

# NBC-R4ACS/3,0-93K/R4ACS - Patch cable



1112928

<https://www.phoenixcontact.com/us/products/1112928>

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Patch cable, RJ45/IP20 straight on RJ45/IP20 straight, cable length: 3 m, number of positions: 4, 100 Mbps, CAT5, connection cross section: AWG 23- 22, PROFINET, 1x4xAWG22/7, SF/TQ, signal red RAL 3020

## Your advantages

- Perfect for industrial applications
- PUR cable for moving applications (bend)
- 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 100 Mbps (CAT5)



## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1112928       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | AB11          |
| Product key                          | ABNABA        |
| GTIN                                 | 4063151034191 |
| Weight per piece (including packing) | 226 g         |
| Weight per piece (excluding packing) | 225.331 g     |
| Customs tariff number                | 85444210      |

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|                   |    |
|-------------------|----|
| Country of origin | PL |
|-------------------|----|

## Technical data

### Product properties

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

### Interfaces

|                      |                                     |
|----------------------|-------------------------------------|
| Signal type/category | PROFINET CAT5 (IEC 11801), 100 Mbps |
|----------------------|-------------------------------------|

### Electrical properties

|   |          |
|---|----------|
| Rated voltage (III/2)                   | 72 V     |
| Rated current                           | 1.75 A   |
| Insulation resistance                   | > 1 TΩ   |
| Contact resistance                      | < 20 mΩ  |
| Transmission speed                      | 100 Mbps |
| Transmission characteristics (category) | CAT5     |
| Transmission speed                      | 100 Mbps |

### Dimensions

|        |         |
|--------|---------|
| Width  | 13.8 mm |
| Height | 14.8 mm |
| Length | 44.2 mm |

### Connector

#### Connection 1

|  |  |
|--|--|
| Type                                   | RJ45 Plug, straight, 4-position                            |
| Number of positions                    | 4  |
| Signal type/category                   | PROFINET CAT5 (IEC 11801), 100 Mbps<br>EtherCAT®, 100 Mbps |
| Insertion/withdrawal cycles            | ≥ 750  |
| Insertion force                        | 50 N (per signal contact)                                  |
| Withdrawal force                       | 30 N (per signal contact)                                  |
| Overvoltage category                   | I  |
| Degree of pollution                    | 2  |
| Material Contact                       | CuSn6  |
| Material Contact surface               | Ni/Au  |
| Material Contact carrier               | PC   |
| Material Housing                       | PP   |
| Color (Housing)                        | black  |
| Flammability rating according to UL 94 | V2   |
| Degree of protection                   | IP20   |

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|  |  |
|--|--|
| Ambient temperature (operation)        | -40 °C ... 85 °C   |
| <b>Connection 2</b>                    |  |
| Type                                   | RJ45 Plug, straight, 4-position                            |
| Number of positions                    | 4  |
| Signal type/category                   | PROFINET CAT5 (IEC 11801), 100 Mbps<br>EtherCAT®, 100 Mbps |
| Insertion/withdrawal cycles            | ≥ 750  |
| Insertion force                        | 50 N (per signal contact)                                  |
| Withdrawal force                       | 30 N (per signal contact)                                  |
| Overvoltage category                   | I  |
| Degree of pollution                    | 2  |
| Material Contact                       | CuSn6  |
| Material Contact surface               | Ni/Au  |
| Material Contact carrier               | PC   |
| Material Housing                       | PP   |
| Color (Housing)                        | black  |
| Flammability rating according to UL 94 | V2   |
| Degree of protection                   | IP20   |
| Ambient temperature (operation)        | -40 °C ... 85 °C   |

## Cable/line

|              |        |
|--------------|--------|
| Cable length | 3.00 m |
|--------------|--------|

### Sercos III [93K]

|                                 |  |
|---------------------------------|--|
| Dimensional drawing             |  |
| Cable weight                    | 68 kg/km   |
| UL AWM Style                    | 21694 (60 °C / 600 V)  |
| Number of positions             | 4  |
| Shielded                        | yes  |
| Cable type                      | Sercos III [93K]   |
| Conductor structure             | 1x4xAWG22/7, SF/TQ   |
| Signal runtime                  | 5.3 ns/m   |
| Conductor structure signal line | 7x 0.25 mm   |
| AWG signal line                 | 22   |
| Conductor cross-section         | 4x 0.34 mm <sup>2</sup>  |
| Wire diameter incl. insulation  | approx. 1.55 mm  |
| External cable diameter         | 6.50 mm ±0.2 mm  |

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|   |   |
|---|---|
| Outer sheath, material                        | PVC   |
| External sheath, color                        | signal red RAL 3020   |
| Conductor material                            | Tin-plated Cu litz wires  |
| Material wire insulation                      | PE  |
| Single wire, color                            | white, yellow, blue, orange   |
| Thickness, outer sheath                       | approx. 0.90 mm   |
| Type of pair shielding                        | Aluminum-lined polyester foil   |
| Overall twist                                 | Star quad   |
| Max. conductor resistance                     | ≤ 120 Ω/km  |
| Insulation resistance                         | ≥ 0.5 GΩ*km   |
| Coupling resistance                           | ≤ 20.00 mΩ/m (at 10 Hz)   |
| Wave impedance                                | 100 Ω ±15 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    | 3 x D   |
| Minimum bending radius, flexible installation | 7 x D   |
| Smallest bending radius, fixed installation   | 20 mm   |
| Smallest bending radius, movable installation | 46 mm   |
| 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)<br>-40 °C ... 70 °C (Cable, flexible installation) |
| Ambient temperature (installation)            | -20 °C ... 60 °C  |

## Environmental and real-life conditions

### Ambient conditions

|   |                                   |
|---|-----------------------------------|
| Ambient temperature (operation)         | -40 °C ... 85 °C (RJ45 connector) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C (RJ45 connector) |

## Standards and regulations

|                          |             |
|--------------------------|-------------|
| Standards/specifications | IEC 60603-7 |
|--------------------------|-------------|

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1112928>

|  <b>UL Listed</b><br>Approval ID: E335024-V1S7 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine   |                       |                       |                   |                             |
|   | 57 V                  | 1.75 A                | -                 | -                           |

|  <b>cUL Listed</b><br>Approval ID: E335024-V1S7 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  |                       |                       |                   |                             |
|  | 57 V                  | 1.75 A                | -                 | -                           |

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## Classifications

### ECLASS

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

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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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 | 6.364 kg CO2e |
|---------|---------------|

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