

# PP-H 2,5/12 - Plug

3209976

<https://www.phoenixcontact.com/us/products/3209976>



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Plug, nom. voltage: 500 V, nominal current: 24 A, number of connections: 12, number of positions: 12, connection method: Push-in connection, Rated cross section: 2.5 mm<sup>2</sup>, 1 level, cross section: 0.14 mm<sup>2</sup> - 4 mm<sup>2</sup>, color: gray

## Your advantages

- Large-surface labeling option
- The Push-in technology COMBI plugs for self-assembly provide solutions that users can implement themselves
- Tested for railway applications

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3209976       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2244        |
| GTIN                                 | 4046356366861 |
| Weight per piece (including packing) | 41.03 g       |
| Weight per piece (excluding packing) | 41.03 g       |
| Customs tariff number                | 85366990      |
| Country of origin                    | PL            |

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## Technical data

### Notes

|                    |                                                                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes on operation | COMBI connectors are connectors without switching power in accordance with IEC 61984 and can be connected or disconnected without load or voltage when used as intended |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Product properties

|                       |                   |
|-----------------------|-------------------|
| Product type          | Terminal plug     |
| Area of application   | Railway industry  |
|                       | Machine building  |
|                       | Plant engineering |
| Number of positions   | 12                |
| Pitch                 | 5.2 mm            |
| Number of connections | 12                |
| 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 | 0.77 W |

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 12                  |
| Nominal cross section           | 2.5 mm <sup>2</sup> |

#### 1 level

|                                                                                           |                                                       |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Connection method                                                                         | Push-in connection                                    |
| Stripping length                                                                          | 8 mm ... 10 mm                                        |
| Internal cylindrical gage                                                                 | A3                                                    |
| Connection in acc. with standard                                                          | IEC 61984                                             |
| Conductor cross-section rigid                                                             | 0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>            |
| Cross section AWG                                                                         | 26 ... 12 (converted acc. to IEC)                     |
| Conductor cross-section flexible                                                          | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| Conductor cross-section, flexible [AWG]                                                   | 26 ... 14 (converted acc. to IEC)                     |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| Flexible conductor cross-section (ferrule with plastic sleeve)                            | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup>                                   |
| Nominal current                                                                           | 24 A                                                  |
| Maximum load current                                                                      | 24 A (with 4 mm <sup>2</sup> conductor cross-section) |

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|                       |                     |
|-----------------------|---------------------|
| Nominal voltage       | 500 V               |
| Nominal cross section | 2.5 mm <sup>2</sup> |

## 1 level Connection cross sections directly pluggable

|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Conductor cross-section rigid                                     | 0.34 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.34 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.34 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |

## Dimensions

|        |         |
|--------|---------|
| Width  | 62.4 mm |
| Height | 15.8 mm |
| Depth  | 40.2 mm |
| Pitch  | 5.2 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)) | 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          |

## Mechanical properties

### Mechanical data

|                 |    |
|-----------------|----|
| Open side panel | No |
|-----------------|----|

## Environmental and real-life conditions

### 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 %                                                             |

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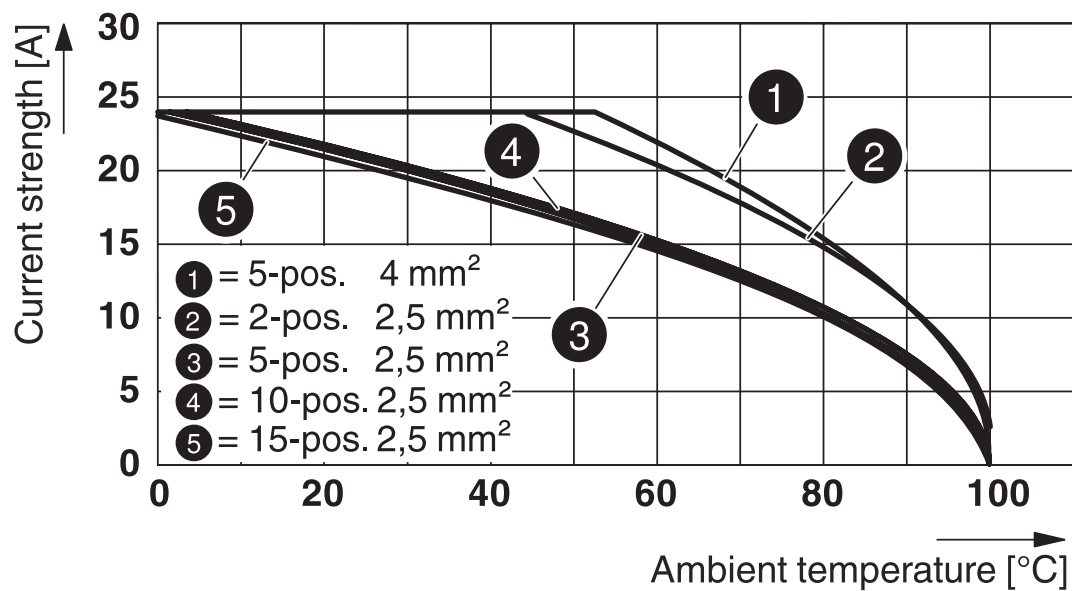
|                                          |               |
|------------------------------------------|---------------|
| Permissible humidity (storage/transport) | 30 % ... 70 % |
|------------------------------------------|---------------|

## Standards and regulations

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

## Drawings

Diagram



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3209976>

|  <b>CSA</b><br>Approval ID: 2030668 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                      | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                    |                       |                       |                   |                             |
|                                                                                                                      | 300 V                 | 20 A                  | 26 - 12           | -                           |
| C                                                                                                                    |                       |                       |                   |                             |
|                                                                                                                      | 300 V                 | 20 A                  | 26 - 12           | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                |                       |                       |                   |                             |
|                                                                                                                                  | 300 V                 | 20 A                  | 26 - 12           | -                           |
| C                                                                                                                                |                       |                       |                   |                             |
|                                                                                                                                  | 300 V                 | 20 A                  | 26 - 12           | -                           |
| D                                                                                                                                |                       |                       |                   |                             |
|                                                                                                                                  | 600 V                 | 5 A                   | 26 - 12           | -                           |

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

|  <b>NK</b><br>Approval ID: 14ME0912 |  |
|------------------------------------------------------------------------------------------------------------------------|--|
|------------------------------------------------------------------------------------------------------------------------|--|

|  <b>BV</b><br>Approval ID: 25278/C1 BV |  |
|---------------------------------------------------------------------------------------------------------------------------|--|
|---------------------------------------------------------------------------------------------------------------------------|--|

| <b>ABS</b><br>Approval ID: 21-2192245-PDA |  |
|-------------------------------------------|--|
|-------------------------------------------|--|

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

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

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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% |
|-------------------------------------|----------------------------|

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