

# UKH 240 - High-current terminal block



3010217

<https://www.phoenixcontact.com/pc/products/3010217>

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High-current terminal block, nom. voltage: 1000 V, nominal current: 415 A, number of connections: 2, connection method: Screw connection, Rated cross section: 240 mm<sup>2</sup>, cross section: 70 mm<sup>2</sup> - 240 mm<sup>2</sup>, 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
- Low contact resistance of the contact surface due to ribbing
- Screw locking by means of spring-loaded elements in the clamping part

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 3010217             |
| Packing unit                         | 3 pc                |
| Minimum order quantity               | 1 pc                |
| Product key                          | BE1311              |
| Catalog page                         | Page 199 (C-1-2019) |
| GTIN                                 | 4017918091873       |
| Weight per piece (including packing) | 487.667 g           |
| Weight per piece (excluding packing) | 476 g               |
| Customs tariff number                | 85369010            |
| Country of origin                    | IN                  |

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## 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 | 13.78 W |

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 2                   |
| Nominal cross section           | 240 mm <sup>2</sup> |

#### Level 1 above 1 below 1

|                                                                                     |                                            |
|-------------------------------------------------------------------------------------|--------------------------------------------|
| Screw thread                                                                        | M10                                        |
| Note                                                                                | Screws with hexagonal socket               |
| Tightening torque                                                                   | 25 ... 30 Nm                               |
| Stripping length                                                                    | 40 mm                                      |
| Internal cylindrical gage                                                           | B15                                        |
| Connection in acc. with standard                                                    | IEC 60947-7-1                              |
| Conductor cross section rigid                                                       | 70 mm <sup>2</sup> ... 240 mm <sup>2</sup> |
| Cross section AWG                                                                   | 3/0 ... 250 kcmil (converted acc. to IEC)  |
| Conductor cross section flexible                                                    | 70 mm <sup>2</sup> ... 240 mm <sup>2</sup> |
| Conductor cross section, flexible [AWG]                                             | 3/0 ... 350 kcmil (converted acc. to IEC)  |
| Conductor cross-section flexible (ferrule without plastic sleeve)                   | 70 mm <sup>2</sup> ... 185 mm <sup>2</sup> |
| Flexible conductor cross section (ferrule with plastic sleeve)                      | 70 mm <sup>2</sup> ... 185 mm <sup>2</sup> |
| Cross-section with insertion bridge, rigid                                          | 240 mm <sup>2</sup>                        |
| Cross-section with insertion bridge, flexible                                       | 185 mm <sup>2</sup>                        |
| 2 conductors with same cross section, solid                                         | 35 mm <sup>2</sup> ... 95 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible                                      | 50 mm <sup>2</sup> ... 95 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 35 mm <sup>2</sup> ... 50 mm <sup>2</sup>  |

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|                       |                                                                                                                              |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------|
| Nominal current       | 415 A                                                                                                                        |
| Maximum load current  | 415 A (with 240 mm <sup>2</sup> 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 | 240 mm <sup>2</sup>                                                                                                          |

## Ex data

### Rated data (ATEX/IECEx)

|                                   |                                          |
|-----------------------------------|------------------------------------------|
| Identification                    | Ⓔ 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 2-36/UKH / 0201401 |
|                                   | Insertion bridge / EB 3-36/UKH / 0201414 |
| Bridge data                       | 270 A / 240 mm <sup>2</sup>              |
| Ex temperature increase           | 40 K (389 A / 240 mm <sup>2</sup> )      |
| Rated voltage                     | 1100 V                                   |
| at bridging with insertion bridge | 690 V                                    |
| Rated insulation voltage          | 1000 V                                   |
| output                            | (Permanent)                              |

### Ex level General

|                      |         |
|----------------------|---------|
| Rated current        | 350 A   |
| Maximum load current | 350 A   |
| Contact resistance   | 0.03 mΩ |

### Ex connection data General

|                                                       |                                            |
|-------------------------------------------------------|--------------------------------------------|
| Stripping length                                      | 40 mm                                      |
| Torque range                                          | 25 Nm ... 30 Nm                            |
| Nominal cross section                                 | 240 mm <sup>2</sup>                        |
| Rated cross section AWG                               | 500 kcmil                                  |
| Connection capacity rigid                             | 70 mm <sup>2</sup> ... 240 mm <sup>2</sup> |
| Connection capacity AWG                               | 2/0 ... 500 kcmil                          |
| Connection capacity flexible                          | 70 mm <sup>2</sup> ... 240 mm <sup>2</sup> |
| Connection capacity AWG                               | 2/0 ... 500 kcmil                          |
| 2 conductors with same cross section, solid           | 35 mm <sup>2</sup> ... 95 mm <sup>2</sup>  |
| 2 conductors with the same cross-section AWG rigid    | 2 ... 3/0                                  |
| 2 conductors with same cross section, stranded        | 50 mm <sup>2</sup> ... 95 mm <sup>2</sup>  |
| 2 conductors with the same cross-section AWG flexible | 1/0 ... 3/0                                |

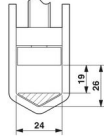
## Dimensions

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|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Width               | 36 mm                                                                              |
| Height              | 100 mm                                                                             |
| Depth               | 123.6 mm                                                                           |
| Depth on NS 32      | 129 mm                                                                             |
| Depth on NS 35/15   | 131.5 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 |
| Short-time withstand current 240 mm <sup>2</sup> | 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 |
|--------|-------------|

