

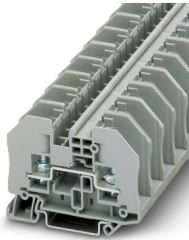
RTO 5 - Bolt connection terminal block



3049521

<https://www.phoenixcontact.com/us/products/3049521>

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Bolt connection terminal block, nom. voltage: 1000 V, nominal current: 41 A, number of connections: 2, connection method: Bolt connection, Rated cross section: 6 mm², 1 level, mounting type: NS 35/7,5, NS 35/15, color: gray

Your advantages

- Four bridge shafts per terminal block
- Terminal point always freely accessible

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 3049521 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | BE43 |
| Product key | BE4312 |
| GTIN | 4046356140829 |
| Weight per piece (including packing) | 30.773 g |
| Weight per piece (excluding packing) | 28.57 g |
| Customs tariff number | 85369010 |
| Country of origin | CN |

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Technical data

Product properties

| | |
|-----------------------|--------------------------------|
| Product type | Bolt connection terminal block |
| Product family | RTO |
| 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 | 1.31 W |

Connection data

| | |
|---------------------------------|-------------------|
| Number of connections per level | 2 |
| Nominal cross section | 6 mm ² |

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 cross section | 6 mm ² |
| Nominal current | 41 A |
| Maximum load current | 41 A (with 6 mm ² conductor cross-section) |
| Nominal voltage | 1000 V |

Cable lug connection DIN 46234:1980-03

| | |
|----------------------------------|---|
| Connection in acc. with standard | DIN 46234:1980-03 |
| Cross section | 0.5 mm ² ... 6 mm ² |
| Cross section range AWG | 20 ... 10 (converted acc. to IEC) |
| Hole diameter | 5.3 mm |
| Width | 10 mm |
| Bolt diameter | 5 mm |
| Screw thread | M5 |
| Tightening torque | 2.5 ... 3 Nm |

| | |
|----------------------------------|---|
| Connection in acc. with standard | DIN 46237:1970-07 |
| Cross section | 1 mm ² ... 6 mm ² |
| Cross section range AWG | 16 ... 10 (converted acc. to IEC) |
| Hole diameter | 5.3 mm |
| Width | 10 mm |

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| | |
|--|---------------------|
| Bolt diameter | 5 mm |
| Screw thread | M5 |
| Tightening torque | 2.5 ... 3 Nm |
| Identification color of ring cable lugs : red | 1 mm ² |
| Identification color of ring cable lugs : blue | 2.5 mm ² |
| Identification color of ring cable lugs : yellow | 6 mm ² |

Ex data

Rated data (ATEX/IECEx)

| | |
|--|-------------------------------------|
| Identification | ⊕ 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 |
| | 1209868 SHN 8 |
| | 3022276 CLIPFIX 35-5 |
| List of bridges | Plug-in bridge / FBS 2-8 / 3030284 |
| | Plug-in bridge / FBS 3-8 / 3030297 |
| | Plug-in bridge / FBS 4-8 / 3030307 |
| | Plug-in bridge / FBS 5-8 / 3030310 |
| | Plug-in bridge / FBS 6-8 / 3032470 |
| | Plug-in bridge / FBS 10-8 / 3030323 |
| Bridge data | 39 A (6 mm ²) |
| Ex temperature increase | 40 K (39 A/6 mm ²) |
| 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

| | |
|----------------------|---------|
| Rated voltage | 550 V |
| Rated current | 39 A |
| Maximum load current | 39 A |
| Contact resistance | 0.41 mΩ |

Ex connection data General

| | |
|------------------------------|---|
| Torque range | 2.5 Nm ... 3 Nm |
| Nominal cross section | 6 mm ² |
| Rated cross section AWG | 10 |
| Connection capacity rigid | 0.1 mm ² ... 6 mm ² |
| Connection capacity AWG | 26 ... 10 |
| Connection capacity flexible | 0.1 mm ² ... 6 mm ² |

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| | |
|-------------------------|-----------|
| Connection capacity AWG | 26 ... 10 |
|-------------------------|-----------|

Dimensions

| | |
|--------------------|---------|
| Width | 16.3 mm |
| End cover width | 2.2 mm |
| Height | 66 mm |
| Depth on NS 35/7,5 | 49.9 mm |
| Depth on NS 35/15 | 57.4 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

| | |
|--|-------------------------------------|
| Requirement temperature-rise test | Increase in temperature \leq 45 K |
| Result | Test passed |
| Short-time withstand current 6 mm ² | 0.72 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 35 |
| Test force setpoint | 5 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 |
| Frequency | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$ |
| ASD level | $1.857 \text{ (m/s}^2\text{)}^2\text{/Hz}$ |
| Acceleration | 0.8g |
| 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 |
| 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 |
| 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

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| | |
|---------------|-----------|
| 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/3049521>


| | |
|---|--|
|  | 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 mm^2 |
| keine | | | | |
| | 1000 V | 41 A | - | 0.14 - 6 |

| | | | | |
|---|--|-----------------------|-------------------|-----------------------------|
|  | cULus Recognized Approval ID: E60425 | | | |
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section 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 mm^2 |
| keine | | | | |
| | 550 V | 39 A | - | 0.1 - 6 |

| | | | | |
|---|--|-----------------------|-------------------|-----------------------------|
|  | ATEX Approval ID: PTB09ATEX1003U | | | |
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 550 V | 39 A | - | 0.1 - 6 |

| | |
|---|---|
|  | CCC Approval ID: 2020322313000627 |
|---|---|

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UKCA-EX

Approval ID: CSAE 22UKEX1085U

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Classifications

ECLASS

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

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 | 0.247 kg CO2e |
|---------|---------------|

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