

# PPC 6-NS/1-L - COMBI coupling



3000689

<https://www.phoenixcontact.com/us/products/3000689>

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COMBI coupling, nom. voltage: 1000 V, nominal current: 41 A, number of connections: 2, number of positions: 1, connection method: Push-in connection, Rated cross section: 6 mm<sup>2</sup>, 1 level, cross section: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup>, mounting type: NS 35/15, NS 35/7,5, color: gray

## Your advantages

- The Push-in technology COMBI couplings for self-assembly provide solutions that users can implement themselves
- For secure and space-saving accommodation of plug-in contacts in cable ducts and distributor shafts
- Tested for railway applications

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3000689       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2245        |
| GTIN                                 | 4046356751827 |
| Weight per piece (including packing) | 9.511 g       |
| Weight per piece (excluding packing) | 9.19 g        |
| Customs tariff number                | 85366990      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                       |                   |
|-----------------------|-------------------|
| Product type          | Terminal coupling |
| Area of application   | Railway industry  |
|                       | Machine building  |
|                       | Plant engineering |
| Number of positions   | 1                 |
| Pitch                 | 8.2 mm            |
| Number of connections | 2                 |
| Number of rows        | 1                 |
| Potentials            | 1                 |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

|   |        |
|---|--------|
| Rated surge voltage                             | 8 kV   |
| Maximum power dissipation for nominal condition | 1.31 W |

### Connection data

|                       |                   |
|-----------------------|-------------------|
| Nominal cross section | 6 mm <sup>2</sup> |
|-----------------------|-------------------|

#### 1 level

|   |   |
|---|---|
| Connection method   | Push-in connection                                    |
| Stripping length  | 12 mm   |
| Internal cylindrical gage   | A5  |
| Connection in acc. with standard  | IEC 61984   |
| Conductor cross-section rigid   | 0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>            |
| Cross section AWG   | 20 ... 8 (converted acc. to IEC)                      |
| Conductor cross-section flexible  | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>             |
| Conductor cross-section, flexible [AWG]   | 20 ... 10 (converted acc. to IEC)                     |
| Conductor cross-section flexible (ferrule without plastic sleeve)   | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>             |
| Flexible conductor cross-section (ferrule with plastic sleeve)  | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>             |
| Conductor cross-section flexible (2 conductors with the same cross-section, with TWIN ferrule and plastic sleeve) | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>           |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve                         | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>           |
| Nominal cross section   | 6 mm <sup>2</sup>                                     |
| Nominal current   | 41 A  |
| Maximum load current  | 41 A (with 6 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage   | 1000 V  |

1 level Connection cross sections directly pluggable

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|   |  |
|---|--|
| Conductor cross-section rigid                                     | 1 mm <sup>2</sup> ... 10 mm <sup>2</sup> |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 1 mm <sup>2</sup> ... 6 mm <sup>2</sup>  |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 1 mm <sup>2</sup> ... 6 mm <sup>2</sup>  |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 8.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 43 mm   |
| Depth on NS 15     | 38 mm   |
| Depth on NS 35/7,5 | 38 mm   |
| Depth on NS 35/15  | 45.5 mm |
| Pitch              | 8.2 mm  |

## Material specifications

|   |                 |
|---|-----------------|
| Color   | gray (RAL 7042) |
| Flammability rating according to UL 94                                  | V0              |
| Insulating material group   | I               |
| Insulating material   | PA              |
| Static insulating material application in cold                          | -60 °C          |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 125 °C          |
| Relative insulation material temperature index (Elec., UL 746 B)        | 130 °C          |
| Fire protection for rail vehicles (DIN EN 45545-2) R22                  | HL 1 - HL 3     |
| Fire protection for rail vehicles (DIN EN 45545-2) R23                  | HL 1 - HL 3     |
| Fire protection for rail vehicles (DIN EN 45545-2) R24                  | HL 1 - HL 3     |
| Fire protection for rail vehicles (DIN EN 45545-2) R26                  | HL 1 - HL 3     |
| Calorimetric heat release NFPA 130 (ASTM E 1354)                        | 27,5 MJ/kg      |
| Surface flammability NFPA 130 (ASTM E 162)                              | passed          |
| Specific optical density of smoke NFPA 130 (ASTM E 662)                 | passed          |
| Smoke gas toxicity NFPA 130 (SMP 800C)                                  | passed          |

