

# NBC-R4RC/1,0-94B/R4RC - Network cable



1408961

<https://www.phoenixcontact.com/pc/products/1408961>

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Assembled Ethernet cable, shielded, 4-pair, 26 AWG stranded (7-wire), RAL 5021 (water blue), RJ45 plug/IP67 push/pull metal housing to RJ45 plug/IP67 push/pull metal housing, line, length: 1 m

## Your advantages

- Compact angle
- Perfect for industrial applications
- PVC cable for flexible installations
- Worldwide approval with CE, UL, WEEE, and EAC
- Secure connection and disconnection with reliable locking clip protection
- Ideal EMC properties, thanks to 360° shielding
- Simultaneous power transmission with PoE++
- Resistant to shock and vibrations, thanks to robust molding
- High-speed data transmission with up to 1 Gbps (CAT5)

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1408961                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Product key                          | ABNABE                         |
| Catalog page                         | Page 400 (C-2-2019)            |
| GTIN                                 | 4046356856898                  |
| Weight per piece (including packing) | 181.7 g                        |
| Weight per piece (excluding packing) | 181.7 g                        |
| Customs tariff number                | 85444210                       |
| Country of origin                    | PL                             |

## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Sensor type          | Ethernet                |
| Number of positions  | 8                       |
| Connection profile   | RJ45                    |
| No. of cable outlets | 1                       |
| Number of slots      | 1                       |
| Shielded             | yes                     |
| Cable outlet         | straight                |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 09 |
|------------------|----|

### Insulation characteristics

|                     |   |
|---------------------|---|
| Degree of pollution | 2 |
|---------------------|---|

### Signaling

|                        |    |
|------------------------|----|
| Status display         | no |
| Status display present | No |

### Electrical properties

|                                         |                       |
|-----------------------------------------|-----------------------|
| Rated voltage (III/3)                   | 72 V (DC)             |
| Nominal voltage $U_N$                   | 48 V                  |
| Nominal current $I_N$                   | 1 A                   |
| Transmission medium                     | Copper                |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002) |
| Transmission speed                      | 1 Gbps                |
| Wave impedance                          | 100 $\Omega$          |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 200$ |
|-----------------------------|------------|

### Material specifications

|                                        |                    |
|----------------------------------------|--------------------|
| Flammability rating according to UL 94 | V2                 |
| Outer sheath, material                 | PUR                |
| Conductor material                     | Bare Cu litz wires |

### Connector

#### Connection 1

|              |                    |
|--------------|--------------------|
| Type         | Plug straight RJ45 |
| Locking type | Push Pull          |

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|                                 |                                        |
|---------------------------------|----------------------------------------|
| Handle color                    | silver                                 |
| Material                        | CuSn (Contact)                         |
|                                 | Ni/Au (Contact surface)                |
|                                 | PC (Contact carriers)                  |
|                                 | Zinc die-cast, nickel-plated (Housing) |
| Insertion/withdrawal cycles     | ≥ 750                                  |
| Degree of protection            | IP67                                   |
| Ambient temperature (operation) | -40 °C ... 70 °C                       |

## Connection 2

|                                 |                                        |
|---------------------------------|----------------------------------------|
| Type                            | Plug straight RJ45                     |
| Locking type                    | Push Pull                              |
| Handle color                    | silver                                 |
| Material                        | CuSn (Contact)                         |
|                                 | Ni/Au (Contact surface)                |
|                                 | PC (Contact carriers)                  |
|                                 | Zinc die-cast, nickel-plated (Housing) |
| Insertion/withdrawal cycles     | ≥ 750                                  |
| Degree of protection            | IP67                                   |
| Ambient temperature (operation) | -40 °C ... 70 °C                       |

## Cable/line

|              |        |
|--------------|--------|
| Cable length | 1.00 m |
|--------------|--------|

## Ethernet flexible CAT5, 4-pair [94B]

|                           |                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing       |  |
| Shielded                  | yes                                                                                  |
| UL AWM Style              | 20963 (80°C/30 V)                                                                    |
| Cable weight              | 47 kg/km                                                                             |
| Cable type                | Ethernet flexible CAT5, 4-pair                                                       |
| Short symbol              | 02YS(ST)C11Y                                                                         |
| Cable type (abbreviation) | 94B                                                                                  |
| Signal type/category      | Ethernet CAT5 (IEC 11801), 1 Gbps                                                    |
| Cable structure           | 4x2xAWG26/7, SF/UTP                                                                  |
| External cable diameter   | 6.40 mm ±0.2 mm                                                                      |
| Outer sheath, material    | PUR                                                                                  |
| External sheath, color    | water blue RAL 5021                                                                  |
| Thickness, outer sheath   | 1.05 mm                                                                              |

