

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

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, Ethernet CAT5 (1 Gbps), 8-position, shielded, Plug straight M12 SPEEDCON, coding: A / IP67, on Plug straight M12 SPEEDCON, coding: A / IP67, cable length: 10 m

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1407438             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | BF1                 |
| Product key                          | BF1CMI              |
| Catalog page                         | Page 401 (C-2-2019) |
| GTIN                                 | 4046356775595       |
| Weight per piece (including packing) | 501.3 g             |
| Weight per piece (excluding packing) | 490.9 g             |
| Customs tariff number                | 85444210            |
| Country of origin                    | PL                  |

1407438

<https://www.phoenixcontact.com/in/products/1407438>

## Technical data

### Notes

|         |   |
|---------|---|
| 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 |
| Sensor type          | Ethernet                |
| Number of positions  | 8                       |
| Application          | Standard                |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |
| Coding               | A                       |

### Interfaces

|                      |  |
|----------------------|--|
| Bus system           | Ethernet                                   |
| Signal type/category | Ethernet CAT5 (based on IEC 11801), 1 Gbps |

### Signaling

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

### Electrical properties

|   |                       |
|---|-----------------------|
| Nominal voltage $U_N$                   | 48 V AC               |
|   | 60 V DC               |
| Nominal current $I_N$                   | 2 A                   |
| Transmission medium                     | Copper                |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002) |

### Connector

#### Connection 1

|                             |  |
|-----------------------------|--|
| Type                        | Plug straight M12 SPEEDCON / IP67                  |
| Number of positions         | 8  |
| Locking type                | SPEEDCON   |
| Coding type                 | A (Standard)                                       |
| Handle color                | black  |
| Material                    | CuZn (Contact)                                     |
|                             | Ni/Au (Contact surface)                            |
|                             | TPU GF (Contact carriers)                          |
|                             | TPU, hardly inflammable, self-extinguishing (Grip) |
|                             | Zinc die-cast, nickel-plated (Screw connection)    |
| Insertion/withdrawal cycles | ≥ 100  |
| Contact resistance          | ≤ 5 mΩ   |

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

|                                 |                  |
|---------------------------------|------------------|
| 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 SPEEDCON / IP67   |
| Number of positions             | 8   |
| Locking type                    | SPEEDCON  |
| Coding type                     | A (Standard)  |
| Handle color                    | black   |
| Material                        | CuZn (Contact)<br>Ni/Au (Contact surface)<br>TPU GF (Contact carriers)<br>TPU, hardly inflammable, self-extinguishing (Grip)<br>Zinc die-cast, nickel-plated (Screw connection) |
| Insertion/withdrawal cycles     | ≥ 100   |
| Contact resistance              | ≤ 5 mΩ  |
| Insulation resistance           | ≥ 100 MΩ  |
| Tightening torque               | 0.4 Nm  |
| Degree of protection            | IP67  |
| Ambient temperature (operation) | -25 °C ... 90 °C  |

## Cable/line

|              |      |
|--------------|------|
| Cable length | 10 m |
|--------------|------|

## Ethernet flexible CAT5, 4-pair [94B]

|                                 |  |
|---------------------------------|--|
| Dimensional drawing             |  |
| Cable weight                    | 47 kg/km   |
| UL AWM Style                    | 20963 (80°C/30 V)  |
| Number of positions             | 8  |
| Shielded                        | yes  |
| Cable type                      | Ethernet flexible CAT5, 4-pair [94B]   |
| Conductor structure             | 4x2xAWG26/7, SF/UTP  |
| Signal runtime                  | 5.3 ns/m   |
| Conductor structure signal line | 7x 0.16 mm   |
| AWG signal line                 | 26   |
| Conductor cross section         | 4x 2x 0.14 mm <sup>2</sup>   |

