

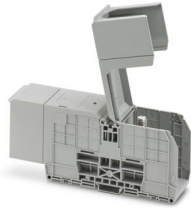
RBO 12-HC - Bolt connection terminal block



3247986

<https://www.phoenixcontact.com/us/products/3247986>

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Bolt connection terminal block, nom. voltage: 1500 V, nominal current: 415 A, number of connections: 2, number of positions: 1, connection method: Bolt connection, Rated cross section: 240 mm², mounting type: NS 35/7,5, NS 35/15, direct screw connection, color: gray

Your advantages

- Tested for railway applications

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 3247986 |
| Packing unit | 5 pc |
| Minimum order quantity | 5 pc |
| Sales key | BE44 |
| Product key | BE4412 |
| GTIN | 4046356725132 |
| Weight per piece (including packing) | 440.7 g |
| Weight per piece (excluding packing) | 440.7 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 | RBO |
| Area of application | Railway industry |
| | Machine building |
| | Plant engineering |
| Number of positions | 1 |
| Pitch | 49 mm |
| 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 | 13.78 W |

Connection data

| | |
|----------------------------------|---|
| Number of connections per level | 2 |
| Nominal cross section | 240 mm ² |
| 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 | 240 mm ² |
| Nominal current | 415 A |
| Maximum load current | 415 A (with 240 mm ² conductor cross-section) |
| Nominal voltage | 1500 V DC |
| | 1000 V AC |

Cable lug connection DIN 46234:1980-03

| | |
|----------------------------------|--|
| Connection in acc. with standard | DIN 46234:1980-03 |
| Cross section | 10 mm ² ... 240 mm ² |
| Cross section range AWG | 8 ... 500 kcmil (converted acc. to IEC) |
| Hole diameter | 13 mm |
| Width | 38 mm |
| Bolt diameter | 12 mm |
| Screw thread | M12 |
| Tightening torque | 14 ... 30 Nm |
| Connection in acc. with standard | DIN 46235:1983-07 |

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| | |
|-------------------------|--|
| Cross section | 10 mm ² ... 240 mm ² |
| Cross section range AWG | 8 ... 500 kcmil (converted acc. to IEC) |
| Hole diameter | 13 mm |
| Width | 42 mm |
| Bolt diameter | 12 mm |
| Screw thread | M12 |
| Tightening torque | 14 ... 30 Nm |

Ex data

Rated data (ATEX/IECEx)

| | |
|---|--|
| Identification | ⊕ II 2 GD Ex eb IIC Gb |
| Operating temperature range | -60 °C ... 110 °C |
| Ex-certified accessories | 0800886 E/NS 35 N |
| List of bridges | / RBO 12-VS 2 / 3244669 / RBO 12-VS 3 / 3244672 |
| Bridge data | 415 A (240 mm ²) |
| Ex temperature increase for bridging with bridge | 40 K (415 A / 240 mm ²) 1100 V |
| Rated insulation voltage output | 1000 V (Permanent) |

Ex level General

| | |
|----------------------|---------|
| Rated voltage | 1100 V |
| Rated current | 415 A |
| Maximum load current | 415 A |
| Contact resistance | 0.05 mΩ |

Ex connection data General

| | |
|---|--|
| Torque range | 14 Nm ... 30 Nm |
| Nominal cross section | 240 mm ² |
| Rated cross section AWG | 500 kcmil |
| Connection capacity rigid | 10 mm ² ... 240 mm ² |
| Connection capacity AWG | 8 ... 500 kcmil |
| Connection capacity flexible | 10 mm ² ... 240 mm ² |
| Connection capacity AWG | 8 ... 500 kcmil |
| 2 conductors with same cross section, solid | 10 mm ² ... 240 mm ² |
| 2 conductors with the same cross-section AWG rigid | 8 ... 500 kcmil |
| 2 conductors with same cross section, stranded | 10 mm ² ... 240 mm ² |
| 2 conductors with the same cross-section AWG flexible | 8 ... 500 kcmil |

Dimensions

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| | |
|---------------------|---------|
| Dimensional drawing | |
| Width | 49 mm |
| Height | 265 mm |
| Depth on NS 35/7,5 | 83.3 mm |
| Depth on NS 35/15 | 90.8 mm |
| Bolt length | 36.5 mm |
| Hole diameter | 6.4 mm |
| Pitch | 49 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 |
| 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

| | |
|-----------------------|-------------|
| Test voltage setpoint | 9.8 kV |
| Result | Test passed |

Temperature-rise test

| | |
|--|--------------------------------|
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |
| Result | Test passed |
| | Test passed |
| Short-time withstand current 240 mm ² | 28.8 kA |
| Result | Test passed |

Power-frequency withstand voltage

| | |
|-----------------------|--------|
| Test voltage setpoint | 2.2 kV |
|-----------------------|--------|

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

Mechanical properties

Mechanical data

| | |
|-----------------|----|
| Open side panel | No |
|-----------------|----|

Mechanical tests

Mechanical strength

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

Attachment on the carrier

| | |
|-------------------------|-------------|
| DIN rail/fixing support | NS 32/NS 35 |
| Test force setpoint | 20 N |
| Result | Test passed |