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|                                                        |                                                                            |
|--------------------------------------------------------|----------------------------------------------------------------------------|
| Conductor material                                     | Bare Cu litz wires                                                         |
| Conductor structure signal line                        | 7x 0.16 mm                                                                 |
| AWG signal line                                        | 26                                                                         |
| Conductor cross section                                | 4x 2x 0.14 mm <sup>2</sup>                                                 |
| Material wire insulation                               | Foamed PE                                                                  |
| Wire diameter incl. insulation                         | 0.96 mm                                                                    |
| Single wire, color                                     | white/blue-blue, white/orange-orange, white/green-green, white/brown-brown |
| Twisted pairs                                          | 2 cores to the pair                                                        |
| Overall twist                                          | 4 pairs for core                                                           |
| Shielding                                              | Aluminum-coated foil, tinned copper braided shield                         |
| Optical shield covering                                | 70 %                                                                       |
| Nominal voltage, cable                                 | ≤ 100 V                                                                    |
| Test voltage Core/Core                                 | 700 V (50 Hz, 1 min.)                                                      |
| Test voltage Core/Shield                               | 700.00 V (50 Hz, 1 min.)                                                   |
| Cable insulation resistance                            | ≥ 5 GΩ*km                                                                  |
| Coupling resistance                                    | ≤ 100.00 mΩ/m (at 10 MHz)                                                  |
| Wave impedance                                         | 100 Ω ±5 Ω (at 100 MHz)                                                    |
| Loop resistance                                        | ≤ 290.00 Ω/km                                                              |
| Cable capacity                                         | 48 nF/km (at 1 kHz)                                                        |
| Signal runtime                                         | 5.3 ns/m                                                                   |
| Tensile strength                                       | ≤ 100 N                                                                    |
| Minimum bending radius, fixed installation             | 4 x D                                                                      |
| Minimum bending radius, flexible installation          | 8 x D                                                                      |
| Near end crosstalk attenuation (NEXT)                  | 71.3 dB (with 1 MHz)                                                       |
|                                                        | 62.3 dB (at 4 MHz)                                                         |
|                                                        | 56.3 dB (at 10 MHz)                                                        |
|                                                        | 53.2 dB (at 16 MHz)                                                        |
|                                                        | 51.8 dB (at 20 MHz)                                                        |
|                                                        | 48.9 dB (at 31.25 MHz)                                                     |
|                                                        | 44.4 dB (at 62.5 MHz)                                                      |
|                                                        | 41.3 dB (at 100 MHz)                                                       |
| Power-summated near end crosstalk attenuation (PSNEXT) | 62.3 dB (with 1 MHz)                                                       |
|                                                        | 53.3 dB (at 4 MHz)                                                         |
|                                                        | 47.3 dB (at 10 MHz)                                                        |
|                                                        | 44.2 dB (at 16 MHz)                                                        |
|                                                        | 42.8 dB (at 20 MHz)                                                        |
|                                                        | 39.9 dB (at 31.25 MHz)                                                     |
|                                                        | 35.4 dB (at 62.5 MHz)                                                      |
|                                                        | 32.3 dB (at 100 MHz)                                                       |
| Return attenuation (RL)                                | 23 dB (at 4 MHz)                                                           |
|                                                        | 24.1 dB (at 8 MHz)                                                         |
|                                                        | 25 dB (at 10 MHz)                                                          |
|                                                        | 25 dB (at 16 MHz)                                                          |

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|                                 |                                                 |
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|                                 | 25 dB (at 20 MHz)                               |
|                                 | 23.6 dB (at 31.25 MHz)                          |
|                                 | 21.5 dB (at 62.5 MHz)                           |
|                                 | 20.1 dB (at 100 MHz)                            |
| Halogen-free                    | according to IEC 60754-1                        |
| Resistance to oil               | in accordance with EN 60811-2-1                 |
| Flame resistance                | according to IEC 60332-1-2                      |
| Ambient temperature (operation) | -20 °C ... 80 °C (Cable, flexible installation) |
|                                 | -40 °C ... 80 °C (cable, fixed installation)    |

## Environmental and real-life conditions

### Ambient conditions

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Degree of protection            | IP67 (RJ45 connector)             |
|                                 | IP65/IP67                         |
| Ambient temperature (operation) | -40 °C ... 70 °C (RJ45 connector) |

## Standards and regulations

|                          |                     |
|--------------------------|---------------------|
| Standards/specifications | IEC PAS 61076-3-117 |
|--------------------------|---------------------|