## Electrical tests

### Surge voltage test

|  |             |
|--|-------------|
| Test voltage setpoint                          | 9.8 kV      |
| Result   | Test passed |
| Short-time withstand current 6 mm <sup>2</sup> | 0.72 kA     |
| Result   | Test passed |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 4.26 kV     |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

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|                 |     |
|-----------------|-----|
| Open side panel | Yes |
|-----------------|-----|

## Mechanical tests

### Attachment on the carrier

|                         |   |
|-------------------------|---|
| DIN rail/fixing support | NS 35   |
| Test force setpoint     | 5 N   |
| Result                  | Test passed   |
| Note                    | In order to guarantee the leading and lagging PE contact, a PE contact (Art. No. 3000692) has to be installed on the outer positions from and including five positions. |

## Environmental and real-life conditions

### Needle-flame test

|                  |             |
|------------------|-------------|
| Time of exposure | 30 s        |
| Result           | Test passed |

### Oscillation/broadband noise

|                        |  |
|------------------------|--|
| Specification          | DIN EN 50155 (VDE 0115-200):2008-03              |
| Spectrum               | Long life test category 1, class B, body mounted |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$   |
| ASD level              | $0.964 \text{ (m/s}^2\text{)}^2\text{/Hz}$       |
| Acceleration           | 0.58g  |
| Test duration per axis | 5 h  |
| Test directions        | X-, Y- and Z-axis                                |
| Result                 | Test passed                                      |

### Shocks

|                                |                                     |
|--------------------------------|-------------------------------------|
| Specification                  | DIN EN 50155 (VDE 0115-200):2008-03 |
| Pulse shape                    | Half-sine                           |
| Acceleration                   | 5g                                  |
| Shock duration                 | 30 ms                               |
| Number of shocks per direction | 3                                   |
| Test directions                | X-, Y- and Z-axis (pos. and neg.)   |
| Result                         | Test passed                         |

### Ambient conditions

|  |   |
|--|---|
| Ambient temperature (operation)          | -60 °C (max. operating temperature see derating curve)                    |
| Ambient temperature (storage/transport)  | -25 °C ... 60 °C (for a short time, not exceeding 24 h, -60 °C to +70 °C) |
| Ambient temperature (assembly)           | -5 °C ... 70 °C   |
| Ambient temperature (actuation)          | -5 °C ... 70 °C   |
| Permissible humidity (operation)         | 20 % ... 90 %   |
| Permissible humidity (storage/transport) | 30 % ... 70 %   |

## Standards and regulations

|                                  |           |
|----------------------------------|-----------|
| Connection in acc. with standard | IEC 61984 |
|----------------------------------|-----------|

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## Mounting

|               |   |
|---------------|---|
| Mounting type | NS 35/15  |
|               | NS 35/7,5   |
| Assembly note | Use of a parallel pressing tool is recommended for easy latching of the COMBI connector and coupling elements for self-assembly |

