

# UBAL 150 FE - High-current terminal block



1086504

<https://www.phoenixcontact.com/us/products/1086504>

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High-current terminal block, nom. voltage: 1000 V, nominal current: 290 A, number of connections: 2, number of positions: 1, connection method: Screw connection, Rated cross section: 150 mm<sup>2</sup>, cross section: 35 mm<sup>2</sup> - 150 mm<sup>2</sup>, Rated cross section: 150 mm<sup>2</sup>, cross section: 35 mm<sup>2</sup> - 150 mm<sup>2</sup>, 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                          | 1086504             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 10 pc               |
| Sales Key                            | BE13                |
| Product Key                          | BE1311              |
| Catalog Page                         | Page 585 (C-1-2019) |
| GTIN                                 | 4055626879734       |
| Weight per Piece (including packing) | 152.38 g            |
| Weight per Piece (excluding packing) | 150 g               |
| Customs tariff number                | 85369010            |
| Country of origin                    | EE                  |

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## 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 |
| 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 | 9.55 W |

### Connection data

|                       |                     |
|-----------------------|---------------------|
| Nominal cross section | 150 mm <sup>2</sup> |
|-----------------------|---------------------|

### Aluminum conductor

|                                  |                                                                                                                                                                                                      |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Screw thread                     | M18                                                                                                                                                                                                  |
| 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                | 30 ... 30 Nm                                                                                                                                                                                         |
| Stripping length                 | 30 mm                                                                                                                                                                                                |
| Connection in acc. with standard | IEC 61238-1                                                                                                                                                                                          |
| Conductor cross section rigid    | 35 mm <sup>2</sup> ... 150 mm <sup>2</sup>                                                                                                                                                           |
| Cross section AWG                | 2 ... 300 (converted acc. to IEC)                                                                                                                                                                    |
| Nominal current                  | 290 A                                                                                                                                                                                                |
| Maximum load current             | 290 A (with 150 mm <sup>2</sup> conductor cross section – test current in accordance with IEC 61238-1)                                                                                               |
| Nominal voltage                  | 1000 V                                                                                                                                                                                               |
| Nominal cross section            | 150 mm <sup>2</sup>                                                                                                                                                                                  |

### Copper conductor

|      |                                            |
|------|--------------------------------------------|
| Note | The following values apply to copper wires |
|------|--------------------------------------------|

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|                                                                   |                                                            |
|-------------------------------------------------------------------|------------------------------------------------------------|
|                                                                   | Flexible conductors, class 5, in accordance with EN 60228. |
| Tightening torque                                                 | 20 ... 30 Nm                                               |
| Stripping length                                                  | 30 mm                                                      |
| Connection in acc. with standard                                  | IEC 60947-7-1                                              |
| Conductor cross section rigid                                     | 35 mm <sup>2</sup> ... 150 mm <sup>2</sup>                 |
| Cross section AWG                                                 | 2 ... 300 (converted acc. to IEC)                          |
| Conductor cross section flexible                                  | 95 mm <sup>2</sup> ... 120 mm <sup>2</sup>                 |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 35 mm <sup>2</sup> ... 120 mm <sup>2</sup>                 |
| Flexible conductor cross section (ferrule with plastic sleeve)    | 35 mm <sup>2</sup> ... 120 mm <sup>2</sup>                 |
| 2 conductors with same cross section, flexible                    | 35 mm <sup>2</sup> ... 50 mm <sup>2</sup>                  |
| Nominal current                                                   | 309 A                                                      |
| Maximum load current                                              | 309 A (with 150 mm <sup>2</sup> conductor cross section)   |
| Nominal voltage                                                   | 1000 V                                                     |
| Nominal cross section                                             | 150 mm <sup>2</sup>                                        |

## Dimensions

|                  |          |
|------------------|----------|
| Width            | 30.5 mm  |
| Height           | 105.5 mm |
| Height NS 35/15  | 74.5 mm  |
| Height NS 35/7,5 | 67 mm    |
| Depth            | 67 mm    |
| Length           | 105.5 mm |
| Hole diameter    | 2.75 mm  |

## Material specifications

|                                                                  |        |
|------------------------------------------------------------------|--------|
| Color                                                            | yellow |
| 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 150 mm <sup>2</sup> | 18 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     | 15 N        |
| Result                  | Test passed |

### Test for conductor damage and slackening

|                                |                             |
|--------------------------------|-----------------------------|
| Rotation speed                 | 10 rpm                      |
| Revolutions                    | 135                         |
| Conductor cross section/weight | 35 mm <sup>2</sup> / 6.8 kg |
|                                | 150 mm <sup>2</sup> / 15 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               | Service life test category 2, bogie-mounted    |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$ |
| ASD level              | $6.12 \text{ (m/s}^2\text{)}^2/\text{Hz}$      |
| 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                       |

## Standards and regulations

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|                                  |               |
|----------------------------------|---------------|
| 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/1086504>

|                                                                                                                                                 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| <div> <b>UL Recognized</b><br/>Approval ID: FILE E 60425</div> |                       |                       |                   |                             |
|                                                                                                                                                 | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
| Use group E                                                                                                                                     |                       |                       |                   |                             |
|                                                                                                                                                 | 1000 V                | 285 A                 | 2 - 300           | -                           |
| Al conductors                                                                                                                                   | 1000 V                | 230 A                 | 2 - 300           | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141120 |
| ECLASS-13.0 | 27250101 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC000897 |
|----------|----------|

### UNSPSC

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

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## Environmental Product Compliance

|            |                                                         |
|------------|---------------------------------------------------------|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

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## Accessories

### CEC UBAL 150 - Cover plate

1086474

<https://www.phoenixcontact.com/us/products/1086474>



Cover plate, color: yellow

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### UCT-TM 10 - Marker for terminal blocks

0829142

<https://www.phoenixcontact.com/us/products/0829142>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

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## UCT-TM 10 GN - Marker for terminal blocks

0829173

<https://www.phoenixcontact.com/us/products/0829173>



Marker for terminal blocks, Sheet, green, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

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## UCT-TM 10 VT - Marker for terminal blocks

0829171

<https://www.phoenixcontact.com/us/products/0829171>



Marker for terminal blocks, Sheet, violet, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap in, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

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## UCT-TM 10 RD - Marker for terminal blocks

0829169

<https://www.phoenixcontact.com/us/products/0829169>



Marker for terminal blocks, Sheet, red, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

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## UCT-TM 10 YE - Marker for terminal blocks

0829143

<https://www.phoenixcontact.com/us/products/0829143>



Marker for terminal blocks, Sheet, yellow, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

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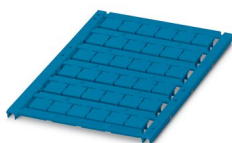
<https://www.phoenixcontact.com/us/products/1086504>



### UCT-TM 10 BU - Marker for terminal blocks

0829172

<https://www.phoenixcontact.com/us/products/0829172>



Marker for terminal blocks, Sheet, blue, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

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### UCT-TM 10 OG - Marker for terminal blocks

0829170

<https://www.phoenixcontact.com/us/products/0829170>



Marker for terminal blocks, Sheet, orange, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

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## PXC TERMINAL GREASE - Antioxidant

1108540

<https://www.phoenixcontact.com/us/products/1108540>

Antioxidant



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