

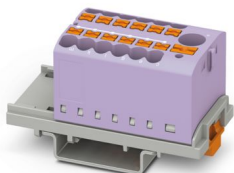
# PTFIX 6/12X2,5-NS35 VT - Distribution block



3273104

<https://www.phoenixcontact.com/us/products/3273104>

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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, 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: violet

## 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                          | 3273104             |
| Packing unit                         | 8 pc                |
| Minimum order quantity               | 8 pc                |
| Sales key                            | BE09                |
| Product key                          | BEA123              |
| Catalog page                         | Page 445 (C-1-2019) |
| GTIN                                 | 4055626391090       |
| Weight per piece (including packing) | 35.36 g             |
| Weight per piece (excluding packing) | 35.36 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.<br><br>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

|                                                                   |                                                        |
|-------------------------------------------------------------------|--------------------------------------------------------|
| 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>           |
| Nominal current                                                   | 24 A                                                   |
| Maximum load current                                              | 32 A (with 4 mm <sup>2</sup> conductor cross section)  |
| Maximum total current                                             | 57 A (with 10 mm <sup>2</sup> conductor cross section) |

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|                 |       |
|-----------------|-------|
| Nominal voltage | 690 V |
|-----------------|-------|

## Line contact

|                                                                                                                   |                                                        |
|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Stripping length                                                                                                  | 10 mm ... 12 mm                                        |
| 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>              |
| Conductor cross-section flexible (2 conductors with the same cross-section, with TWIN ferrule and plastic sleeve) | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>            |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve                         | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>            |
| Nominal current                                                                                                   | 41 A (with 6 mm <sup>2</sup> conductor cross section)  |
| Maximum load current                                                                                              | 57 A (with 10 mm <sup>2</sup> conductor cross section) |
| Nominal cross section                                                                                             | 6 mm <sup>2</sup>                                      |

## 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) | 0.34 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                                                                   | violet (RAL 4005) |
| 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)) | 130 °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       |

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|                                                         |             |
|---------------------------------------------------------|-------------|
| 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)        | 28 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

|                       |             |
|-----------------------|-------------|
| 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> <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

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|                                |                              |
|--------------------------------|------------------------------|
| 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               | Service 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                         |

### Ambient conditions

|                                 |                                                                                                                              |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Ambient temperature (operation) | -60 °C ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see RTI Elec.) |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------|

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

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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/3273104>

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

| CSA<br>Approval ID: 13631 |                       |                       |                   |                             |
|---------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B               |                       |                       |                   |                             |
| Output                    | 300 V                 | 20 A                  | 26 - 12           | -                           |
| Input                     | 300 V                 | 50 A                  | 20 - 8            | -                           |
| Use group C               |                       |                       |                   |                             |
| Output                    | 300 V                 | 20 A                  | 26 - 12           | -                           |
| Input                     | 300 V                 | 50 A                  | 20 - 8            | -                           |
| Use group D               |                       |                       |                   |                             |
| Input                     | 600 V                 | 5 A                   | 20 - 8            | -                           |

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

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

| cULus Recognized<br>Approval ID: E60425 |                       |                       |                   |                             |
|-----------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                             |                       |                       |                   |                             |
| Output                                  | 300 V                 | 20 A                  | 26 - 12           | -                           |
| Input                                   | 300 V                 | 50 A                  | 20 - 8            | -                           |
| Use group C                             |                       |                       |                   |                             |
| Output                                  | 300 V                 | 20 A                  | 26 - 12           | -                           |
| Input                                   | 300 V                 | 50 A                  | 20 - 8            | -                           |
| Use group D                             |                       |                       |                   |                             |
| Output                                  | 600 V                 | 5 A                   | 26 - 12           | -                           |
| Input                                   | 600 V                 | 5 A                   | 20 - 8            | -                           |

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**LR**  
Approval ID: LR2002627TA



**BV**  
Approval ID: 59146/A0 BV

|                                                                                   |                                                        |                       |                   |                             |
|-----------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------|-------------------|-----------------------------|
|  | <b>VDE Zeichengenehmigung</b><br>Approval ID: 40047797 |                       |                   |                             |
|                                                                                   | Nominal voltage $U_N$                                  | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                   | 690 V                                                  | 41 A                  | -                 | -                           |



**EAC**  
Approval ID: EACKZ 08593

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



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 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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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)