

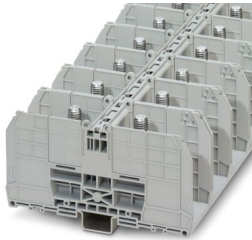
# RBO 12 - Bolt connection terminal block



3244627

<https://www.phoenixcontact.com/us/products/3244627>

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Bolt connection terminal block, nom. voltage: 1000 V, nominal current: 415 A, number of connections: 2, number of positions: 1, connection method: Bolt connection, Rated cross section: 240 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, Flange assembly, color: gray

## Your advantages

- Tested for railway applications

## Commercial data

Item number	3244627
Packing unit	5 pc
Minimum order quantity	5 pc
Sales key	BE44
Product key	BE4412
GTIN	4046356583954
Weight per piece (including packing)	372.3 g
Weight per piece (excluding packing)	344.6 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 <sup>2</sup>
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 <sup>2</sup>
Nominal current	415 A
Maximum load current	415 A (with 240 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	10 mm <sup>2</sup> ... 240 mm <sup>2</sup>
Cross section range AWG	8 ... 500 kcmil (converted acc. to IEC)
Hole diameter	13 mm
Width	38 mm
Bolt diameter	12 mm
Tightening torque	14 ... 30 Nm
Connection in acc. with standard	DIN 46235:1983-07
Cross section	10 mm <sup>2</sup> ... 240 mm <sup>2</sup>
Cross section range AWG	8 ... 500 kcmil (converted acc. to IEC)

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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	3247983 HC-RBO 12 0800886 E/NS 35 N
List of bridges	/ RBO 12-VS 2 / 3244669 / RBO 12-VS 3 / 3244672
Bridge data	415 A (240 mm <sup>2</sup> )
Ex temperature increase	40 K (415 A / 240 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	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 <sup>2</sup>
Rated cross section AWG	500 kcmil
Connection capacity rigid	10 mm <sup>2</sup> ... 240 mm <sup>2</sup>
Connection capacity AWG	8 ... 500 kcmil
Connection capacity flexible	10 mm <sup>2</sup> ... 240 mm <sup>2</sup>
Connection capacity AWG	8 ... 500 kcmil
2 conductors with same cross section, solid	10 mm <sup>2</sup> ... 240 mm <sup>2</sup>
2 conductors with the same cross-section AWG rigid	8 ... 500 kcmil
2 conductors with same cross section, stranded	10 mm <sup>2</sup> ... 240 mm <sup>2</sup>
2 conductors with the same cross-section AWG flexible	8 ... 500 kcmil

## Dimensions

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Dimensional drawing	
Width	49 mm
Height	164 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 $\leq$ 45 K
Result	Test passed
Short-time withstand current 240 mm <sup>2</sup>	28.8 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

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 <sup>2</sup> /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 <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
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

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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
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## Mounting

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

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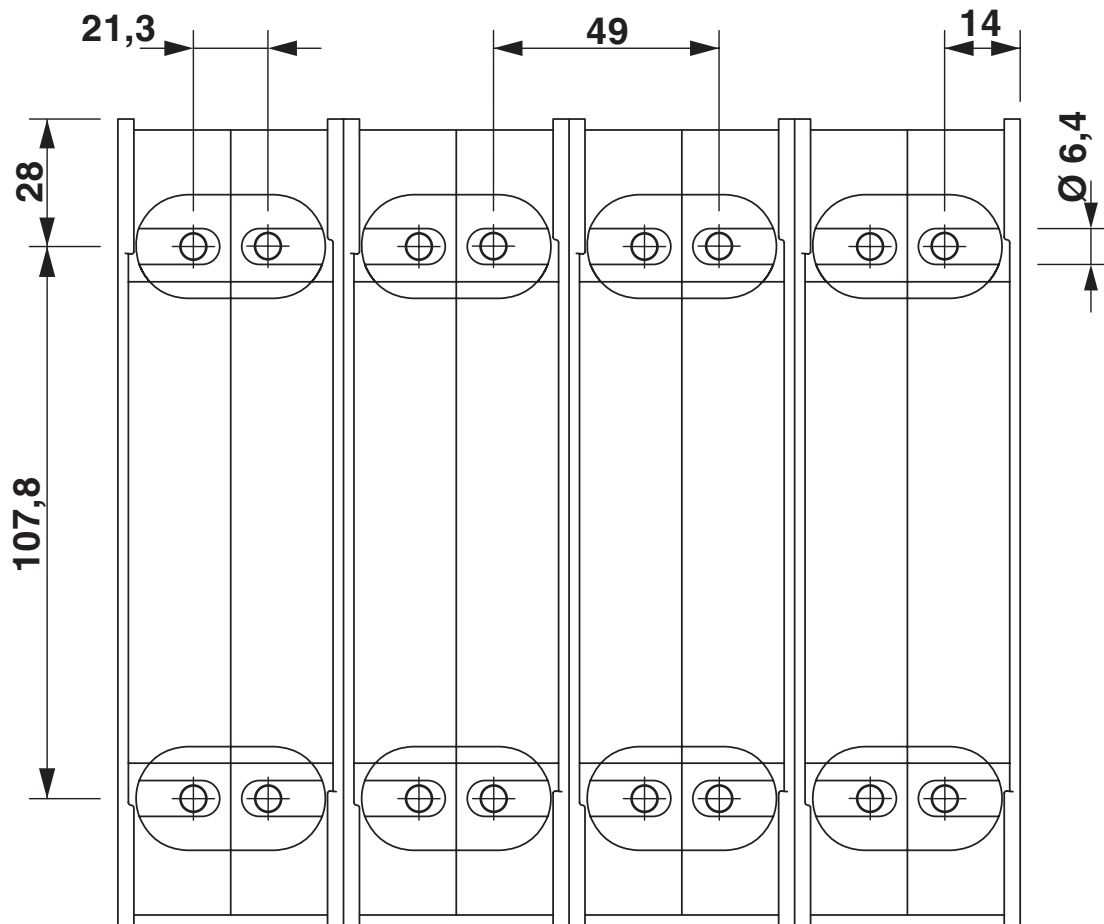


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## Drawings

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/3244627>

 <b>CSA</b> Approval ID: 13631				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
C	1000 V	420 A	8 - 600	-


 <b>UL Recognized</b> Approval ID: E60425				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	600 V	420 A	8 - 600	-
C	600 V	420 A	8 - 600	-
E	1000 V	420 A	8 - 600	-

<b>DNV</b> Approval ID: TAE00004G1				
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 <b>IECEx</b> Approval ID: IECExSEV13.0003U				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine	1100 V	415 A	-	10 - 240

 <b>ATEX</b> Approval ID: SEV13ATEX0132U				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine	1100 V	415 A	-	10 - 240

 <b>CCC</b> Approval ID: 2020322313000627				
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 <b>UKCA-EX</b> Approval ID: CML 22UKEX1230U				
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**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
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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	3.373 kg CO2e
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