UKH 150 - High-current terminal block

3010110

https://www.phoenixcontact.com/us/products/3010110

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High-current terminal block, nom. voltage: 1000 V, nominal current: 309 A, number of connections: 2, connection method: Screw connection, Rated cross section: 150 mm^2, cross section: 35 mm^2 - 150 mm^2, mounting type: NS 35/15, NS 32, color: gray

Your advantages

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

Commercial data

Item number	3010110
Packing unit	3 pc
Minimum order quantity	3 pc
Sales key	BE13
Product key	BE1311
Catalog page	Page 197 (C-1-2019)
GTIN	4017918091842
Weight per piece (including packing)	381.37 g
Weight per piece (excluding packing)	348.12 g
Customs tariff number	85369010
Country of origin	IN

Technical data

Notes

General

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

Product properties

Product type	High current terminal block
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 mm²
Screw thread	M10
Note	Screws with hexagonal socket
Tightening torque	25 ... 30 Nm
Stripping length	40 mm
Internal cylindrical gage	B14
Connection in acc. with standard	IEC 60947-7-1
Conductor cross section rigid	35 mm² ... 150 mm²
Cross section AWG	1/0 ... 250 kcmil (converted acc. to IEC)
Conductor cross section flexible	50 mm² ... 150 mm²
Conductor cross section, flexible [AWG]	1/0 ... 250 kcmil (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	50 mm² ... 150 mm²
Flexible conductor cross section (ferrule with plastic sleeve)	50 mm² ... 150 mm²
Cross-section with insertion bridge, rigid	150 mm²
Cross-section with insertion bridge, flexible	120 mm²
2 conductors with same cross section, solid	25 mm² ... 50 mm²
2 conductors with same cross section, flexible	35 mm² ... 50 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	25 mm² ... 50 mm²
Nominal current	309 A
Maximum load current	309 A (with 150 mm² 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	150 mm²

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	1201947 VDE-ISS 8
	1201659 E/AL-NS 32
	1201662 E/AL-NS 35
List of bridges	Insertion bridge / EB 2-31/UKH / 0201388
	Insertion bridge / EB 3-31/UKH / 0201391
Bridge data	195.5 A / 150 mm²
Ex temperature increase	40 K (281.5 A / 150 mm²)
Rated voltage	1100 V
at bridging with insertion bridge	880 V
Rated insulation voltage	1000 V
output	(Permanent)

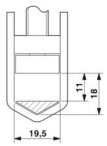
Ex level General

Rated current	256 A
Maximum load current	256 A
Contact resistance	0.06 mΩ

Ex connection data General

Torque range	25 Nm ... 30 Nm
Nominal cross section	150 mm²
Rated cross section AWG	300 kcmil
Connection capacity rigid	35 mm² ... 150 mm²
Connection capacity AWG	2 ... 300 kcmil
Connection capacity flexible	50 mm² ... 150 mm²
Connection capacity AWG	1/0 ... 300 kcmil
2 conductors with same cross section, solid	25 mm² ... 50 mm²
2 conductors with the same cross-section AWG rigid	4 ... 1/0
2 conductors with same cross section, stranded	35 mm² ... 50 mm²
2 conductors with the same cross-section AWG flexible	2 ... 1/0

Dimensions

Dimensional drawing	

Width	31 mm
Height	100 mm
Depth	107.3 mm
Depth on NS 32	116 mm
Depth on NS 35/15	118.5 mm

Material specifications

Color	gray
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

Result	Test passed

Temperature-rise test

Requirement temperature-rise test	Increase in temperature ≤ 45 K
Result	Test passed
Short-time withstand current 150 mm²	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

Mechanical tests

Mechanical strength

Result	Test passed

Attachment on the carrier

DIN rail/fixing support	NS 32/NS 35
Result	Test passed

Test for conductor damage and slackening

Rotation speed	10 (+/- 2) rpm
Revolutions	135
Conductor cross section/weight	35 mm² / 6.8 kg
	50 mm² / 9.5 kg
	150 mm² / 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):2018-05
Spectrum	Service 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):2018-05
Pulse shape	Half-sine
Acceleration	30g
Shock duration	18 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