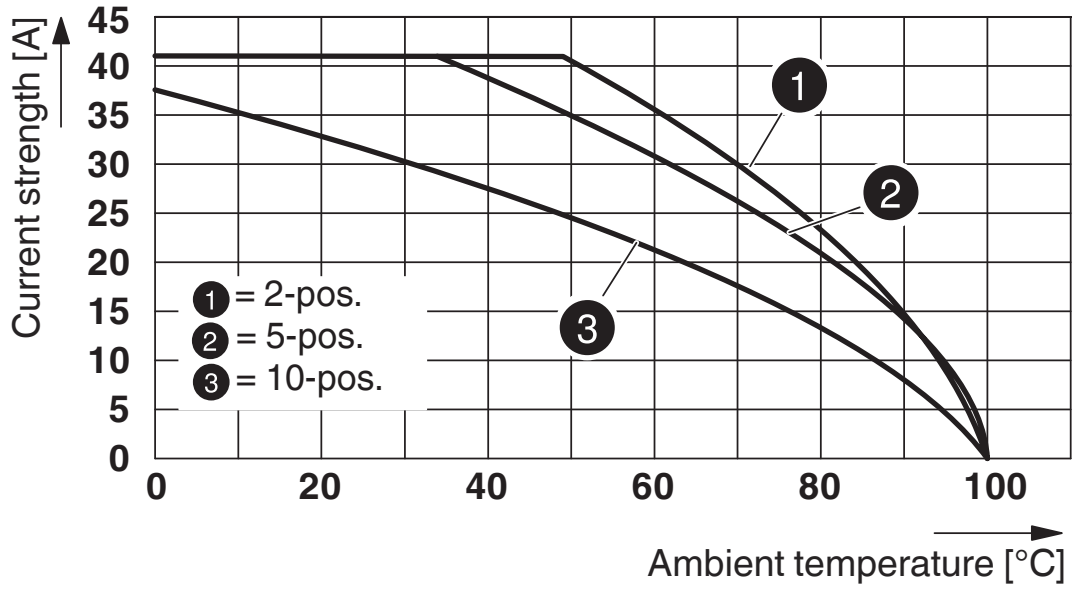
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## Drawings

Diagram



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3000689>

|                         |  |  |  |  |
|-------------------------|--|--|--|--|
| <b>DNV</b>              |  |  |  |  |
| Approval ID: TAE000015D |  |  |  |  |

|                    |                       |                       |                   |                      |
|--------------------|-----------------------|-----------------------|-------------------|----------------------|
| <b>CSA</b>         |                       |                       |                   |                      |
| Approval ID: 13631 |                       |                       |                   |                      |
|                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B                  |                       |                       |                   |                      |
|                    | 600 V                 | 36 A                  | 20 - 8            | -                    |
| C                  |                       |                       |                   |                      |
|                    | 600 V                 | 36 A                  | 20 - 8            | -                    |

|                              |                       |                       |                   |                      |
|------------------------------|-----------------------|-----------------------|-------------------|----------------------|
| <b>IECEE CB Scheme</b>       |                       |                       |                   |                      |
| Approval ID: DE1-64372_B1_B2 |                       |                       |                   |                      |
|                              | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| keine                        |                       |                       |                   |                      |
|                              | 1000 V                | -                     | -                 | -                    |

|                         |                       |                       |                   |                      |
|-------------------------|-----------------------|-----------------------|-------------------|----------------------|
| <b>cULus Recognized</b> |                       |                       |                   |                      |
| Approval ID: E60425     |                       |                       |                   |                      |
|                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B                       |                       |                       |                   |                      |
|                         | 600 V                 | 40 A                  | 20 - 8            | -                    |
| C                       |                       |                       |                   |                      |
|                         | 600 V                 | 40 A                  | 20 - 8            | -                    |
| F                       |                       |                       |                   |                      |
|                         | 1000 V                | 40 A                  | 20 - 8            | -                    |

|                               |                       |                       |                   |                      |
|-------------------------------|-----------------------|-----------------------|-------------------|----------------------|
| <b>VDE Zeichengenehmigung</b> |                       |                       |                   |                      |
| Approval ID: 40043445         |                       |                       |                   |                      |
|                               | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| keine                         |                       |                       |                   |                      |
|                               | 1000 V                | -                     | -                 | 0.5 - 6              |

|                                 |  |  |  |  |
|---------------------------------|--|--|--|--|
| <b>EAC</b>                      |  |  |  |  |
| Approval ID: KZ7500651131219505 |  |  |  |  |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250306 |
| ECLASS-15.0 | 27250306 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC002021 |
|-----------|----------|

### 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 | 0.066 kg CO2e |
|---------|---------------|

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