

# NBC-M12MSD/ 2,0-93B CMC - Network cable



1524307

<https://www.phoenixcontact.com/us/products/1524307>

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 free cable end, cable length: 2 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1524307       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF04          |
| Product key                          | AF1CJN        |
| GTIN                                 | 4046356021388 |
| Weight per piece (including packing) | 142 g         |
| Weight per piece (excluding packing) | 148.451 g     |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

## 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                                                                                    |
| General | CMC - Conductor marker carrier - PATG                                                                                                                                                          |

### Product properties

|                     |                         |
|---------------------|-------------------------|
| Product type        | Data cable preassembled |
| Application         | Standard                |
| Number of positions | 4                       |
| Shielded            | yes                     |

### Interfaces

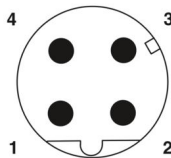
|                      |                                      |
|----------------------|--------------------------------------|
| Signal type/category | PROFINET CAT5 (IEC 11801), 100 Mbps  |
|                      | EtherCAT® CAT5 (IEC 11801), 100 Mbps |

### 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 |

### Connector

#### Connection 1

|                             |                                                                                                                                                       |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing         | <br>Pin assignment M12 male connector, 4-pos., D-coded, male side |
| Type                        | M12 Plug, straight, 4-position, shielded (Advanced Shielding Technology), Keying: D                                                                   |
| Number of positions         | 4                                                                                                                                                     |
| Shielded                    | yes                                                                                                                                                   |
| Shielding                   | Advanced Shielding Technology                                                                                                                         |
| Signal type/category        | EtherCAT® CAT5 (IEC 11801), 100 Mbps<br>PROFINET CAT5 (IEC 11801)                                                                                     |
| Insertion/withdrawal cycles | ≥ 100                                                                                                                                                 |

# NBC-M12MSD/ 2,0-93B CMC - Network cable



1524307

<https://www.phoenixcontact.com/us/products/1524307>

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Insulation resistance                  | ≥ 100 MΩ                                    |
| Overvoltage category                   | II                                          |
| Degree of pollution                    | 3                                           |
| Tightening torque                      | 0.4 Nm                                      |
| Material Contact                       | CuSn                                        |
| Material Contact surface               | Ni/Au                                       |
| Material Contact carrier               | PA 6.6                                      |
| Material Screw connection              | Die-cast zinc, nickel-plated                |
| Material Grip body                     | TPU, hardly inflammable, self-extinguishing |
| Material Seal                          | FKM                                         |
| Flammability rating according to UL 94 | V0                                          |
| Degree of protection                   | IP65<br>IP67                                |
| Ambient temperature (operation)        | -25 °C ... 85 °C                            |
| Standard designation                   | M12 connector                               |
| Standards/regulations                  | IEC 61076-2-101                             |

## Connection 2

|      |                |
|------|----------------|
| Type | free cable end |
|------|----------------|

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 2 m |
|--------------|-----|

## PROFINET PVC stranded CAT5 [93B]

|                                |                                                                                      |
|--------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing            |  |
| UL AWM Style                   | 21695 (80 °C / 600 V)                                                                |
| Number of positions            | 4                                                                                    |
| Shielded                       | yes                                                                                  |
| Cable type                     | PROFINET PVC stranded CAT5 [93B]                                                     |
| Conductor structure            | 1x4xAWG22/7, SF/TQ                                                                   |
| AWG signal line                | 22                                                                                   |
| Conductor cross-section        | 4x 0.34 mm²                                                                          |
| Wire diameter incl. insulation | 1.5 mm ±0.1 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                                                                                   |

