

# MPTD 2,5-NS 35 - Mini feed-through terminal block



1429438

<https://www.phoenixcontact.com/us/products/1429438>

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Mini feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, number of connections: 4, number of positions: 1, connection method: Push-in connection, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.14 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: gray

## Your advantages

- Significant space savings with the compact design
- Increased flexibility with single function shafts
- Clear arrangement with marking grooves on each individual terminal point
- Time-saving conductor connection with tool-free and maintenance-free Push-in connection technology
- Testing options for all common test probes

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1429438       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE22          |
| Product key                          | BE2263        |
| GTIN                                 | 4063151795658 |
| Weight per piece (including packing) | 10.63 g       |
| Weight per piece (excluding packing) | 10.63 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | CN            |

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## Technical data

### Notes

|                     |         |
|---------------------|---------|
| Note on application | Modular |
|---------------------|---------|

### General

|      |                                                                                              |
|------|----------------------------------------------------------------------------------------------|
| Note | The max. load current must not be exceeded by the total current of all connected conductors. |
|------|----------------------------------------------------------------------------------------------|

### Product properties

|                       |                          |
|-----------------------|--------------------------|
| Product type          | Miniature terminal block |
| Number of positions   | 1                        |
| Number of connections | 4                        |
| Number of rows        | 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

|                                                                                           |                                                       |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Number of connections per level                                                           | 4                                                     |
| Nominal cross section                                                                     | 2.5 mm <sup>2</sup>                                   |
| Connection method                                                                         | Push-in connection                                    |
| Stripping length                                                                          | 8 mm ... 10 mm                                        |
| Internal cylindrical gage                                                                 | A3                                                    |
|                                                                                           | B3                                                    |
| 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)                     |
| 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                                                  |
| Maximum load current                                                                      | 30 A (with 4 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage                                                                           | 800 V                                                 |

### Connection cross sections directly pluggable

|                               |                                            |
|-------------------------------|--------------------------------------------|
| Conductor cross-section rigid | 0.34 mm <sup>2</sup> ... 4 mm <sup>2</sup> |
|-------------------------------|--------------------------------------------|

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|                                                                   |                      |
|-------------------------------------------------------------------|----------------------|
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.34 mm² ... 2.5 mm² |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.34 mm² ... 2.5 mm² |

## Ex data

### Rated data (ATEX/IECEx)

|                                                    |                                     |
|----------------------------------------------------|-------------------------------------|
| Identification                                     | Ex II 2 GD Ex eb IIC Gb             |
| Operating temperature range                        | -60 °C ... 110 °C                   |
| Ex-certified accessories                           | 1075386 D-MPT 2,5-L                 |
|                                                    | 3249019 D-MPT 2,5-RZ                |
|                                                    | 1204517 SZF 1-0,6X3,5               |
|                                                    | 3022218 CLIPFIX 35                  |
| List of bridges                                    | Plug-in bridge / FBS 2-5 / 3030161  |
|                                                    | Plug-in bridge / FBS 3-5 / 3030174  |
|                                                    | Plug-in bridge / FBS 4-5 / 3030187  |
|                                                    | Plug-in bridge / FBS 5-5 / 3030190  |
|                                                    | Plug-in bridge / FBS 10-5 / 3030213 |
|                                                    | Plug-in bridge / FBS 20-5 / 3030226 |
| Bridge data                                        | 23 A (2.5 mm²)                      |
|                                                    | 40 K (23 A / 2.5 mm²)               |
| Ex temperature increase                            | 550 V                               |
| for bridging with bridge                           | 352 V                               |
| - At bridging between non-adjacent terminal blocks | 150 V                               |
| - At cut-to-length bridging                        | 150 V                               |
| - At cut-to-length bridging with cover             | 500 V                               |
| Rated insulation voltage                           | (Permanent)                         |
| output                                             |                                     |

### Ex level General

|                      |         |
|----------------------|---------|
| Rated voltage        | 550 V   |
| Rated current        | 23 A    |
| Maximum load current | 29 A    |
| Contact resistance   | 1.33 mΩ |

### Ex connection data General

|                              |                    |
|------------------------------|--------------------|
| Nominal cross section        | 2.5 mm²            |
| Rated cross section AWG      | 14                 |
| Connection capacity rigid    | 0.14 mm² ... 4 mm² |
| Connection capacity AWG      | 26 ... 12          |
| Connection capacity flexible | 0.14 mm² ... 4 mm² |
| Connection capacity AWG      | 26 ... 12          |

## Dimensions

|        |         |
|--------|---------|
| Width  | 10.3 mm |
| Height | 43.5 mm |
| Depth  | 33.3 mm |

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## Material specifications

|                                                                  |                 |
|------------------------------------------------------------------|-----------------|
| Color                                                            | gray (RAL 7042) |
| 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 $\leq 45$ K |
| Result                                           | Test passed                         |
| Short-time withstand current 2.5 mm <sup>2</sup> | 0.3 kA                              |
| Result                                           | Test passed                         |

### Power-frequency withstand voltage

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

## Mechanical properties

### Mechanical data

|                 |     |
|-----------------|-----|
| Open side panel | Yes |
|-----------------|-----|

## Mechanical tests

### Mechanical strength

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

### Attachment on the carrier

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

### Test for conductor damage and slackening

|                |                |
|----------------|----------------|
| Rotation speed | 10 (+/- 2) rpm |
| Revolutions    | 135            |

