

UBAL 50 FE - High-current terminal block

1086471

<https://www.phoenixcontact.com/us/products/1086471>



Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



High-current terminal block, nom. voltage: 1000 V, nominal current: 145 A, number of connections: 2, number of positions: 1, connection method: Screw connection, Rated cross section: 50 mm², cross section: 6 mm² - 50 mm², Rated cross section: 50 mm², cross section: 4 mm² - 50 mm², mounting type: NS 35/15, NS 35/7,5, color: yellow

Your advantages

- Maintenance-free terminal points that are greased beforehand simplify the connection of aluminum conductors
- Tailor-made screw connection for multi-stranded aluminum conductors and copper wires
- Extremely robust housing made from fiberglass-reinforced polyamide with V0 approval
- The special design of the UBAL enables the simultaneous connection of aluminum and copper conductors in various connections

Commercial data

Item number	1086471
Packing unit	20 pc
Minimum order quantity	20 pc
Sales key	BE13
Product key	BE1311
GTIN	4055626878461
Weight per piece (including packing)	48.92 g
Weight per piece (excluding packing)	22.22 g
Customs tariff number	85369010
Country of origin	EE

UBAL 50 FE - High-current terminal block

1086471

<https://www.phoenixcontact.com/us/products/1086471>



Technical data

Notes

General	Terminal block for aluminum and copper conductors (AL-CU)
General	
Note	We recommend using ferrules when using flexible conductor.

Product properties

Product type	Feed-through terminal block
Product family	UBAL
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

Nominal cross section	50 mm ²
Aluminum conductor	
Connection method	Screw connection
Screw thread	M10
Note	Screws with hexagonal socket The following values apply to aluminum conductors
	The values for aluminum conductors relate to rigid and multi-stranded conductors in accordance with EN 60228. Application notes on connecting aluminum conductors can be found in the download area.
Tightening torque	12 Nm
Stripping length	23 mm
Connection in acc. with standard	IEC 61238-1
Conductor cross-section rigid	6 mm ² ... 50 mm ²
Cross section AWG	6 ... 1/0 (converted acc. to IEC)
Nominal current	145 A
Maximum load current	145 A (with 50 mm ² conductor cross-section – test current in accordance with IEC 61238-1)
Nominal voltage	1000 V
Nominal cross section	50 mm ²

UBAL 50 FE - High-current terminal block

1086471

<https://www.phoenixcontact.com/us/products/1086471>



Copper conductor

Note	The following values apply to copper wires Flexible conductors, class 5, in accordance with EN 60228.
Tightening torque	4 ... 12 Nm
Stripping length	23 mm
Connection in acc. with standard	IEC 60947-7-1
Conductor cross-section rigid	4 mm ² ... 50 mm ²
Cross section AWG	6 ... 1/0 (converted acc. to IEC)
Conductor cross-section flexible	2.5 mm ² ... 35 mm ²
Conductor cross-section flexible (ferrule without plastic sleeve)	2.5 mm ² ... 35 mm ²
Flexible conductor cross-section (ferrule with plastic sleeve)	2.5 mm ² ... 35 mm ²
2 conductors with same cross section, flexible	2.5 mm ² ... 16 mm ²
Nominal current	150 A
Maximum load current	150 A (with 50 mm ² conductor cross-section)
Nominal voltage	1000 V
Nominal cross section	50 mm ²

Dimensions

Width	19.2 mm
Height	82.5 mm
Depth	51 mm
Depth on NS 35/7,5	51 mm
Depth on NS 35/15	58.5 mm
Hole diameter	2.75 mm

Material specifications

Color	yellow (RAL 1018)
Flammability rating according to UL 94	V0
Insulating material group	II
Insulating material	PA
Relative insulation material temperature index (Elec., UL 746 B)	400 °C

Electrical tests

Surge voltage test

Test voltage setpoint	8 kV
Result	Test passed

Temperature-rise test

Requirement temperature-rise test	Increase in temperature ≤ 45 K
Result	Test passed
Short-time withstand current 50 mm ²	6 kA
Result	Test passed

Power-frequency withstand voltage

UBAL 50 FE - High-current terminal block



1086471

<https://www.phoenixcontact.com/us/products/1086471>

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 35
Test force setpoint	10 N
Result	Test passed

Test for conductor damage and slackening	
Rotation speed	10 rpm
Revolutions	135
Conductor cross-section/weight	2.5 mm ² / 0.7 kg
	50 mm ² / 9.5 kg
Result	Test passed

Environmental and real-life conditions

Needle-flame test	
Time of exposure	10 s
Result	Test passed

Oscillation/broadband noise	
Specification	DIN EN 50155 (VDE 0115-200):2018-05
Spectrum	Long life test category 2, bogie-mounted
Frequency	f ₁ = 5 Hz to f ₂ = 250 Hz
ASD level	6.12 (m/s ²) ² /Hz
Acceleration	3.12g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Result	Test passed

Shocks	
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

UBAL 50 FE - High-current terminal block

1086471

<https://www.phoenixcontact.com/us/products/1086471>



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 61238-1
	IEC 60947-7-1

Mounting

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

UBAL 50 FE - High-current terminal block

1086471

<https://www.phoenixcontact.com/us/products/1086471>



Drawings

Circuit diagram



UBAL 50 FE - High-current terminal block

1086471

<https://www.phoenixcontact.com/us/products/1086471>



Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1086471>



EAC

Approval ID: KZ7500651131219505

UBAL 50 FE - High-current terminal block

1086471

<https://www.phoenixcontact.com/us/products/1086471>



Classifications

ECLASS

ECLASS-13.0	27250101
ECLASS-15.0	27250101

ETIM

ETIM 9.0	EC000897
----------	----------

UNSPSC

UNSPSC 21.0	39121400
-------------	----------

UBAL 50 FE - High-current terminal block

1086471

<https://www.phoenixcontact.com/us/products/1086471>



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%
-------------------------------------	----------------------------

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com