

## Network cable - NBC-MSD/ 5,0-93B SCO - 1407497

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Network cable, PROFINET CAT5 (100 Mbps), PROFINET CAT5e (100 Mbps), 4-position, PVC/PVC, Green RAL 6018, shielded, Plug Straight M12 SPEEDCON / IP67, Coding: D, on Free cable end, Cable length: 5 m



### Key commercial data

|                                      |           |
|--------------------------------------|-----------|
| Packing unit                         | 1 pc      |
| Weight per Piece (excluding packing) | 360.0 GRM |
| Custom tariff number                 | 85444210  |
| Country of origin                    | Poland    |

### Technical data

#### Dimensions

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

#### Ambient conditions

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

#### General data

|                       |                                                                                                                                                                                                                      |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note                  | This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 8.2 Connectors for Outside Environment (Balanced cabling) |
| Rated current at 40°C | 4 A                                                                                                                                                                                                                  |
| Rated voltage         | 250 V                                                                                                                                                                                                                |
| Number of positions   | 4                                                                                                                                                                                                                    |
| Signal type/category  | PROFINET CAT5 (IEC 11801:2002), 100 Mbps                                                                                                                                                                             |
|                       | PROFINET CAT5e (TIA 568B:2001), 100 Mbps                                                                                                                                                                             |
| Standards/regulations | M12 connector IEC 61076-2-101                                                                                                                                                                                        |

# Network cable - NBC-MSD/ 5,0-93B SCO - 1407497

## Technical data

### Characteristics head 1

|                                          |                                                    |
|------------------------------------------|----------------------------------------------------|
| Head type                                | Plug Straight M12 SPEEDCON / IP67                  |
| No. of positions (pin connector pattern) | 4                                                  |
| Coding                                   | D (Data)                                           |
| Color                                    | black                                              |
| Material (component)                     | CuSn (Contact)                                     |
|                                          | Ni/Au (Contact surface)                            |
|                                          | PA (Contact carriers)                              |
|                                          | TPU, hardly inflammable, self-extinguishing (Grip) |
|                                          | Zinc die-cast, nickel-plated (Screw connection)    |
| Contact resistance                       | $\leq 5 \text{ m}\Omega$                           |
| Insulation resistance                    | $\geq 100 \text{ M}\Omega$                         |
| Insertion/withdrawal cycles              | $\geq 100$                                         |
| Torque                                   | 0.4 Nm                                             |
| Ambient temperature (operation)          | -25 °C ... 90 °C                                   |

### Characteristics head 2

|           |                |
|-----------|----------------|
| Head type | Free cable end |
|-----------|----------------|

### Cable

|                                               |                                                    |
|-----------------------------------------------|----------------------------------------------------|
| Cable type                                    | PROFINET PVC stranded CAT5e                        |
| Cable type (abbreviation)                     | 93B                                                |
| UL AWM style                                  | 21694                                              |
| Signal type/category                          | PROFINET CAT5 (IEC 11801:2002), 100 Mbps           |
|                                               | PROFINET CAT5e (TIA 568B:2001), 100 bps            |
| 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            | approx. 1.5 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 $\pm 0.2$ mm                                |
| Minimum bending radius, fixed installation    | 3 x D                                              |
| Minimum bending radius, flexible installation | 7 x D                                              |

## Network cable - NBC-MSD/ 5,0-93B SCO - 1407497

### Technical data

#### Cable

|                                         |                                                 |
|-----------------------------------------|-------------------------------------------------|
| Torsion force                           | ± 180 °/m (30,000 torsion cycles)               |
| 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 Ω (per kilometer)                         |
| Working capacitance                     | 52 pF                                           |
| Wave impedance                          | 100 Ω ±15 Ω (at 100 MHz)                        |
| Signal runtime                          | 5.3 ns/m                                        |
| Coupling resistance                     | ≤ 20.00 mΩ/m                                    |
| 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                                |

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060307 |
| eCl@ss 4.1 | 27060307 |
| eCl@ss 5.0 | 27060307 |
| eCl@ss 5.1 | 27060307 |
| eCl@ss 6.0 | 27060307 |
| eCl@ss 7.0 | 27060307 |
| eCl@ss 8.0 | 27060307 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000830 |
| ETIM 4.0 | EC001855 |

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## Classifications

### ETIM

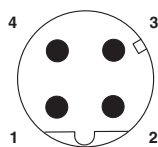
|          |          |
|----------|----------|
| ETIM 5.0 | EC001855 |
|----------|----------|

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31261501 |
| UNSPSC 7.0901 | 31261501 |
| UNSPSC 11     | 31261501 |
| UNSPSC 12.01  | 31261501 |
| UNSPSC 13.2   | 31261501 |

## Drawings

Schematic diagram



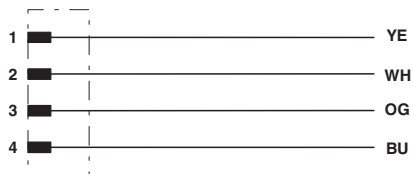
Pin assignment M12 male connector, 4-pos., D-coded, male side

Cable cross section



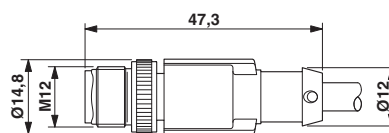
PROFINET PVC stranded CAT5e [93B]

Circuit diagram



Contact assignment of the M12 plug

Dimensioned drawing



Plug, M12 x 1, straight, shielded