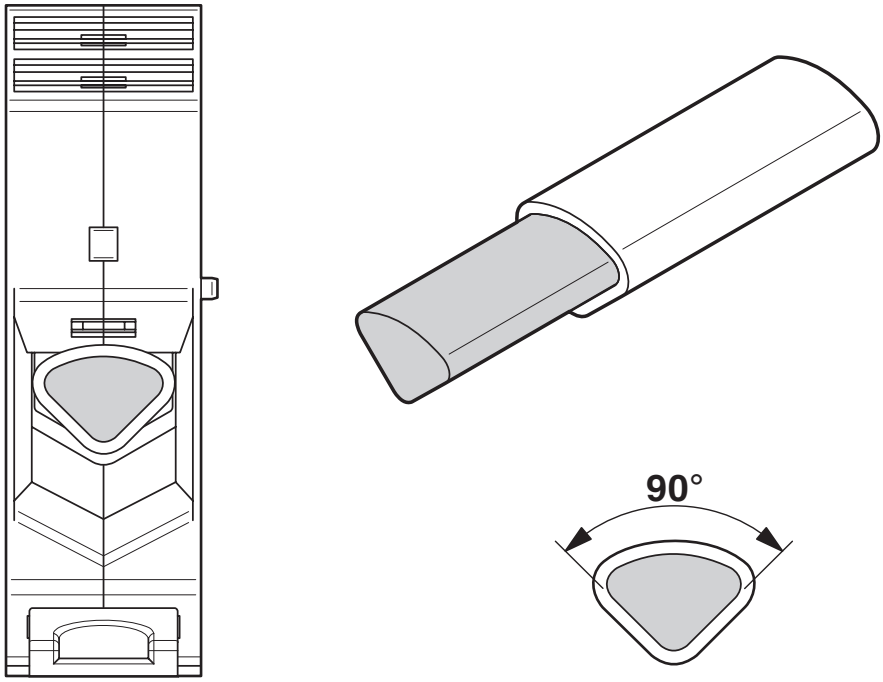
Connection in acc. with standard	IEC 60947-7-1

Mounting

Mounting type	NS 35/15
	NS 32

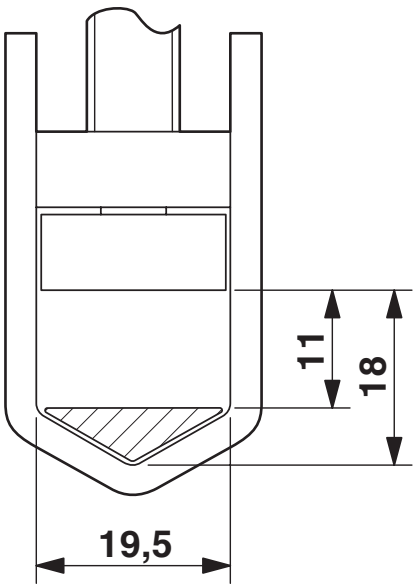
Drawings

Schematic diagram



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

Dimensional drawing



Circuit diagram

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/3010110

DNV
Approval ID: TAE00001CT

CSA
Approval ID: 13631

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	600 V	275 A	2 - 300	-
Use group C				
	600 V	275 A	2 - 300	-

EAC
Approval ID: RU C-DE.BL08.B.00534

cULus Recognized
Approval ID: E60425

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	600 V	285 A	2 - 300	-
Multi-conductor connection	600 V	285 A	4 - 1/0	-
Use group C				
	600 V	285 A	2 - 300	-
Multi-conductor connection	600 V	285 A	4 - 1/0	-

ATEX
Approval ID: KEMA99ATEX8332U

cUL Recognized
Approval ID: E192998

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	600 V	285 A	2 - 300	-

EAC Ex
Approval ID: RU C-DE.HA91.B.00066

IECEx
Approval ID: IECEx KEM 06.0030U

UL Recognized
Approval ID: E192998

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	600 V	285 A	2 - 300	-

CCC
Approval ID: 2020322313000623

UKCA-EX
Approval ID: DEKRA 21UKEX0309U

cULus Recognized

Classifications

ECLASS

ECLASS-11.0	27141120
ECLASS-13.0	27250101

ETIM

ETIM 9.0	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%

EF3.0 Climate Change

CO2e kg	2.018 kg CO2e

Accessories

Note: Applying some accessories below might limit this product.

EB 3-31/UKH - Insertion bridge

0201391

https://www.phoenixcontact.com/us/products/0201391

Insertion bridge, pitch: 31 mm, number of positions: 3, color: gray

Max. current carrying capacity: 232 A

EB 2-31/UKH - Insertion bridge

0201388

https://www.phoenixcontact.com/us/products/0201388

Insertion bridge, pitch: 31 mm, number of positions: 2, color: gray

Max. current carrying capacity: 232 A

NS 32 PERF 2000MM-VPE 10 - DIN rail perforated

1201002

https://www.phoenixcontact.com/us/products/1201002

DIN rail perforated, Pack of 10 (20 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, G profile, color: silver

NS 32 UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201015

https://www.phoenixcontact.com/us/products/1201015

DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, G profile, color: silver

NS 35/15 PERF 2000MM - DIN rail perforated

1201730

https://www.phoenixcontact.com/us/products/1201730

DIN rail perforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

NS 35/15 UNPERF 2000MM - DIN rail, unperforated

1201714

https://www.phoenixcontact.com/us/products/1201714

DIN rail, unperforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

NS 35/15 WH PERF 2000MM - DIN rail perforated

0806602

https://www.phoenixcontact.com/us/products/0806602

DIN rail perforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: white

NS 35/15 WH UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1204135

https://www.phoenixcontact.com/us/products/1204135

DIN rail, unperforated, Pack of 10 (20 m), similar to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver

