

# UKH 70-F - High-current terminal block

3247051

<https://www.phoenixcontact.com/us/products/3247051>

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for direct mounting

High-current terminal block, nom. voltage: 1000 V, nominal current: 192 A, number of connections: 2, number of positions: 1, connection method: Screw connection, Rated cross section: 70 mm<sup>2</sup>, cross section: 16 mm<sup>2</sup> - 95 mm<sup>2</sup>, mounting type: direct screw connection, color: gray

## 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
- Tested for railway applications
- Screw locking by means of spring-loaded elements in the clamping part

## Commercial data

Item number	3247051
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	BE13
Product key	BE1311
GTIN	4046356607247
Weight per piece (including packing)	163.3 g
Weight per piece (excluding packing)	151.9 g
Customs tariff number	85369010
Country of origin	CN

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## Technical data

### Notes

#### General

Note	For a reliable contact of multi stranded conductors it is recommended to untwist multi stranded conductors.
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### Product properties

Product type	High current terminal block
Area of application	Railway industry
	Machine building
	Plant engineering
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	6.27 W

### Connection data

Number of connections per level	2
Nominal cross section	70 mm <sup>2</sup>

#### Level 1 above 1 below 1

Connection method	Screw connection
Screw thread	M8
Tightening torque	8 ... 10 Nm
Stripping length	24 mm
Internal cylindrical gage	A11
Connection in acc. with standard	IEC 60947-7-1
Conductor cross-section rigid	16 mm <sup>2</sup> ... 95 mm <sup>2</sup>
Cross section AWG	4 ... 3/0 (converted acc. to IEC)
Conductor cross-section flexible	25 mm <sup>2</sup> ... 70 mm <sup>2</sup>
Conductor cross-section, flexible [AWG]	2 ... 2/0 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	16 mm <sup>2</sup> ... 70 mm <sup>2</sup>
Flexible conductor cross-section (ferrule with plastic sleeve)	16 mm <sup>2</sup> ... 70 mm <sup>2</sup>
2 conductors with same cross section, rigid	16 mm <sup>2</sup> ... 25 mm <sup>2</sup>
2 conductors with same cross section, flexible	16 mm <sup>2</sup> ... 25 mm <sup>2</sup>

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2 conductors with same cross section, flexible, with ferrule without plastic sleeve	16 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Nominal cross section	70 mm <sup>2</sup>
Nominal current	192 A
Maximum load current	192 A (with 70 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.

## Ex data

### Rated data (ATEX/IECEx)

Identification	Ⓔ II 2 GD Ex eb IIC Gb
Operating temperature range	-60 °C ... 110 °C
Ex-certified accessories	1201934 VDE-ISS 6
List of bridges	/ FBI 2-20 N EX / 3213210 / FBI 3-20 N EX / 3213211
Bridge data	180 A (70 mm <sup>2</sup> )
Ex temperature increase	40 K (180 A / 70 mm <sup>2</sup> )
Rated insulation voltage	630 V
output	(Permanent)

### Ex level General

Rated voltage	690 V
Rated current	180 A
Maximum load current	180 A
Contact resistance	0.08 mΩ

### Ex connection data General

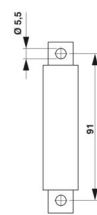
Torque range	8 Nm ... 10 Nm
Nominal cross section	70 mm <sup>2</sup>
Rated cross section AWG	2/0
Connection capacity rigid	16 mm <sup>2</sup> ... 95 mm <sup>2</sup>
Connection capacity AWG	4 ... 3/0
Connection capacity flexible	25 mm <sup>2</sup> ... 70 mm <sup>2</sup>
Connection capacity AWG	3 ... 2/0
2 conductors with same cross section, solid	16 mm <sup>2</sup> ... 25 mm <sup>2</sup>
2 conductors with the same cross-section AWG rigid	4 ... 3
2 conductors with same cross section, stranded	16 mm <sup>2</sup> ... 25 mm <sup>2</sup>
2 conductors with the same cross-section AWG flexible	4 ... 3

## Dimensions

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Dimensional drawing	
Width	20.3 mm
Height	103.4 mm
Depth	80 mm
Hole diameter	5.5 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 $\leq$ 45 K
Result	Test passed
Short-time withstand current 70 mm <sup>2</sup>	8.4 kA
Result	Test passed

