

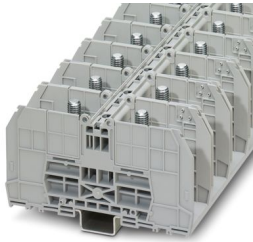
# RBO 10 - Bolt connection terminal block



3244614

<https://www.phoenixcontact.com/us/products/3244614>

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Bolt connection terminal block, nom. voltage: 1000 V, nominal current: 309 A, number of connections: 2, number of positions: 1, connection method: Bolt connection, Rated cross section: 150 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: gray

## Your advantages

- Tested for railway applications

## Commercial data

Item number	3244614
Packing unit	5 pc
Minimum order quantity	10 pc
Sales key	BE44
Product key	BE4412
GTIN	4046356583947
Weight per piece (including packing)	274 g
Weight per piece (excluding packing)	252.96 g
Customs tariff number	85369010
Country of origin	IN

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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	41 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	9.55 W

### Connection data

Number of connections per level	2
Nominal cross section	150 mm <sup>2</sup>
Connection method	Bolt connection
Screw thread	M10
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	150 mm <sup>2</sup>
Nominal current	309 A
Maximum load current	309 A (with 150 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	6 mm <sup>2</sup> ... 150 mm <sup>2</sup>
Cross section range AWG	(converted acc. to IEC)
Hole diameter	10.5 mm
Width	30 mm
Bolt diameter	10 mm
Screw thread	M10
Tightening torque	10 ... 20 Nm
Connection in acc. with standard	DIN 46235:1983-07

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Cross section	16 mm <sup>2</sup> ... 150 mm <sup>2</sup>
Cross section range AWG	(converted acc. to IEC)
Hole diameter	10.5 mm
Width	34 mm
Bolt diameter	10 mm
Screw thread	M10
Tightening torque	10 ... 20 Nm
Connection in acc. with standard	DIN 46237:1970-07
Cross section	6 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Cross section range AWG	(converted acc. to IEC)
Hole diameter	10.5 mm
Width	18 mm
Bolt diameter	10 mm
Screw thread	M10
Tightening torque	10 ... 20 Nm
Identification color of ring cable lugs : yellow	6 mm <sup>2</sup>

## Ex data

### Rated data (ATEX/IECEx)

Identification	Ⓜ II 2 GD Ex eb IIC Gb
Operating temperature range	-60 °C ... 110 °C
Ex-certified accessories	3247970 HC-RBO 10 0800886 E/NS 35 N
List of bridges	/ RBO 10-VS 2 / 3244643 / RBO 10-VS 3 / 3244656
Bridge data	309 A (150 mm <sup>2</sup> )
Ex temperature increase	40 K (309 A / 150 mm <sup>2</sup> )
for bridging with bridge	1100 V
Rated insulation voltage	1000 V
output	(Permanent)

### Ex level General

Rated voltage	1100 V
Rated current	309 A
Maximum load current	309 A
Contact resistance	0.05 mΩ

### Ex connection data General

Torque range	10 Nm ... 20 Nm
Nominal cross section	150 mm <sup>2</sup>
Rated cross section AWG	300 kcmil
Connection capacity rigid	6 mm <sup>2</sup> ... 150 mm <sup>2</sup>
Connection capacity AWG	10 ... 300 kcmil
Connection capacity flexible	6 mm <sup>2</sup> ... 150 mm <sup>2</sup>

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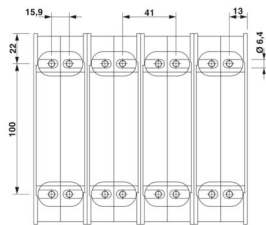


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Connection capacity AWG	10 ... 300 kcmil
2 conductors with same cross section, solid	6 mm <sup>2</sup> ... 150 mm <sup>2</sup>
2 conductors with the same cross-section AWG rigid	10 ... 300 kcmil
2 conductors with same cross section, stranded	6 mm <sup>2</sup> ... 150 mm <sup>2</sup>
2 conductors with the same cross-section AWG flexible	10 ... 300 kcmil

## Dimensions

Dimensional drawing	
Width	41 mm
Height	144 mm
Depth on NS 35/7,5	77 mm
Depth on NS 35/15	84.5 mm
Bolt length	31 mm
Hole diameter	6.4 mm
Pitch	41 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

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Requirement temperature-rise test	Increase in temperature $\leq 45$ K
Result	Test passed
	Test passed
Short-time withstand current 150 mm <sup>2</sup>	18 kA
Result	Test passed

## Power-frequency withstand voltage

Test voltage setpoint	2.2 kV
Result	Test passed

## Mechanical properties

### Mechanical data

Open side panel	No
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## Mechanical tests

### Mechanical strength

Result	Test passed
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### Attachment on the carrier

