

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



1408972

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

## 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                          | 1408972                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AB11                           |
| Product key                          | ABNABA                         |
| GTIN                                 | 4046356857017                  |
| Weight per piece (including packing) | 458.4 g                        |
| Weight per piece (excluding packing) | 445.854 g                      |
| Customs tariff number                | 85444210                       |
| Country of origin                    | PL                             |

## Technical data

### Product properties

|                     |                          |
|---------------------|--------------------------|
| Product type        | Data cable preassembled  |
| Product family      | RJ45 INDUSTRIAL PN4 CAT5 |
| Sensor type         | PROFINET                 |
| Number of positions | 4                        |
| Shielded            | yes                      |

### Electrical properties

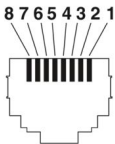
|                                         |                       |
|-----------------------------------------|-----------------------|
| Rated voltage (III/3)                   | 72 V (DC)             |
| Nominal voltage $U_N$                   | 48 V                  |
| Nominal current $I_N$     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

### Material specifications

|                        |                          |
|------------------------|--------------------------|
| Outer sheath, material | PVC                      |
| Conductor material     | Tin-plated Cu litz wires |

### Connector

#### Connection 1

|                             |                                                                                                                           |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing         | <br>Connector pin assignment plug RJ45 |
| Type                        | RJ45 Plug, straight                                                                                                       |
| Signal type/category        | PROFINET CAT5 (IEC 11801), 100 Mbps<br>EtherCAT® CAT5 (IEC 11801)                                                         |
| Insertion/withdrawal cycles | $\geq 750$                                                                                                                |
| Insulation resistance       | $\geq 100 \text{ M}\Omega$                                                                                                |
| Overvoltage category        | I                                                                                                                         |
| Degree of pollution         | 2                                                                                                                         |
| Material Contact            | CuSn                                                                                                                      |
| Material Contact surface    | Ni/Au                                                                                                                     |

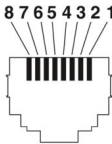
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|                                        |                  |
|----------------------------------------|------------------|
| Material Contact carrier               | PC               |
| Material Housing                       | PA-GF            |
| Color (Housing)                        | gray             |
| Flammability rating according to UL 94 | V2               |
| Degree of protection                   | IP20             |
| Ambient temperature (operation)        | -40 °C ... 70 °C |

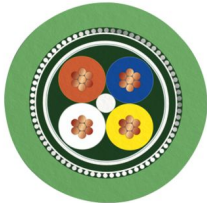
## Connection 2

|                                        |                                                                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing                    |  <p>Connector pin assignment plug RJ45</p> |
| Type                                   | RJ45 Plug, straight                                                                                                         |
| Signal type/category                   | PROFINET CAT5 (IEC 11801), 100 Mbps<br>EtherCAT® CAT5 (IEC 11801)                                                           |
| Insertion/withdrawal cycles            | ≥ 750                                                                                                                       |
| Insulation resistance                  | ≥ 100 MΩ                                                                                                                    |
| Overvoltage category                   | I                                                                                                                           |
| Degree of pollution                    | 2                                                                                                                           |
| Material Contact                       | CuSn                                                                                                                        |
| Material Contact surface               | Ni/Au                                                                                                                       |
| Material Contact carrier               | PC                                                                                                                          |
| Material Housing                       | PA-GF                                                                                                                       |
| Color (Housing)                        | gray                                                                                                                        |
| Flammability rating according to UL 94 | V2                                                                                                                          |
| Degree of protection                   | IP20                                                                                                                        |
| Ambient temperature (operation)        | -40 °C ... 70 °C                                                                                                            |

## Cable/line

|              |        |
|--------------|--------|
| Cable length | 5.00 m |
|--------------|--------|

## PROFINET PVC stranded CAT5 [93B]

|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing |  |
|---------------------|--------------------------------------------------------------------------------------|

