

## Network cable - NBC-MSD/ 1,0-93E/FSD SCO - 1407400

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Network cable, Ethernet CAT5 (100 Mbps), Ethernet CAT5e (100 Mbps), 4-position, PUR, water blue RAL 5021, shielded, Plug Straight M12 SPEEDCON / IP67, Coding: D, on Socket Straight M12 SPEEDCON / IP67, Coding: D, Cable length: 1 m



### Key commercial data

|                                      |          |
|--------------------------------------|----------|
| Packing unit                         | 1 pc     |
| Weight per Piece (excluding packing) | 80.0 GRM |
| Custom tariff number                 | 85444210 |
| Country of origin                    | Poland   |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 1 m |
|-----------------|-----|

#### Ambient conditions

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

#### General data

|                       |  |
|-----------------------|--|
| Rated current at 40°C | 4 A                                      |
| Rated voltage         | 250 V                                    |
| Number of positions   | 4  |
| Signal type/category  | Ethernet CAT5 (IEC 11801:2002), 100 Mbps |
|                       | Ethernet CAT5e (TIA 568B:2001), 100 Mbps |
| Standards/regulations | M12 connector IEC 61076-2-101            |

#### Characteristics head 1

|  |                                   |
|--|-----------------------------------|
| Head design                              | Plug Straight M12 SPEEDCON / IP67 |
| No. of positions (pin connector pattern) | 4                                 |

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### Technical data

#### Characteristics head 1

|                                 |  |
|---------------------------------|--|
| Coding                          | D (Data)   |
| Color                           | black  |
| Material (component)            | CuZn (Contact)                                     |
|                                 | Ni/Au (Contact surface)                            |
|                                 | PA (Contact carriers)                              |
|                                 | TPU, hardly inflammable, self-extinguishing (Grip) |
|                                 | Zinc die-cast, nickel-plated (Screw connection)    |
| Contact resistance              | ≤ 5 mΩ   |
| Insulation resistance           | ≥ 100 MΩ   |
| Insertion/withdrawal cycles     | ≥ 100  |
| Torque                          | 0.4 Nm   |
| Ambient temperature (operation) | -25 °C ... 90 °C                                   |

#### Characteristics head 2

|  |  |
|--|--|
| Head design                              | Socket Straight M12 SPEEDCON / IP67                |
| No. of positions (pin connector pattern) | 4  |
| Coding                                   | D (Data)   |
| Color                                    | black  |
| Material (component)                     | CuZn (Contact)                                     |
|  | Ni/Au (Contact surface)                            |
|  | TPU GF (Contact carriers)                          |
|  | TPU, hardly inflammable, self-extinguishing (Grip) |
|  | Zinc die-cast, nickel-plated (Screw connection)    |
| Contact resistance                       | ≤ 5 mΩ   |
| Insulation resistance                    | ≥ 100 MΩ   |
| Insertion/withdrawal cycles              | ≥ 100  |
| Torque                                   | 0.4 Nm   |
| Ambient temperature (operation)          | -25 °C ... 90 °C                                   |

#### Cable

|                           |  |
|---------------------------|--|
| Cable type                | PUR ETHERNET 2x2 FLEX                    |
| Cable type (abbreviation) | 93E                                      |
| UL AWM style              | 20963 (80°C/30 V)                        |
| Signal type/category      | Ethernet CAT5 (IEC 11801:2002), 100 Mbps |
|                           | Ethernet CAT5e (TIA 568B:2001), 100 Mbps |
| Cable structure           | 2x2xAWG26/7; SF/UTP                      |
| Conductor cross section   | 2x 2x 0.14 mm <sup>2</sup>               |
| AWG signal line           | 26                                       |

