

# NBC-M12MRD/ 2,0-93F/M12FRD - Network cable



1192141

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Network cable, Ethernet CAT5e (100 Mbps), 4-position, shielded, Plug angled M12, coding: D / IP67, on Socket angled M12, coding: D / IP65, cable length: 2 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1192141                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF15                           |
| Product key                          | BF1IHC                         |
| GTIN                                 | 4063151343675                  |
| Weight per piece (including packing) | 22.22 g                        |
| Weight per piece (excluding packing) | 22.22 g                        |
| Customs tariff number                | 85444290                       |
| Country of origin                    | US                             |

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## Technical data

### Product properties

|                     |                         |
|---------------------|-------------------------|
| Product type        | Data cable preassembled |
| Sensor type         | Ethernet                |
| Number of positions | 4                       |
| Application         | Standard, U.S. cables   |
| Shielded            | yes                     |
| Coding              | D                       |

### Interfaces

|                      |                          |
|----------------------|--------------------------|
| Bus system           | Ethernet                 |
| Signal type/category | Ethernet CAT5e, 100 Mbps |

### Signaling

|                        |    |
|------------------------|----|
| Status display         | No |
| Status display present | No |

### Electrical properties

|                       |  |
|-----------------------|--|
| Nominal voltage $U_N$ | 48 V AC  |
|                       | 60 V DC  |
| Nominal current $I_N$ | 4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed) |
| Transmission medium   | Copper   |

### Connector

#### Connection 1

|                      |  |
|----------------------|--|
| Type                 | Plug angled M12 / IP67                             |
| Coding type          | D (Data)   |
| Handle color         | black  |
| Material             | CuSn (Contact)                                     |
|                      | Ni/Au (Contact surface)                            |
|                      | PA (Contact carriers)                              |
|                      | TPU, hardly inflammable, self-extinguishing (Grip) |
|                      | Zinc die-cast, nickel-plated (Screw connection)    |
|                      | FKM (Seal)   |
| Degree of protection | IP67   |

#### Connection 2

|                      |                          |
|----------------------|--------------------------|
| Type                 | Socket angled M12 / IP65 |
| Coding type          | D (Data)                 |
| Degree of protection | IP65                     |

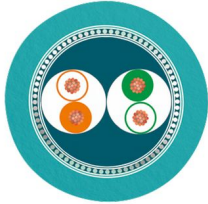
### Cable/line

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|                                       |  |
|---------------------------------------|--|
| Cable length                          | 2 m  |
| Highly flexible Ethernet CAT5e [93F]  |  |
| Dimensional drawing                   |  |
| UL AWM Style                          | 2463 (80 °C / 600 V)   |
| Number of positions                   | 4  |
| Shielded                              | yes  |
| Cable type                            | Highly flexible Ethernet CAT5e [93F]   |
| Conductor structure                   | 2x2xAWG24/7, SF/UTP  |
| Conductor structure signal line       | 7x 0.20 mm (7x32)  |
| AWG signal line                       | 24   |
| Conductor cross section               | 2x 2x 0.2 mm <sup>2</sup>  |
| Wire diameter incl. insulation        | 1.2 mm   |
| External cable diameter               | 6.7 mm ±0.25 mm  |
| Outer sheath, material                | TPE  |
| External sheath, color                | Teal   |
| Conductor material                    | Tin-plated Cu litz wires   |
| Material wire insulation              | PE   |
| Single wire, color                    | white/orange-orange, white/green-green   |
| Twisted pairs                         | 2 cores to the pair  |
| Overall twist                         | 2 pairs to the core  |
| Optical shield covering               | 75 %   |
| Wave impedance                        | 100 Ω ±15 Ω (at 100 MHz)   |
| Cable impedance                       | 100 Ω ±15 Ω (at 1 ... 100 MHz)   |
| Nominal voltage, cable                | 600 V  |
| Test voltage                          | 2000 V   |
| Max. bending cycles                   | 1000000<br>20000000 (126 cycles/min. @ 20°C)                                       |
| Torsion force                         | 360 °/m (1 lb. load)   |
| Torsion cycles                        | 3000000  |
| Torsional frequency                   | 71 (cycles/min)  |
| Ambient temperature (operation)       | 20 °C  |
| Near end crosstalk attenuation (NEXT) | 50 dB (with 100 MHz (IEC 62153-4-9))   |
| Return attenuation (RL)               | 20 dB (at 10 MHz (+6LOG))<br>26 dB (at 20 MHz)<br>26 dB (at 100 MHz (-5LOG))       |
| Flame resistance                      | VW-1   |

