

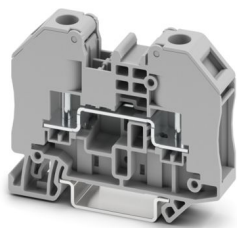
# RT 3 - Bolt connection terminal block



3049013

<https://www.phoenixcontact.com/us/products/3049013>

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Bolt connection terminal block, nom. voltage: 1000 V, nominal current: 24 A, number of connections: 2, connection method: Bolt connection, Rated cross section: 2.5 mm<sup>2</sup>, 1 level, mounting type: NS 35/7,5, NS 35/15, color: gray

## Your advantages

- Quick ring cable lug wiring due to the hinged cover
- Secure connection: The screws are secured by captive disk springs
- The hinged cover cover the live metal parts including the insulated cable lugs in the clamping area so that they are touch proof
- High conductor pull-out forces and contact force for high durability
- Space-saving multi-conductor connection possible
- Full flexibility thanks to the standardized CLIPLINE complete bridging, marking, and testing accessories
- Vibration-resistant conductor connection

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3049013       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE43          |
| Product key                          | BE4313        |
| GTIN                                 | 4046356140140 |
| Weight per piece (including packing) | 25.68 g       |
| Weight per piece (excluding packing) | 23.717 g      |
| Customs tariff number                | 85369010      |
| Country of origin                    | CN            |

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## Technical data

### Notes

|         |                                                                                                 |
|---------|-------------------------------------------------------------------------------------------------|
| General | Note: the BE-RT... path extension is to be used for non-insulated cable lugs (see accessories). |
|---------|-------------------------------------------------------------------------------------------------|

### General

|      |                                                                                                                                                                      |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note | The rated insulation voltage applies to insulated cable lugs acc. to DIN 46237:1970-07 and for uninsulated cable lugs acc. to DIN 46234:1980-03 with path extension. |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Product properties

|                       |                                |
|-----------------------|--------------------------------|
| Product type          | Bolt connection terminal block |
| Product family        | RT                             |
| Area of application   | Railway industry               |
|                       | Machine building               |
|                       | Plant engineering              |
|                       | Process industry               |
| Number of connections | 2                              |
| 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 | 2                   |
| Nominal cross section           | 2.5 mm <sup>2</sup> |
| Rated cross section AWG         | 14                  |

### 1 level

|                                  |                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------|
| Connection method                | Bolt connection                                                                           |
| Stripping length                 | The stripping length depends on the specification provided by the cable lug manufacturer. |
| Connection in acc. with standard | IEC 60947-7-1                                                                             |
| Nominal current                  | 24 A                                                                                      |
| Maximum load current             | 24 A (with a 2.5 mm <sup>2</sup> conductor cross-section)                                 |
| Nominal voltage                  | 1000 V (Rated voltage for open disconnect point 500 V)                                    |
| Nominal cross section            | 2.5 mm <sup>2</sup>                                                                       |

### Cable lug connection DIN 46234:1980-03

|                                  |                   |
|----------------------------------|-------------------|
| Connection in acc. with standard | DIN 46234:1980-03 |
|----------------------------------|-------------------|

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|                                                |                                   |
|------------------------------------------------|-----------------------------------|
| Cross section                                  | 0.5 mm² ... 2.5 mm²               |
| Cross section range AWG                        | 20 ... 14 (converted acc. to IEC) |
| Hole diameter                                  | 3.2 mm                            |
| Width                                          | 6 mm                              |
| Bolt diameter                                  | 3 mm                              |
| Screw thread                                   | M3                                |
| Tightening torque                              | 0.6 ... 0.8 Nm                    |
| Connection in acc. with standard               | DIN 46237:1970-07                 |
| Cross section                                  | 1 mm² ... 2.5 mm²                 |
| Cross section range AWG                        | 18 ... 14 (converted acc. to IEC) |
| Hole diameter                                  | 3.2 mm                            |
| Width                                          | 6 mm                              |
| Bolt diameter                                  | 3 mm                              |
| Screw thread                                   | M3                                |
| Tightening torque                              | 0.6 ... 0.8 Nm                    |
| Identification color of ring cable lugs : red  | 1 mm²                             |
| Identification color of ring cable lugs : blue | 2.5 mm²                           |