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

|  |  |
|--|--|
| Wire diameter incl. insulation                       | 0.96 mm  |
| External cable diameter                              | 6.4 mm ±0.2 mm   |
| Outer sheath, material                               | PUR  |
| External sheath, color                               | water blue RAL 5021  |
| Conductor material                                   | Bare Cu litz wires   |
| Material wire insulation                             | Foamed PE  |
| Single wire, color                                   | white/blue-blue, white/orange-orange, white/green-green, white/brown-brown |
| Thickness, outer sheath                              | 1.05 mm  |
| Twisted pairs  | 2 cores to the pair  |
| Overall twist  | 4 pairs for core   |
| Optical shield covering                              | 70 %   |
| Insulation resistance                                | ≥ 5 GΩ*km  |
| Coupling resistance                                  | ≤ 100.00 mΩ/m (at 10 MHz)  |
| Loop resistance                                      | ≤ 290.00 Ω/km  |
| Wave impedance                                       | 100 Ω ±5 Ω (at 100 MHz)  |
| Cable capacity                                       | 48 nF/km (at 1 kHz)  |
| 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.)  |
| Minimum bending radius, fixed installation           | 4 x D  |
| Minimum bending radius, flexible installation        | 8 x D  |
| Smallest bending radius, fixed installation          | 26 mm  |
| Smallest bending radius, movable installation        | 52 mm  |
| Tensile strength                                     | ≤ 100 N  |
| 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)  |
|  | 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)   |
| Return attenuation (RL)                              | 23 dB (at 4 MHz)   |
|  | 24.1 dB (at 8 MHz)   |
|  | 25 dB (at 10 MHz)  |

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

|                                    |   |
|------------------------------------|---|
|                                    | 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)                            |
| Shield 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)                              |
| Halogen-free                       | according to IEC 60754-1                        |
| Flame resistance                   | according to IEC 60332-1-2                      |
| Resistance to oil                  | in accordance with 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                                |

## Environmental and real-life conditions

### Ambient conditions

|                      |           |
|----------------------|-----------|
| Degree of protection | IP65      |
|                      | IP67      |
|                      | IP65/IP67 |

