

## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded, Plug straight M8 / IP67, coding: A, on free cable end, cable length: 5 m



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 046356 774642 |
| GTIN                                 | 4046356774642   |
| Weight per Piece (excluding packing) | 358.500 g   |
| Custom tariff number                 | 85444290  |
| Country of origin                    | Poland  |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 5 m |
|-----------------|-----|

#### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Degree of protection            | IP65                             |
|                                 | IP67                             |
| Ambient temperature (operation) | -25 °C ... 90 °C (M8 connectors) |

#### General data

|                       |   |
|-----------------------|---|
| Note                  | Further products with variable cable type and variable cable length can be found in the accessories section |
| Rated current at 40°C | 4 A   |
| Rated voltage         | 30 V AC   |
|                       | 30 V DC   |
| Number of positions   | 4   |
| Signal type/category  | Ethernet, 100 Mbps  |
|                       | PROFINET, 100 Mbps  |

# Network cable - NBC-M 8MS/ 5,0-93B - 1407346

## Technical data

### General data

|                          |                                  |
|--------------------------|----------------------------------|
|                          | EtherCAT <sup>®</sup> , 100 Mbps |
| Standards/regulations    | M8 connector IEC 61076-2-104     |
| Contact material         | CuSn                             |
| Contact carrier material | TPU GF                           |
| Contact surface material | Ni/Au                            |

### Characteristics head 1

|  |  |
|--|--|
| Head type                                | Plug straight M8 / IP67                            |
| No. of positions (pin connector pattern) | 4  |
| Coding                                   | A (Standard)                                       |
| Color                                    | black  |
| Material (component)                     | CuSn (Contact)                                     |
|  | Ni/Au (Contact surface)                            |
|  | TPU GF (Contact carriers)                          |
|  | TPU, hardly inflammable, self-extinguishing (Grip) |
|  | Zinc die-cast, nickel-plated (Screw connection)    |
| Insulation resistance                    | ≥ 100 MΩ   |
| Insertion/withdrawal cycles              | ≥ 100  |
| Torque                                   | 0.2 Nm   |
| Ambient temperature (operation)          | -25 °C ... 90 °C                                   |

### Characteristics head 2

|           |                |
|-----------|----------------|
| Head type | free cable end |
| Color     | black          |

### Standards and Regulations

|                       |                 |
|-----------------------|-----------------|
| Standard designation  | M8 connector    |
| Standards/regulations | IEC 61076-2-104 |

### Cable

|                                    |  |
|------------------------------------|--|
| Cable type                         | PROFINET PVC stranded CAT5                         |
| Cable type (abbreviation)          | 93B  |
| UL AWM style                       | 21694  |
| Signal type/category               | PROFINET CAT5 (IEC 11801), 100 Mbps                |
|                                    | EtherCAT <sup>®</sup> CAT5 (IEC 11801), 100 Mbps   |
| Cable structure                    | 1x4xAWG22/7; SF/TQ                                 |
| Conductor cross section            | 4x 0.34 mm <sup>2</sup>                            |
| AWG signal line                    | 22   |
| Conductor structure signal line    | 7x 0.25 mm   |
| Core diameter including insulation | 1.55 mm  |
| Wire colors                        | White, yellow, blue, orange                        |
| Overall twist                      | Star quad  |
| Shielding                          | Aluminum-coated foil, tinned copper braided shield |

## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

### Technical data

#### Cable

|   |   |
|---|---|
| Optical shield covering                       | 85 %  |
| External sheath, color                        | green RAL 6018                                  |
| Outer sheath thickness                        | approx. 0.9 mm                                  |
| External cable diameter D                     | 6.5 mm ±0.2 mm                                  |
| Minimum bending radius, fixed installation    | 3 x D   |
| Minimum bending radius, flexible installation | 7 x D   |
| Cable weight                                  | 67 kg/km  |
| Outer sheath, material                        | PVC   |
| Material, inner sheath                        | PVC   |
| Material conductor insulation                 | PE  |
| Conductor material                            | Tin-plated Cu litz wires                        |
| Insulation resistance                         | ≥ 500 MΩ*km                                     |
| Loop resistance                               | ≤ 120.00 Ω/km                                   |
| Wave impedance                                | 100 Ω ±15 Ω (at 100 MHz)                        |
| 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)                              |
| Attenuation                                   | 2.1 dB (with 1 MHz)                             |
|   | 4 dB (at 4 MHz)                                 |
|   | 6.3 dB (at 10 MHz)                              |
|   | 8 dB (at 16 MHz)                                |
|   | 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)                            |
| Signal speed                                  | 0.66 c  |
| Signal runtime                                | 5.3 ns/m  |
| Coupling resistance                           | ≤ 20.00 mΩ/m (at 10 MHz)                        |
| Nominal voltage, cable                        | 600 V   |
| Test voltage Core/Core                        | 2000 V (50 Hz, 1 min.)                          |
| Test voltage Core/Shield                      | 2000 V (50 Hz, 1 min.)                          |
| 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)    |

# Network cable - NBC-M 8MS/ 5,0-93B - 1407346

## Technical data

### Cable

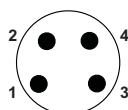
|   |   |
|---|---|
|   | -40 °C ... 70 °C (cable, flexible installation) |
| Ambient temperature (installation)      | -20 °C ... 60 °C                                |
| Ambient temperature (storage/transport) | -50 °C ... 70 °C                                |

### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

Schematic diagram



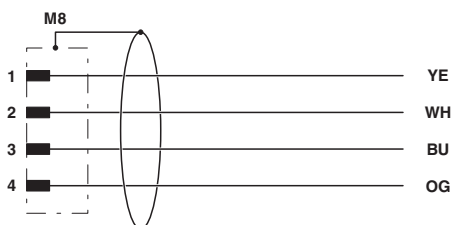
Pin assignment M8 plug, 4-pos., view male side

Cable cross section



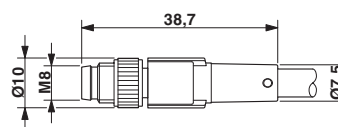
PROFINET PVC stranded CAT5 [93B]

Circuit diagram



Contact assignment of the M8 plug

Dimensional drawing



M8 x 1 male plug, straight version

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| eCl@ss 5.1 | 27061800 |
| eCl@ss 6.0 | 27279200 |
| eCl@ss 7.0 | 27279218 |
| eCl@ss 8.0 | 27279218 |

# Network cable - NBC-M 8MS/ 5,0-93B - 1407346

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 9.0 | 27060308 |
|------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC000830 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |

## Accessories

### Accessories

#### Cable connector

Conductor connectors - SACC-CC-4QO SH PN - 1414416



Cable connector, PROFINET CAT5 (100 Mbps), 4-pos., halogen-free, shielded, insulation displacement connection, housing material: zinc die-cast, nickel-plated, outer cable diameter of 5 mm ... 9.7 mm

#### Circular connector (cable-side)

Connector - SACC-MSD-4QO SH PN SCO - 1411068



Connector, PROFINET CAT5 (100 Mbps), 4-position, halogen-free, shielded, Plug straight M12 SPEEDCON, D-coded, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

Bus system connector - SACC-M12MRD-4Q SH PN - 1554539



Bus system connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D-coded, Insulation displacement connection, knurl material: Nickel-plated brass, external cable diameter 4 mm ... 8 mm

## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

### Accessories

Connector - SACC-FSD-4QO SH PN SCO - 1411071



Connector, PROFINET CAT5 (100 Mbps), 4-position, halogen-free, shielded, Socket straight M12 SPEEDCON, D-coded, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

Bus system connector - SACC-M12FRD-4Q SH PN - 1554542



Bus system connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D-coded, Insulation displacement connection, knurl material: Nickel-plated brass, external cable diameter 4 mm ... 8 mm

Connector - SACC-M12MSD-4PL SH PN - 1424682



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, D-coded, Push-in connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