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### Technical data

#### Cable

|   |  |
|---|--|
| Conductor structure signal line               | 7x 0.16 mm   |
| Core diameter including insulation            | 0.98 mm  |
| Wire colors                                   | white/orange-orange, white/green-green             |
| Twisted pairs                                 | 2 cores to the pair                                |
| Overall twist                                 | Two pairs with two fillers to the core             |
| Shielding                                     | Aluminum-coated foil, tinned copper braided shield |
| Optical shield covering                       | 70 %   |
| External sheath, color                        | water blue RAL 5021                                |
| External cable diameter D                     | 6.4 mm ± 0.2 mm                                    |
| Minimum bending radius, fixed installation    | 4 x D  |
| Minimum bending radius, flexible installation | 8 x D  |
| Tensile strength short-term/long-term         | ≤ 80N  |
| Cable weight                                  | 42 kg/km   |
| Outer sheath, material                        | PUR  |
| Material conductor insulation                 | Foamed PE  |
| Conductor material                            | Bare Cu litz wires                                 |
| Insulation resistance                         | ≥ 500 MΩ*km (at 20 °C)                             |
| Conductor resistance                          | ≤ 290 Ω/km (at 20 °C)                              |
| Working capacitance                           | 45 nF (At 1 kHz)                                   |
| Wave impedance                                | 100 Ω ± 5 Ω (At 100 MHz)                           |
| Signal runtime                                | 5.3 ns/m   |
| Nominal voltage, cable                        | ≤ 100 V  |
|   | 300 V (Outer cable sheath)                         |
| Test voltage Core/Core                        | 700 V (50 Hz, 1 min.)                              |
| Test voltage Core/Shield                      | 700 V (50 Hz, 1 min.)                              |
| Flame resistance                              | IEC 60332-1-2                                      |
| Halogen-free                                  | According to IEC 60754-1                           |
| Resistance to oil                             | in accordance with DIN 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                                   |
| Ambient temperature (storage/transport)       | -20 °C ... 80 °C                                   |

### Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
|------------|----------|

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### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| eCl@ss 5.1 | 27061801 |
| eCl@ss 6.0 | 27061801 |
| eCl@ss 7.0 | 27061801 |
| eCl@ss 8.0 | 27061801 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |

#### UNSPSC

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

### Approvals

#### Approvals

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Approvals

UL Listed

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Ex Approvals

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Approvals submitted

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Approval details

# Network cable - NBC-MSD/ 1,0-93E/FSD SCO - 1407400

## Approvals

|   |       |
|---|-------|
| UL Listed  |       |
| Nominal current IN  | 0.5 A |
| Nominal voltage UN  | 60 V  |

## Accessories

### Accessories

#### Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

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



Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



#### Safety locking

Fuse clip - SAC-M12-EXCLIP-M - 1558988

Fuse clip for the pin side of various M12 sensor/actuator connectors prevents plug-in connections being interrupted without using a tool



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### Accessories

Fuse clip - SAC-M12-EXCLIP-F - 1558991



Fuse clip for the socket side of various M12 sensor/actuator connectors prevents plug-in connections being interrupted without using a tool

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### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



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

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Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and for M12 connectors with QUICKON fast connection technology, for 4 mm hexagonal drive

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### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



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

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Torque screwdriver - TSD-M 1,2NM - 1212224



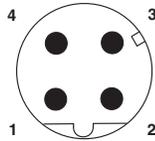
Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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## Accessories

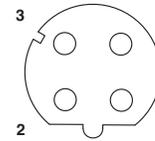
### Drawings

Schematic diagram



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

Schematic diagram



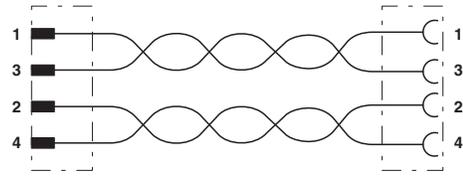
Pin assignment M12 socket, 4-pos., D-coded, female side

Cable cross section



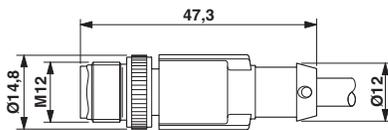
PUR ETHERNET 2x2 FLEX [93E]

Circuit diagram



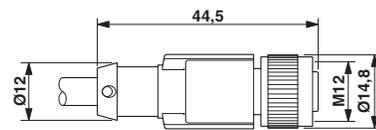
Contact assignment of the M12 connector and the M12 socket

Dimensioned drawing



Plug, M12 x 1, straight, shielded

Dimensioned drawing



M12 x 1 socket, straight, shielded