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|                                |                               |
|--------------------------------|-------------------------------|
| 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):2022-06            |
| 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

|                                |                                   |
|--------------------------------|-----------------------------------|
| 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.) |
| 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 |
|----------------------------------|---------------|

## Mounting

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|               |           |
|---------------|-----------|
| Mounting type | NS 35/7,5 |
|               | NS 35/15  |

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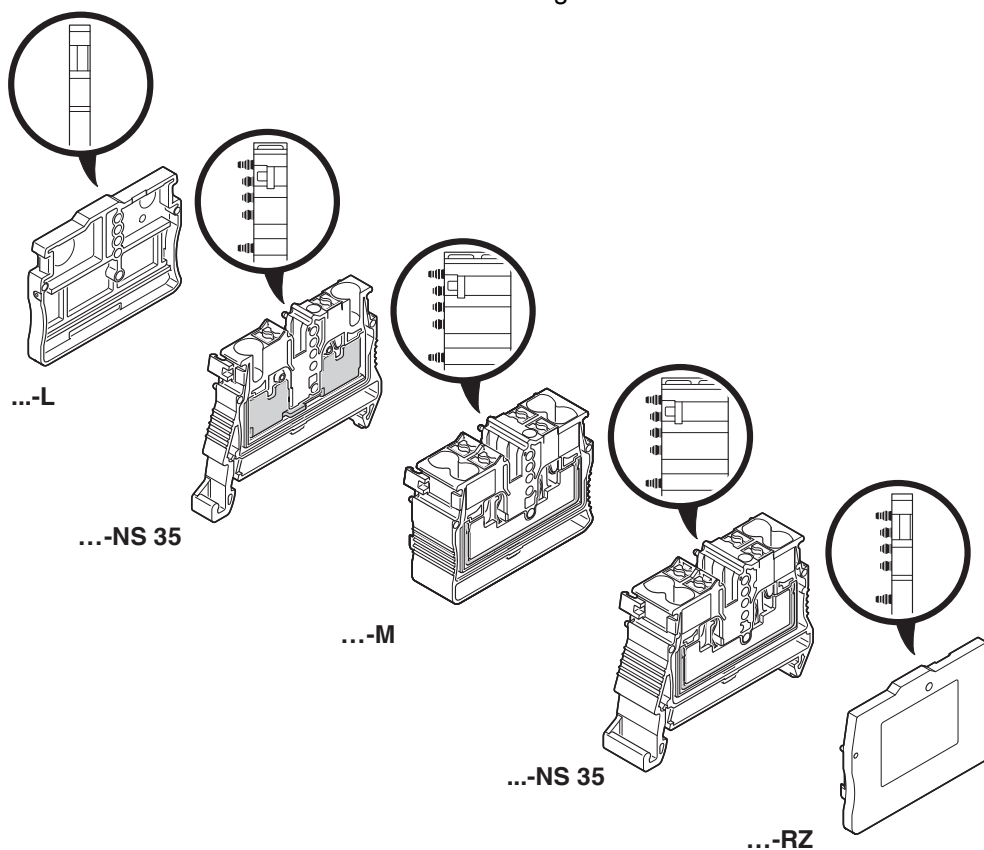
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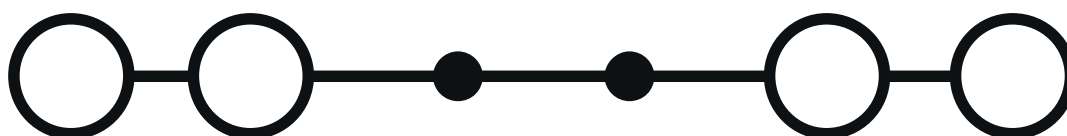


## Drawings

Schematic diagram



Circuit diagram





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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1429438>

|  <b>CSA</b><br>Approval ID: 2030668 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                      | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                    | 600 V                 | 20 A                  | 26 - 12           | -                           |
| C                                                                                                                    | 600 V                 | 20 A                  | 26 - 12           | -                           |
| D                                                                                                                    | 600 V                 | 5 A                   | 26 - 12           | -                           |

|  <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                                                                                                                                | 600 V                 | 20 A                  | 26 - 12           | -                           |
| C                                                                                                                                | 600 V                 | 20 A                  | 26 - 12           | -                           |
| F                                                                                                                                | 800 V                 | 20 A                  | 26 - 12           | -                           |
| D                                                                                                                                | 600 V                 | 5 A                   | 26 - 12           | -                           |

|                                                                                                                              |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|  <b>DNV GL</b><br>Approval ID: TAE00004WC |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|                                                                                                                                 |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|  <b>CCC</b><br>Approval ID: 2020322313000629 |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|  <b>IECEx</b><br>Approval ID: IECExSEV14.0010U |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                             | 550 V                 | 23 A                  | -                 | 0.14 - 4                    |

|  <b>ATEX</b><br>Approval ID: SEV 14 ATEX 0140U |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |

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|       |       |      |   |          |
|-------|-------|------|---|----------|
| keine |       |      |   |          |
|       | 550 V | 23 A | - | 0.14 - 4 |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250101 |
| ECLASS-15.0 | 27250101 |

### 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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