

# NBC-R4OC/12,5-BC6A/R4OC-VT - Patch cable



1698010

<https://www.phoenixcontact.com/us/products/1698010>

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Patch cable, Ethernet CAT6<sub>A</sub> (10 Gbps) CAT6<sub>A</sub>, 8-position, LSZH, violet, Plug straight RJ45 / IP20, on Plug straight RJ45 / IP20, cable length: 12.5 m

## Your advantages

- Perfect for office, building, and protected industrial applications (e.g., in control cabinets)
- 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++
- Future-proof high-speed data transmission with up to 10 Gbps (CAT6<sub>A</sub>)

new

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1698010       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | AB11          |
| Product key                          | ABNABH        |
| GTIN                                 | 4067923263222 |
| Weight per piece (including packing) | 660.6 g       |
| Weight per piece (excluding packing) | 660.6 g       |
| Customs tariff number                | 85444210      |
| Country of origin                    | CN            |

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## Technical data

### Product properties

|                     |                         |
|---------------------|-------------------------|
| Product type        | Data cable preassembled |
| Product family      | RJ45 STANDARD CAT6A     |
| Number of positions | 8                       |
| Shielded            | yes                     |

### Interfaces

|                      |                                                      |
|----------------------|------------------------------------------------------|
| Signal type/category | Ethernet CAT6 <sub>A</sub> (IEC 11801:2002), 10 Gbps |
|----------------------|------------------------------------------------------|

### Electrical properties

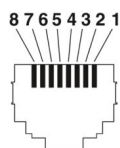
|                       |         |
|-----------------------|---------|
| Rated voltage (III/2) | 72 V    |
| Transmission medium   | Copper  |
| Transmission speed    | 10 Gbps |

### Dimensions

|        |         |
|--------|---------|
| Width  | 12 mm   |
| Height | 14.8 mm |
| Length | 40 mm   |

### Connector

#### Connection 1

|                             |                                                                                                                           |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing         | <br>Connector pin assignment plug RJ45 |
| Type                        | RJ45 Plug, straight, 8-position                                                                                           |
| Number of positions         | 8                                                                                                                         |
| Shielded                    | yes                                                                                                                       |
| Signal type/category        | Ethernet CAT6 <sub>A</sub> (IEC 11801:2002), 10 Gbps                                                                      |
| Insertion/withdrawal cycles | ≥ 750                                                                                                                     |
| Insertion force             | 30 N (per signal contact)                                                                                                 |
| Withdrawal force            | 50 N (per signal contact)                                                                                                 |
| Overvoltage category        | I                                                                                                                         |
| Degree of pollution         | 2                                                                                                                         |
| Material Contact            | Brass                                                                                                                     |
| Material Contact surface    | Au                                                                                                                        |

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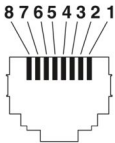


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|                                        |                  |
|----------------------------------------|------------------|
| Material Contact carrier               | PC               |
| Color (Housing)                        | violet           |
| Flammability rating according to UL 94 | V0               |
| Degree of protection                   | IP20             |
| Ambient temperature (operation)        | -20 °C ... 80 °C |

## Connection 2

|                                        |                                                                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing                    |  <p>Connector pin assignment plug RJ45</p> |
| Type                                   | RJ45 Plug, straight, 8-position                                                                                             |
| Number of positions                    | 8                                                                                                                           |
| Shielded                               | yes                                                                                                                         |
| Signal type/category                   | Ethernet CAT6 <sub>A</sub> (IEC 11801:2002), 10 Gbps                                                                        |
| Insertion/withdrawal cycles            | ≥ 750                                                                                                                       |
| Insertion force                        | 30 N (per signal contact)                                                                                                   |
| Withdrawal force                       | 50 N (per signal contact)                                                                                                   |
| Overvoltage category                   | I                                                                                                                           |
| Degree of pollution                    | 2                                                                                                                           |
| Material Contact                       | Brass                                                                                                                       |
| Material Contact surface               | Au                                                                                                                          |
| Material Contact carrier               | PC                                                                                                                          |
| Color (Housing)                        | violet                                                                                                                      |
| Flammability rating according to UL 94 | V0                                                                                                                          |
| Degree of protection                   | IP20                                                                                                                        |
| Ambient temperature (operation)        | -20 °C ... 80 °C                                                                                                            |

## Cable/line

|              |        |
|--------------|--------|
| Cable length | 12.5 m |
|--------------|--------|

### Ethernet, Type B, 8-pos., CAT6A, LSZH [BC6A]

|                                 |                                              |
|---------------------------------|----------------------------------------------|
| Number of positions             | 8                                            |
| Shielded                        | yes                                          |
| Cable type                      | Ethernet, Type B, 8-pos., CAT6A, LSZH [BC6A] |
| Conductor structure             | 4x2xAWG26/7; S/FTP                           |
| Conductor structure signal line | 7x 0.16 mm                                   |
| AWG signal line                 | 26                                           |
| Wire diameter incl. insulation  | 1 mm                                         |
| External cable diameter         | 6.50 mm ±0.3 mm                              |