Test for conductor damage and slackening

| | |
|--------------------------------|------------------------------|
| Rotation speed | 10 (+/- 2) rpm |
| Revolutions | 135 |
| Conductor cross-section/weight | 240 mm ² /20.0 kg |
| 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 2, bogie-mounted |
| Frequency | $f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$ |
| ASD level | 6.12 (m/s ²) ² /Hz |
| Acceleration | 3.12g |
| 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 |

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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

| | |
|---------------|-------------------------|
| Mounting type | NS 35/7,5 |
| | NS 35/15 |
| | direct screw connection |

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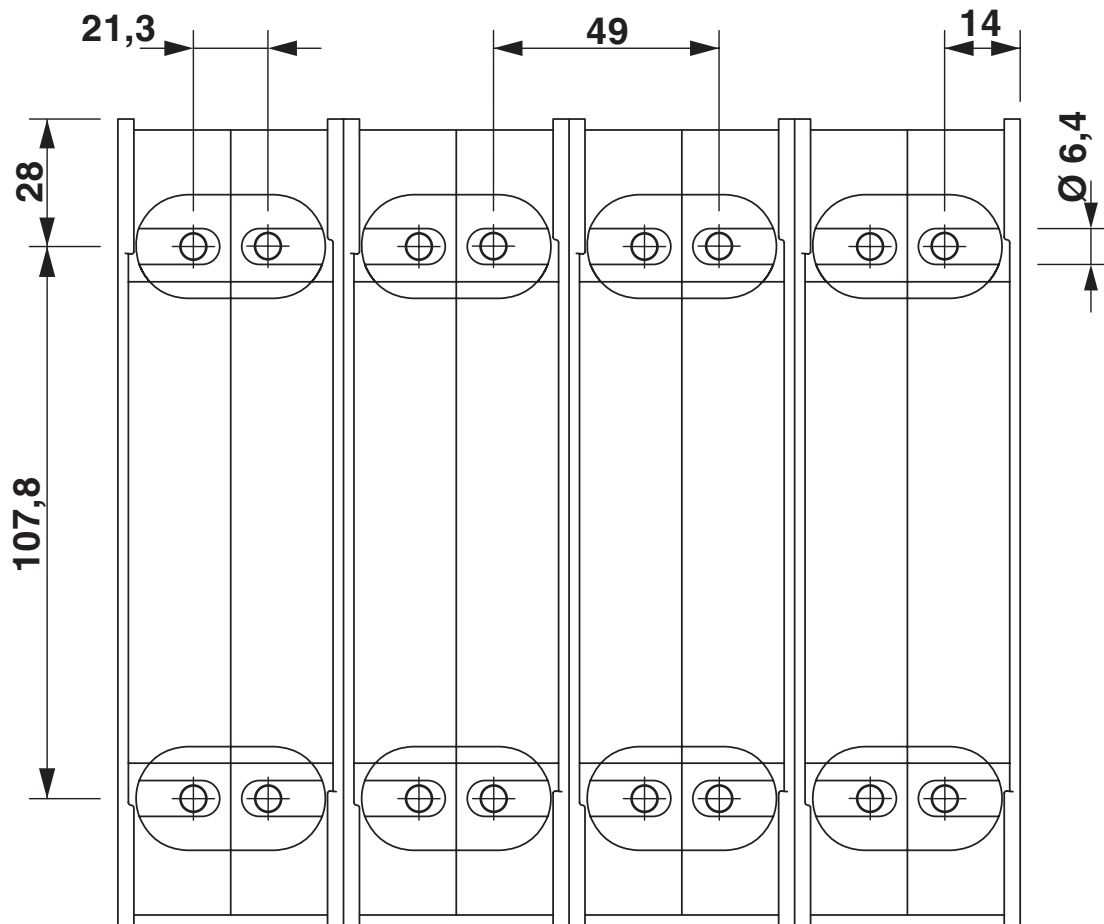


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Drawings

Dimensional drawing



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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/3247986>


|  CSA Approval ID: 13631 | | | | |
|--|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| C | 1000 V | 420 A | 8 - 600 | - |


|  UL Recognized Approval ID: E60425 | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 600 V | 420 A | 8 - 600 | - |
| C | 600 V | 420 A | 8 - 600 | - |
| E | 1000 V | 420 A | 8 - 600 | - |

|  EAC Approval ID: RU C-DE.BL08.B.00540 | | | | |
|---|--|--|--|--|
|---|--|--|--|--|

| DNV Approval ID: TAE00004G1 | | | | |
|---------------------------------------|--|--|--|--|
|---------------------------------------|--|--|--|--|

|  IECEX Approval ID: IECEXSEV13.0003U | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 1100 V | 415 A | - | 10 - 240 |

|  ATEX Approval ID: SEV13ATEX0132U | | | | |
|--|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 1100 V | 415 A | - | 10 - 240 |

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

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UKCA-EX

Approval ID: CML 22UKEX1230U



EAC Ex

Approval ID: KZ 7500525010101950

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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 | 3.4 kg CO2e |
|---------|-------------|

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