Connector - SACC-M12MRD-4PL SH PN - 1424684



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D-coded, Push-in connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

Connector - SACC-M12FSD-4PL SH PN - 1424683



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket straight M12, D-coded, Push-in connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

### Accessories

Connector - SACC-M12FRD-4PL SH PN - 1424685



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D-coded, Push-in connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

Connector - SACC-M12MSD-4CT-CM SH PN - 1422846



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, D-coded, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

Connector - SACC-M12MRD-4CT-CM SH PN - 1422847



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, D-coded, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

Connector - SACC-M12FSD-4CT-CM SH PN - 1422848



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket straight M12, D-coded, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

Connector - SACC-M12FRD-4CT-CM SH PN - 1422849



Connector, PROFINET CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, D-coded, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4.5 mm ... 7.5 mm, without crimp contacts

### Corrugated pipe

## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

### Accessories

Protective hose - WP-PA HF 13,0 BK - 3240681



Polyamide protective hose, inflammability class V0, UV resistant

---

Protective hose - WP-PA HF-HB 13,0 BK - 3240839



Polyamide protective hose, inflammability class HB, UV resistant

---

### Cutting tools

Cable-cutting tool - CUTFOX 12 - 1212128



Cable cutter, for copper and aluminum up to 12 mm diameter (up to 35 mm<sup>2</sup>)

---

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

---

### Data cable preassembled

Network cable - NBC-M 8MS/.../... - 1408719



Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT<sup>®</sup> (100 Mbps), 4-position, shielded, Plug straight M8 / IP67, coding: A, on free cable end, cable length: Free input (0.2 ... 40.0 m)

---



## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

### Accessories

Network cable - NBC-M 8FS/.../... - 1408716



Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, shielded, free cable end, on Socket straight M8 / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

---

### Data plug

RJ45 connector - VS-PN-RJ45-5-Q/IP20 - 1658435



RJ45 connector, degree of protection: IP20, number of positions: 4, 100 Mbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, connection cross section: AWG 22- 22, cable outlet: straight, color: traffic grey A RAL 7042

---

RJ45 connector - CUC-IND-C1ZNI-S/R4IP8 - 1421126



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: straight

---

RJ45 connector - CUC-IND-C1ZNI-T/R4IP8 - 1421128



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: angled

---

RJ45 connector - CUC-IND-C1ZNI-B/R4IP8 - 1421127



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 23- 22, cable outlet: angled

## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

### Accessories

RJ45 connector - CUC-V14-C1ZNI-S/R4P8 - 1422664



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm

RJ45 connector - CUC-V14-C1ZNI-T/R4P8 - 1422667



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm

RJ45 connector - CUC-V14-C1ZNI-B/R4P8 - 1422665



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 23 ... 22 AWG, for cable diameter of 5.5 mm ... 10 mm

### Electronics pliers

Diagonal cutter - MICROFOX-SP-1 - 1212487



Electronic diagonal cutter, tapered head, without chamfer, with opening spring, non-reflective phosphate-treated surface, punched version

### Protective cap

Sealing cap - PROT-M 8 FS-PA-CHAIN - 1430857

M8 sealing cap made of plastic with fixing band for sensor cables, for M8 plugs



### Screwdriver tools

## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

### Accessories

Tool - SAC BIT M8-D10 - 1208461



Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive

---

### Stripping tool

Stripping tool - WIREFOX 4 - 1212156



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

---

Stripping tool - WIREFOX-E 4 - 1212704



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

---

Stripping tool - WIREFOX 10 - 1212150



Stripping tool, for cables and conductors from 0.02 - 10 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

---

### Torque tool

Torque screwdriver - TSD 02 SAC - 1208487



Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors

---

## Network cable - NBC-M 8MS/ 5,0-93B - 1407346

### Accessories

Stripping tool - VS-CABLE-STRIP-VARIO - 1657407



Stripping tool, for the multi-level stripping of shielded cables

---

Protective hose adapter - WP-CTA POM 13,0 BK - 1422884



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

---

---