

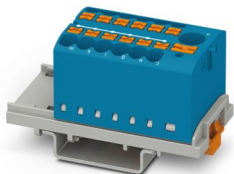
# PTFIX 6/12X2,5-NS35 BU - Distribution block



3273090

<https://www.phoenixcontact.com/us/products/3273090>

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Distribution block, Block with vertical alignment and integrated supply, nom. voltage: 690 V, nominal current: 24 A, number of connections: 13, connection method: Push-in connection, Rated cross section: 2.5 mm<sup>2</sup>, Load contact, cross section: 0.14 mm<sup>2</sup> - 4 mm<sup>2</sup>, Push-in connection, Line contact, Rated cross section: 6 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: blue

## Your advantages

- Flexible use, thanks to DIN rail mounting, direct mounting or adhesive mounting
- Clear wiring, thanks to eleven different color variants
- 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
- Space savings of up to 50 % on the DIN rail, thanks to transverse mounting

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3273090       |
| Packing unit                         | 8 pc          |
| Minimum order quantity               | 8 pc          |
| Sales key                            | BE09          |
| Product key                          | BEA123        |
| GTIN                                 | 4055626391021 |
| Weight per piece (including packing) | 35.287 g      |
| Weight per piece (excluding packing) | 35 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 | For power distribution applications, IEC 60364-4-43:2008; modified + corrigendum Okt. 2008 (DIN VDE 0100-430:2010-10) section 433.2 ff must be observed! |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------|

### Product properties

|                       |                            |
|-----------------------|----------------------------|
| Product type          | Distributor terminal block |
| Number of connections | 13                         |
| 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

|                                 |                     |
|---------------------------------|---------------------|
| Service Entrance                | yes                 |
| Number of connections per level | 13                  |
| Nominal cross section           | 2.5 mm <sup>2</sup> |
| Rated cross section AWG         | 14                  |

### Load contact

|                                                                                           |                                              |
|-------------------------------------------------------------------------------------------|----------------------------------------------|
| Connection method                                                                         | Push-in connection                           |
| Stripping length                                                                          | 8 mm ... 10 mm                               |
| Internal cylindrical gage                                                                 | A3                                           |
| 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> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup>                          |
| Nominal cross section                                                                     | 2.5 mm <sup>2</sup>                          |
| Nominal current                                                                           | 24 A                                         |

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|                       |                                                                                        |
|-----------------------|----------------------------------------------------------------------------------------|
| Maximum load current  | 32 A (with 4 mm <sup>2</sup> conductor cross-section)                                  |
| Maximum total current | 57 A (The maximum load current of the individual terminal point must not be exceeded.) |
| Nominal voltage       | 690 V                                                                                  |

## Line contact

|                                                                                           |                                                                                        |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Connection method                                                                         | Push-in connection                                                                     |
| Stripping length                                                                          | 10 mm ... 12 mm                                                                        |
| Internal cylindrical gage                                                                 | A5                                                                                     |
| Connection in acc. with standard                                                          | IEC 60947-7-1                                                                          |
| Conductor cross-section rigid                                                             | 0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>                                             |
| Cross section AWG                                                                         | 20 ... 8 (converted acc. to IEC)                                                       |
| Conductor cross-section flexible                                                          | 0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>                                             |
| Conductor cross-section, flexible [AWG]                                                   | 20 ... 8 (converted acc. to IEC)                                                       |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>                                              |
| Flexible conductor cross-section (ferrule with plastic sleeve)                            | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>                                              |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                            |
| Nominal cross section                                                                     | 6 mm <sup>2</sup>                                                                      |
| Nominal current                                                                           | 41 A                                                                                   |
| Maximum load current                                                                      | 57 A (with 10 mm <sup>2</sup> conductor cross-section)                                 |
| Maximum total current                                                                     | 57 A (The maximum load current of the individual terminal point must not be exceeded.) |
| Nominal voltage                                                                           | 690 V                                                                                  |

## Load contact Connection cross sections directly pluggable

|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Conductor cross-section rigid                                     | 0.34 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Conductor cross-section, rigid [AWG]                              | 24 ... 12 (converted acc. to IEC)            |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.34 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |

## Line contact Connection cross sections directly pluggable

|                                                                   |                                          |
|-------------------------------------------------------------------|------------------------------------------|
| Conductor cross-section rigid                                     | 1 mm <sup>2</sup> ... 10 mm <sup>2</sup> |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 1 mm <sup>2</sup> ... 6 mm <sup>2</sup>  |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 1 mm <sup>2</sup> ... 6 mm <sup>2</sup>  |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 28.6 mm |
| Height             | 58.1 mm |
| Depth on NS 15     | 30.4 mm |
| Depth on NS 35/7,5 | 32.4 mm |

