

# PTRV 4-PV /BK - Potential distributors



3270125

<https://www.phoenixcontact.com/sg/products/3270125>

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Potential distributors, nom. voltage: 250 V, nominal current: 17.5 A, connection method: Push-in connection, 1st, 2nd, 3rd and 4th level, Rated cross section: 1.5 mm<sup>2</sup>, cross section: 0.14 mm<sup>2</sup> - 2.5 mm<sup>2</sup>, mounting: NS 35/7,5, NS 35/15, color: gray, color of connection elements: black

## Your advantages

- Tool-free wiring in a confined space thanks to compact size
- High contact quality thanks to push-in technology as a replacement for Wire-Wrap®, TERMI-POINT®, etc.
- Potential distributor for distributing potentials up to 17.5 A
- The 2.3 mm test pick-off enables testing between the conductors with commercially available test probes

## Commercial data

|                                      |                    |
|--------------------------------------|--------------------|
| Item number                          | 3270125            |
| Packing unit                         | 10 pc              |
| Minimum order quantity               | 10 pc              |
| Sales key                            | *****              |
| Product key                          | BE6211             |
| Catalog page                         | Page 47 (C-1-2019) |
| GTIN                                 | 4046356943819      |
| Weight per piece (including packing) | 17 g               |
| Weight per piece (excluding packing) | 16.98 g            |
| Customs tariff number                | 85369010           |
| Country of origin                    | PL                 |

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## Technical data

### Product properties

|                       |                       |
|-----------------------|-----------------------|
| Product type          | Potential distributor |
| Number of positions   | 2                     |
| Number of connections | 16                    |
| Number of rows        | 4                     |
| Potentials            | 1                     |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 02 |
|------------------|----|

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
|----------------------|-----|

### Electrical properties

|   |        |
|---|--------|
| Rated surge voltage                             | 4 kV   |
| Maximum power dissipation for nominal condition | 0.56 W |

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 4                   |
| Nominal cross section           | 1.5 mm <sup>2</sup> |

#### 1st, 2nd, 3rd and 4th level

|   |  |
|---|--|
| Stripping length  | 8 mm ... 10 mm   |
| Connection in acc. with standard                                  | IEC 60947-7-1  |
| Conductor cross section rigid                                     | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>   |
| Cross section AWG   | 26 ... 14 (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> ... 1.5 mm <sup>2</sup>   |
| Nominal current   | 17.5 A   |
| Maximum load current  | 20 A (in case of a 2.5 mm <sup>2</sup> conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.) |
| Nominal voltage   | 250 V  |
| Nominal cross section   | 1.5 mm <sup>2</sup>  |

#### 1st, 2nd, 3rd and 4th level Connection cross sections directly pluggable

|   |  |
|---|--|
| Conductor cross section rigid                                     | 0.34 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section, rigid [AWG]                              | 20 ... 14 (converted acc. to IEC)            |
| 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> ... 1.5 mm <sup>2</sup> |

## Dimensions

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|                    |         |
|--------------------|---------|
| Width              | 8.3 mm  |
| Height             | 64 mm   |
| Depth on NS 35/7,5 | 55.5 mm |
| Depth on NS 35/15  | 63 mm   |

## Material specifications

|   |                 |
|---|-----------------|
| Color   | gray (RAL 7042) |
| Color of connection elements  | black           |
| 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 | 4.8 kV      |
| Result                | Test passed |

### Temperature-rise test

|  |                                     |
|--|-------------------------------------|
| Requirement temperature-rise test                | Increase in temperature $\leq$ 45 K |
| Result   | Test passed                         |
| Short-time withstand current 1.5 mm <sup>2</sup> | 0.18 kA                             |
| Short-time withstand current 2.5 mm <sup>2</sup> | 0.3 kA                              |
| Result   | Test passed                         |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 1.5 kV      |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

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

## Mechanical tests

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## Mechanical strength

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

## Attachment on the carrier

|                         |             |
|-------------------------|-------------|
| DIN rail/fixing support | NS 35       |
| Test force setpoint     | 1 N         |
| Result                  | Test passed |

