

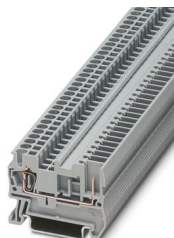
# ST 2,5/ 1P - Feed-through terminal block



3040012

<https://www.phoenixcontact.com/pc/products/3040012>

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Feed-through terminal block, nom. voltage: 500 V, nominal current: 24 A, number of connections: 2, connection method: Spring-cage/plug-in connection, 1st level connection left, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.08 mm<sup>2</sup> - 4 mm<sup>2</sup>, 1st level connection right, 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                          | 3040012             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 1 pc                |
| Product key                          | BE2141              |
| Catalog page                         | Page 309 (C-1-2019) |
| GTIN                                 | 4017918832612       |
| Weight per piece (including packing) | 5.55 g              |
| Weight per piece (excluding packing) | 5.045 g             |
| Customs tariff number                | 85369010            |
| Country of origin                    | DE                  |

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## Technical data

### Notes

|         |                                                      |
|---------|------------------------------------------------------|
| General | Current and voltage are determined by the plug used. |
|---------|------------------------------------------------------|

### Product properties

|                       |                        |
|-----------------------|------------------------|
| Product type          | Plug-in terminal block |
| Product family        | ST                     |
| Area of application   | Railway industry       |
|                       | Machine building       |
|                       | Plant engineering      |
| Number of connections | 2                      |
| 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 | 2                   |
| Nominal cross section           | 2.5 mm <sup>2</sup> |

### 1st level connection left

|                                                                                           |                                                                          |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 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 (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 (see derating curve)                                                |
| Maximum load current                                                                      | 24 A (For 4 mm <sup>2</sup> conductor cross section, see derating curve) |
| Nominal voltage                                                                           | 500 V                                                                    |
| Nominal cross section                                                                     | 2.5 mm <sup>2</sup>                                                      |

### Dimensions

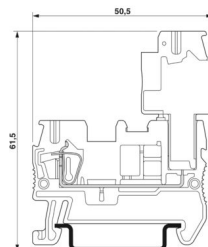
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Dimensional drawing



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

|                                                  |             |
|--------------------------------------------------|-------------|
| Test voltage setpoint                            | 7.3 kV      |
| 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 | 1.89 kV     |
| Result                | Test passed |

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## 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):2008-03                 |
| Spectrum               | Service 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 (max. operating temperature see derating curve)                   |
| Ambient temperature (storage/transport)  | -25 °C ... 60 °C (for a short time, no longer than 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

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|                                  |           |
|----------------------------------|-----------|
| Connection in acc. with standard | IEC 61984 |
|----------------------------------|-----------|

## Mounting

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

# ST 2,5/ 1P - Feed-through terminal block

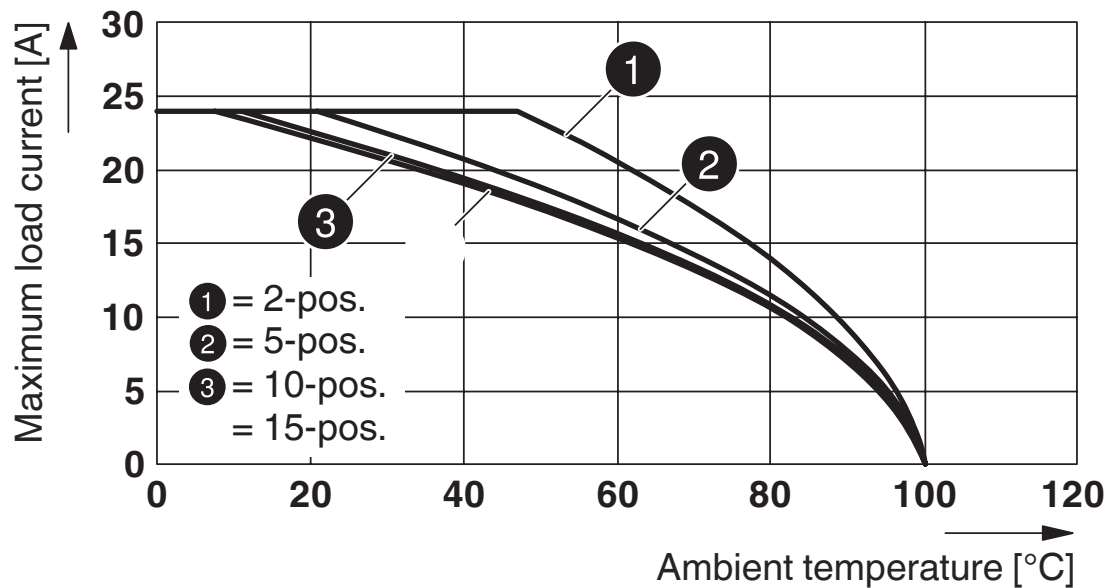


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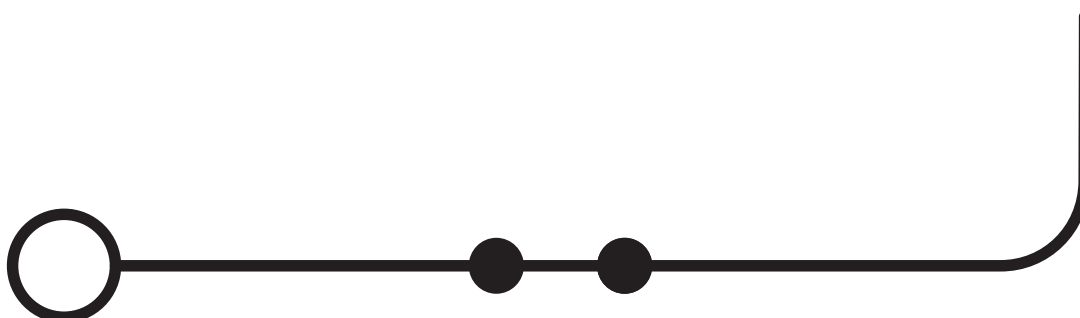
## Drawings

Diagram



Applies to all male connector variants SP...

