

# PTFIX 4X1,5 BK - Distribution block



1046616

<https://www.phoenixcontact.com/us/products/1046616>

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Distribution block, nom. voltage: 450 V, nominal current: 17.5 A, number of connections: 4, 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: black

## Your advantages

- Convenient test options, thanks to test openings at every terminal point
- Space-saving potential distribution, thanks to compact micro potential distributors
- Flexible use, thanks to direct mounting with flange covers from accessories
- Space-saving, thanks to the compact design
- Clear arrangement thanks to marking of all terminal points

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1046616       |
| Packing unit                         | 30 pc         |
| Minimum order quantity               | 30 pc         |
| Sales key                            | BE09          |
| Product key                          | BEA112        |
| GTIN                                 | 4055626643618 |
| Weight per piece (including packing) | 3.63 g        |
| Weight per piece (excluding packing) | 3.63 g        |
| Customs tariff number                | 85369010      |
| Country of origin                    | PL            |

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## Technical data

### Notes

|                    |                                                                                                                        |
|--------------------|------------------------------------------------------------------------------------------------------------------------|
| Notes on operation | the blocks can be bridged with one another via the conductor shaft, for corresponding plug-in bridges, see accessories |
|--------------------|------------------------------------------------------------------------------------------------------------------------|

### General

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

### Product properties

|                       |                            |
|-----------------------|----------------------------|
| Product type          | Distributor terminal block |
| Number of connections | 4                          |
| 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                                   | 4                                            |
| 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                                         | A2 / 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                                              | 22 A                                         |
| Maximum total current                                             | 26 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> |
|-------------------------------|----------------------------------------------|

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|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| 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  | 8.3 mm  |
| Height | 21.6 mm |
| Depth  | 17.7 mm |

## Material specifications

|                                                                         |                  |
|-------------------------------------------------------------------------|------------------|
| Color                                                                   | black (RAL 9005) |
| 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

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

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|        |             |
|--------|-------------|
| 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, it is recommended to either place a DIN rail adapter underneath the connection point or a flange element between the blocks.</p> <p>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.</p> <p>When using the DIN rail adapter PTFIX-NS35, an aligned block must not protrude by more than a half.</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<br>1.5 mm <sup>2</sup> / 0.4 kg<br>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                               |

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

## Mounting

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

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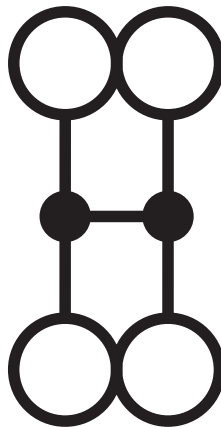
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## Drawings

Circuit diagram



Graphic



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1046616>

| <b>DNV</b><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                  | -                 | -                           |

| <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|----------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| 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 |                       |                       |                   |                             |
|--------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                            |                       |                       |                   |                             |
|                                                  | 450 V                 | 17.5 A                | -                 | - 1.5                       |

| <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 $\text{mm}^2$ |
| B                                              |                       |                       |                   |                             |
|                                                | 300 V                 | 20 A                  | 26 - 12           | -                           |
| C                                              |                       |                       |                   |                             |
|                                                | 150 V                 | 20 A                  | 26 - 12           | -                           |
| F                                              |                       |                       |                   |                             |
|                                                | 500 V                 | 20 A                  | 26 - 12           | -                           |

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|   |       |      |         |   |
|---|-------|------|---------|---|
| D |       |      |         |   |
|   | 300 V | 10 A | 26 - 12 | - |



**EAC**  
Approval ID: KZ7500651131219505

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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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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)