

## Network cable - NBC-M 8MS/10,0-93B/R4AC - 1407355


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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 Plug straight RJ45 / IP20, cable length: 10 m



### Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 pc  |
| GTIN         | <br>4 046356 774833 |
| GTIN         | 4046356774833   |

### Technical data

#### Dimensions

|                 |      |
|-----------------|------|
| Length of cable | 10 m |
|-----------------|------|

#### Ambient conditions

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Degree of protection            | IP65 (M8 connectors)              |
|                                 | IP67 (M8 connectors)              |
|                                 | IP20 (RJ45 connector)             |
| Ambient temperature (operation) | -25 °C ... 90 °C (M8 connectors)  |
|                                 | -25 °C ... 60 °C (RJ45 connector) |

#### 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 | 1 A   |
| Rated voltage         | 30 V AC   |
|                       | 30 V DC   |
| Number of positions   | 4   |
| Signal type/category  | Ethernet, 100 Mbps  |
|                       | PROFINET, 100 Mbps  |
|                       | EtherCAT®, 100 Mbps   |

# Network cable - NBC-M 8MS/10,0-93B/R4AC - 1407355

## Technical data

### General data

|                          |                              |
|--------------------------|------------------------------|
| Standards/regulations    | M8 connector IEC 61076-2-104 |
| Contact material         | CuSn                         |
| Contact carrier material | TPU GF                       |
| Contact surface material | Ni/Au                        |
| Housing material         | Plastic                      |

### 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                                | Plug straight RJ45 / IP20 |
| No. of positions (pin connector pattern) | 4 (8)                     |
| Color                                    | black                     |
|  | gray / black              |
| Material (component)                     | CuSn (Contact)            |
|  | Ni/Au (Contact surface)   |
|  | PA (Contact carriers)     |
|  | PA (Housing)              |
| Insertion/withdrawal cycles              | ≥ 750                     |
| Ambient temperature (operation)          | -25 °C ... 80 °C          |

### 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® CAT5 (IEC 11801), 100 Mbps |

## Network cable - NBC-M 8MS/10,0-93B/R4AC - 1407355

### Technical data

#### Cable

|   |  |
|---|--|
| 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 |
| 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   |