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## 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 | 70 mm <sup>2</sup> /10.4 kg  |
|                                | 240 mm <sup>2</sup> /20.0 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):2022-06            |
| Spectrum               | Service life test category 2, bogie-mounted    |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$ |
| ASD level              | 6.12 (m/s <sup>2</sup> ) <sup>2</sup> /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):2022-06 |
| Pulse shape                    | Half-sine                           |
| Acceleration                   | 5g                                  |
| Shock duration                 | 30 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

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

## Mounting

|               |          |
|---------------|----------|
| Mounting type | NS 35/15 |
|               | NS 32    |

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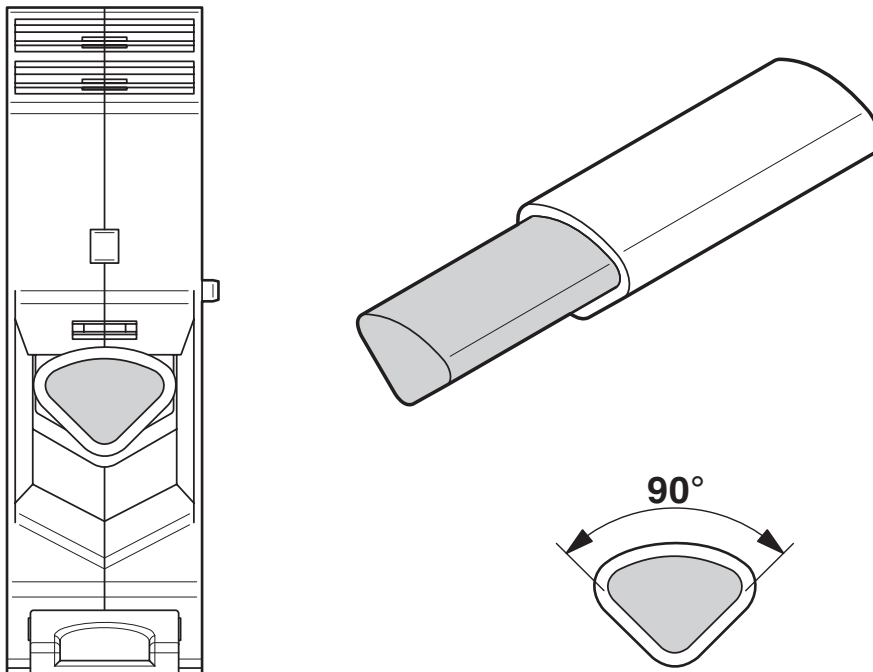
<https://www.phoenixcontact.com/pc/products/3010217>

## Drawings

Circuit diagram



Schematic diagram



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

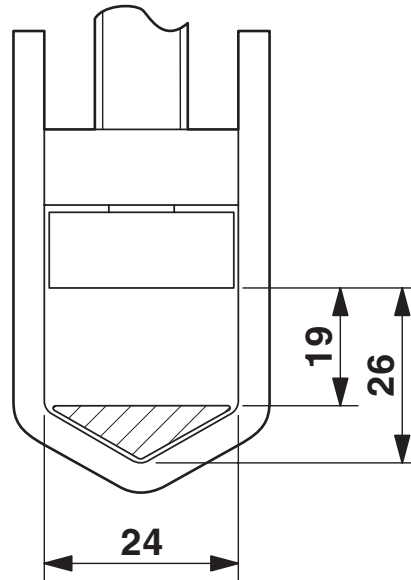
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Dimensional drawing





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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/3010217>

### DNV

Approval ID: TAE00001CT



### CSA

Approval ID: 13631

|             | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|-------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Use group B |                       |                       |                   |                             |
|             | 600 V                 | 400 A                 | 1/0 - 500         | -                           |
| Use group C |                       |                       |                   |                             |
|             | 600 V                 | 400 A                 | 1/0 - 500         | -                           |



### 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 $\text{mm}^2$ |
|----------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Use group B                |                       |                       |                   |                             |
|                            | 600 V                 | 380 A                 | 2/0 - 500         | -                           |
| Multi-conductor connection | 600 V                 | 380 A                 | 2 - 3/0           | -                           |
| Use group C                |                       |                       |                   |                             |
|                            | 600 V                 | 380 A                 | 2/0 - 500         | -                           |
| Multi-conductor connection | 600 V                 | 380 A                 | 2 - 3/0           | -                           |



### LR

Approval ID: LR2041789TA-02



### RS

Approval ID: 22.44.01.00083.250



### ATEX

Approval ID: KEMA99ATEX8332U

|                              | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Type examination certificate | 1100 V                | 350 A                 | -                 | 70 - 240                    |

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**cUL Recognized**  
Approval ID: E192998

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 600 V                 | 380 A                 | 2/0 - 500         | -                           |



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



**IECEx**  
Approval ID: IECEx KEM 06.0030U

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 1100 V                | 350 A                 | -                 | 70 - 240                    |



**UL Recognized**  
Approval ID: E192998

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 600 V                 | 380 A                 | 2/0 - 500         | -                           |



**CCC**  
Approval ID: 2020322313000623



**UKCA-EX**  
Approval ID: DEKRA 21UKEX0309U

**cULus Recognized**

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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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