

# NBC-M12MSD/ 5,0-93B/M12MSD - Network cable



1404305

<https://www.phoenixcontact.com/us/products/1404305>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded (Advanced Shielding Technology), Plug straight M12, coding: D / IP67, on Plug straight M12, coding: D / IP67, cable length: 5 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1404305       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Product key                          | AF1CJN        |
| GTIN                                 | 4046356690119 |
| Weight per piece (including packing) | 375.7 g       |
| Weight per piece (excluding packing) | 375.7 g       |
| Country of origin                    | PL            |

1404305

<https://www.phoenixcontact.com/us/products/1404305>

## Technical data

### Notes

|         |  |
|---------|--|
| General | This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 10.1 Cord Sets for Balanced Cabling |
| General | Further products with variable cable type and variable cable length can be found in the accessories section  |

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Application          | Standard                |
| Sensor type          | PROFINET                |
| Number of positions  | 4                       |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |
| Coding               | D                       |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Interfaces

|                      |   |
|----------------------|---|
| Bus system           | PROFINET  |
| Signal type/category | PROFINET CAT5 (IEC 11801), 100 Mbps<br>EtherCAT® CAT5 (IEC 11801), 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                   |
| Transmission medium                     | Copper                |
| Transmission speed                      | 100 Mbps              |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002) |

### Material specifications

|  |    |
|--|----|
| Flammability rating according to UL 94 | V0 |
|--|----|

### Connector

Connection 1

# NBC-M12MSD/ 5,0-93B/M12MSD - Network cable



1404305

<https://www.phoenixcontact.com/us/products/1404305>

|                                 |   |
|---------------------------------|---|
| Type                            | Plug straight M12 / IP67  |
| Number of positions             | 4   |
| Coding type                     | D (Data)  |
| Handle color                    | black   |
| Material                        | CuSn (Contact)<br>Ni/Au (Contact surface)<br>PA (Contact carrier)<br>TPU, hardly inflammable, self-extinguishing (Grip body)<br>Zinc die-cast, nickel-plated (Screw connection)<br>FKM (Seal) |
| Insertion/withdrawal cycles     | ≥ 100   |
| Insulation resistance           | ≥ 100 MΩ  |
| Tightening torque               | 0.4 Nm  |
| Degree of protection            | IP67  |
| Ambient temperature (operation) | -25 °C ... 90 °C  |

## Connection 2

|                                 |   |
|---------------------------------|---|
| Type                            | Plug straight M12 / IP67  |
| Number of positions             | 4   |
| Coding type                     | D (Data)  |
| Handle color                    | black   |
| Material                        | CuSn (Contact)<br>Ni/Au (Contact surface)<br>PA (Contact carrier)<br>TPU, hardly inflammable, self-extinguishing (Grip body)<br>Zinc die-cast, nickel-plated (Screw connection)<br>FKM (Seal) |
| Insertion/withdrawal cycles     | ≥ 100   |
| Insulation resistance           | ≥ 100 MΩ  |
| Tightening torque               | 0.4 Nm  |
| Degree of protection            | IP67  |
| Ambient temperature (operation) | -25 °C ... 90 °C  |

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 5 m |
|--------------|-----|