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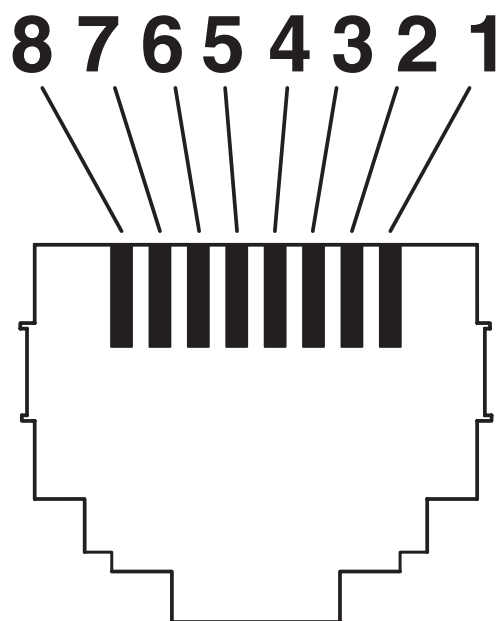
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## Drawings

### Schematic diagram



Connector pin assignment plug RJ45

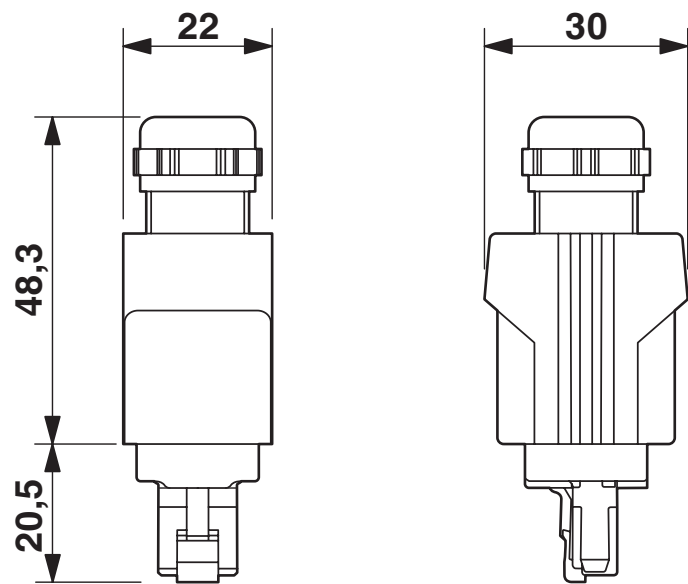
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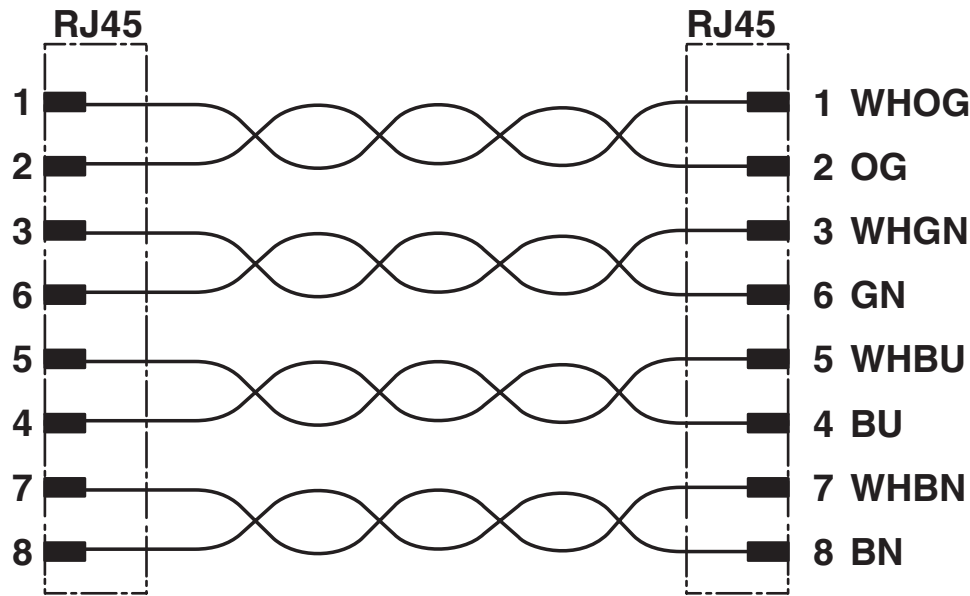
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Dimensional drawing



RJ45 Push-Pull connector, IP67

Circuit diagram



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## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/1408961>



**EAC**

Approval ID: 19060508



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060308 |
| ECLASS-12.0 | 27060308 |
| ECLASS-13.0 | 27060307 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001855 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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## Environmental product compliance

|                                         |                                                             |
|-----------------------------------------|-------------------------------------------------------------|
| EU RoHS                                 |                                                             |
| Fulfills EU RoHS substance requirements | Yes, No exemptions                                          |
| China RoHS                              |                                                             |
| Environment friendly use period (EFUP)  | EFUP-E                                                      |
|                                         | No hazardous substances above the limits                    |
| EU REACH SVHC                           |                                                             |
| REACH candidate substance (CAS No.)     | 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1) |
| SCIP                                    | 17dd2354-29f8-4150-b44c-8a7c66ebe048                        |

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