## Ex data

### Rated data (ATEX/IECEx)

|                                                    |                                     |
|----------------------------------------------------|-------------------------------------|
| Identification                                     | Ex II 2 G Ex eb IIC Gb              |
| Operating temperature range                        | -60 °C ... 110 °C                   |
| Ex-certified accessories                           | 3049097 D-RT 3/5                    |
|                                                    | 0706647 TPNS-UK                     |
|                                                    | 3049819 BE-RT 3/5                   |
|                                                    | 1205053 SZS 0,6X3,5                 |
|                                                    | 3022276 CLIPFIX 35-5                |
| List of bridges                                    | Plug-in bridge / FBS 2-6 / 3030336  |
|                                                    | Plug-in bridge / FBS 3-6 / 3030242  |
|                                                    | Plug-in bridge / FBS 4-6 / 3030255  |
|                                                    | Plug-in bridge / FBS 5-6 / 3030349  |
|                                                    | Plug-in bridge / FBS 10-6 / 3030271 |
|                                                    | Plug-in bridge / FBS 20-6 / 3030365 |
|                                                    | Plug-in bridge / FBS 50-6 / 3032224 |
| Bridge data                                        | 24 A (2.5 mm²)                      |
| Ex temperature increase                            | 40 K (24 A / 2.5 mm²)               |
| for bridging with bridge                           | 550 V                               |
| - At bridging between non-adjacent terminal blocks | 352 V                               |
| - At cut-to-length bridging with cover             | 275 V                               |
| - At cut-to-length bridging with partition plate   | 550 V                               |
| Rated insulation voltage                           | 500 V                               |
| output                                             | (Permanent)                         |

### Ex level General

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|                      |         |
|----------------------|---------|
| Rated voltage        | 550 V   |
| Rated current        | 24 A    |
| Maximum load current | 24 A    |
| Contact resistance   | 0.62 mΩ |

## Ex connection data General

|                              |                                             |
|------------------------------|---------------------------------------------|
| Torque range                 | 0.6 Nm ... 0.8 Nm                           |
| Nominal cross section        | 2.5 mm <sup>2</sup>                         |
| Rated cross section AWG      | 14                                          |
| Connection capacity rigid    | 0.1 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Connection capacity AWG      | 26 ... 14                                   |
| Connection capacity flexible | 0.1 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Connection capacity AWG      | 26 ... 14                                   |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 12.3 mm |
| End cover width    | 2.2 mm  |
| Height             | 66 mm   |
| Depth on NS 35/7,5 | 51 mm   |
| Depth on NS 35/15  | 58.5 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)) | 130 °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)                        | 28 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 | 9.8 kV      |
| Result                | Test passed |

### Temperature-rise test

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

## Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 2.2 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 |
| 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               | Long life test category 1, class B, body mounted |
| Frequency              | $f_1 = 5$ Hz to $f_2 = 150$ Hz                   |
| ASD level              | $1.857 (m/s^2)^2/Hz$                             |
| Acceleration           | 0.8g                                             |
| Test duration per axis | 5 h                                              |
| Test directions        | X-, Y- and Z-axis                                |

### 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.)   |

### Ambient conditions

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|                                          |                                                                                                                              |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 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 60947-7-1 |
|----------------------------------|---------------|

## 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/3049013>



### IECEE CB Scheme

Approval ID: DE1-62814



### VDE approval of drawings

Approval ID: 40022553

|       | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|-------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine |                       |                       |                   |                             |
|       | 1000 V                | 24 A                  | -                 | 0.14 - 2.5                  |



### cULus Recognized

Approval ID: E60425

|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| B |                       |                       |                   |                             |
|   | 600 V                 | 30 A                  | -                 | -                           |
| C |                       |                       |                   |                             |
|   | 600 V                 | 30 A                  | -                 | -                           |



### EAC Ex

Approval ID: KZ 7500525010101950



### IECEx

Approval ID: IECExPTB08.0063U

|       | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|-------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine |                       |                       |                   |                             |
|       | 550 V                 | 24 A                  | -                 | 0.1 - 2.5                   |



### ATEX

Approval ID: PTB09ATEX1003U

|       | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|-------|-----------------------|-----------------------|-------------------|-----------------------------|
| keine |                       |                       |                   |                             |
|       | 550 V                 | 24 A                  | -                 | 0.1 - 2.5                   |



### CCC

Approval ID: 2020322313000627

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**UKCA-EX**

Approval ID: CSAE 22UKEX1085U

# RT 3 - Bolt connection terminal block



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250101 |
| ECLASS-15.0 | 27250101 |

### 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%               |

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