# NBC-M12MSD/ 2,0-93B CMC - Network cable



1524307

<https://www.phoenixcontact.com/us/products/1524307>

|                                               |                                                          |
|-----------------------------------------------|----------------------------------------------------------|
| Single wire, color                            | white, yellow, blue, orange                              |
| Overall twist                                 | Star quad                                                |
| Optical shield covering                       | 85 %                                                     |
| Insulation resistance                         | $\geq 5 \text{ G}\Omega\cdot\text{km}$                   |
| Loop resistance                               | $\leq 120.00 \text{ }\Omega/\text{km}$                   |
| Wave impedance                                | $100 \text{ }\Omega \pm 5 \text{ }\Omega$ (at 100 MHz)   |
| Nominal voltage, cable                        | $\leq 600 \text{ V}$                                     |
| 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    | 4 x D                                                    |
| Minimum bending radius, flexible installation | 8 x D                                                    |
| Flame resistance                              | UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1)     |
|                                               | UL 1685 (CSA FT 4)                                       |
|                                               | UL 1581, Section 1100 and UL 2556, Section 9.1 (HFT/FT2) |
| Resistance to oil                             | OIL RES I according to UL 2256                           |
| Other resistance                              | UV resistant (according to UL 1581, Section 1200)        |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)             |
|                                               | -10 °C ... 70 °C (Cable, flexible installation)          |

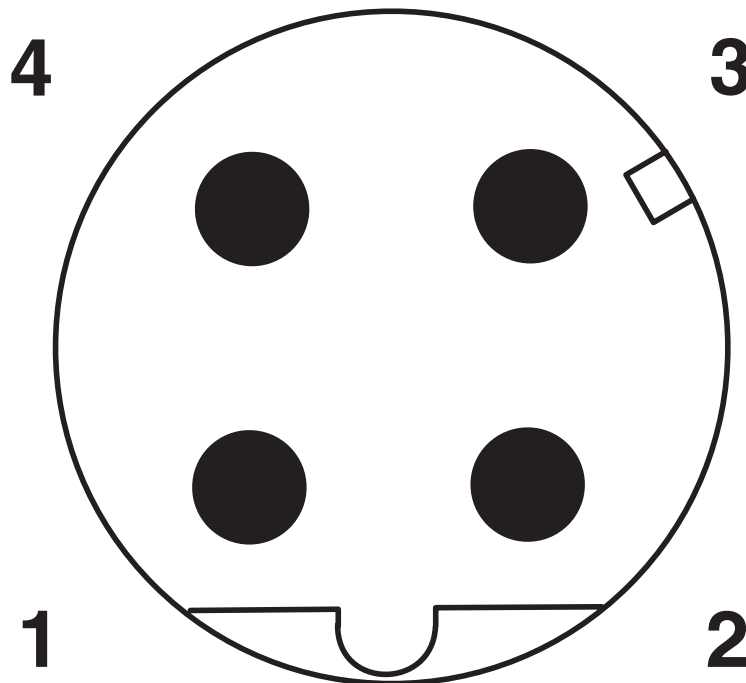
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram



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

1524307

<https://www.phoenixcontact.com/us/products/1524307>

Circuit diagram



Contact assignment of the M12 plug

# NBC-M12MSD/ 2,0-93B CMC - Network cable



1524307

<https://www.phoenixcontact.com/us/products/1524307>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1524307>

**EAC-RoHS**  
Approval ID: RU D-DE.HB35.B.00387

|                                                                                   |                                             |                                |                   |                               |
|-----------------------------------------------------------------------------------|---------------------------------------------|--------------------------------|-------------------|-------------------------------|
|  | <b>cULus Listed</b><br>Approval ID: E335024 |                                |                   |                               |
|                                                                                   | Nominal voltage U <sub>N</sub>              | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine                                                                             |                                             |                                |                   |                               |
|                                                                                   | 250 V                                       | 4 A                            | -                 | -                             |

# NBC-M12MSD/ 2,0-93B CMC - Network cable



1524307

<https://www.phoenixcontact.com/us/products/1524307>

## Classifications

### ECLASS

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

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC002599 |
|-----------|----------|

### UNSPSC

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

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%               |
| EF3.1 Climate Change                    |                                          |
| CO2e kg                                 | 2.964 kg CO2e                            |