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|                                 |   |
|---------------------------------|---|
| Other resistance                | Resistant to welding splashes (Abrasion and oil resistance) |
|                                 | UV resistant (CMX outdoor)                                  |
| Ambient temperature (operation) | -40 °C ... 80 °C (Cable, flexible installation)             |

## Environmental and real-life conditions

### Ambient conditions

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

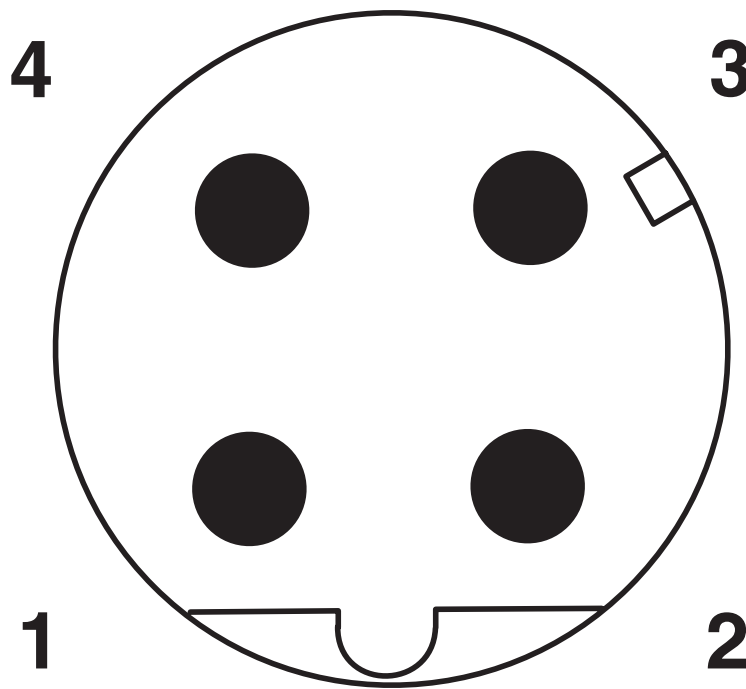
## Standards and regulations

### M12

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

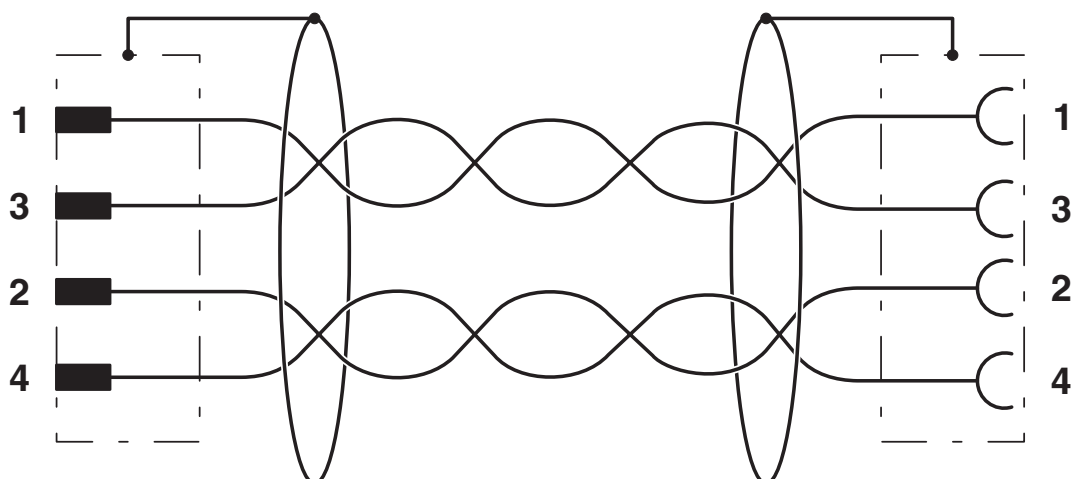
## Drawings

Schematic diagram



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

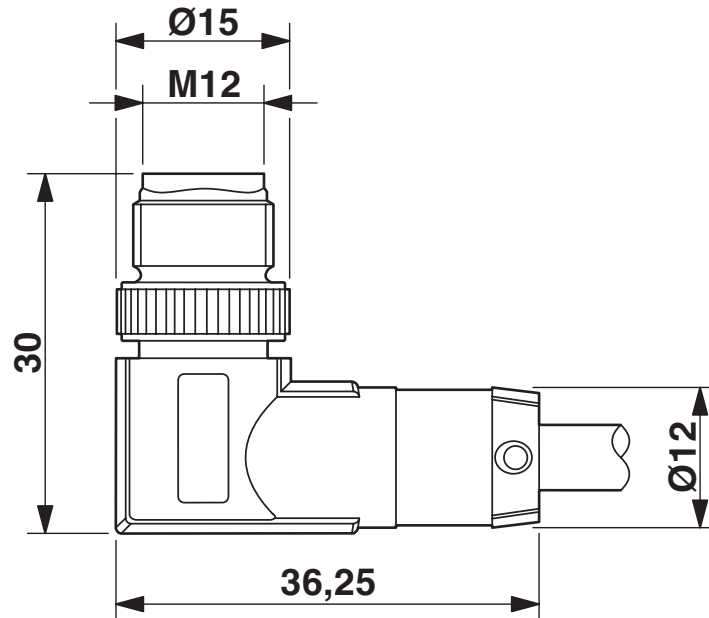
Circuit diagram



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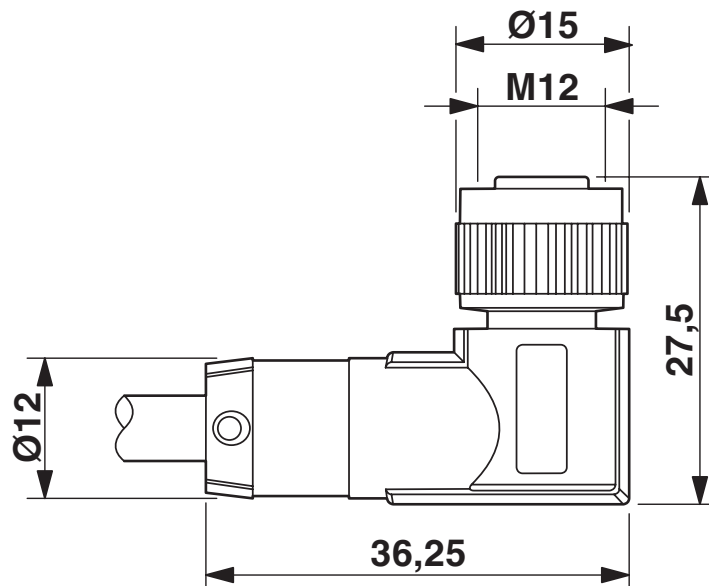
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Dimensional drawing



M12 x 1 male plug, angled, shielded

Dimensional drawing



M12 x 1 socket, angled, shielded

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Schematic diagram




Pin assignment M12 socket, 4-pos., D-coded, female side


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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1192141>

|  <b>UL Listed</b><br>Approval ID: FILE E 335024 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|  | 60 V                  | 1.5 A                 | -                 | -                           |

|  <b>cUL Listed</b><br>Approval ID: File E335024 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|  | 60 V                  | 1.5 A                 | -                 | -                           |

| <b>cULus Listed</b> |  |  |  |  |
|---------------------|--|--|--|--|
|---------------------|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060307 |
| ECLASS-12.0 | 27060307 |
| ECLASS-13.0 | 27060307 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC001855 |
|----------|----------|

### UNSPSC

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

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## 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" |

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