## Test for conductor damage and slackening

|                                |                               |
|--------------------------------|-------------------------------|
| Rotation speed                 | 10 rpm                        |
| Revolutions                    | 135                           |
| Conductor cross section/weight | 0.14 mm <sup>2</sup> / 0.2 kg |
|                                | 1.5 mm <sup>2</sup> / 0.4 kg  |
|                                | 2.5 mm <sup>2</sup> / 0.7 kg  |
| Result                         | Test passed                   |

## Environmental and real-life conditions

### Aging

|                    |             |
|--------------------|-------------|
| Temperature cycles | 192         |
| Result             | Test passed |

### Needle-flame test

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

### Oscillation/broadband noise

|                        |  |
|------------------------|--|
| Specification          | DIN EN 50155 (VDE 0115-200):2008-03            |
| Spectrum               | Service life test category 2, bogie-mounted    |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$ |
| ASD level              | 6.12 (m/s <sup>2</sup> ) <sup>2</sup> /Hz      |
| Acceleration           | 3.12g  |
| 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                   | 30g                                 |
| Shock duration                 | 18 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 ... 105 °C (max. short-term operating temperature RTI) |
|---------------------------------|---|

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|  |   |
|--|---|
|  | Elec.)  |
| 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 (storage/transport) | 30 % ... 70 %   |

## Standards and regulations

|                                  |               |
|----------------------------------|---------------|
| Connection in acc. with standard | IEC 60947-7-1 |
|----------------------------------|---------------|

## Mounting

|               |           |
|---------------|-----------|
| Mounting type | NS 35/7,5 |
|               | NS 35/15  |

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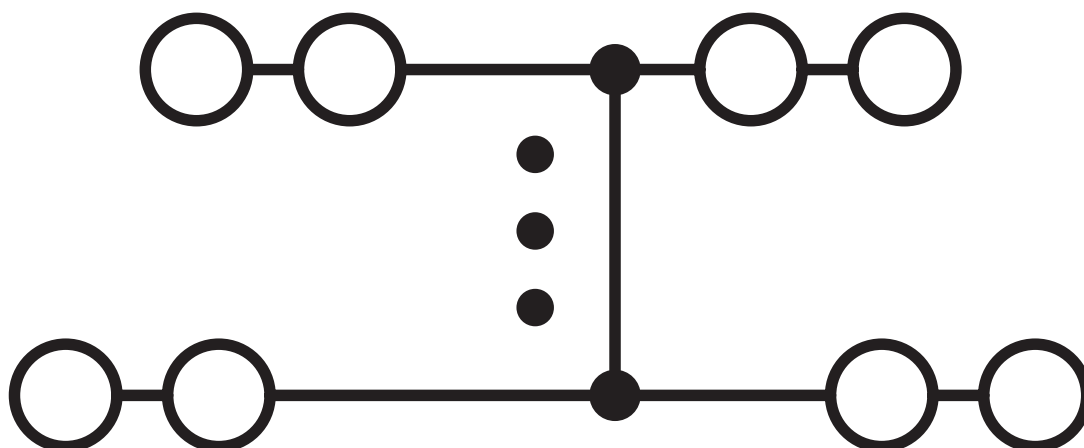


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## Drawings

Circuit diagram



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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/sg/products/3270125>


|  <b>CSA</b><br>Approval ID: 2030668 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B  | 300 V                 | 10 A                  | 26 - 14           | -                           |
| Use group D  | 300 V                 | 10 A                  | 26 - 14           | -                           |

|  <b>IECEE CB Scheme</b><br>Approval ID: NL-58817 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|   | 250 V                 | 17.5 A                | -                 | -                           |

|  <b>EAC</b><br>Approval ID: RU C-DE.BL08.B.00682 |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

|  <b>cULus Recognized</b><br>Approval ID: E60425 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

|  <b>KEMA-KEUR</b><br>Approval ID: 71-102890 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Only flexible conductors   | 250 V                 | 17.5 A                | -                 | 0.14 - 1.5                  |
| Only rigid conductors  | 250 V                 | 17.5 A                | -                 | 0.14 - 2.5                  |

|  <b>cULus Recognized</b><br>Approval ID: E60425 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

| <b>DNV</b><br>Approval ID: TAE000016Y |  |  |  |  |
|---------------------------------------|--|--|--|--|
|---------------------------------------|--|--|--|--|

|  <b>cULus Recognized</b><br>Approval ID: E60425 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 27250105 |

### 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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