

## Network cable - NBC-R4RC/5,0-93B/R4RC - 1408972

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Assembled PROFINET cable, CAT5e, shielded, star quad, AWG 22 stranded (7-wire), RAL 6018 (yellow-green), RJ45 plug/IP67 push-pull metal housing on RJ45 plug/IP67 push-pull metal housing, line, length: 5 m



### Key Commercial Data

|              |                                                                                      |
|--------------|--------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                 |
| GTIN         |  |
| GTIN         | 4046356857017                                                                        |

### Technical data

#### Dimensions

|                 |        |
|-----------------|--------|
| Length of cable | 5.00 m |
|-----------------|--------|

#### Ambient conditions

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Degree of protection            | IP67 (RJ45 connector)             |
| Ambient temperature (operation) | -40 °C ... 70 °C (RJ45 connector) |

#### General data

|                                         |                     |
|-----------------------------------------|---------------------|
| Rated current at 40°C                   | 1 A                 |
| Rated voltage                           | 48 V                |
| Number of positions                     | 4                   |
| Standards/regulations                   | IEC PAS 61076-3-117 |
| Overvoltage category                    | I                   |
| Degree of pollution                     | 2                   |
| Alternative short product description   | PROFINET cable      |
| Locking type                            | Push Pull           |
| Rated voltage (III/3)                   | 72 V (DC)           |
| Degree of protection                    | IP65/IP67           |
| Number of slots                         | 1                   |
| Transmission characteristics (category) | CAT5                |

# Network cable - NBC-R4RC/5,0-93B/R4RC - 1408972

## Technical data

### Characteristics head 1

|                                 |                                        |
|---------------------------------|----------------------------------------|
| Color                           | silver                                 |
| Material (component)            | CuSn (Contact)                         |
|                                 | Ni/Au (Contact surface)                |
|                                 | PC (Contact carriers)                  |
|                                 | Zinc die-cast, nickel-plated (Housing) |
| Insertion/withdrawal cycles     | ≥ 750                                  |
| Ambient temperature (operation) | -40 °C ... 70 °C                       |
| Shielded                        | yes                                    |
| Outer sheath, material          | PVC                                    |
| External sheath, color          | green RAL 6018                         |
| Type type, plug side            | Plug straight                          |
| Type type, socket side          | Plug, straight                         |

### Characteristics head 2

|                                 |                                        |
|---------------------------------|----------------------------------------|
| Color                           | silver                                 |
| Material (component)            | CuSn (Contact)                         |
|                                 | Ni/Au (Contact surface)                |
|                                 | PC (Contact carriers)                  |
|                                 | Zinc die-cast, nickel-plated (Housing) |
| Insertion/withdrawal cycles     | ≥ 750                                  |
| Ambient temperature (operation) | -40 °C ... 70 °C                       |

### Standards and Regulations

|                                        |                     |
|----------------------------------------|---------------------|
| Standards/specifications               | IEC PAS 61076-3-117 |
| Flammability rating according to UL 94 | V0                  |

### 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               |
| Cable structure                    | 1x4xAWG22/7; SF/TQ                                 |
| Conductor cross section            | 4x 0.34 mm²                                        |
| 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                                     |

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## Technical data

### Cable

|                                               |                                                 |
|-----------------------------------------------|-------------------------------------------------|
| 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                                           |
| 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                         | $\geq$ 500 M $\Omega$ *km                       |
| Loop resistance                               | $\leq$ 120.00 $\Omega$ /km                      |
| Wave impedance                                | 100 $\Omega$ $\pm$ 15 $\Omega$ (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)                              |
|                                               | 2.1 dB (with 1 MHz)                             |
|                                               | 4 dB (at 4 MHz)                                 |
| Attenuation                                   | 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                           | $\leq$ 20.00 m $\Omega$ /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                                |

