

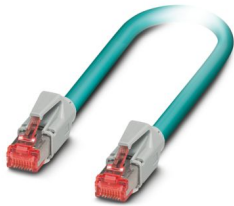
# NBC-R4AC/1,0-94B/R4AC - Network cable



1408950

<https://www.phoenixcontact.com/us/products/1408950>

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Assembled Ethernet cable, shielded, 4-pair, AWG 26 stranded (7-wire), RAL 5021 (water blue), RJ45 plug/IP20 to RJ45 plug/IP20, 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                          | 1408950       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | AB11          |
| Product key                          | ABNABE        |
| GTIN                                 | 4046356856775 |
| Weight per piece (including packing) | 72 g          |
| Weight per piece (excluding packing) | 63.347 g      |
| Customs tariff number                | 85444210      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                     |                          |
|---------------------|--------------------------|
| Product type        | Data cable preassembled  |
| Product family      | RJ45 INDUSTRIAL IE8 CAT5 |
| Number of positions | 8                        |
| Shielded            | yes                      |

### Interfaces

|                      |                                        |
|----------------------|----------------------------------------|
| Signal type/category | Ethernet CAT5 (IEC 11801:2002), 1 Gbps |
|----------------------|----------------------------------------|

### Electrical properties

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

### Material specifications

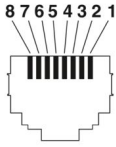
|                        |                    |
|------------------------|--------------------|
| Outer sheath, material | PUR                |
| Conductor material     | Bare Cu litz wires |

### Dimensions

|        |         |
|--------|---------|
| Width  | 13.4 mm |
| Height | 12.9 mm |
| Length | 44.7 mm |

### Connector

#### Connection 1

|                      |                                                                                                                               |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing  |  <p>Connector pin assignment plug RJ45</p> |
| Type                 | RJ45 Plug, straight, 8-position                                                                                               |
| Number of positions  | 8                                                                                                                             |
| Signal type/category | Ethernet CAT5 (IEC 11801:2002), 1 Gbps                                                                                        |

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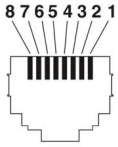


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|                                        |                           |
|----------------------------------------|---------------------------|
| Insertion/withdrawal cycles            | ≥ 750                     |
| Insertion force                        | 30 N (per signal contact) |
| Withdrawal force                       | 50 N (per signal contact) |
| Degree of pollution                    | 2                         |
| Material Contact                       | CuSn                      |
| Material Contact surface               | Ni/Au                     |
| Material Contact carrier               | PC                        |
| Material Housing                       | PA                        |
| Color (Housing)                        | gray                      |
| Flammability rating according to UL 94 | V2                        |
| Degree of protection                   | IP20                      |
| Ambient temperature (operation)        | -40 °C ... 60 °C          |

## Connection 2

|                                        |                                                                                                                              |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing                    |  <p>Connector pin assignment plug RJ45</p> |
| Type                                   | RJ45 Plug, straight, 8-position                                                                                              |
| Number of positions                    | 8                                                                                                                            |
| Signal type/category                   | Ethernet CAT5 (IEC 11801:2002), 1 Gbps                                                                                       |
| Insertion/withdrawal cycles            | ≥ 750                                                                                                                        |
| Insertion force                        | 30 N (per signal contact)                                                                                                    |
| Withdrawal force                       | 50 N (per signal contact)                                                                                                    |
| Degree of pollution                    | 2                                                                                                                            |
| Material Contact                       | CuSn                                                                                                                         |
| Material Contact surface               | Ni/Au                                                                                                                        |
| Material Contact carrier               | PC                                                                                                                           |
| Material Housing                       | PA                                                                                                                           |
| Color (Housing)                        | gray                                                                                                                         |
| Flammability rating according to UL 94 | V2                                                                                                                           |
| Degree of protection                   | IP20                                                                                                                         |
| Ambient temperature (operation)        | -40 °C ... 60 °C                                                                                                             |

## Cable/line

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

Ethernet flexible CAT5, 4-pair [94B]

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|                                               |                                                                                    |
|-----------------------------------------------|------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 47 kg/km                                                                           |
| UL AWM Style                                  | 20963 (80°C/30 V)                                                                  |
| Number of positions                           | 8                                                                                  |
| Shielded                                      | yes                                                                                |
| Cable type                                    | Ethernet flexible CAT5, 4-pair [94B]                                               |
| Conductor structure                           | 4x2xAWG26/7, SF/UTP                                                                |
| Signal runtime                                | 5.3 ns/m                                                                           |
| Conductor structure signal line               | 7x 0.16 mm                                                                         |
| AWG signal line                               | 26                                                                                 |
| Conductor cross-section                       | 4x 2x 0.14 mm <sup>2</sup>                                                         |
| Wire diameter incl. insulation                | 0.96 mm                                                                            |
| External cable diameter                       | 6.40 mm ±0.2 mm                                                                    |
| Outer sheath, material                        | PUR                                                                                |
| External sheath, color                        | water blue RAL 5021                                                                |
| Conductor material                            | Bare Cu litz wires                                                                 |
| Material wire insulation                      | Foamed PE                                                                          |
| Single wire, color                            | white/blue-blue, white/orange-orange, white/green-green, white/brown-brown         |
| Thickness, outer sheath                       | 1.05 mm                                                                            |
| Twisted pairs                                 | 2 cores to the pair                                                                |
| Overall twist                                 | 4 pairs for core                                                                   |
| Optical shield covering                       | 70 %                                                                               |
| Insulation resistance                         | ≥ 5 GΩ*km                                                                          |
| Coupling resistance                           | ≤ 100.00 mΩ/m (at 10 MHz)                                                          |
| Loop resistance                               | ≤ 290.00 Ω/km                                                                      |
| Wave impedance                                | 100 Ω ±5 Ω (at 100 MHz)                                                            |
| Cable capacity                                | 48 nF/km (at 1 kHz)                                                                |
| 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.)                                                           |
| Minimum bending radius, fixed installation    | 4 x D                                                                              |
| Minimum bending radius, flexible installation | 8 x D                                                                              |
| Smallest bending radius, fixed installation   | 26 mm                                                                              |
| Smallest bending radius, movable installation | 52 mm                                                                              |
| Tensile strength                              | ≤ 100 N                                                                            |
|                                               | 71.3 dB (with 1 MHz)                                                               |

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|                                                        |                                                 |
|--------------------------------------------------------|-------------------------------------------------|
| Near end crosstalk attenuation (NEXT)                  | 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)                               |
|                                                        | 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)                            |
| Shield attenuation                                     | 3.2 dB (with 1 MHz)                             |
|                                                        | 6 dB (at 4 MHz)                                 |
|                                                        | 9.5 dB (at 10 MHz)                              |
|                                                        | 12.1 dB (at 16 MHz)                             |
|                                                        | 13.6 dB (at 20 MHz)                             |
|                                                        | 17.1 dB (at 31.25 MHz)                          |
|                                                        | 24.8 dB (at 62.5 MHz)                           |
|                                                        | 32 dB (at 100 MHz)                              |
| Halogen-free                                           | according to IEC 60754-1                        |
| Flame resistance                                       | according to IEC 60332-1-2                      |
| Resistance to oil                                      | in accordance with 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                                |

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## Drawings

### Schematic diagram



Connector pin assignment plug RJ45

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Circuit diagram



Contact assignment of RJ45 plugs

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1408950>



**EAC**

Approval ID: 19060508

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### 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.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 8.039 kg CO2e |
|---------|---------------|

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