

# USST 4-MT BU - Knife-disconnect terminal block



3070305

<https://www.phoenixcontact.com/us/products/3070305>

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Knife-disconnect terminal block, nom. voltage: 500 V, nominal current: 20 A, 1 level, connection method: Screw connection with spring support, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.2 mm<sup>2</sup> - 6 mm<sup>2</sup>, mounting: NS 35/7,5, NS 35/15, NS 32, color: blue

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3070305       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Product key                          | BE1231        |
| GTIN                                 | 4046356866798 |
| Weight per piece (including packing) | 15.015 g      |
| Weight per piece (excluding packing) | 15.015 g      |
| Country of origin                    | PL            |

## Technical data

### Notes

#### General

|      |   |
|------|---|
| Note | When establishing a connection on the open housing side of a feed-through modular terminal block of the same series and size, the block must be provided with a cover if the expected insulation voltage is >320 V. |
|      | The max. load current must not be exceeded by the total current of all connected conductors.  |

### Product properties

|                       |                           |
|-----------------------|---------------------------|
| Product type          | Disconnect 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                             | 6 kV   |
| Maximum power dissipation for nominal condition | 1.02 W |

### Connection data

|                                 |                   |
|---------------------------------|-------------------|
| Number of connections per level | 2                 |
| Nominal cross section           | 4 mm <sup>2</sup> |

#### 1 level

|   |  |
|---|--|
| Connection method   | Screw connection with spring support         |
| Screw thread  | M3   |
| Tightening torque   | 0.6 ... 0.8 Nm                               |
| Stripping length  | 10 mm  |
| Internal cylindrical gage   | A4   |
| Connection in acc. with standard                                  | IEC 60947-7-1                                |
| Conductor cross-section rigid                                     | 0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>    |
| Cross section AWG   | 24 ... 10 (converted acc. to IEC)            |
| Conductor cross-section flexible                                  | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>    |
| Conductor cross-section, flexible [AWG]                           | 24 ... 12 (converted acc. to IEC)            |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 2 conductors with same cross section, rigid                       | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible                    | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible, with ferrule      | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |

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|   |   |
|---|---|
| without plastic sleeve  |   |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>           |
| Nominal cross section   | 4 mm <sup>2</sup>                                     |
| Nominal current   | 20 A  |
| Maximum load current  | 20 A (with 6 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage   | 500 V (up to 690 V for pollution degree II)           |

## Dimensions

|                    |         |
|--------------------|---------|
| Width              | 6.2 mm  |
| End cover width    | 2.2 mm  |
| Height             | 63.4 mm |
| Depth on NS 32     | 62.3 mm |
| Depth on NS 35/7,5 | 57.3 mm |
| Depth on NS 35/15  | 64.8 mm |

## Material specifications

|   |                 |
|---|-----------------|
| Color   | blue (RAL 5015) |
| Flammability rating according to UL 94                                  | V0              |
| Insulating material group   | I               |
| Insulating material   | PA              |
| Static insulating material application in cold                          | -60 °C          |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 125 °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     |
| Calorimetric heat release NFPA 130 (ASTM E 1354)                        | 27,5 MJ/kg      |
| 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

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 7.3 kV      |
| Result                | Test passed |

### Temperature-rise test

|  |                                |
|--|--------------------------------|
| Requirement temperature-rise test                | Increase in temperature ≤ 45 K |
| Result   | Test passed                    |
| Short-time withstand current 2.5 mm <sup>2</sup> | 0.3 kA                         |
| Result   | Test passed                    |

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## Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 1.89 kV     |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

|                 |     |
|-----------------|-----|
| Open side panel | Yes |
|-----------------|-----|

## Mechanical tests

### Mechanical strength

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

### Attachment on the carrier

|                     |             |
|---------------------|-------------|
| Test force setpoint | 1 N         |
| Result              | Test passed |

### Test for conductor damage and slackening

|                                |                              |
|--------------------------------|------------------------------|
| Rotation speed                 | 10 rpm                       |
| Revolutions                    | 135                          |
| Conductor cross-section/weight | 0.2 mm <sup>2</sup> / 0.2 kg |
|                                | 4 mm <sup>2</sup> / 0.9 kg   |
|                                | 6 mm <sup>2</sup> / 1.4 kg   |
| Result                         | Test passed                  |

### Test for conductor damage and slackening

|                                |                              |
|--------------------------------|------------------------------|
| Rotation speed                 | 10 rpm                       |
| Revolutions                    | 135                          |
| Conductor cross-section/weight | 1.5 mm <sup>2</sup> / 0.4 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):2008-03              |
| Spectrum               | Long life test category 1, class B, body mounted |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$   |
| ASD level              | 1.857 (m/s <sup>2</sup> )/Hz                     |
| Acceleration           | 0.8g   |
| Test duration per axis | 5 h  |
| Test directions        | X-, Y- and Z-axis                                |
| Result                 | Test passed                                      |

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## Shocks

|                                |                                     |
|--------------------------------|-------------------------------------|
| Specification                  | DIN EN 50155 (VDE 0115-200):2008-03 |
| 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, 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 60947-7-1 |
|----------------------------------|---------------|

## Mounting

|               |           |
|---------------|-----------|
| Mounting type | NS 35/7,5 |
|               | NS 35/15  |
|               | NS 32     |

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3070305>

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B  | 300 V                 | 20 A                  | 24 - 10           | -                           |
| C  | 300 V                 | 20 A                  | 24 - 10           | -                           |
| D  | 600 V                 | 5 A                   | 24 - 10           | -                           |

|  <b>EAC</b><br>Approval ID: KZ7500651131219505 |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B  | 300 V                 | 20 A                  | 24 - 10           | -                           |
| C  | 300 V                 | 20 A                  | 24 - 10           | -                           |
| F  | 500 V                 | 20 A                  | 24 - 10           | -                           |
| D  | 600 V                 | 5 A                   | 24 - 10           | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250108 |
| ECLASS-15.0 | 27250108 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC000902 |
|-----------|----------|

### UNSPSC

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

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## Environmental product compliance

### EU RoHS

|   |      |
|---|------|
| Fulfills EU RoHS substance requirements | Yes  |
| Exemption                               | 6(c) |

### China RoHS

|  |   |
|--|---|
| Environment friendly use period (EFUP) | EFUP-50   |
|  | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 906133bc-3afb-418d-8804-949783069119 |

### EF3.1 Climate Change

|         |              |
|---------|--------------|
| CO2e kg | 0.06 kg CO2e |
|---------|--------------|

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