## Network cable - NBC-R4RC/5,0-93B/R4RC - 1408972

### Technical data

#### Cable

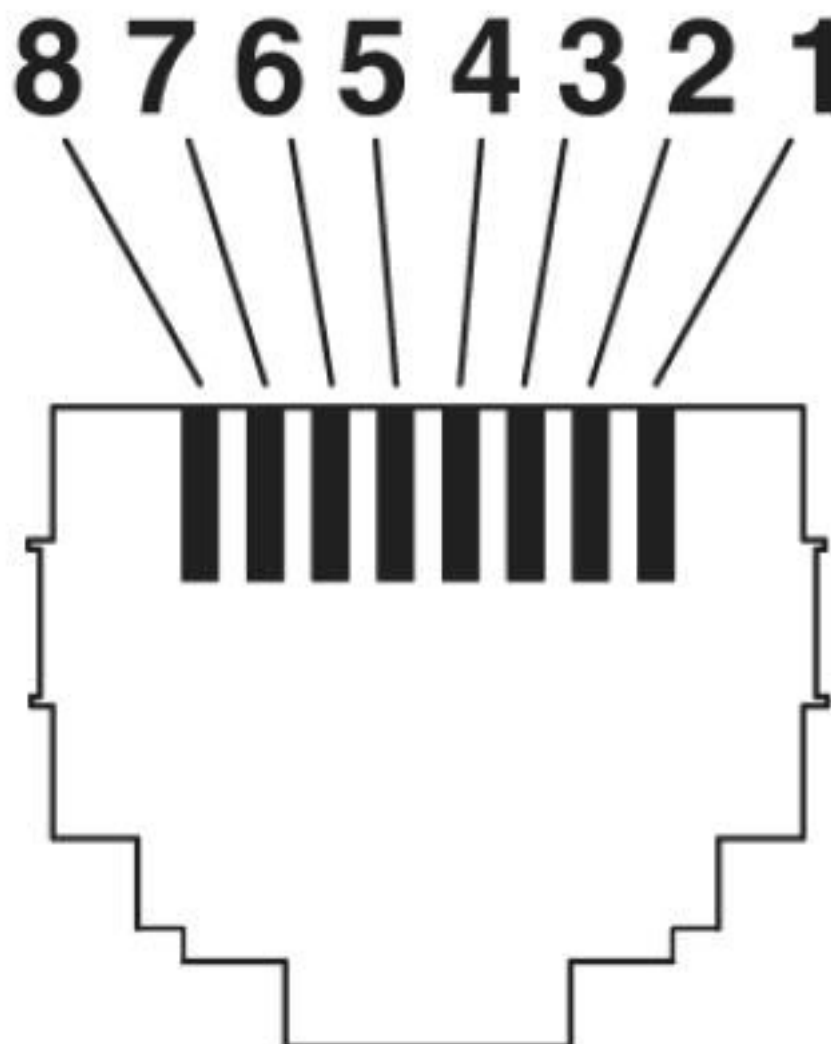
|                                         |                  |
|-----------------------------------------|------------------|
| Ambient temperature (storage/transport) | -50 °C ... 70 °C |
|-----------------------------------------|------------------|

