

# ST 2,5-PE - Spring-cage protective conductor terminal block



3031238

<https://www.phoenixcontact.com/us/products/3031238>

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Spring-cage protective conductor terminal block, number of connections: 2, connection method: Spring-cage connection, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.08 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: green-yellow

## Your advantages

- Simple wiring of very small, flexible conductors
- No restriction on cross-sections when using conductors with ferrules
- Meet the requirements of DIN EN 60947-7-2 or IEC 60947-7-2 for protective conductor connections
- High level of safety thanks to the low-resistance connection to the ground potential via the top-hat rail
- Direct contacting with the DIN rail enables fast, error-free grounding without additional wiring effort.
- Full flexibility thanks to the standardized CLIPLINE complete bridging, marking, and testing accessories

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3031238       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE02          |
| Product key                          | BE2121        |
| GTIN                                 | 4017918186746 |
| Weight per piece (including packing) | 9.786 g       |
| Weight per piece (excluding packing) | 9.257 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

|                       |                       |
|-----------------------|-----------------------|
| Product type          | Ground terminal block |
| Product family        | ST                    |
| Area of application   | Railway industry      |
|                       | Machine building      |
|                       | Plant engineering     |
|                       | Process industry      |
| Number of connections | 2                     |
| 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                                   | 2                                                              |
| Nominal cross section                                             | 2.5 mm <sup>2</sup>                                            |
| Connection method                                                 | Spring-cage connection                                         |
| Note                                                              | Please observe the current carrying capacity of the DIN rails. |
| Stripping length                                                  | 8 mm ... 10 mm                                                 |
| Internal cylindrical gage                                         | A3                                                             |
| Connection in acc. with standard                                  | IEC 60947-7-2                                                  |
| Conductor cross-section rigid                                     | 0.08 mm <sup>2</sup> ... 4 mm <sup>2</sup>                     |
| Cross section AWG                                                 | 28 ... 12 (converted acc. to IEC)                              |
| Conductor cross-section flexible                                  | 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>                   |
| Conductor cross-section, flexible [AWG]                           | 28 ... 14 (converted acc. to IEC)                              |
| Conductor cross-section flexible ultrasound-compressed            | 0.34 mm <sup>2</sup> ... 4 mm <sup>2</sup>                     |
| Conductor cross-section, flexible [AWG] ultrasound-compressed     | 22 ... 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 cross section                                             | 2.5 mm <sup>2</sup>                                            |

### Ex data

#### Rated data (ATEX/IECEx)

|                             |                         |
|-----------------------------|-------------------------|
| Identification              | Ex II 2 GD Ex eb IIC Gb |
| Operating temperature range | -60 °C ... 85 °C        |
|                             | 3030417 D-ST 2,5        |

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|                          |                       |
|--------------------------|-----------------------|
| Ex-certified accessories | 1204517 SZF 1-0,6X3,5 |
|                          | 3022276 CLIPFIX 35-5  |
|                          | 3022218 CLIPFIX 35    |
| output                   | (Permanent)           |

## Ex connection data General

|                              |                                              |
|------------------------------|----------------------------------------------|
| Nominal cross section        | 2.5 mm <sup>2</sup>                          |
| Rated cross section AWG      | 14                                           |
| Connection capacity rigid    | 0.08 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Connection capacity AWG      | 28 ... 12                                    |
| Connection capacity flexible | 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Connection capacity AWG      | 28 ... 14                                    |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 5.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 48.5 mm |
| Depth on NS 35/7,5 | 36.5 mm |
| Depth on NS 35/15  | 44 mm   |

## Material specifications

|                                                                  |              |
|------------------------------------------------------------------|--------------|
| Color                                                            | green-yellow |
| 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       |

## Mechanical properties

### Mechanical data

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

## Environmental and real-life conditions

### Oscillation/broadband noise

|               |                                                  |
|---------------|--------------------------------------------------|
| Specification | DIN EN 50155 (VDE 0115-200):2018-05              |
| Spectrum      | Long life test category 2, bogie-mounted         |
| Frequency     | f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 250 Hz |

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|                        |                             |
|------------------------|-----------------------------|
| ASD level              | 6.12 (m/s <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                    | Semi-sinusoidal                     |
| Acceleration                   | 5g                                  |
| Shock duration                 | 30                                  |
| 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 60947-7-2 |
|----------------------------------|---------------|

## 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/3031238>

| CSA<br>Approval ID: 13631 |                       |                       |                   |                             |
|---------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                         | -                     | -                     | 28 - 12           | -                           |
| C                         | -                     | -                     | 28 - 12           | -                           |
| D                         | -                     | -                     | 28 - 12           | -                           |

| CB<br>IECEE CB Scheme<br>Approval ID: DE1-62971_M1 |  |  |  |  |
|----------------------------------------------------|--|--|--|--|
|----------------------------------------------------|--|--|--|--|

| KR<br>Approval ID: HMB17372-EL002 |  |  |  |  |
|-----------------------------------|--|--|--|--|
|-----------------------------------|--|--|--|--|

| ClassNK<br>NK<br>Approval ID: 09 ME 140 |  |  |  |  |
|-----------------------------------------|--|--|--|--|
|-----------------------------------------|--|--|--|--|

| VDE Zeichengenehmigung<br>Approval ID: 40010331 |                       |                       |                   |                             |
|-------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                 | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                           | -                     | -                     | -                 | 0.2 - 2.5                   |

| cULus<br>cULus Recognized<br>Approval ID: E60425 |                       |                       |                   |                             |
|--------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                | -                     | -                     | 28 - 12           | -                           |
| C                                                | -                     | -                     | 28 - 12           | -                           |

| DNV<br>Approval ID: TAE00001CS |  |  |  |  |
|--------------------------------|--|--|--|--|
|--------------------------------|--|--|--|--|

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|  <b>ATEX</b><br>Approval ID: KEMA00ATEX2052U |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                               | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                         |                       |                       |                   |                             |
| Only flexible conductors                                                                                                      | -                     | -                     | -                 | 0.08 - 2.5                  |
| Only rigid conductors                                                                                                         | -                     | -                     | -                 | 0.08 - 4                    |

|  <b>IECEx</b><br>Approval ID: IECEx KEM 06.0051U |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                             |                       |                       |                   |                             |
| Only flexible conductors                                                                                                          | -                     | -                     | -                 | 0.08 - 2.5                  |
| Only rigid conductors                                                                                                             | -                     | -                     | -                 | 0.08 - 4                    |

|  <b>CCC</b><br>Approval ID: 2020322313000621 |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|---------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|  <b>UKCA-EX</b><br>Approval ID: DEKRA 21UKEX0300U |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|--------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|  <b>EAC Ex</b><br>Approval ID: KZ 7500525010101950 |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|---------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250103 |
| ECLASS-15.0 | 27250103 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC000901 |
|----------|----------|

### 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%               |
| EF3.0 Climate Change                    |                                          |
| CO2e kg                                 | 0.057 kg CO2e                            |

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