### Power-frequency withstand voltage

Test voltage setpoint	2.2 kV
Result	Test passed

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## 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

Rotation speed	10 (+/- 2) rpm
Revolutions	135
Conductor cross-section/weight	16 mm <sup>2</sup> / 2.9 kg
	70 mm <sup>2</sup> /10.4 kg
	95 mm <sup>2</sup> /14 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):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

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## 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	direct screw connection
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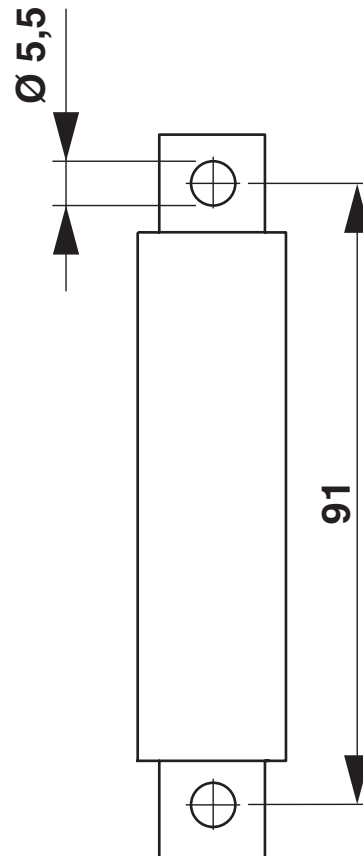
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## Drawings

Dimensional drawing



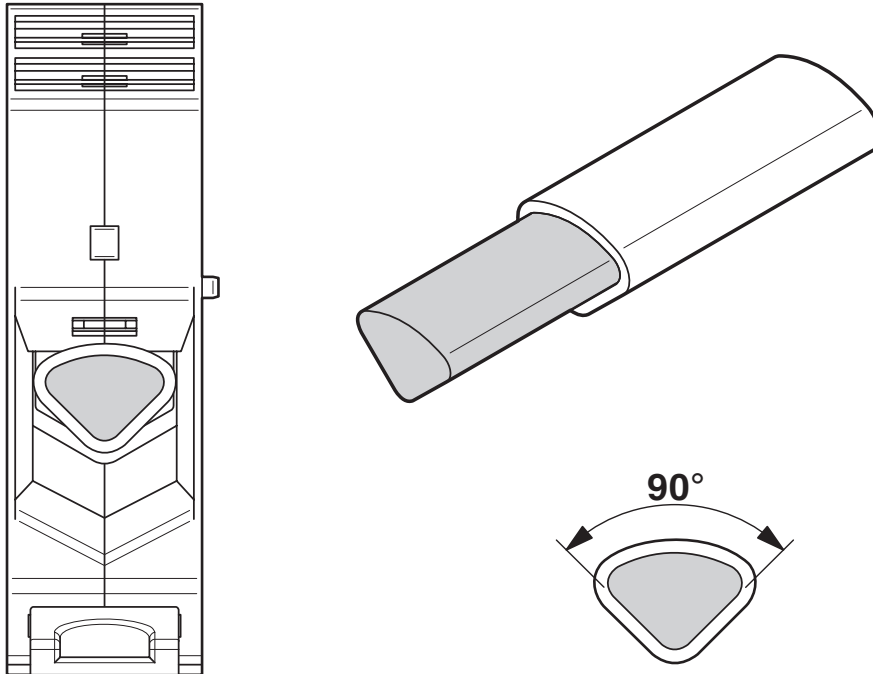
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Schematic diagram



Connecting aluminum cables. Further notes can be found in the download area

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3247051>

 <b>cULus Recognized</b> Approval ID: E60425				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
C				
	1000 V	192 A	6 - 3/0	-
E				
	1000 V	192 A	6 - 3/0	-

 <b>IECEx</b> Approval ID: IECEx SEV12.0008U				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
Mounting on NS 32	690 V	180 A	-	25 - 70
Mounting on NS 35	880 V	180 A	-	25 - 70

 <b>ATEX</b> Approval ID: SEV12ATEX0168U				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
Mounting on NS 32	690 V	180 A	-	25 - 70
Mounting on NS 35	880 V	180 A	-	25 - 70

 <b>CCC</b> Approval ID: 2020322313000623				
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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	1.512 kg CO2e
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