#### Environmental Product Compliance

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

### Drawings

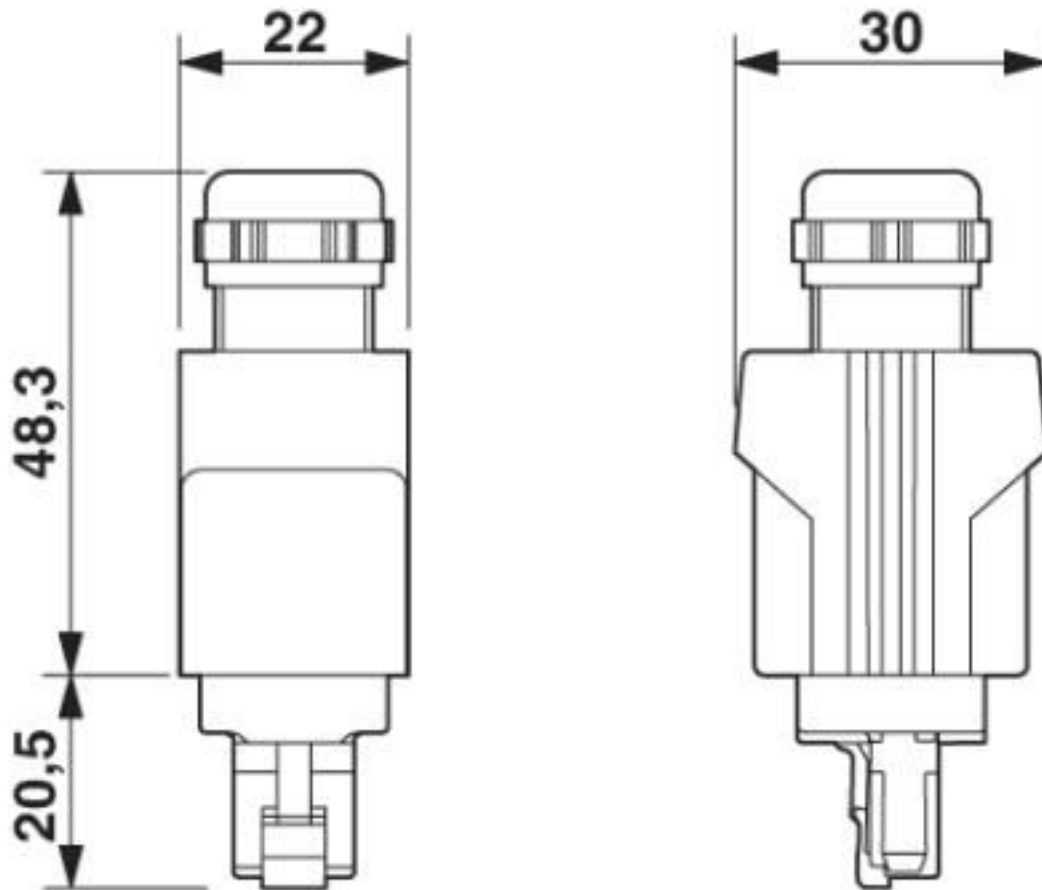
Schematic diagram



Connector pin assignment plug RJ45

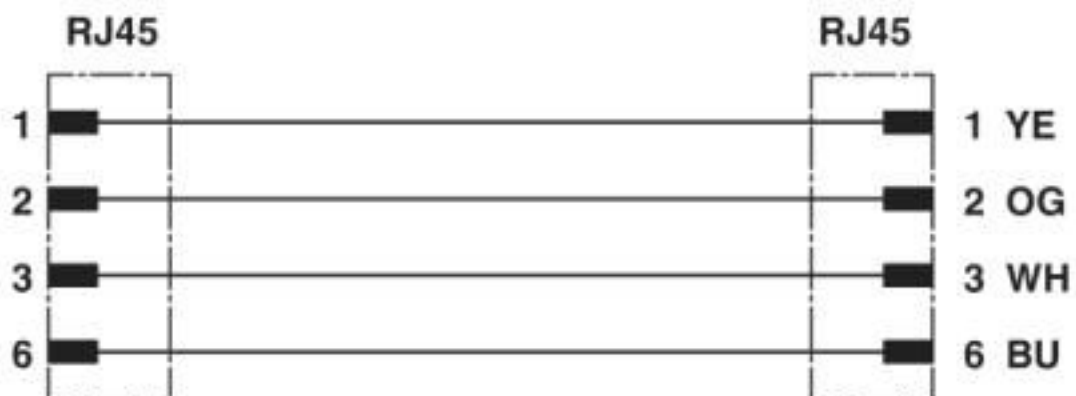
## Network cable - NBC-R4RC/5,0-93B/R4RC - 1408972

