

# PTFIX 2X1,5 OG - Monoblock



1045939

<https://www.phoenixcontact.com/us/products/1045939>

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Monoblock, Basic terminal block, nom. voltage: 450 V, nominal current: 17.5 A, number of connections: 2, connection method: Push-in connection, cross section: 0.14 mm<sup>2</sup> - 2.5 mm<sup>2</sup>, mounting type: for snapping onto a DIN rail adapter, Direct mounting with flange, Free-hanging, color: orange

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1045939       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE09          |
| Product key                          | BEA111        |
| GTIN                                 | 4055626638898 |
| Weight per piece (including packing) | 1.98 g        |
| Weight per piece (excluding packing) | 1.897 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | PL            |

## Technical data

### Product properties

|                       |                            |
|-----------------------|----------------------------|
| Product type          | Distributor terminal block |
| Number of connections | 2                          |
| 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

|   |   |
|---|---|
| Number of connections per level                                   | 2   |
| Nominal cross section   | 1.5 mm <sup>2</sup>                                       |
| Rated cross section AWG   | 14  |
| Connection method   | Push-in connection  |
| Stripping length  | 8 mm ... 10 mm  |
| Internal cylindrical gage   | A1 / B1   |
| Connection in acc. with standard                                  | IEC 60998-2-2   |
| 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> ... 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> ... 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  | 21 A (with a 2.5 mm <sup>2</sup> conductor cross-section) |
| Maximum total current   | 21 A  |
| Nominal voltage   | 450 V   |

### 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]                              | 26 ... 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

|        |         |
|--------|---------|
| Width  | 4.2 mm  |
| Height | 21.6 mm |

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|       |         |
|-------|---------|
| Depth | 17.7 mm |
|-------|---------|

## Material specifications

|  |                   |
|--|-------------------|
| Color  | orange (RAL 2003) |
| 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

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 7.3 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 | 1.89 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/NS 15 |
| Test force setpoint     | 1 N         |

|        |   |
|--------|---|
| Result | Test passed   |
| Note   | <p>When aligning several blocks, the foot elements should be placed in a way that maximum 2 blocks are free-hanging in between. Flange elements should be placed after every 9 blocks and with engagement pins after every 12 blocks.</p> <p>Depending on the application case and mechanical load, other arrangements of the mounting accessory can also be chosen.</p> <p>One PTFIX 1,5-NS35 DIN rail adapter is suitable for a maximum of 13 blocks.</p> |

## 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):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  |
| 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

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|  |  |
|--|--|
| 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 60998-2-2 |
|----------------------------------|---------------|

## Mounting

|               |                                      |
|---------------|--------------------------------------|
| Mounting type | for snapping onto a DIN rail adapter |
|               | Direct mounting with flange          |
|               | Free-hanging                         |

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## Drawings

### Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1045939>

| <b>DNV</b><br>Approval ID: TAE00002TT-05 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| keine                                    |                       |                       |                   |                      |
|  | 500 V                 | 24 A                  | -                 | -                    |

| <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                      |
|----------------------------------|-----------------------|-----------------------|-------------------|----------------------|
|                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B                                |                       |                       |                   |                      |
|                                  | 300 V                 | 20 A                  | 26 - 12           | -                    |
| C                                |                       |                       |                   |                      |
|                                  | 150 V                 | 20 A                  | 26 - 12           | -                    |
| D                                |                       |                       |                   |                      |
|                                  | 300 V                 | 10 A                  | 26 - 12           | -                    |

| <b>IECEE CB Scheme</b><br>Approval ID: DE1-63083 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

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

| <b>VDE Zeichengenehmigung</b><br>Approval ID: 40047798 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

| <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B  |                       |                       |                   |                      |
|  | 300 V                 | 20 A                  | 26 - 12           | -                    |
| C  |                       |                       |                   |                      |
|  | 150 V                 | 20 A                  | 26 - 12           | -                    |
| F  |                       |                       |                   |                      |
|  | 500 V                 | 20 A                  | 26 - 12           | -                    |
| D  |                       |                       |                   |                      |
|  | 300 V                 | 10 A                  | 26 - 12           | -                    |

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## Classifications

### ECLASS

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

### ETIM

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