

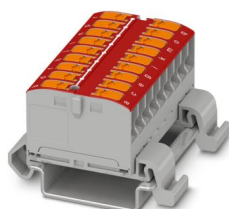
# PTVFIX 18X2,5-NS35A RD - Distribution block



1019539

<https://www.phoenixcontact.com/us/products/1019539>

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Distribution block, nom. voltage: 690 V, nominal current: 24 A, number of connections: 18, number of positions: 1, connection method: Push-in connection, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.14 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: red

## Your advantages

- Space savings of up to 50 % on the DIN rail, thanks to transverse mounting
- Flexible use, thanks to DIN rail mounting, direct mounting or adhesive mounting
- Time-saving conductor connection, thanks to tool-free Push-in direct connection technology
- Time savings of up to 80 %, thanks to ready-to-mount blocks without manual bridging
- Clear wiring, thanks to eleven different color variants

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1019539       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | BE09          |
| Product key                          | BEA215        |
| GTIN                                 | 4055626506715 |
| Weight per piece (including packing) | 33.76 g       |
| Weight per piece (excluding packing) | 33.76 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | PL            |

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## Technical data

### Notes

#### General

|      |                                                                          |
|------|--------------------------------------------------------------------------|
| Note | The maximum load current of a single clamping unit must not be exceeded. |
|------|--------------------------------------------------------------------------|

### Product properties

|                       |                            |
|-----------------------|----------------------------|
| Product type          | Distributor terminal block |
| Number of positions   | 1                          |
| Number of connections | 18                         |
| 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 | 0.77 W |

### Connection data

|                                                                                                                   |                                                                                 |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Number of connections per level                                                                                   | 18                                                                              |
| Nominal cross section                                                                                             | 2.5 mm <sup>2</sup>                                                             |
| Connection method                                                                                                 | Push-in connection                                                              |
| Stripping length                                                                                                  | 8 mm ... 10 mm                                                                  |
| Internal cylindrical gage                                                                                         | A3<br>B3                                                                        |
| Connection in acc. with standard                                                                                  | IEC 60947-7-1                                                                   |
| 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> ... 4 mm <sup>2</sup>                                      |
| Conductor cross-section, flexible [AWG]                                                                           | 26 ... 12 (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>                                    |
| Conductor cross-section flexible (2 conductors with the same cross-section, with TWIN ferrule and plastic sleeve) | 1.5 mm <sup>2</sup>                                                             |
| Nominal current                                                                                                   | 24 A                                                                            |
| Maximum load current                                                                                              | 32 A (with 4 mm <sup>2</sup> conductor cross-section)                           |
| Maximum total current                                                                                             | The maximum load current of the individual terminal point must not be exceeded. |
| Nominal voltage                                                                                                   | 690 V                                                                           |
| Note                                                                                                              | The IEC 60947-7-1 standard applies for the use of mounting accessories.         |

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|                                  |                                          |
|----------------------------------|------------------------------------------|
| Nominal cross section            | 2.5 mm <sup>2</sup>                      |
| Connection in acc. with standard | IEC 60998-2-2                            |
| Nominal voltage                  | 450 V (in accordance with IEC 60998-2-2) |

## Connection cross sections directly pluggable

|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Conductor cross-section rigid                                     | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>    |
| Conductor cross-section, rigid [AWG]                              | 20 ... 12 (converted acc. to IEC)            |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.75 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 46.6 mm |
| Height             | 45.7 mm |
| Depth              | 29.2 mm |
| Depth on NS 35/7,5 | 30.9 mm |

## Material specifications

|                                                                  |                |
|------------------------------------------------------------------|----------------|
| Color                                                            | red (RAL 3001) |
| Flammability rating according to UL 94                           | V0             |
| Insulating material group                                        | I              |
| Insulating material                                              | PA             |
| Static insulating material application in cold                   | -60 °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    |
| 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

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

### Temperature-rise test

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

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 1.89 kV     |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

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

## Mechanical tests

### Mechanical strength

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

### Attachment on the carrier

|                         |                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIN rail/fixing support | NS 35                                                                                                                                                      |
| Result                  | Test passed                                                                                                                                                |
| Note                    | When aligning several blocks, it is recommended to either place a DIN rail adapter underneath the connection point or a flange element between the blocks. |
|                         | For versions with 6 or 7 connections, it is enough to place one DIN rail adapter centrally per block and place flange elements after every other block.    |
|                         | Depending on the application case and mechanical load, other arrangements of the mounting accessory can also be chosen.                                    |
|                         | When using the DIN rail adapter PTFIX-NS35, an aligned block must not protrude by more than a half.                                                        |

### 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 |
|                                | 2.5 mm <sup>2</sup> / 0.7 kg  |
|                                | 4 mm <sup>2</sup> / 0.9 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):2018-05            |
| Spectrum      | Long 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                                          |

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|                        |                   |
|------------------------|-------------------|
| Test duration per axis | 5 h               |
| Test directions        | X-, Y- and Z-axis |
| Result                 | Test passed       |

## Shocks

|                                |                                     |
|--------------------------------|-------------------------------------|
| Specification                  | DIN EN 50155 (VDE 0115-200):2018-05 |
| 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 ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see RTI 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 (operation)         | 20 % ... 90 %                                                                                                                |
| Permissible humidity (storage/transport) | 30 % ... 70 %                                                                                                                |

## Standards and regulations

|                                  |               |
|----------------------------------|---------------|
| Connection in acc. with standard | IEC 60947-7-1 |
|                                  | IEC 60998-2-2 |

## Mounting

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

## Drawings

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1019539>

|  <b>CSA</b><br>Approval ID: 158887 |                       |                       |                   |                             |
|---------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                     | 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>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           | -                           |
| F                                                                                                                                |                       |                       |                   |                             |
|                                                                                                                                  | 500 V                 | 20 A                  | 26 - 12           | -                           |
| D                                                                                                                                |                       |                       |                   |                             |
|                                                                                                                                  | 600 V                 | 5 A                   | 26 - 12           | -                           |

| <b>DNV</b><br>Approval ID: TAE00004R4 |  |  |  |  |
|---------------------------------------|--|--|--|--|
|---------------------------------------|--|--|--|--|

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

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250118 |
| ECLASS-15.0 | 27250118 |

### 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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