## PROFINET PVC stranded CAT5 [93B]

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
|---------------------|--|

# NBC-M12MSD/ 5,0-93B/M12MSD - Network cable



1404305

<https://www.phoenixcontact.com/us/products/1404305>

|   |                                  |
|---|----------------------------------|
| Cable weight                                  | 67 kg/km                         |
| UL AWM Style                                  | 21694                            |
| Number of positions                           | 4                                |
| Shielded                                      | yes                              |
| Cable type                                    | PROFINET PVC stranded CAT5 [93B] |
| Conductor structure                           | 1x4xAWG22/7, SF/TQ               |
| Signal runtime                                | 5.3 ns/m                         |
| Signal speed                                  | 0.66 c                           |
| Conductor structure signal line               | 7x 0.25 mm                       |
| AWG signal line                               | 22                               |
| Conductor cross-section                       | 4x 0.34 mm <sup>2</sup>          |
| Wire diameter incl. insulation                | 1.55 mm                          |
| External cable diameter                       | 6.50 mm ±0.2 mm                  |
| Outer sheath, material                        | PVC                              |
| External sheath, color                        | green RAL 6018                   |
| Conductor material                            | Tin-plated Cu litz wires         |
| Material wire insulation                      | PE                               |
| Single wire, color                            | white, yellow, blue, orange      |
| Thickness, outer sheath                       | approx. 0.90 mm                  |
| Overall twist                                 | Star quad                        |
| Optical shield covering                       | 85 %                             |
| Insulation resistance                         | ≥ 500 MΩ*km                      |
| Coupling resistance                           | ≤ 20.00 mΩ/m (at 10 MHz)         |
| Loop resistance                               | ≤ 120.00 Ω/km                    |
| Wave impedance                                | 100 Ω ±15 Ω (at 100 MHz)         |
| Nominal voltage, cable                        | 600 V                            |
| Test voltage Core/Core                        | 2000 V (50 Hz, 1 min.)           |
| Test voltage Core/Shield                      | 2000.00 V (50 Hz, 1 min.)        |
| Minimum bending radius, fixed installation    | 3 x D                            |
| Minimum bending radius, flexible installation | 7 x D                            |
| Smallest bending radius, fixed installation   | 20 mm                            |
| Smallest bending radius, movable installation | 46 mm                            |
| Near end crosstalk attenuation (NEXT)         | 80 dB (with 1 MHz)               |
|   | 76 dB (at 4 MHz)                 |
|   | 70 dB (at 10 MHz)                |
|   | 65 dB (at 16 MHz)                |
|   | 63 dB (at 20 MHz)                |
|   | 60 dB (at 31.25 MHz)             |
|   | 55 dB (at 62.5 MHz)              |
|   | 50 dB (at 100 MHz)               |
| Shield attenuation                            | 2.1 dB (with 1 MHz)              |
|   | 4 dB (at 4 MHz)                  |
|   | 6.3 dB (at 10 MHz)               |
|   | 8 dB (at 16 MHz)                 |

# NBC-M12MSD/ 5,0-93B/M12MSD - Network cable



1404305

<https://www.phoenixcontact.com/us/products/1404305>

|                                    |   |
|------------------------------------|---|
|                                    | 9 dB (at 20 MHz)                                  |
|                                    | 11.4 dB (at 31.25 MHz)                            |
|                                    | 16.5 dB (at 62.5 MHz)                             |
|                                    | 21.3 dB (at 100 MHz)                              |
| Flame resistance                   | according to UL 1685 (CSA FT 4)                   |
| Resistance to oil                  | Resistant to oil to a limited extent              |
| Other resistance                   | UV resistant (according to UL 1581, Section 1200) |
| Ambient temperature (operation)    | -40 °C ... 70 °C (cable, fixed installation)      |
|                                    | -40 °C ... 70 °C (Cable, flexible installation)   |
| Ambient temperature (installation) | -20 °C ... 60 °C                                  |

