

# PPC 1,5/S-NS/1-L - COMBI coupling



3213700

<https://www.phoenixcontact.com/us/products/3213700>

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COMBI coupling, nom. voltage: 500 V, nominal current: 17.5 A, number of connections: 1, number of positions: 1, connection method: Push-in connection, Rated cross section: 1.5 mm<sup>2</sup>, 1 level, cross section: 0.14 mm<sup>2</sup> - 1.5 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                          | 3213700       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2245        |
| GTIN                                 | 4046356566124 |
| Weight per piece (including packing) | 2.486 g       |
| Weight per piece (excluding packing) | 1.911 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                 | 3.5 mm            |
| Number of connections | 1                 |
| Number of rows        | 1                 |
| Potentials            | 1                 |

### Insulation characteristics

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

### Electrical properties

|                                                 |        |
|-------------------------------------------------|--------|
| Rated surge voltage                             | 6 kV   |
| Maximum power dissipation for nominal condition | 0.56 W |

### Connection data

|                       |                     |
|-----------------------|---------------------|
| Nominal cross section | 1.5 mm <sup>2</sup> |
|-----------------------|---------------------|

#### 1 level

|                                                                   |                                                           |
|-------------------------------------------------------------------|-----------------------------------------------------------|
| Connection method                                                 | Push-in connection                                        |
| Stripping length                                                  | 8 mm ... 10 mm                                            |
| Internal cylindrical gage                                         | A1 / B1                                                   |
| Connection in acc. with standard                                  | IEC 61984                                                 |
| Conductor cross-section rigid                                     | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| Cross section AWG                                                 | 26 ... 16 (converted acc. to IEC)                         |
| Conductor cross-section flexible                                  | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| Conductor cross-section, flexible [AWG]                           | 26 ... 16 (converted acc. to IEC)                         |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>              |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.14 mm <sup>2</sup> ... 1 mm <sup>2</sup>                |
| Nominal current                                                   | 17.5 A                                                    |
| Maximum load current                                              | 17.5 A (with 1.5 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage                                                   | 500 V                                                     |
| Nominal cross section                                             | 1.5 mm <sup>2</sup>                                       |

#### 1 level Connection cross sections directly pluggable

|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Conductor cross-section rigid                                     | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.34 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.34 mm <sup>2</sup> ... 1 mm <sup>2</sup>   |

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## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 3.5 mm  |
| End cover width    | 2.2 mm  |
| Height             | 43 mm   |
| Depth              | 27.1 mm |
| Depth on NS 15     | 28.3 mm |
| Depth on NS 35/7,5 | 28.3 mm |
| Depth on NS 35/15  | 35.8 mm |
| Pitch              | 3.5 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)) | 130 °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)                        | 28 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                            | 7.3 kV      |
| Result                                           | Test passed |
| Short-time withstand current 1.5 mm <sup>2</sup> | 0.18 kA     |
| Result                                           | Test passed |

## Mechanical properties

### Mechanical data

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

## Mechanical tests

### Attachment on the carrier

|                         |       |
|-------------------------|-------|
| DIN rail/fixing support | NS 35 |
|-------------------------|-------|

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|                     |             |
|---------------------|-------------|
| Test force setpoint | 1 N         |
| Result              | Test passed |

## 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              | $1.857 \text{ (m/s}^2\text{)}^2\text{/Hz}$       |
| Acceleration           | 0.8g                                             |
| 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

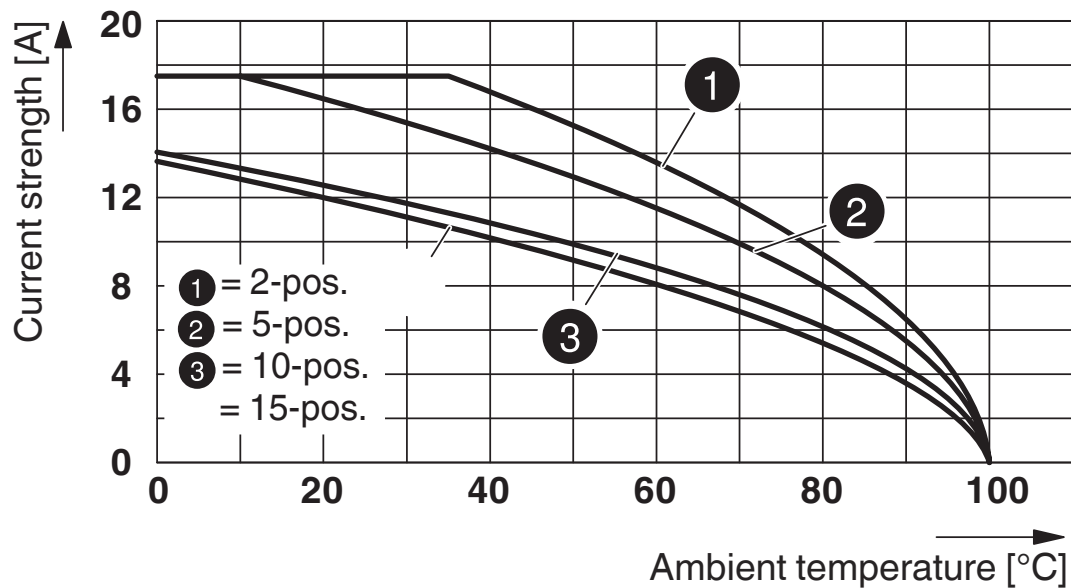
|                                  |           |
|----------------------------------|-----------|
| Connection in acc. with standard | IEC 61984 |
|----------------------------------|-----------|

## Mounting

|               |                                                                                                                                 |
|---------------|---------------------------------------------------------------------------------------------------------------------------------|
| Mounting type | NS 35/15<br>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 |

## Drawings

Diagram



Circuit diagram



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## Approvals

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| CSA<br>Approval ID: 2030668 |                       |                       |                   |                             |
|-----------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                             | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                           | 300 V                 | 15 A                  | 26 - 14           | -                           |
| C                           | 300 V                 | 15 A                  | 26 - 14           | -                           |
| D                           | 600 V                 | 5 A                   | 26 - 14           | -                           |

| EAC<br>Approval ID: RU C-DE.BL08.B.00644 |  |  |  |  |
|------------------------------------------|--|--|--|--|
|------------------------------------------|--|--|--|--|

| cULus Recognized<br>Approval ID: E60425 |                       |                       |                   |                             |
|-----------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                       | 300 V                 | 15 A                  | 26 - 14           | -                           |
| C                                       | 300 V                 | 15 A                  | 26 - 14           | -                           |
| D                                       | 600 V                 | 5 A                   | 26 - 14           | -                           |

| LR<br>Approval ID: LR2371832TA |  |  |  |  |
|--------------------------------|--|--|--|--|
|--------------------------------|--|--|--|--|

| BV<br>Approval ID: 39979/B0 BV |  |  |  |  |
|--------------------------------|--|--|--|--|
|--------------------------------|--|--|--|--|

| DNV<br>Approval ID: TAE000010T |  |  |  |  |
|--------------------------------|--|--|--|--|
|--------------------------------|--|--|--|--|

| EAC<br>Approval ID: KZ7500651131219505 |  |  |  |  |
|----------------------------------------|--|--|--|--|
|----------------------------------------|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250117 |
| ECLASS-15.0 | 27250117 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC000897 |
|----------|----------|

### 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%               |

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