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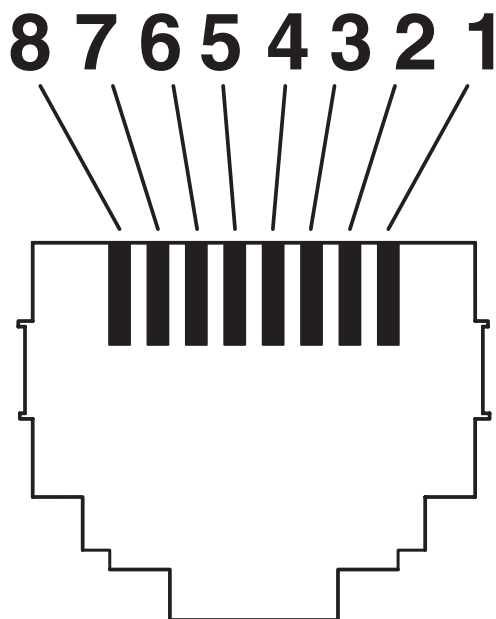
|                                               |                                                          |
|-----------------------------------------------|----------------------------------------------------------|
| UL AWM Style                                  | 21695 (80 °C / 600 V)                                    |
| Number of positions                           | 4                                                        |
| Shielded                                      | yes                                                      |
| Cable type                                    | PROFINET PVC stranded CAT5 [93B]                         |
| Conductor structure                           | 1x4xAWG22/7, SF/TQ                                       |
| AWG signal line                               | 22                                                       |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup>                                  |
| Wire diameter incl. insulation                | 1.5 mm ±0.1 mm                                           |
| External cable diameter                       | 6.50 mm ±0.2 mm                                          |
| Outer sheath, material                        | PVC                                                      |
| External sheath, color                        | green RAL 6018                                           |
| Conductor material                            | Tin-plated Cu litz wires                                 |
| Material wire insulation                      | PE                                                       |
| Single wire, color                            | white, yellow, blue, orange                              |
| Overall twist                                 | Star quad                                                |
| Optical shield covering                       | 85 %                                                     |
| Insulation resistance                         | ≥ 5 GΩ*km                                                |
| Loop resistance                               | ≤ 120.00 Ω/km                                            |
| Wave impedance                                | 100 Ω ±5 Ω (at 100 MHz)                                  |
| Nominal voltage, cable                        | ≤ 600 V                                                  |
| Test voltage Core/Core                        | 2000 V ((50 Hz/1 min))                                   |
| Test voltage Core/Shield                      | 2000.00 V ((50 Hz/1 min))                                |
| Minimum bending radius, fixed installation    | 4 x D                                                    |
| Minimum bending radius, flexible installation | 8 x D                                                    |
| Flame resistance                              | UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1)     |
|                                               | UL 1685 (CSA FT 4)                                       |
|                                               | UL 1581, Section 1100 and UL 2556, Section 9.1 (HFT/FT2) |
| Resistance to oil                             | OIL RES I according to UL 2256                           |
| Other resistance                              | UV resistant (according to UL 1581, Section 1200)        |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)             |
|                                               | -10 °C ... 70 °C (Cable, flexible installation)          |

## Standards and regulations

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

## Drawings

### Schematic diagram

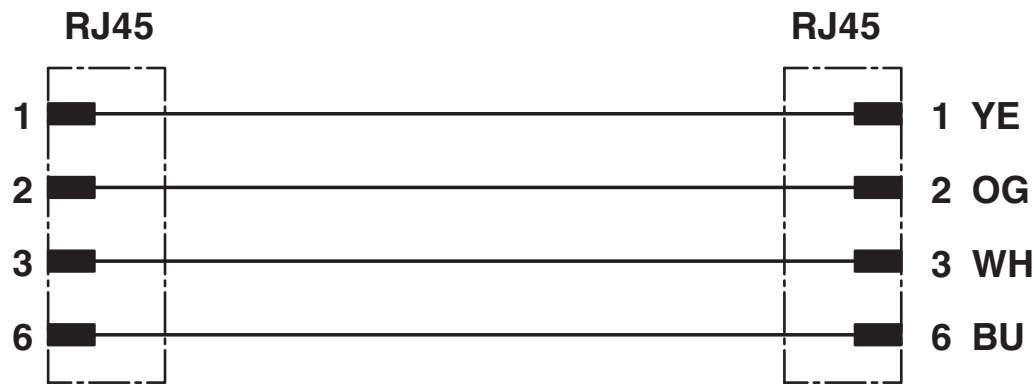


Connector pin assignment plug RJ45

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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/1408972>



**EAC**

Approval ID: 19060508

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 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)<br>2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)(CAS: 3147-75-9) |
| SCIP                                | 18958872-dc3c-4360-9fdd-7697e79e4793                                                                                                                |

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