

# UKH 50 BU - High-current terminal block



3009105

<https://www.phoenixcontact.com/pc/products/3009105>

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High-current terminal block, nom. voltage: 1000 V, nominal current: 150 A, number of connections: 2, number of positions: 1, connection method: Screw connection, Rated cross section: 50 mm<sup>2</sup>, cross section: 16 mm<sup>2</sup> - 70 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, NS 32, NS 35/15-2,3, color: blue

## Your advantages

- Reliable cable connection is ensured by three-point centering of the conductor in the prismatic sleeve base
- Low contact resistance of the contact surface due to ribbing
- Screw locking by means of spring-loaded elements in the clamping part

## Commercial data

Item number	3009105
Packing unit	10 pc
Minimum order quantity	1 pc
Product key	BE1311
Catalog page	Page 189 (C-1-2019)
GTIN	4017918091637
Weight per piece (including packing)	120.32 g
Weight per piece (excluding packing)	115.1 g
Customs tariff number	85369010
Country of origin	IN

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## Technical data

### Product properties

Product type	High current terminal block
Number of positions	1
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	4.73 W

### Connection data

Number of connections per level	2
Nominal cross section	50 mm <sup>2</sup>
Rated cross section AWG	1/0
Screw thread	M6
Tightening torque	6 ... 8 Nm
Stripping length	24 mm
Internal cylindrical gage	B10
Connection in acc. with standard	IEC 60947-7-1
Conductor cross section rigid	16 mm <sup>2</sup> ... 70 mm <sup>2</sup>
Cross section AWG	4 ... 2/0 (converted acc. to IEC)
Conductor cross section flexible	25 mm <sup>2</sup> ... 70 mm <sup>2</sup>
Conductor cross section, flexible [AWG]	2 ... 2 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	25 mm <sup>2</sup> ... 50 mm <sup>2</sup>
Flexible conductor cross section (ferrule with plastic sleeve)	25 mm <sup>2</sup> ... 50 mm <sup>2</sup>
2 conductors with same cross section, solid	10 mm <sup>2</sup> ... 16 mm <sup>2</sup>
2 conductors with same cross section, flexible	10 mm <sup>2</sup> ... 16 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	10 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Nominal current	150 A
Maximum load current	150 A (with 50 mm <sup>2</sup> conductor cross section)
Nominal voltage	1000 V
Note	Note: Product releases, connection cross sections and notes on connecting aluminum cables can be found in the download area.
Nominal cross section	50 mm <sup>2</sup>

### Ex data

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## Rated data (ATEX/IECEX)

Identification	⊕ II 2 GD Ex eb IIC Gb
Operating temperature range	-60 °C ... 110 °C
Ex-certified accessories	1205082 SZS 1,2X8,0 VDE
	1201659 E/AL-NS 32
	1201662 E/AL-NS 35
List of bridges	Fixed bridge / FBI 2-20-EX / 0201113
	Fixed bridge / FBI 3-20-EX / 0201812
Bridge data	130.5 A / 50 mm <sup>2</sup>
Ex temperature increase	40 K (133 A / 50 mm <sup>2</sup> )
Rated voltage	690 V
for bridging with bridge	690 V
Rated insulation voltage	630 V
output	(Permanent)

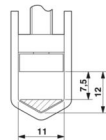
## Ex level General

Rated current	133 A
Maximum load current	133 A
Contact resistance	0.1 mΩ

## Ex connection data General

Torque range	6 Nm ... 8 Nm
Nominal cross section	50 mm <sup>2</sup>
Rated cross section AWG	1/0
Connection capacity rigid	16 mm <sup>2</sup> ... 50 mm <sup>2</sup>
Connection capacity AWG	6 ... 1/0
Connection capacity flexible	25 mm <sup>2</sup> ... 50 mm <sup>2</sup>
Connection capacity AWG	4 ... 1/0
2 conductors with same cross section, solid	10 mm <sup>2</sup> ... 16 mm <sup>2</sup>
2 conductors with the same cross-section AWG rigid	8 ... 6
2 conductors with same cross section, stranded	10 mm <sup>2</sup> ... 16 mm <sup>2</sup>
2 conductors with the same cross-section AWG flexible	8 ... 6

## Dimensions

Dimensional drawing	
Width	20 mm
Height	70.5 mm
Depth	75.8 mm
Depth on NS 32	81 mm
Depth on NS 35/15	83.5 mm

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## Material specifications

Color	blue
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 50 mm <sup>2</sup>	6 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	10 N
Result	Test passed

### Test for conductor damage and slackening

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Rotation speed	10 (+/- 2) rpm
Revolutions	135
Conductor cross section/weight	16 mm <sup>2</sup> / 2.9 kg
	50 mm <sup>2</sup> / 9.5 kg
	70 mm <sup>2</sup> /10.4 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	Service 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):2022-06
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, no longer than 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

	NS 35/7,5
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Mounting type	NS 35/15
	NS 32
	NS 35/15-2,3

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