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### Technical data

#### Cable

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

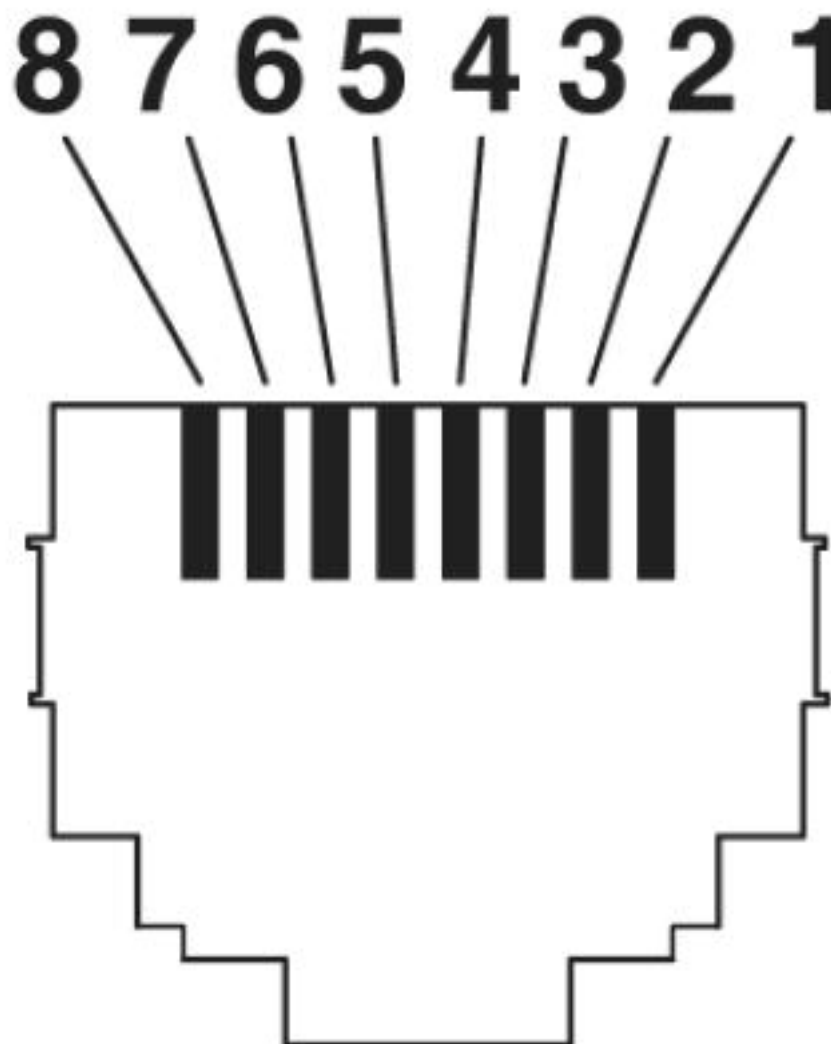
#### Environmental Product Compliance

|            |   |
|------------|---|
| 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

# Network cable - NBC-M 8MS/10,0-93B/R4AC - 1407355

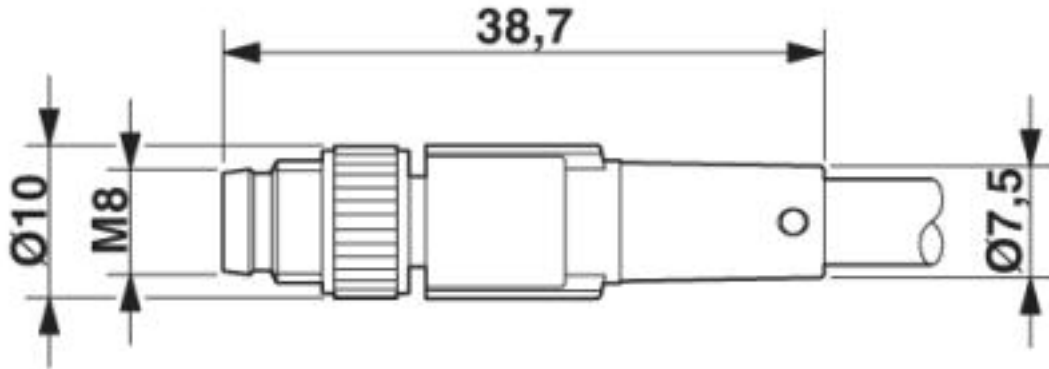
Schematic diagram



Connector pin assignment plug RJ45

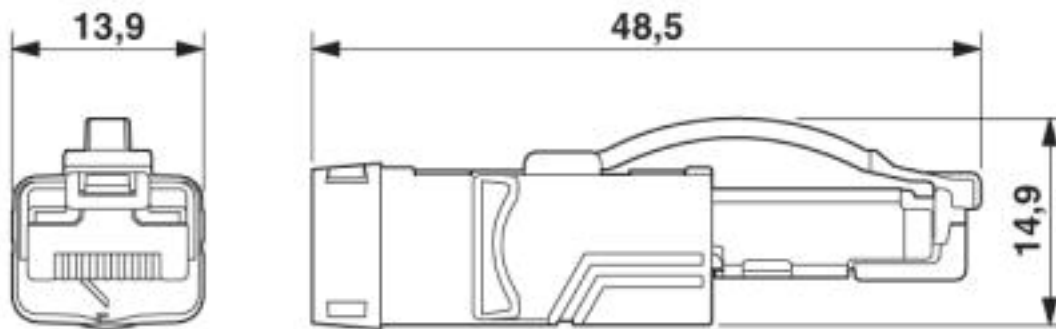
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Dimensional drawing