## Material specifications

|                                        |                 |
|----------------------------------------|-----------------|
| Color                                  | blue (RAL 5015) |
| Flammability rating according to UL 94 | V0              |
| Insulating material group              | I               |

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|                                                                  |             |
|------------------------------------------------------------------|-------------|
| 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 $\leq 45$ K |
| Result                                          | Test passed                         |
| Short-time withstand current 6 mm <sup>2</sup>  | 0.72 kA                             |
| Short-time withstand current 10 mm <sup>2</sup> | 1.2 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                                                                                                                                                                                                                                                                                                                            |
| Test force setpoint     | 5 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> |

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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 | 0.5 mm <sup>2</sup> / 0.3 kg |
|                                | 6 mm <sup>2</sup> / 1.4 kg   |
|                                | 10 mm <sup>2</sup> / 2 kg    |
| 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 |
|                                | 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):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                                 |
| Shock duration                 | 18 ms                               |
| Number of shocks per direction | 3                                   |
| Test directions                | X-, Y- and Z-axis (pos. and neg.)   |
| Result                         | Test passed                         |

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## 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

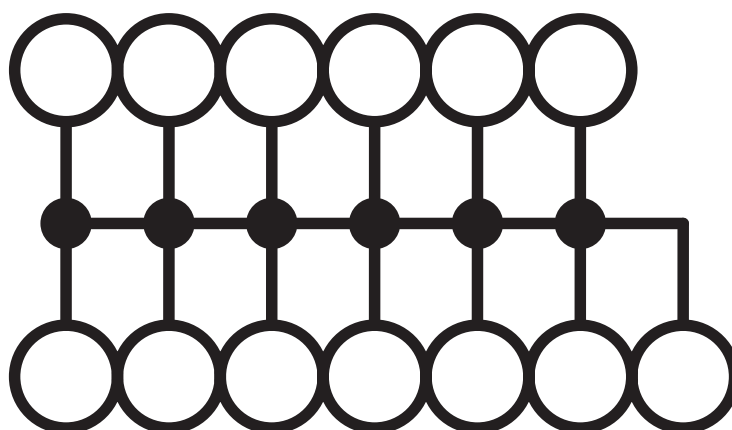
|                                  |               |
|----------------------------------|---------------|
| Connection in acc. with standard | IEC 60947-7-1 |
|                                  | IEC 60947-7-1 |

## 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/3273090>

| <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                                |                       |                       |                   |                             |
| Output                           | 300 V                 | 20 A                  | 26 - 12           | -                           |
| Input                            | 300 V                 | 50 A                  | 20 - 8            | -                           |
| C                                |                       |                       |                   |                             |
| Output                           | 300 V                 | 20 A                  | 26 - 12           | -                           |
| Input                            | 300 V                 | 50 A                  | 20 - 8            | -                           |
| D                                |                       |                       |                   |                             |
| Input                            | 600 V                 | 5 A                   | 20 - 8            | -                           |

| <b>IECEE CB Scheme</b><br>Approval ID: DE1-62701 |                       |                       |                   |                             |
|--------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                            |                       |                       |                   |                             |
|                                                  | 690 V                 | 41 A                  | -                 | -                           |

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

| <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                                              |                       |                       |                   |                             |
| Output                                         | 300 V                 | 20 A                  | 26 - 12           | -                           |
| Input                                          | 300 V                 | 50 A                  | 20 - 8            | -                           |
| C                                              |                       |                       |                   |                             |
| Output                                         | 300 V                 | 20 A                  | 26 - 12           | -                           |
| Input                                          | 300 V                 | 50 A                  | 20 - 8            | -                           |
| D                                              |                       |                       |                   |                             |
| Output                                         | 600 V                 | 5 A                   | 26 - 12           | -                           |

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|       |       |     |        |   |
|-------|-------|-----|--------|---|
| Input | 600 V | 5 A | 20 - 8 | - |
|-------|-------|-----|--------|---|

|                                                                                                                                                      |                                |                                |                   |                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
| <div> <b>VDE Zeichengenehmigung</b><br/>Approval ID: 40047797</div> |                                |                                |                   |                               |
|                                                                                                                                                      | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine                                                                                                                                                |                                |                                |                   |                               |
|                                                                                                                                                      | 690 V                          | 41 A                           | -                 | -                             |

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

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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 |

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