

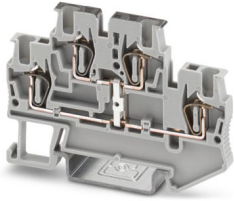
# STTB 1,5-PV - Double-level spring-cage terminal block



3031526

<https://www.phoenixcontact.com/us/products/3031526>

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Double-level spring-cage terminal block, with equipotential bonder, nom. voltage: 500 V, nominal current: 17.5 A, connection method: Spring-cage connection, 1st and 2nd level, Rated cross section: 1.5 mm<sup>2</sup>, cross section: 0.08 mm<sup>2</sup> - 1.5 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: gray

## Your advantages

- Compact design for maximum space savings
- Connect the levels using FBS ...-PV bridges
- Tested for railway applications

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 3031526             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | BE02                |
| Product key                          | BE2114              |
| Catalog page                         | Page 208 (C-1-2019) |
| GTIN                                 | 4017918176303       |
| Weight per piece (including packing) | 8.96 g              |
| Weight per piece (excluding packing) | 8.335 g             |
| Customs tariff number                | 85369010            |
| Country of origin                    | DE                  |

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## Technical data

### Product properties

|                       |                            |
|-----------------------|----------------------------|
| Product type          | Multi-level terminal block |
| Area of application   | Railway industry           |
|                       | Machine building           |
|                       | Plant engineering          |
|                       | Process industry           |
| Number of connections | 4                          |
| Number of rows        | 2                          |
| Potentials            | 1                          |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

|   |        |
|---|--------|
| Rated surge voltage                             | 6 kV   |
| Maximum power dissipation for nominal condition | 0.56 W |

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 2                   |
| Nominal cross section           | 1.5 mm <sup>2</sup> |

### 1st and 2nd level

|   |  |
|---|--|
| Stripping length  | 10 mm  |
| Internal cylindrical gage   | A1   |
| Connection in acc. with standard  | IEC 60947-7-1  |
| Conductor cross section rigid   | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| Cross section AWG   | 28 ... 16 (converted acc. to IEC)  |
| Conductor cross section flexible  | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| Conductor cross section, flexible [AWG]   | 28 ... 16 (converted acc. to IEC)  |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| Flexible conductor cross section (ferrule with plastic sleeve)                            | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup>  |
| Nominal current   | 17.5 A (with 1.5 mm <sup>2</sup> conductor cross section)  |
| Maximum load current  | 17.5 A (in case of a 1.5 mm <sup>2</sup> conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.) |
| Nominal voltage   | 500 V  |
| Nominal cross section   | 1.5 mm <sup>2</sup>  |

### Ex data

Rated data (ATEX/IECEx)

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|  |  |
|--|--|
| Identification                                     | ⊕ II 2 GD Ex eb IIC Gb   |
| Operating temperature range                        | -60 °C ... 110 °C  |
| Ex-certified accessories                           | 3030459 D-STTB 2,5<br>3030747 ATP-STTB 4<br>1204504 SZF 0-0,4X2,5<br>3022276 CLIPFIX 35-5<br>3022218 CLIPFIX 35  |
| List of bridges                                    | Plug-in bridge / FBS 2-4 / 3030116<br>Plug-in bridge / FBS 3-4 / 3030129<br>Plug-in bridge / FBS 4-4 / 3030132<br>Plug-in bridge / FBS 5-4 / 3030145<br>Plug-in bridge / FBS 10-4 / 3030158<br>Plug-in bridge / FBS 20-4 / 3030352 |
| Bridge data  | 13.5 A / 1.5 mm <sup>2</sup>   |
| Ex temperature increase                            | 40 K (17 A / 1.5 mm <sup>2</sup> )   |
| Rated voltage                                      | 440 V  |
| for bridging with bridge                           | 440 V  |
| - At bridging between non-adjacent terminal blocks | 352 V  |
| Rated insulation voltage                           | 400 V  |
| output   | (Permanent)  |

## Ex level General

|                      |      |
|----------------------|------|
| Rated current        | 15 A |
| Maximum load current | 15 A |

## Ex connection data General

|                              |  |
|------------------------------|--|
| Nominal cross section        | 1.5 mm <sup>2</sup>                          |
| Rated cross section AWG      | 16   |
| Connection capacity rigid    | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Connection capacity AWG      | 28 ... 16                                    |
| Connection capacity flexible | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Connection capacity AWG      | 28 ... 16                                    |
| output                       | (Permanent)                                  |

## Ex level Level 1

|                    |             |
|--------------------|-------------|
| Contact resistance | 1.07 mΩ     |
| output             | (Permanent) |

## Ex level Level 2

|                    |             |
|--------------------|-------------|
| Contact resistance | 0.91 mΩ     |
| output             | (Permanent) |

## Ex level PV connection

|                    |         |
|--------------------|---------|
| Contact resistance | 1.19 mΩ |
|--------------------|---------|

## Dimensions

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|                    |         |
|--------------------|---------|
| Width              | 4.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 67.5 mm |
| Depth on NS 35/7,5 | 47.5 mm |
| Depth on NS 35/15  | 55 mm   |

## Material specifications

|   |             |
|---|-------------|
| Color   | gray        |
| Flammability rating according to UL 94                                  | V0          |
| Insulating material group   | I           |
| Insulating material   | PA          |
| Static insulating material application in cold                          | -60 °C      |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 125 °C      |
| Relative insulation material temperature index (Elec., UL 746 B)        | 130 °C      |
| Fire protection for rail vehicles (DIN EN 45545-2) R22                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R23                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R24                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R26                  | HL 1 - HL 3 |
| Calorimetric heat release NFPA 130 (ASTM E 1354)                        | 27,5 MJ/kg  |
| Surface flammability NFPA 130 (ASTM E 162)                              | passed      |
| Specific optical density of smoke NFPA 130 (ASTM E 662)                 | passed      |
| Smoke gas toxicity NFPA 130 (SMP 800C)                                  | passed      |

## Electrical tests

### Surge voltage test

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

### Temperature-rise test

|  |                                     |
|--|-------------------------------------|
| Requirement temperature-rise test                | Increase in temperature $\leq 45$ K |
| Result   | Test passed                         |
| Short-time withstand current 1.5 mm <sup>2</sup> | 0.18 kA                             |
| Result   | Test passed                         |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 1.89 kV     |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

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

## Mechanical tests

### Mechanical strength

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

## Attachment on the carrier

|                     |             |
|---------------------|-------------|
| Test force setpoint | 1 N         |
| Result              | Test passed |

## Test for conductor damage and slackening

|                                |                               |
|--------------------------------|-------------------------------|
| Rotation speed                 | 10 rpm                        |
| Revolutions                    | 135                           |
| Conductor cross section/weight | 0.08 mm <sup>2</sup> / 0.1 kg |
|                                | 1.5 mm <sup>2</sup> / 0.4 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.) |
| 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  |

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

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

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 27250102 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC000897 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

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