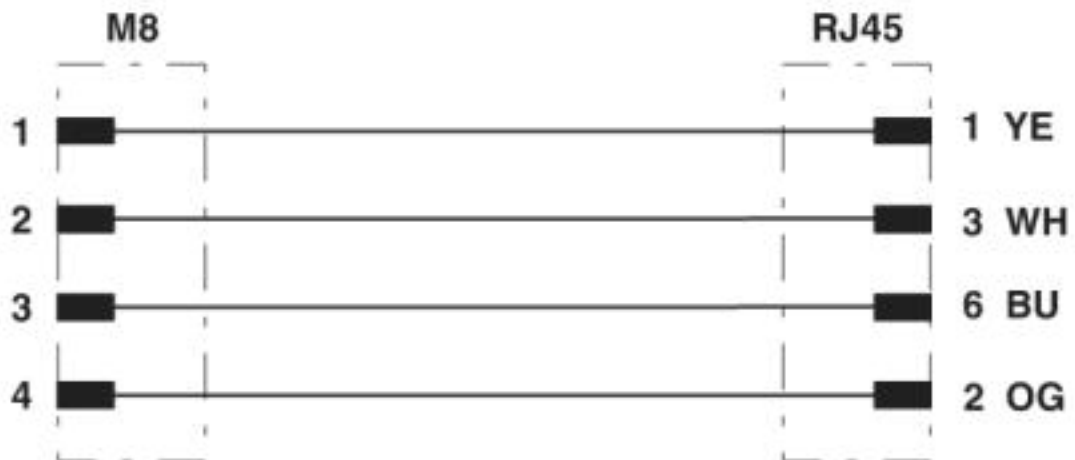
M8 x 1 male plug, straight version

Dimensional drawing



RJ45 connector, IP20

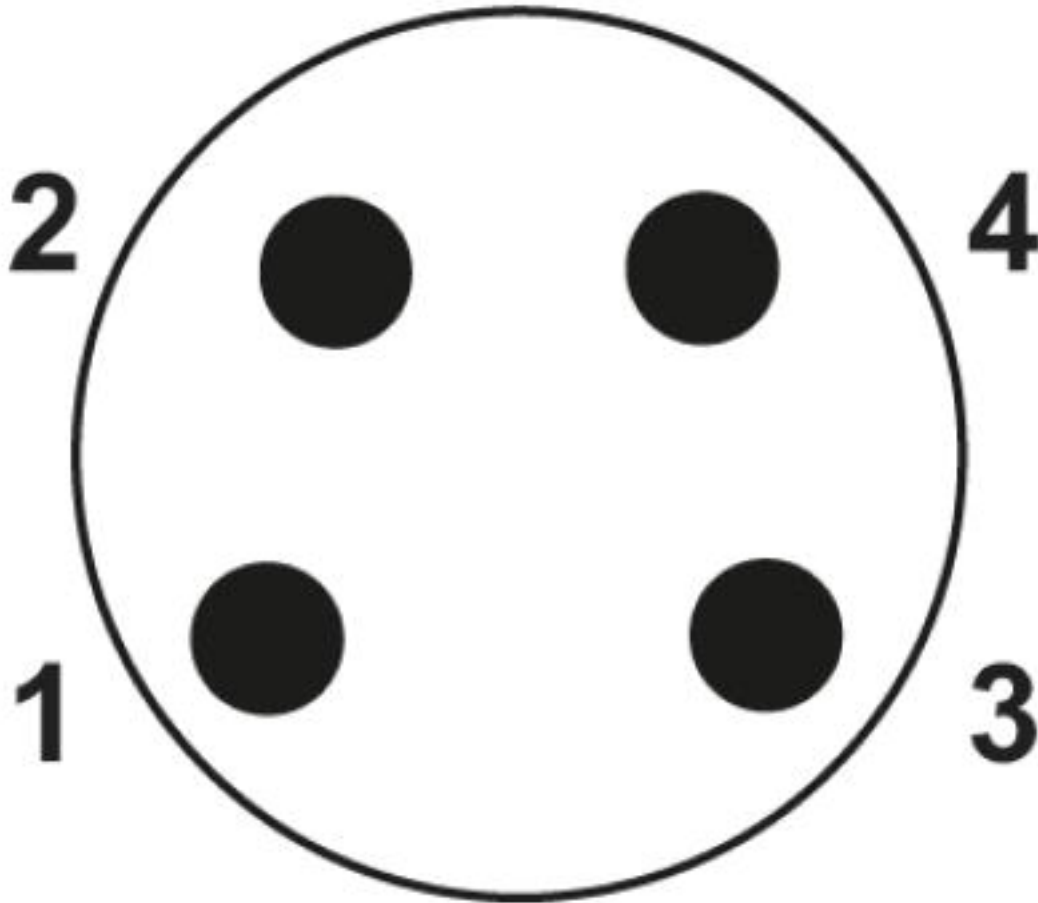
Circuit diagram



Contact assignment of the M8 and RJ45 plug

## Network cable - NBC-M 8MS/10,0-93B/R4AC - 1407355

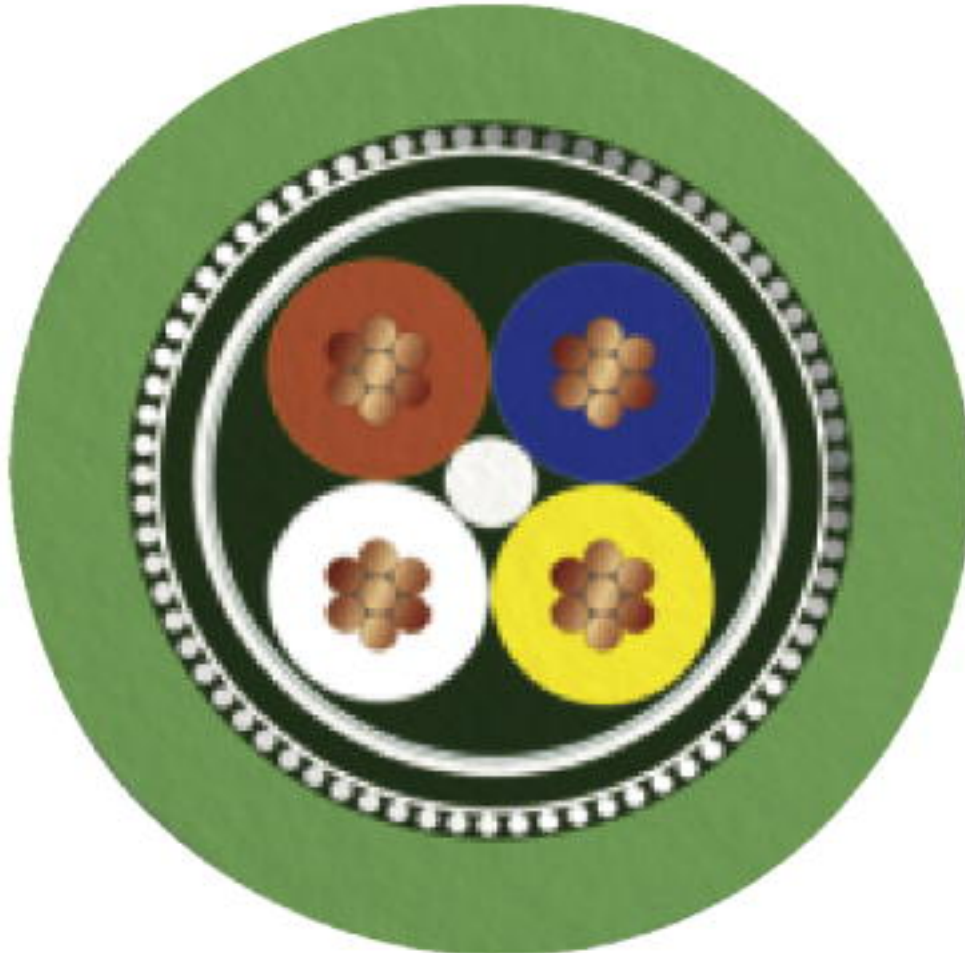
Schematic diagram



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

## Network cable - NBC-M 8MS/10,0-93B/R4AC - 1407355

Cable cross section



PROFINET PVC stranded CAT5 [93B]

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