

UBAL 50 FE - High-current terminal block



1086471

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

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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 |

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Technical data

Notes

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 cross section | 50 mm ² |
| 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 |

Copper conductor

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| | |
|---|--|
| 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 cross section | 50 mm ² |
| Nominal current | 150 A |
| Maximum load current | 150 A (with 50 mm ² conductor cross-section) |
| Nominal voltage | 1000 V |

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

| | |
|-----------------------|-------------|
| Test voltage setpoint | 2.2 kV |
| Result | Test passed |

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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 | $f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$ |
| 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

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| | |
|--|--|
| 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 |

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Drawings

Circuit diagram



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Approvals

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



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 | 150 A | 6 - 1/0 | - |
| Al conductors | 1000 V | 120 A | 6 - 1/0 | - |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27250101 |
| ECLASS-15.0 | 27250101 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC000897 |
|-----------|----------|

UNSPSC

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

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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 | 0.641 kg CO2e |
|---------|---------------|

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