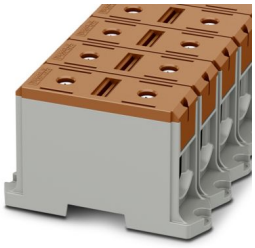
# UBAL 240 BN - High-current terminal block

1086509

https://www.phoenixcontact.com/us/products/1086509

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High-current terminal block, nom. voltage: 1000 V, nominal current: 380 A, number of connections: 2, number of positions: 1, connection method: Screw connection, Rated cross section: 240 mm$^2$, cross section: 35 mm$^2$ - 240 mm$^2$, Rated cross section: 240 mm$^2$, cross section: 35 mm$^2$ - 240 mm$^2$, mounting type: Screw mounting, color: brown

## Your advantages

- Tailor-made screw connection for multi-stranded aluminum conductors and copper wires
- Maintenance-free terminal points that are greased beforehand simplify the connection of aluminum conductors
- 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 | 1086509 |
| Packing unit | 5 pc |
| Minimum order quantity | 5 pc |
| Sales key | BE13 |
| Product key | BE1311 |
| GTIN | 4055626879345 |
| Weight per piece (including packing) | 278.1 g |
| Weight per piece (excluding packing) | 278.1 g |
| Customs tariff number | 85369010 |
| Country of origin | EE |

## Technical data

### Notes

| | |
|---|---|
| General | Terminal block for aluminum and copper conductors (AL-CU) |

General

| | |
|---|---|
| Note | We recommend using ferrules when using flexible donductor. |

### Product properties

| | |
|---|---|
| Product type | High current 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 | 13.78 W |

### Connection data

| | |
|---|---|
| Nominal cross section | 240 mm² |

Aluminum conductor

| | |
|---|---|
| Connection method | Screw connection |
| Screw thread | M20 |
| 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 ... 45 Nm |
| Stripping length | 43 mm |
| Connection in acc. with standard | IEC 61238-1 |
| Conductor cross-section rigid | 35 mm² ... 240 mm² |
| Cross section AWG | 3/0 ... 500 (converted acc. to IEC) |
| Nominal cross section | 240 mm² |
| Nominal current | 380 A |
| Maximum load current | 380 A (with 240 mm² conductor cross-section – test current in accordance with IEC 61238-1) |
| Nominal voltage | 1000 V |

Copper conductor

| | |
|---|---|
| Note | The following values apply to copper wires |
| | Flexible conductors, class 5, in accordance with EN 60228. |
| Tightening torque | 12 ... 45 Nm |
| Stripping length | 43 mm |
| Connection in acc. with standard | IEC 60947-7-1 |
| Conductor cross-section rigid | 35 mm² ... 240 mm² |
| Cross section AWG | 3/0 ... 500 (converted acc. to IEC) |
| Conductor cross-section flexible | 150 mm² ... 185 mm² |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 35 mm² ... 185 mm² |
| Flexible conductor cross-section (ferrule with plastic sleeve) | 35 mm² ... 185 mm² |
| 2 conductors with same cross section, flexible | 35 mm² ... 70 mm² |
| Nominal cross section | 240 mm² |
| Nominal current | 415 A |
| Maximum load current | 415 A (with 240 mm² conductor cross-section) |
| Nominal voltage | 1000 V |

## Dimensions

| | |
|---|---|
| Width | 37.5 mm |
| Height | 130 mm |
| Depth | 70 mm |
| Hole diameter | 3.22 mm |

## Material specifications

| | |
|---|---|
| Color | brown (RAL 8028) |
| Flammability rating according to UL 94 | V0 |
| Insulating material group | II |
| Insulating material | PA |
| Relative insulation material temperature index (Elec., UL 746 B) | 550 °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 250 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 35 |
| Test force setpoint | 20 N |
| 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 |

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 | Screw mounting |

## Drawings

Circuit diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1086509

**EAC**
Approval ID: KZ7500651131219505

**UL Recognized**
Approval ID: FILE E 60425

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| E | | | | |
| | 1000 V | 380 A | 3/0 - 500 | - |
| Al conductors | 1000 V | 310 A | 3/0 - 500 | - |

## 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 | 2.311 kg CO2e |


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