

# PTFIX 2X4-FE - Monoblock



1028371

<https://www.phoenixcontact.com/us/products/1028371>

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Monoblock, Basic terminal block, nom. voltage: 800 V, nominal current: 32 A, number of connections: 2, connection method: Push-in connection, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.2 mm<sup>2</sup> - 6 mm<sup>2</sup>, Push-in connection, mounting type: for snapping onto a DIN rail adapter, Direct mounting with flange, Free-hanging, color: black/yellow

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1028371       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE09          |
| Product key                          | BEA111        |
| GTIN                                 | 4055626527017 |
| Weight per piece (including packing) | 4.92 g        |
| Weight per piece (excluding packing) | 4.92 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                          |

### Insulation characteristics

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

### Electrical properties

|                                                 |        |
|-------------------------------------------------|--------|
| Rated surge voltage                             | 8 kV   |
| Maximum power dissipation for nominal condition | 1.02 W |

### Connection data

|                                                                                           |                                                                                 |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Number of connections per level                                                           | 2                                                                               |
| Nominal cross section                                                                     | 4 mm <sup>2</sup>                                                               |
| Rated cross section AWG                                                                   | 12                                                                              |
| Connection method                                                                         | Push-in connection                                                              |
| Stripping length                                                                          | 10 mm ... 12 mm                                                                 |
| Connection in acc. with standard                                                          | IEC 60947-7-1                                                                   |
| Conductor cross-section rigid                                                             | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>                                       |
| Cross section AWG                                                                         | 24 ... 10 (converted acc. to IEC)                                               |
| Conductor cross-section flexible                                                          | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>                                       |
| Conductor cross-section, flexible [AWG]                                                   | 24 ... 10 (converted acc. to IEC)                                               |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>                                       |
| Flexible conductor cross-section (ferrule with plastic sleeve)                            | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>                                       |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>                                       |
| Nominal current                                                                           | 32 A                                                                            |
| Maximum load current                                                                      | 38 A (bei 6 mm <sup>2</sup> Leiterquerschnitt starr)                            |
| Maximum total current                                                                     | The maximum load current of the individual terminal point must not be exceeded. |
| Nominal voltage                                                                           | 800 V                                                                           |
| Note                                                                                      | The IEC 60947-7-1 standard applies for the use of mounting accessories.         |
| Nominal cross section                                                                     | 4 mm <sup>2</sup>                                                               |
| Connection method                                                                         | Push-in connection                                                              |
| Stripping length                                                                          | 10 mm ... 12 mm                                                                 |
| Internal cylindrical gage                                                                 | A4                                                                              |
| 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> ... 6 mm <sup>2</sup> |
|-------------------------------|-------------------------------------------|

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|                                                                   |                                   |
|-------------------------------------------------------------------|-----------------------------------|
| Conductor cross-section, rigid [AWG]                              | 20 ... 10 (converted acc. to IEC) |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.75 mm² ... 4 mm²                |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.5 mm² ... 4 mm²                 |

## Dimensions

|        |         |
|--------|---------|
| Width  | 6.2 mm  |
| Height | 28.6 mm |
| Depth  | 21.7 mm |

## Material specifications

|                                                                  |                      |
|------------------------------------------------------------------|----------------------|
| Color                                                            | multicolored (RAL -) |
|                                                                  | black (RAL 9005)     |
|                                                                  | yellow (RAL 1018)    |
| 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 | 9.8 kV      |
| Result                | Test passed |

### Temperature-rise test

|                                    |                                |
|------------------------------------|--------------------------------|
| Requirement temperature-rise test  | Increase in temperature ≤ 45 K |
| Result                             | Test passed                    |
| Short-time withstand current 4 mm² | 0.48 kA                        |
| Short-time withstand current 6 mm² | 0.72 kA                        |
| Result                             | Test passed                    |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 2 kV        |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

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

## Mechanical tests

### Mechanical strength

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

### Attachment on the carrier

|        |                                                                                                                                                                                     |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Result | Test passed                                                                                                                                                                         |
| Note   | 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 6 blocks. |
|        | Depending on the application case and mechanical load, other arrangements of the mounting accessory can also be chosen.                                                             |
|        | One DIN rail adapter PTFIX-NS35 is intended for maximum 9 blocks.                                                                                                                   |

### Test for conductor damage and slackening

|                                |                              |
|--------------------------------|------------------------------|
| Rotation speed                 | 10 rpm                       |
| Revolutions                    | 135                          |
| Conductor cross-section/weight | 0.2 mm <sup>2</sup> / 0.2 kg |
|                                | 4 mm <sup>2</sup> / 0.9 kg   |
|                                | 6 mm <sup>2</sup> / 1.4 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               | 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):2008-03 |
| Pulse shape   | Half-sine                           |
| Acceleration  | 30g                                 |

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|                                |                                   |
|--------------------------------|-----------------------------------|
| 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 | 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

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

| CSA<br>Approval ID: 13631 |                       |                       |                   |                             |
|---------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                         |                       |                       |                   |                             |
|                           | 600 V                 | 32 A                  | 24 - 10           | -                           |
| C                         |                       |                       |                   |                             |
|                           | 600 V                 | 32 A                  | 24 - 10           | -                           |

| CB<br>IECEE CB Scheme<br>Approval ID: DE1-63087 |                       |                       |                   |                             |
|-------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                 | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                           |                       |                       |                   |                             |
|                                                 | 450 V                 | 32 A                  | -                 | - 4                         |

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

| EAC<br>Approval ID: RU C-DE.BE.B.03378 |  |  |  |  |
|----------------------------------------|--|--|--|--|
|----------------------------------------|--|--|--|--|

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

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

| cULus Recognized<br>Approval ID: E60425 |                       |                       |                   |                             |
|-----------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                       |                       |                       |                   |                             |

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|   |       |      |         |   |
|---|-------|------|---------|---|
|   | 600 V | 32 A | 24 - 10 | - |
| C |       |      |         |   |
|   | 600 V | 32 A | 24 - 10 | - |

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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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