Test force setpoint	15 N
Result	Test passed

### Test for conductor damage and slackening

Rotation speed	10 (+/- 2) rpm
Revolutions	135
Conductor cross-section/weight	150 mm <sup>2</sup> / 15 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	$f_1 = 5$ Hz to $f_2 = 250$ Hz
ASD level	6.12 (m/s <sup>2</sup> ) <sup>2</sup> /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
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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 ... 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
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## Mounting

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

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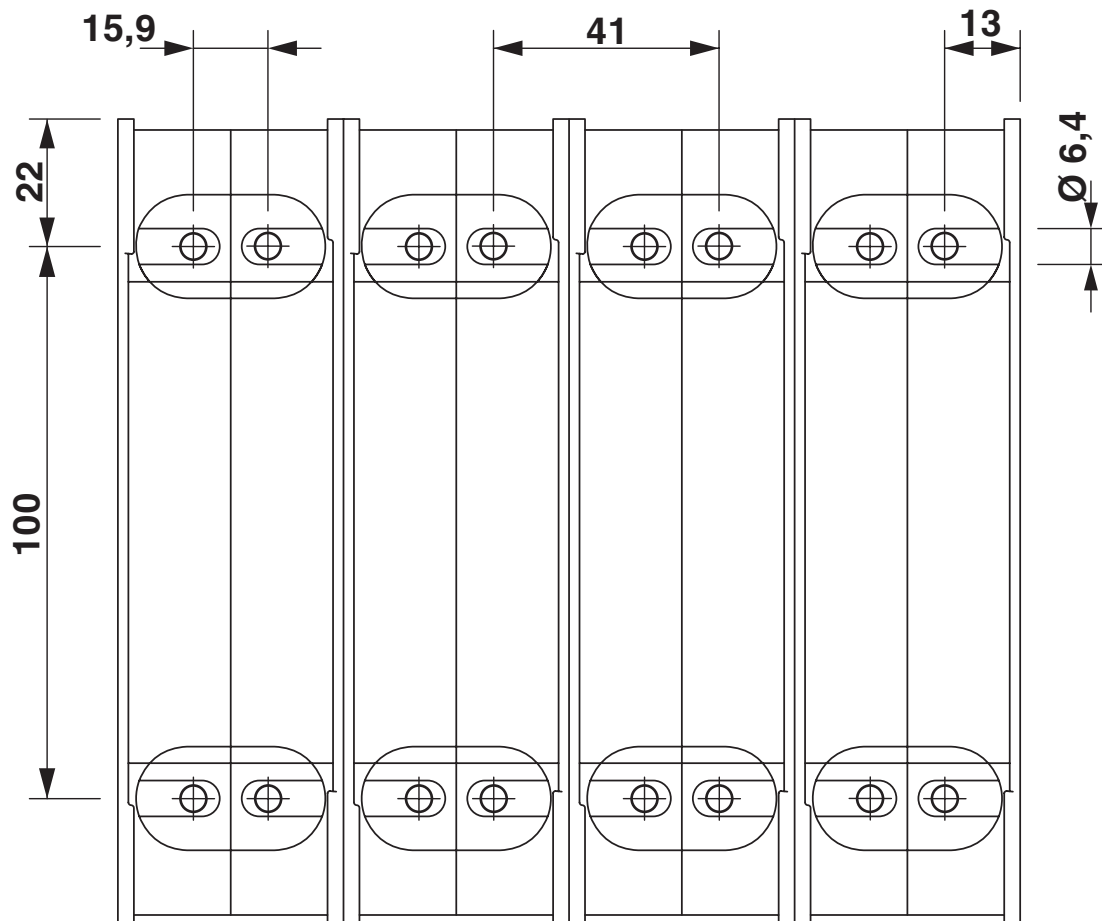


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## Drawings

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/3244614>


 <b>CSA</b> Approval ID: 13631				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
B	600 V	310 A	10 - 350	-
C	1000 V	310 A	10 - 350	-
E	600 V	310 A	10 - 350	-

 <b>UL Recognized</b> Approval ID: E60425				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
B	600 V	310 A	10 - 350	-
C	600 V	310 A	10 - 350	-
E	1000 V	310 A	10 - 350	-

<b>DNV</b> Approval ID: TAE00004G1				
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 <b>EAC Ex</b> Approval ID: KZ 7500525010101950				
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 <b>IECEX</b> Approval ID: IECEXSEV13.0003U				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine	1100 V	309 A	-	6 - 150

 <b>ATEX</b> Approval ID: SEV13ATEX0132U				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
keine	1100 V	309 A	-	6 - 150

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**CCC**

Approval ID: 2020322313000627



**UKCA-EX**

Approval ID: CML 22UKEX1230U

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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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