NS 35/15 AL UNPERF 2000MM - DIN rail, unperforated

1201756

https://www.phoenixcontact.com/us/products/1201756

DIN rail, unperforated, similar to EN 60715, material: Aluminum, uncoated, Standard profile, color: silver

NS 35/15 ZN PERF 2000MM - DIN rail perforated

1206599

https://www.phoenixcontact.com/us/products/1206599

DIN rail perforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, Standard profile, color: silver

NS 35/15 ZN UNPERF 2000MM - DIN rail, unperforated

1206586

https://www.phoenixcontact.com/us/products/1206586

DIN rail, unperforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, Standard profile, color: silver

NS 35/15 CU UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201895

https://www.phoenixcontact.com/us/products/1201895

DIN rail, unperforated, Pack of 10 (20 m), similar to EN 60715, material: Copper, uncoated, Standard profile, color: copper-colored

NS 35/15 CAP - End cap

1206573

https://www.phoenixcontact.com/us/products/1206573

DIN rail end piece, for DIN rail NS 35/15

ZB 22:UNBEDRUCKT - Zack marker strip

0811862

https://www.phoenixcontact.com/us/products/0811862

Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 22 mm, lettering field size: 10.5 x 21.8 mm, Number of individual labels: 4

ZB 22 CUS - Zack marker strip

0824949

https://www.phoenixcontact.com/us/products/0824949

Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 22 mm, lettering field size: 10.5 x 21.8 mm, Number of individual labels: 4

ZB 22,LGS:L1-N,PE - Zack marker strip

0811875

https://www.phoenixcontact.com/us/products/0811875

Zack marker strip, Strip, white, labeled, printed horizontally: L1, L2, L3, N, PE, mounting type: snapped, for terminal block width: 22 mm, lettering field size: 10. 5 x 21.8 mm, Number of individual labels: 50

ZB 25:UNPRINTED - Zack marker strip

0802751

https://www.phoenixcontact.com/us/products/0802751

Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Marker pen, mounting type: snapped, for terminal block width: 25 mm, lettering field size: 25 x 10 mm, Number of individual labels: 4

ZB 25 CUS - Zack marker strip

0802752

https://www.phoenixcontact.com/us/products/0802752

Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 25 mm, lettering field size: 25 x 10 mm, Number of individual labels: 4

TMT 10 R - Marker for terminal blocks

0816210

https://www.phoenixcontact.com/us/products/0816210

Marker for terminal blocks, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK S1.1, perforated, mounting type: snapped, snap into flat marker groove, for terminal block width: 10.2 mm, lettering field size: 6.35 x 10.15 mm, Number of individual labels: 10000

TMT 10 R CUS - Marker for terminal blocks

0824500

https://www.phoenixcontact.com/us/products/0824500

Marker for terminal blocks, can be ordered: by line, white, labeled according to customer specifications, mounting type: snap into universal marker groove, snap into flat marker groove, for terminal block width: 10.2 mm, lettering field size: 6. 35 x 10.15 mm

E/AL-NS 32 - End bracket

1201659

https://www.phoenixcontact.com/us/products/1201659

End clamp, for end support of UKH 50 - UKH 240, is pushed onto DIN rail NS 32 and fixed with 2 screws, width: 10 mm, color: Aluminum

E/AL-NS 35 - End bracket

1201662

https://www.phoenixcontact.com/us/products/1201662

End clamp, for end support of UKH 50 to UKH 240, is pushed onto DIN rail NS 35 and fixed with 2 screws, width: 10 mm, color: aluminum

WS-2K - Warning label

1004513

https://www.phoenixcontact.com/us/products/1004513

Adhesive warning plate, self-adhesive, black print: lightning flash with mixed verson - "Vorsicht Spannung - Attention Danger" size of label: 32 x 26 mm

UKH 150/240 EP - Insertion profile

3009244

https://www.phoenixcontact.com/us/products/3009244

Insertion profile, color: silver

AGK 10-UKH 150/240 - Pick-off terminal block

3003554

https://www.phoenixcontact.com/us/products/3003554

Pick-off terminal block, nom. voltage: 1000 V, nominal current: 57 A, number of connections: 1, connection method: Screw connection, Rated cross section: 10 mm^2, cross section: 0.5 mm^2 - 10 mm^2, mounting type: on base element, color: gray

SF-THEX 8-200 - Screwdriver

1212643

https://www.phoenixcontact.com/us/products/1212643

T-handle screwdriver, for Allen screws, hexagonal (with chamfer), size: hex 8 x 200 mm, ergonomically shaped handle, matt chrome-plated

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