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|                                                        |                                             |
|--------------------------------------------------------|---------------------------------------------|
| Outer sheath, material                                 | LSZH                                        |
| External sheath, color                                 | violet                                      |
| Conductor material                                     | Bare Cu litz wires                          |
| Material wire insulation                               | PE                                          |
| Single wires, quantity                                 | 8                                           |
| Single wire, cross section [AWG]                       | 26                                          |
| Thickness, outer sheath                                | approx. 0.70 mm                             |
| Optical shield covering                                | 70 %                                        |
| Insulation resistance                                  | $\geq 5000 \text{ M}\Omega \cdot \text{km}$ |
| Loop resistance                                        | $\leq 148.00 \text{ }\Omega/\text{km}$      |
| Wave impedance                                         | 100 $\Omega$                                |
| Minimum bending radius, fixed installation             | 8 x D                                       |
| Smallest bending radius, fixed installation            | 52 mm                                       |
| Near end crosstalk attenuation (NEXT)                  | 75 dB (with 1 MHz)                          |
|                                                        | 66.3 dB (at 4 MHz)                          |
|                                                        | 60.3 dB (at 10 MHz)                         |
|                                                        | 57.2 dB (at 16 MHz)                         |
|                                                        | 55.8 dB (at 20 MHz)                         |
|                                                        | 52.9 dB (at 31.25 MHz)                      |
|                                                        | 48.4 dB (at 62.5 MHz)                       |
|                                                        | 45.3 dB (at 100 MHz)                        |
|                                                        | 40.8 dB (at 200 MHz)                        |
|                                                        | 38.1 dB (at 300 MHz)                        |
|                                                        | 36.3 dB (at 400 MHz)                        |
|                                                        | 34.8 dB (at 500 MHz)                        |
| Power-summated near end crosstalk attenuation (PSNEXT) | 72.3 dB (with 1 MHz)                        |
|                                                        | 63.3 dB (at 4 MHz)                          |
|                                                        | 58.8 dB (at 8 MHz)                          |
|                                                        | 57.3 dB (at 10 MHz)                         |
|                                                        | 54.2 dB (at 16 MHz)                         |
|                                                        | 52.8 dB (at 20 MHz)                         |
|                                                        | 51.3 dB (at 25 MHz)                         |
|                                                        | 49.9 dB (at 31.25 MHz)                      |
|                                                        | 45.4 dB (at 62.5 MHz)                       |
|                                                        | 42.3 dB (at 100 MHz)                        |
|                                                        | 37.8 dB (at 200 MHz)                        |
|                                                        | 35.1 dB (at 300 MHz)                        |
| Return attenuation (RL)                                | 33.3 dB (at 400 MHz)                        |
|                                                        | 31.8 dB (at 500 MHz)                        |
|                                                        | 20 dB (with 1 MHz)                          |
|                                                        | 23 dB (at 4 MHz)                            |
|                                                        | 24.5 dB (at 8 MHz)                          |
|                                                        | 25 dB (at 10 MHz)                           |
|                                                        | 25 dB (at 16 MHz)                           |

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|                                    |                                                 |
|------------------------------------|-------------------------------------------------|
|                                    | 25 dB (at 20 MHz)                               |
|                                    | 24.2 dB (at 25 MHz)                             |
|                                    | 23.3 dB (at 31.25 MHz)                          |
|                                    | 20.7 dB (at 62.5 MHz)                           |
|                                    | 19 dB (at 100 MHz)                              |
|                                    | 16.4 dB (at 200 MHz)                            |
|                                    | 15.6 dB (at 300 MHz)                            |
|                                    | 15.6 dB (at 400 MHz)                            |
|                                    | 15.6 dB (at 500 MHz)                            |
| Shield attenuation                 | 3.1 dB (with 1 MHz)                             |
|                                    | 5.7 dB (at 4 MHz)                               |
|                                    | 8.9 dB (at 10 MHz)                              |
|                                    | 11.2 dB (at 16 MHz)                             |
|                                    | 12.6 dB (at 20 MHz)                             |
|                                    | 15.8 dB (at 31.25 MHz)                          |
|                                    | 22.5 dB (at 62.5 MHz)                           |
|                                    | 28.7 dB (at 100 MHz)                            |
|                                    | 41.4 dB (at 200 MHz)                            |
|                                    | 51.4 dB (at 300 MHz)                            |
| Halogen-free                       | complying with IEC 60754-1/2                    |
|                                    |                                                 |
| Flame resistance                   | IEC 60332-1-2/IEC 60332-3-24/CM                 |
| Ambient temperature (operation)    | -20 °C ... 80 °C (cable, fixed installation)    |
|                                    | -20 °C ... 80 °C (Cable, flexible installation) |
| Ambient temperature (installation) | 0 °C ... 60 °C                                  |

## Environmental and real-life conditions

### Ambient conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Ambient temperature (operation)         | -20 °C ... 80 °C |
| Ambient temperature (storage/transport) | 0 °C ... 40 °C   |

## Standards and regulations

|                  |               |
|------------------|---------------|
| Flame resistance | IEC 60332-1-2 |
|------------------|---------------|

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## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1698010>



**UL Listed**

Approval ID: E335024\_20210804



**cUL Listed**

Approval ID: E335024\_20210804

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## Classifications

### ECLASS

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

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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% |
|-------------------------------------|----------------------------|

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