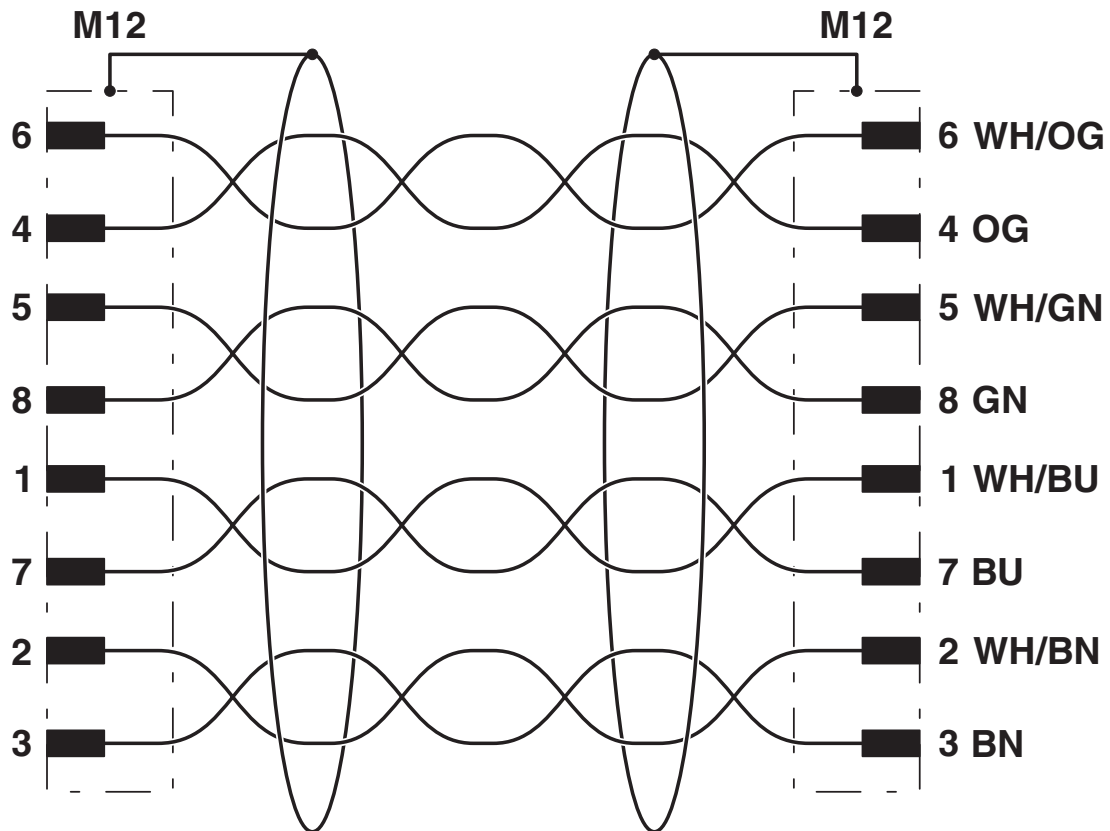
## Standards and regulations

### M12

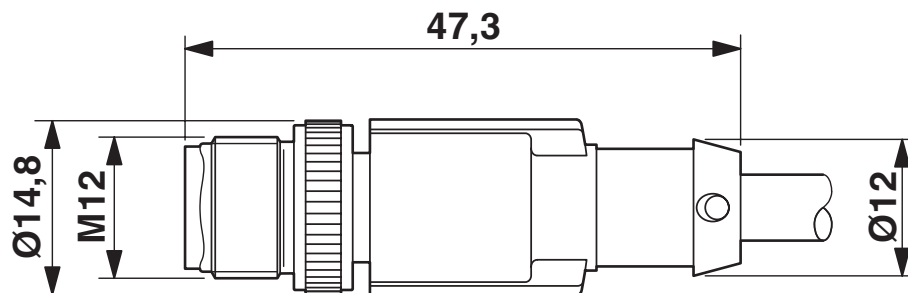
|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-101 |

Drawings

Circuit diagram



Dimensional drawing



Plug, M12 x 1, straight, shielded

1407438

<https://www.phoenixcontact.com/in/products/1407438>

Schematic diagram




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


1407438

<https://www.phoenixcontact.com/in/products/1407438>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/1407438>

|  <b>UL Listed</b><br>Approval ID: FILE E 335024 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|  | 30 V                  | 1.5 A                 | -                 | -                    |

|  <b>cUL Listed</b><br>Approval ID: FILE E 335024 |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|   | 30 V                  | 1.5 A                 | -                 | -                    |

|  <b>EAC-RoHS</b><br>Approval ID: RU D-DE.HB35.B.00387 |  |
|---|--|
|---|--|

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

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001855 |
|----------|----------|

### UNSPSC

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

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

## Environmental product compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

## Accessories

### NBC-MS-MS SCO-IE/.../... - Network cable

1408676

<https://www.phoenixcontact.com/in/products/1408676>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON, coding: A / IP67, on Plug straight M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

### NBC-MS-MR SCO-IE/.../... - Network cable

1408667

<https://www.phoenixcontact.com/in/products/1408667>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON, coding: A / IP67, on Plug angled M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

## NBC-MS/10,0-94B/MS SCO - Network cable

1407438

<https://www.phoenixcontact.com/in/products/1407438>



### NBC-MS-FS SCO-IE/.../... - Network cable

1408659

<https://www.phoenixcontact.com/in/products/1408659>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON, coding: A / IP67, on Socket straight M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

---

### NBC-MS-FR SCO-IE/.../... - Network cable

1408650

<https://www.phoenixcontact.com/in/products/1408650>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON, coding: A / IP67, on Socket angled M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

## NBC-MS/10,0-94B/MS SCO - Network cable

1407438

<https://www.phoenixcontact.com/in/products/1407438>



## NBC-MR-MR SCO-IE/.../... - Network cable

1408666

<https://www.phoenixcontact.com/in/products/1408666>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug angled M12 SPEEDCON, coding: A / IP67, on Plug angled M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

---

## NBC-MR-FS SCO-IE/.../... - Network cable

1408658

<https://www.phoenixcontact.com/in/products/1408658>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug angled M12 SPEEDCON, coding: A / IP67, on Socket straight M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

## NBC-MS/10,0-94B/MS SCO - Network cable

1407438

<https://www.phoenixcontact.com/in/products/1407438>



## NBC-MR-FR SCO-IE/.../... - Network cable

1408649

<https://www.phoenixcontact.com/in/products/1408649>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug angled M12 SPEEDCON, coding: A / IP67, on Socket angled M12 SPEEDCON, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

---

## PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/in/products/1430873>



M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

## SAC-M12-EXCLIP-M - Locking clip

1558988

<https://www.phoenixcontact.com/in/products/1558988>



Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

---

## TSD 04 SAC - Torque screwdriver

1208429

<https://www.phoenixcontact.com/in/products/1208429>



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

# NBC-MS/10,0-94B/MS SCO - Network cable

1407438

<https://www.phoenixcontact.com/in/products/1407438>



## TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/in/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

---

## TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/in/products/1212600>



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

# NBC-MS/10,0-94B/MS SCO - Network cable



1407438

<https://www.phoenixcontact.com/in/products/1407438>

## SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/in/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

---

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT (I) Pvt. Ltd.

A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420

[info@phoenixcontact.co.in](mailto:info@phoenixcontact.co.in)