

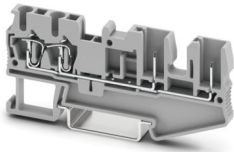
# ST 2,5-QUATTRO/2P - Feed-through terminal block



3040038

<https://www.phoenixcontact.com/us/products/3040038>

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Feed-through terminal block, nom. voltage: 500 V, nominal current: 24 A, number of connections: 4, connection method: Spring-cage/plug-in connection, Rated cross section: 2.5 mm<sup>2</sup>, 1st level connection right, cross section: 0.08 mm<sup>2</sup> - 4 mm<sup>2</sup>, 1st level connection left, mounting type: NS 35/7,5, NS 35/15, color: gray

## Your advantages

- The plug-in ST-COMBI spring-cage terminal block series combines the system advantages of the ST standard terminal block series with those of the COMBI plug-in system
- Tested for railway applications

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3040038       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE02          |
| Product key                          | BE2141        |
| GTIN                                 | 4017918832636 |
| Weight per piece (including packing) | 9.365 g       |
| Weight per piece (excluding packing) | 8.78 g        |
| Customs tariff number                | 85369010      |
| Country of origin                    | DE            |

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## Technical data

### Notes

#### General

|      |   |
|------|---|
| Note | The max. load current must not be exceeded by the total current of all connected conductors.  |
|      | With a free-hanging connection, an insulating foil has to be placed between the plug connection and electrically conductive surfaces. |

### Product properties

|                       |   |
|-----------------------|---|
| Product type          | Plug-in terminal block                                    |
| Product family        | ST  |
| Area of application   | Railway industry<br>Machine building<br>Plant engineering |
| Number of connections | 4   |
| Number of rows        | 1   |
| Potentials            | 1   |

#### Insulation characteristics

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

### Electrical properties

|   |        |
|---|--------|
| Rated surge voltage                             | 6 kV   |
| Maximum power dissipation for nominal condition | 0.77 W |

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 4                   |
| Nominal cross section           | 2.5 mm <sup>2</sup> |

#### 1st level connection right

|   |  |
|---|--|
| Connection method   | Spring-cage/plug-in connection               |
| Stripping length  | 8 mm ... 10 mm                               |
| Internal cylindrical gage   | A3   |
| Connection in acc. with standard                                  | IEC 61984                                    |
| 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> |

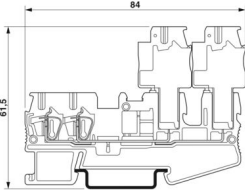
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|   |   |
|---|---|
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup>                                   |
| Nominal cross section   | 2.5 mm <sup>2</sup>                                   |
| Nominal current   | 24 A (observe derating)                               |
| Maximum load current  | 24 A (with 4 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage   | 500 V   |

## Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Width               | 5.2 mm   |
| End cover width     | 2.2 mm   |
| Height              | 81 mm  |
| Depth on NS 35/7,5  | 36.5 mm  |
| Depth on NS 35/15   | 44 mm  |

## 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          |
| 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

|  |             |
|--|-------------|
| Test voltage setpoint                            | 7.3 kV      |
| Result   | Test passed |
| Short-time withstand current 2.5 mm <sup>2</sup> | 0.3 kA      |
| Result   | Test passed |

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## Power-frequency withstand voltage

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

## Mechanical properties

### Mechanical data

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

## Mechanical tests

### Attachment on the carrier

|                         |             |
|-------------------------|-------------|
| DIN rail/fixing support | NS 35       |
| Test force setpoint     | 1 N         |
| Result                  | Test passed |

## Environmental and real-life conditions

### 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 1, class B, body mounted |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$   |
| ASD level              | $0.964 \text{ (m/s}^2\text{)}^2\text{/Hz}$       |
| Acceleration           | 0.58g  |
| 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                   | 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 (operation)         | -60 °C ... 100 °C (max. operating temperature range including self-heating, see derating curve) |
| 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 61984 |
|----------------------------------|-----------|

