

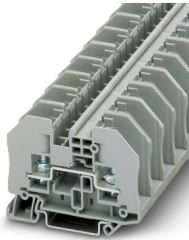
# RTO 5 - Bolt connection terminal block



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 mm<sup>2</sup>, 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

### Notes

General	Note: the BE-RT... path extension is to be used for non-insulated cable lugs (see accessories).
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### 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 <sup>2</sup>

#### 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 <sup>2</sup>
Nominal current	41 A
Maximum load current	41 A (with 6 mm <sup>2</sup> 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 <sup>2</sup> ... 6 mm <sup>2</sup>
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

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Cross section	1 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Cross section range AWG	16 ... 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
Identification color of ring cable lugs : red	1 mm <sup>2</sup>
Identification color of ring cable lugs : blue	2.5 mm <sup>2</sup>
Identification color of ring cable lugs : yellow	6 mm <sup>2</sup>

## 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 <sup>2</sup> )
Ex temperature increase	40 K (39 A/6 mm <sup>2</sup> )
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 <sup>2</sup>

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Rated cross section AWG	10
Connection capacity rigid	0.1 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Connection capacity AWG	26 ... 10
Connection capacity flexible	0.1 mm <sup>2</sup> ... 6 mm <sup>2</sup>
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 ≤ 45 K
Result	Test passed
Short-time withstand current 6 mm <sup>2</sup>	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
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## Mechanical tests

### Mechanical strength

Result	Test passed
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### 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 %

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## Standards and regulations

Connection in acc. with standard	IEC 60947-7-1
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## 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/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 $\text{mm}^2$
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 $\text{mm}^2$
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	39 A	-	0.1 - 6



### ATEX

Approval ID: PTB09ATEX1003U

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
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
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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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### EF3.1 Climate Change

CO2e kg	0.247 kg CO2e
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