

# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, number of connections: 3, 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: brown

## Your advantages

- The consistent double function shaft offers every opportunity for time-saving potential distribution and accommodating test accessories
- User-friendly implementation of all potential branching tasks
- Tested for railway applications
- Space-saving and practical multi-conductor connection without additional bridges

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 3031242                        |
| Packing unit                         | 50 pc                          |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BE02                           |
| Product key                          | BE2112                         |
| GTIN                                 | 4046356741507                  |
| Weight per piece (including packing) | 7.94 g                         |
| Weight per piece (excluding packing) | 7.94 g                         |
| Customs tariff number                | 85366990                       |
| Country of origin                    | DE                             |

# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

## Technical data

### Notes

#### General

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

### Product properties

|                       |                                |
|-----------------------|--------------------------------|
| Product type          | Multi-conductor terminal block |
| Area of application   | Railway industry               |
|                       | Machine building               |
|                       | Plant engineering              |
|                       | Process industry               |
| Number of connections | 3                              |
| 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

|   |  |
|---|--|
| Number of connections per level   | 3  |
| Nominal cross section   | 2.5 mm <sup>2</sup>  |
| Connection method   | Spring-cage connection   |
| Stripping length  | 8 mm ... 10 mm   |
| Internal cylindrical gage   | A3   |
| Connection in acc. with standard  | IEC 60947-7-1  |
| Conductor cross-section rigid   | 0.08 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 (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 current   | 24 A (with 4 mm <sup>2</sup> conductor cross-section)  |
| Maximum load current  | 28 A (in case of a 4 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   | 800 V  |

# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

|                       |         |
|-----------------------|---------|
| Nominal cross section | 2.5 mm² |
|-----------------------|---------|

## Ex data

### Rated data (ATEX/IECEx)

|  |                                     |
|--|-------------------------------------|
| Identification   | Ex II 2 GD Ex eb IIC Gb             |
| Operating temperature range  | -60 °C ... 85 °C                    |
| Ex-certified accessories   | 3030488 D-ST 2,5-TWIN               |
|  | 3030789 ATP-ST-TWIN                 |
|  | 3036602 DS-ST 2,5                   |
|  | 1204517 SZF 1-0,6X3,5               |
|  | 3022276 CLIPFIX 35-5                |
|  | 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  | 22.5 A (2.5 mm²)                    |
| Ex temperature increase  | 40 K (23.4 A / 2.5 mm²)             |
| for bridging with bridge   | 550 V                               |
| - At bridging between non-adjacent terminal blocks                       | 352 V                               |
| - At bridging between non-adjacent terminal blocks via PE terminal block | 352 V                               |
| - At cut-to-length bridging with cover                                   | 220 V                               |
| - At cut-to-length bridging with partition plate                         | 275 V                               |
| Rated insulation voltage   | 500 V                               |
| output   | (Permanent)                         |

### Ex level General

|                      |         |
|----------------------|---------|
| Rated voltage        | 550 V   |
| Rated current        | 21 A    |
| Maximum load current | 24.5 A  |
| Contact resistance   | 1.08 mΩ |

### Ex connection data General

|                              |                      |
|------------------------------|----------------------|
| Nominal cross section        | 2.5 mm²              |
| Rated cross section AWG      | 14                   |
| Connection capacity rigid    | 0.08 mm² ... 4 mm²   |
| Connection capacity AWG      | 28 ... 12            |
| Connection capacity flexible | 0.08 mm² ... 2.5 mm² |
| Connection capacity AWG      | 28 ... 14            |

## Dimensions

|       |        |
|-------|--------|
| Width | 5.2 mm |
|-------|--------|

# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

|                 |        |
|-----------------|--------|
| End cover width | 2.2 mm |
|-----------------|--------|

## Material specifications

|  |                  |
|--|------------------|
| Color  | brown (RAL 8028) |
| 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

|        |             |
|--------|-------------|
| 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                              |
| Short-time withstand current 4 mm <sup>2</sup>   | 0.48 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

|                         |             |
|-------------------------|-------------|
| DIN rail/fixing support | NS 32/NS 35 |
| Result                  | Test passed |

### Test for conductor damage and slackening

# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

|                                |                               |
|--------------------------------|-------------------------------|
| Rotation speed                 | 10 (+/- 2) 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

|                                |                                   |
|--------------------------------|-----------------------------------|
| Pulse shape                    | Half-sine                         |
| Acceleration                   | 5g                                |
| Shock duration                 | 30 ms                             |
| Number of shocks per direction | 3                                 |
| Test directions                | X-, Y- and Z-axis (pos. and neg.) |
| Result                         | Test passed                       |

### Ambient conditions

|  |   |
|--|---|
| 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 (storage/transport) | 30 % ... 70 %   |

## Standards and regulations

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

## Mounting

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

# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

|  |          |
|--|----------|
|  | NS 35/15 |
|--|----------|

# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

## Drawings

Circuit diagram



# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC000897 |
|----------|----------|

### UNSPSC

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



# ST 2,5-TWIN BN - Feed-through terminal block



3031242

<https://www.phoenixcontact.com/us/products/3031242>

## 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%               |

Phoenix Contact 2025 © - all rights reserved  
<https://www.phoenixcontact.com>

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