RBO 12 - Bolt connection terminal block

3244627

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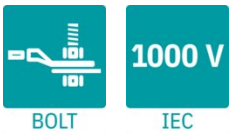
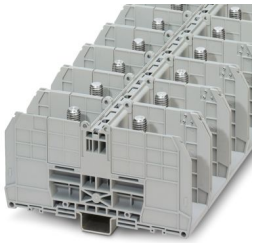




Bolt connection terminal block, nom. voltage: 1000 V, nominal current: 415 A, number of connections: 2, number of positions: 1, connection method: Bolt connection, Rated cross section: 240 mm^2, mounting type: NS 35/7,5, NS 35/15, Flange assembly, color: gray

Your advantages

- Tested for railway applications

Commercial data

Item number	3244627
Packing unit	5 pc
Minimum order quantity	5 pc
Sales key	BE4412
Product key	BE4412
GTIN	4046356583954
Weight per piece (including packing)	370.8 g
Weight per piece (excluding packing)	344.6 g
Customs tariff number	85369010
Country of origin	CN

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 mm²
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 mm²
Nominal current	415 A
Maximum load current	415 A (with 240 mm² 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 mm² ... 240 mm²
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 mm² ... 240 mm²
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	Ⓔx 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 mm²)
Ex temperature increase	40 K (415 A / 240 mm²)
for bridging with bridge	1100 V
Rated insulation voltage	1000 V
output	(Permanent)

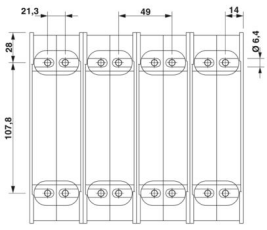
Ex level General

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 mm²
Rated cross section AWG	500 kcmil
Connection capacity rigid	10 mm² ... 240 mm²
Connection capacity AWG	8 ... 500 kcmil
Connection capacity flexible	10 mm² ... 240 mm²
Connection capacity AWG	8 ... 500 kcmil
2 conductors with same cross section, solid	10 mm² ... 240 mm²
2 conductors with the same cross-section AWG rigid	8 ... 500 kcmil
2 conductors with same cross section, stranded	10 mm² ... 240 mm²
2 conductors with the same cross-section AWG flexible	8 ... 500 kcmil

Dimensions

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 ≤ 45 K
Result	Test passed
Short-time withstand current 240 mm²	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

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 mm²/20.0 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 Hz to f_2 = 250 Hz
ASD level	6.12 (m/s²)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

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

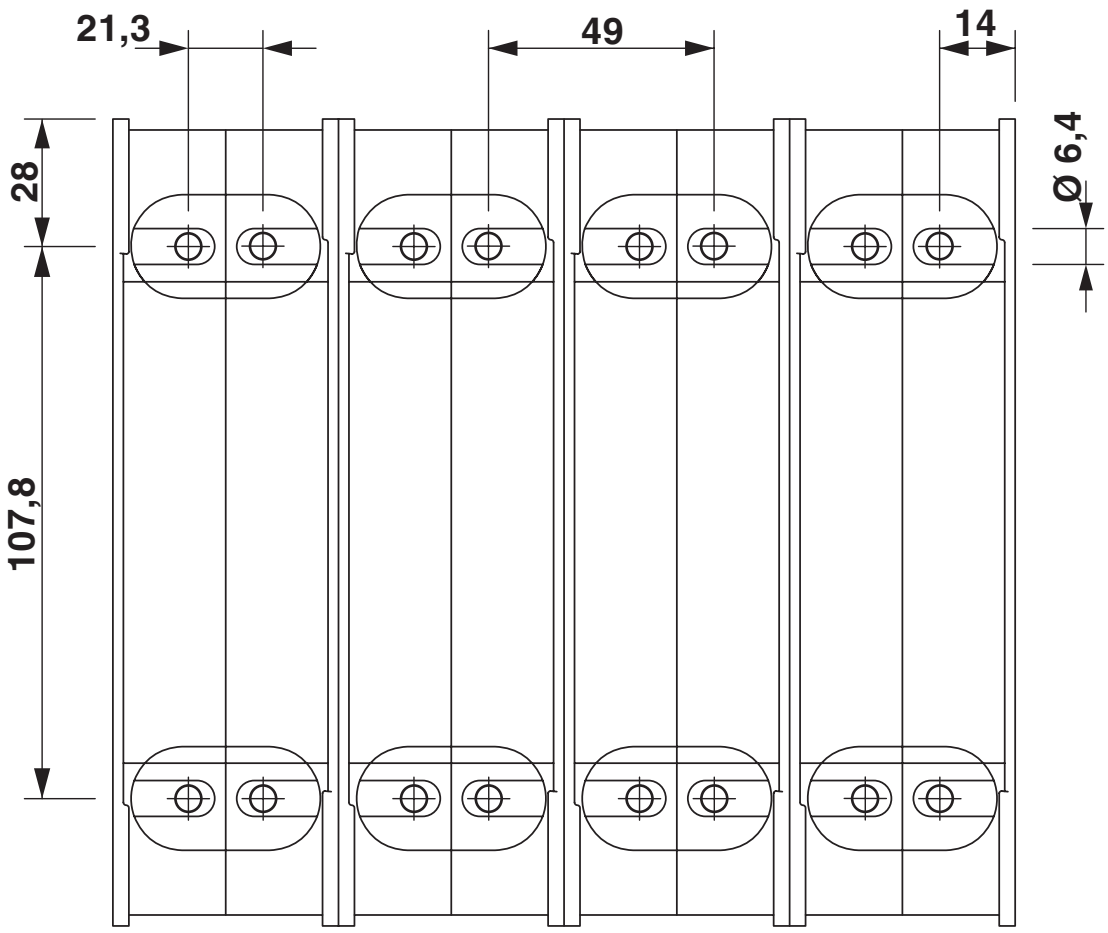
Connection in acc. with standard	IEC 60947-7-1

Mounting

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

Drawings

Dimensional drawing



Circuit diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/3244627

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	-

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

UKCA-EX
Approval ID: CML 22UKEX1230U

EAC Ex
Approval ID: KZ 7500525010101950

Classifications

ECLASS

ECLASS-13.0	27250101
ECLASS-15.0	27250101

ETIM

ETIM 10.0	EC000897

UNSPSC

UNSPSC 21.0	39121400

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	3.373 kg CO2e

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