|                                                 |                                                             |
|-------------------------------------------------|-------------------------------------------------------------|
| Cable type (abbreviation)                       | 93F                                                         |
| UL AWM style                                    | 2463 (80 °C / 600 V)                                        |
| Signal type/category                            | Ethernet CAT5e (TIA 568B)                                   |
| Cable structure                                 | 2x2xAWG24/7; SF/UTP                                         |
| Conductor cross section                         | 2x 2x 0.2 mm <sup>2</sup>                                   |
| AWG signal line                                 | 24                                                          |
| Conductor structure signal line                 | 7x 0.20 mm (7x32)                                           |
| Core diameter including insulation              | 1.2 mm                                                      |
| Wire colors                                     | white/orange-orange, white/green-green                      |
| Twisted pairs                                   | 2 cores to the pair                                         |
| Overall twist                                   | 2 pairs to the core                                         |
| Shielding                                       | Aluminum-lined polyester foil, tinned copper braided shield |
| Optical shield covering                         | 75 %                                                        |
| External sheath, color                          | Teal                                                        |
| External cable diameter D                       | 6.7 mm ±0.25 mm                                             |
| Number of bending cycles                        | 1000000                                                     |
| Minimum bending radius, drag chain applications | 10 x D                                                      |
| Number of bending cycles                        | 20000000                                                    |
| Minimum bending radius, drag chain applications | 20 X D                                                      |
| Torsion force                                   | 1 lb. load                                                  |
| Torsion cycles                                  | 3000000                                                     |
| Torsional frequency                             | 71 (cycles/min)                                             |

## Network cable - NBC-M12MRD/10,0-93F - 1192165

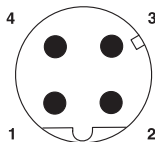
### Technical data

#### Cable

|                                       |                                                           |
|---------------------------------------|-----------------------------------------------------------|
| Ambient temperature (operation)       | 20 °C                                                     |
| Outer sheath, material                | TPE                                                       |
| Material conductor insulation         | PE                                                        |
| Conductor material                    | Tin-plated Cu litz wires                                  |
| Wave impedance                        | 100 $\Omega$ $\pm$ 15 $\Omega$ (at 100 MHz)               |
| Near end crosstalk attenuation (NEXT) | 50 dB (with 100 MHz (IEC 62153-4-9))                      |
| Return loss (RL)                      | 20 dB (at 10 MHz (+6LOG))                                 |
|                                       | 26 dB (at 20 MHz)                                         |
|                                       | 26 dB (at 100 MHz (-5LOG))                                |
| Cable impedance                       | 100 $\Omega$ $\pm$ 15 $\Omega$ (at 1 ... 100 MHz)         |
| Nominal voltage, cable                | 600 V                                                     |
| Test voltage, cable                   | 2000 V                                                    |
| Flame resistance                      | VW-1                                                      |
| Other resistance                      | Resistant to welding splashes Abrasion and oil resistance |
|                                       | UV resistant CMX outdoor                                  |
| Ambient temperature (operation)       | -40 °C ... 80 °C (Cable, flexible installation)           |
| Shielded                              | yes                                                       |

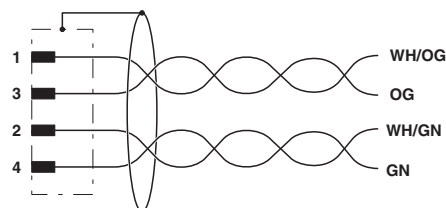
### Drawings

Schematic diagram



Pin assignment M12 male connector, 4-pos., D-coded, male side

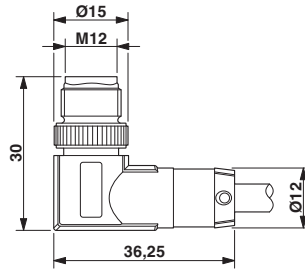
Circuit diagram



Contact assignment of the M12 plug

## Network cable - NBC-M12MRD/10,0-93F - 1192165

Dimensional drawing



M12 x 1 male plug, angled, shielded

Cable cross section



## Network cable - NBC-M12MRD/10,0-93F - 1192165

### Classifications

eCl@ss

|             |          |
|-------------|----------|
| eCl@ss 9.0  | 27060308 |
| eCl@ss 11.0 | 27060307 |

### Approvals

#### Approvals

Approvals

UL Recognized / cUL Recognized / cULus Recognized

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 E335024 |       |
|                    |  |                                                                                     |                                                                                                                                                       |              |       |
| Nominal voltage UN |  |                                                                                     |                                                                                                                                                       |              | 60 V  |
| Nominal current IN |  |                                                                                     |                                                                                                                                                       |              | 1.5 A |

|                    |  |                                                                                     |                                                                                                                                                       |              |       |
|--------------------|--|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------|
| cUL 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 E335024 |       |
|                    |  |                                                                                     |                                                                                                                                                       |              |       |
| Nominal voltage UN |  |                                                                                     |                                                                                                                                                       |              | 60 V  |
| Nominal current IN |  |                                                                                     |                                                                                                                                                       |              | 1.5 A |

|                  |                                                                                     |
|------------------|-------------------------------------------------------------------------------------|
| cULus Recognized |  |
|------------------|-------------------------------------------------------------------------------------|

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