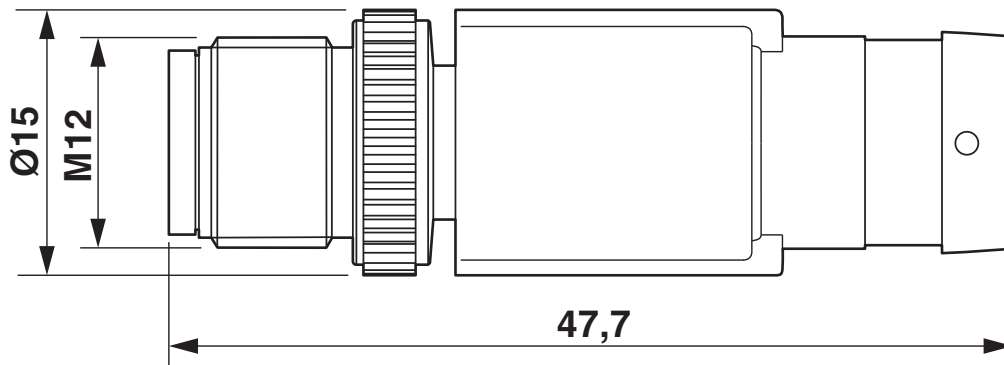
## Standards and regulations

### M12

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

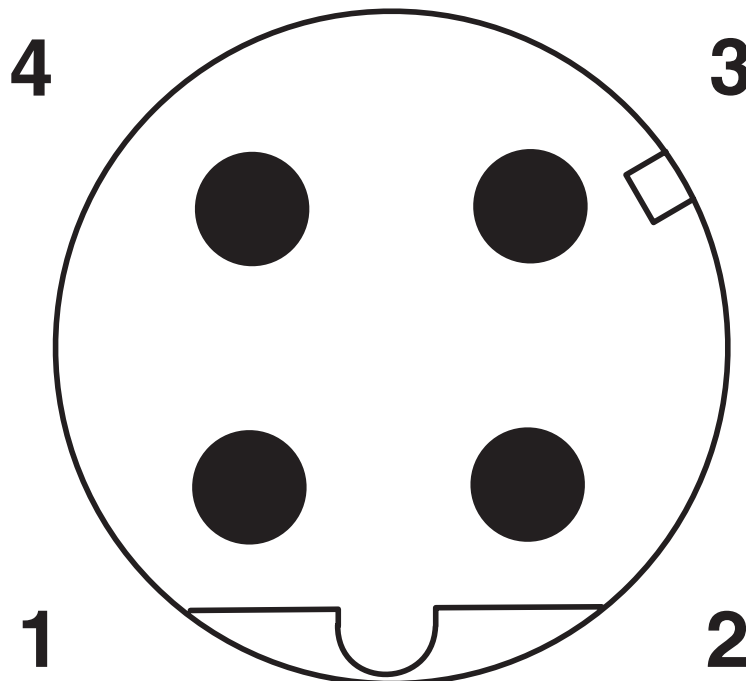
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram

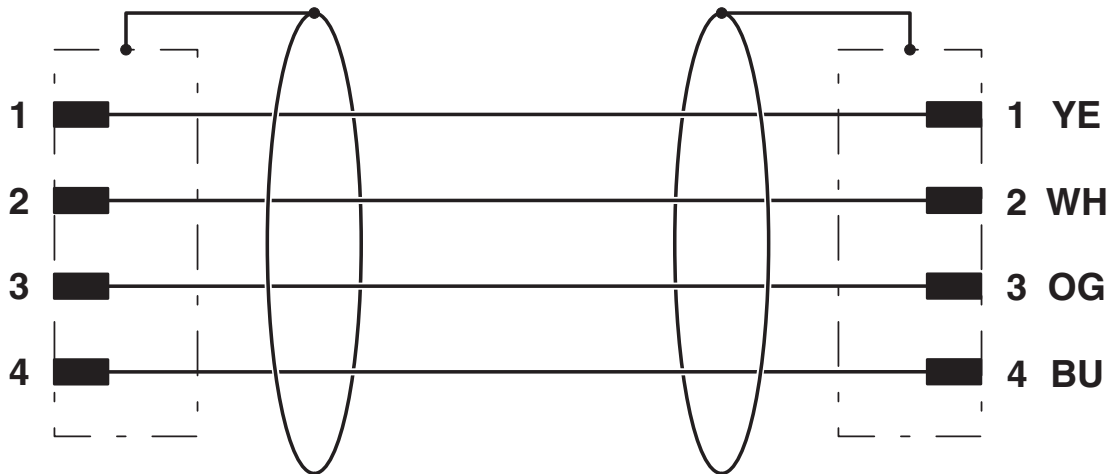


Pin assignment M12 male connector, 4-pos., D-coded, male side

1404305

<https://www.phoenixcontact.com/us/products/1404305>

Circuit diagram



Contact assignment of the M12 plugs

# NBC-M12MSD/ 5,0-93B/M12MSD - Network cable



1404305

<https://www.phoenixcontact.com/us/products/1404305>

## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### UNSPSC

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

# NBC-M12MSD/ 5,0-93B/M12MSD - Network cable



1404305

<https://www.phoenixcontact.com/us/products/1404305>

## 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% |
|-------------------------------------|----------------------------|

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)