Dimensional drawing



RJ45 Push-Pull connector, IP67

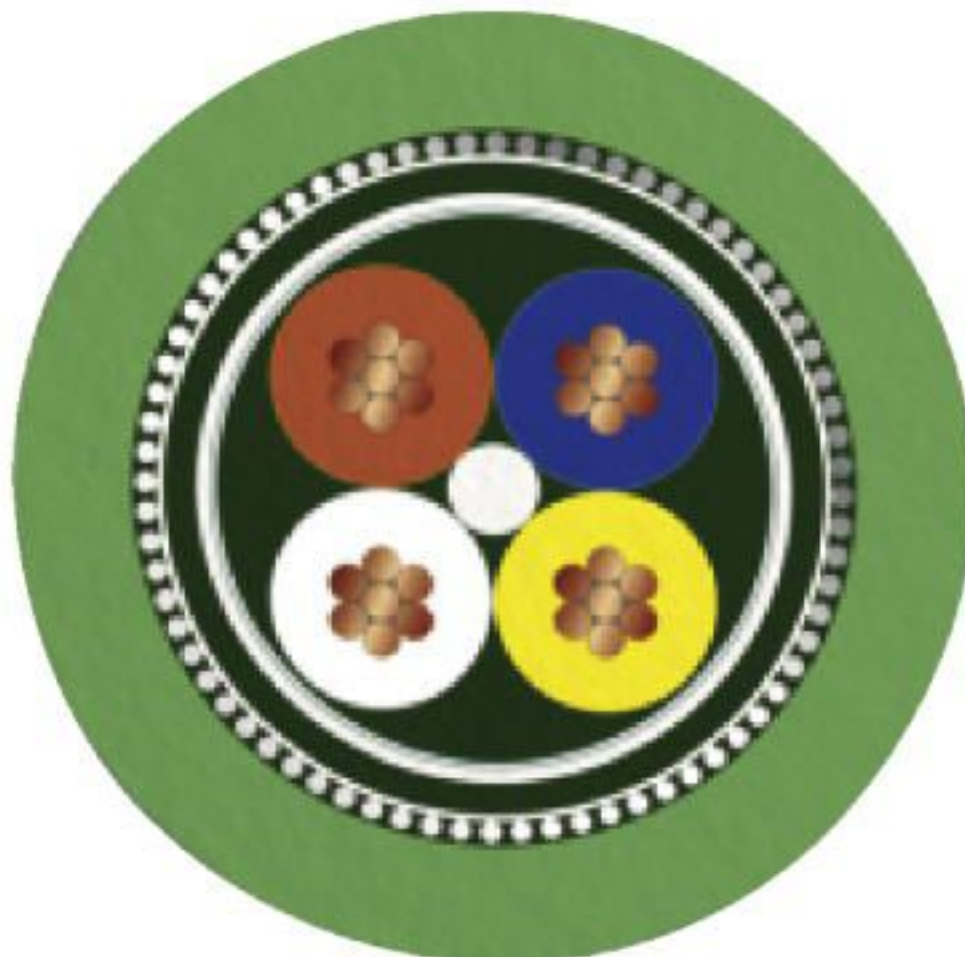
Circuit diagram



Contact assignment of RJ45 plugs

## Network cable - NBC-R4RC/5,0-93B/R4RC - 1408972

Cable cross section



PROFINET PVC stranded CAT5 [93B]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 4.0    | 24010400 |
| eCl@ss 4.1    | 24010400 |
| eCl@ss 5.0    | 19030300 |
| eCl@ss 5.1    | 19030300 |
| eCl@ss 6.0    | 27061800 |
| eCl@ss 7.0    | 27060308 |
| eCl@ss 8.0    | 27060308 |
| eCl@ss 9.0    | 27060308 |

## Network cable - NBC-R4RC/5,0-93B/R4RC - 1408972

### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000830 |
| ETIM 4.0 | EC002599 |
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC001262 |
| ETIM 7.0 | EC001262 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 26121616 |
| UNSPSC 7.0901 | 26121616 |
| UNSPSC 11     | 26121604 |
| UNSPSC 12.01  | 31261501 |
| UNSPSC 13.2   | 26121604 |
| UNSPSC 18.0   | 26121604 |
| UNSPSC 19.0   | 26121604 |
| UNSPSC 20.0   | 26121604 |
| UNSPSC 21.0   | 26121604 |

### Approvals

#### Approvals

#### Approvals

#### EAC

#### Ex Approvals

#### Approval details

|     |                                                                                     |          |
|-----|-------------------------------------------------------------------------------------|----------|
| EAC |  | 19060508 |
|-----|-------------------------------------------------------------------------------------|----------|

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