Circuit diagram

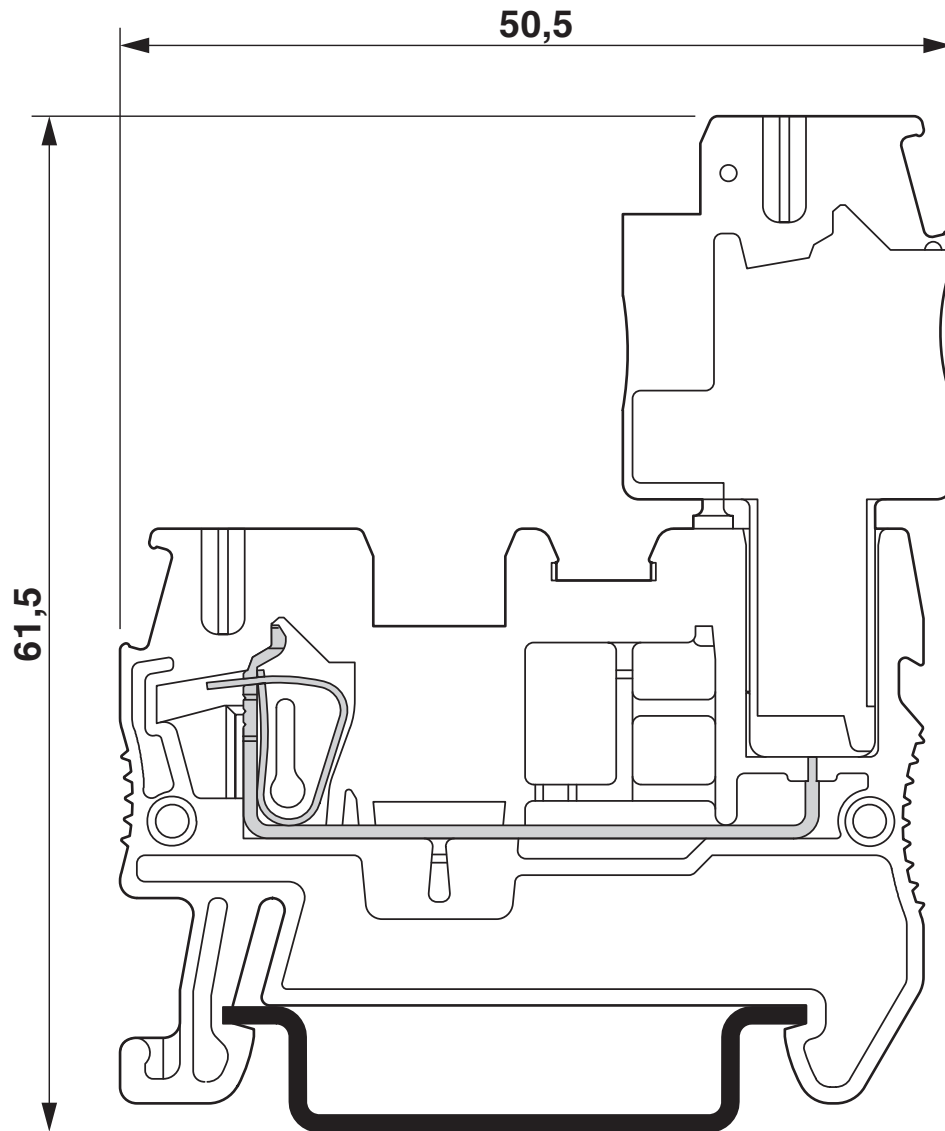


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Dimensional drawing



# ST 2,5/ 1P - Feed-through terminal block



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/3040012>

|                                                                                                                    |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                        | 300 V                 | 20 A                  | 28 - 12           | -                           |
| Use group C                                                                                                        | 300 V                 | 20 A                  | 28 - 12           | -                           |
| Use group 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>LR</b><br>Approval ID: LR2042068TA |
|---------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------|
|  <b>BV</b><br>Approval ID: 27721/B0 BV |
|---------------------------------------------------------------------------------------------------------------------------|

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

|                                                                                                                                    |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                             |
|                                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                        | 300 V                 | 20 A                  | 28 - 12           | -                           |
| Use group C                                                                                                                        | 300 V                 | 20 A                  | 28 - 12           | -                           |
| Use group D                                                                                                                        |                       |                       |                   |                             |

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|             |       |      |         |   |
|-------------|-------|------|---------|---|
|             | 600 V | 5 A  | 28 - 12 | - |
| Use group F |       |      |         |   |
|             | 500 V | 20 A | 28 - 12 | - |

**DNV**  
Approval ID: TAE00001CS

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 27250117 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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%               |
| EF3.0 Climate Change                    |                                          |
| CO2e kg                                 | 0.038 kg CO2e                            |

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