## Mounting

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

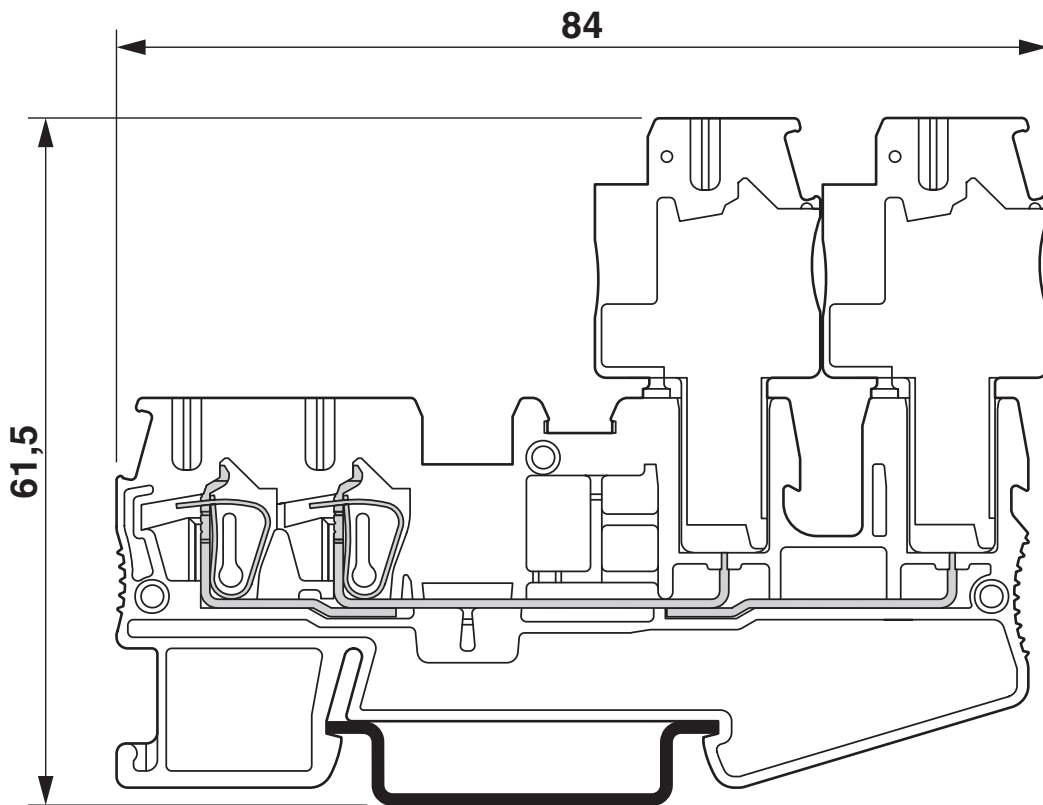
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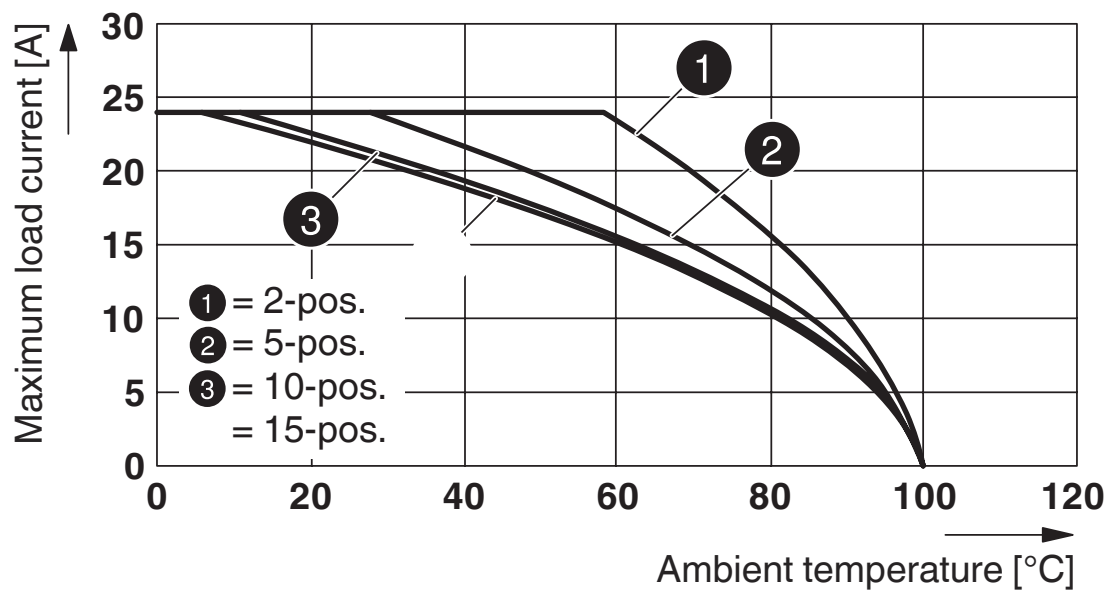
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## Drawings

Dimensional drawing



Diagram



Applies to all male connector variants SP...

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Circuit diagram



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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3040038>

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B  | 300 V                 | 20 A                  | 28 - 12           | -                    |
| C  | 300 V                 | 20 A                  | 28 - 12           | -                    |
| D  | 600 V                 | 5 A                   | 28 - 12           | -                    |

|  <b>IECEE CB Scheme</b><br>Approval ID: DE1-62736/B1/B2 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

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

|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B  | 300 V                 | 20 A                  | 28 - 12           | -                    |
| C  | 300 V                 | 20 A                  | 28 - 12           | -                    |
| D  | 600 V                 | 5 A                   | 28 - 12           | -                    |
| F  | 500 V                 | 20 A                  | 28 - 12           | -                    |

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40019518 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| keine  |                       |                       |                   |                      |
| Only flexible conductors   | 500 V                 | -                     | -                 | 0.2 - 2.5            |
| Only rigid conductors  | 500 V                 | -                     | -                 | 0.2 - 4              |

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**DNV**

Approval ID: TAE00001CS



**EAC**

Approval ID: KZ7500651131219505

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250117 |
| ECLASS-15.0 | 27250117 |

### 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.045 kg CO2e |
|---------|---------------|

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