

## Feed-through terminal block - BTH 3,5 - 3281115

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Feed-through terminal block, connection method: Ring cable lug, Push-in connection, cross section: 0.5 mm<sup>2</sup> - 4 mm<sup>2</sup>, AWG: 24 - 12, width: 10 mm, color: black, mounting: NS 35/7,5, NS 35/15

### Your advantages

- ✓ Free choice of connection technology – meet requirements for internal and external wiring at the same time thanks to different connection methods in a single terminal block
- ✓ Convenient ring cable lug connection thanks to the screw connection principle with spring-guided screw; maintenance-free with integrated screw locking
- ✓ Easy and tool-free direct plug-in thanks to push-in multi-conductor connection
- ✓ Easy potential distribution with time-saving jumper system
- ✓ Safety for users thanks to integrated shock protection
- ✓ Maximum overview thanks to extensive marking and labeling of every terminal point
- ✓ Reduction in logistics costs with the uniform CLIPLINE complete system accessories

### Key Commercial Data

|                        |               |
|------------------------|---------------|
| Packing unit           | 50 pc         |
| Minimum order quantity | 50 pc         |
| GTIN                   |               |
| GTIN                   | 4055626119144 |

### Technical data

#### General

|  |                   |
|--|-------------------|
| Number of levels                       | 1                 |
| Number of connections                  | 3                 |
| Nominal cross section                  | 4 mm <sup>2</sup> |
| Color                                  | black             |
| Insulating material                    | PC                |
| Flammability rating according to UL 94 | V0                |
| Rated surge voltage                    | 8 kV              |

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## Technical data

### General

|   |  |
|---|--|
| Degree of pollution   | 3  |
| Overvoltage category  | III  |
| Insulating material group   | IIIa   |
| Maximum power dissipation for nominal condition   | 1.02 W   |
| Ambient temperature (operation)   | -40 °C ... 110 °C  |
| Connection method   | Ring cable lug   |
| Connection in acc. with standard  | IEC 60947-7-1  |
| Maximum load current  | 32 A   |
| Nominal current I <sub>N</sub>  | 32 A   |
| Nominal voltage U <sub>N</sub>  | 690 V  |
| Connection method   | Push-in connection   |
| Connection in acc. with standard  | IEC 60947-7-1  |
| Maximum load current  | 32 A (The maximum load current must not be exceeded by the total current of all connected conductors.) |
| Nominal current I <sub>N</sub>  | 32 A   |
| Nominal voltage U <sub>N</sub>  | 690 V  |
| Open side panel   | Yes  |
| Shock protection test specification   | DIN EN 50274 (VDE 0660-514):2002-11  |
| Back of the hand protection   | guaranteed   |
| Finger protection   | guaranteed   |
| Result of surge voltage test  | Test passed  |
| Surge voltage test setpoint   | 9.8 kV   |
| Result of power-frequency withstand voltage test  | Test passed  |
| Power frequency withstand voltage setpoint  | 1.89 kV  |
| Result of the test for mechanical stability of terminal points (5 x conductor connection) | Test passed  |
| Result of bending test  | Test passed  |
| Bending test rotation speed   | 10 rpm   |
| Bending test turns  | 135  |
| Bending test conductor cross section/weight   | 0.2 mm <sup>2</sup> / 0.2 kg   |
|   | 4 mm <sup>2</sup> / 0.9 kg   |
| Tensile test result   | Test passed  |
| Conductor cross section tensile test  | 0.2 mm <sup>2</sup>  |
| Tractive force setpoint   | 10 N   |
| Conductor cross section tensile test  | 4 mm <sup>2</sup>  |
| Tractive force setpoint   | 60 N   |
| Result of tight fit on support  | Test passed  |
| Tight fit on carrier  | NS 35  |
| Setpoint  | 1 N  |
| Result of voltage-drop test   | Test passed  |
| Requirements, voltage drop  | ≤ 3.2 mV   |

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## Technical data

### General

|   |  |
|---|--|
| Result of temperature-rise test   | Test passed                                      |
| Short circuit stability result  | Test passed                                      |
| Conductor cross section short circuit testing                           | 4 mm <sup>2</sup>                                |
| Short-time current  | 0.48 kA  |
| Result of aging test  | Test passed                                      |
| Ageing test for screwless modular terminal block temperature cycles     | 192  |
| Result of thermal test  | Test passed                                      |
| Proof of thermal characteristics (needle flame) effective duration      | 30 s   |
| Oscillation, broadband noise test result                                | Test passed                                      |
| Test specification, oscillation, broadband noise                        | DIN EN 50155 (VDE 0115-200):2008-03              |
| Test spectrum   | Service life test category 2, bogie-mounted      |
| Test frequency  | f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 250 Hz |
| ASD level   | 6.12 (m/s <sup>2</sup> ) <sup>2</sup> /Hz        |
| Acceleration  | 3.12 g   |
| Test duration per axis  | 5 h  |
| Test directions   | X-, Y- and Z-axis                                |
| Shock test result   | Test passed                                      |
| Test specification, shock test  | DIN EN 50155 (VDE 0115-200):2008-03              |
| Shock form  | Half-sine  |
| Acceleration  | 30g  |
| Shock duration  | 18 ms  |
| Test directions   | X-, Y- and Z-axis (pos. and neg.)                |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 130 °C   |

### Dimensions

|                  |         |
|------------------|---------|
| Width            | 10 mm   |
| Length           | 46 mm   |
| Height NS 35/7,5 | 38.2 mm |
| Height NS 35/15  | 45.7 mm |

### Connection data

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Ring cable lug      |
| Connection in acc. with standard      | IEC 60947-7-1       |
| Screw thread                          | M4                  |
| Tightening torque, min                | 1.4 Nm              |
| Tightening torque max                 | 2 Nm                |
| Stripping length                      | 10 mm ... 12 mm     |
| Conductor cross section solid min.    | 0.5 mm <sup>2</sup> |
| Conductor cross section solid max.    | 4 mm <sup>2</sup>   |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 4 mm <sup>2</sup>   |

## Feed-through terminal block - BTH 3,5 - 3281115

### Technical data

#### Connection data

|  |                      |
|--|----------------------|
| Min. AWG conductor cross section, flexible                                 | 24                   |
| Max. AWG conductor cross section, flexible                                 | 12                   |
| Conductor cross section flexible, with ferrule with plastic sleeve min.    | 0.2 mm <sup>2</sup>  |
| Conductor cross section flexible, with ferrule with plastic sleeve max.    | 4 mm <sup>2</sup>    |
| Cable lug connection according to standard                                 | DIN 46234            |
| Min. cross section for cable lug connection                                | 0.2 mm <sup>2</sup>  |
| Max. cross section for cable lug connection                                | 4 mm <sup>2</sup>    |
| AWG min  | 24                   |
| AWG max  | 12                   |
| Hole diameter, min.  | 4.3 mm               |
| Cable lug width, max.  | 8.8 mm               |
| Bolt diameter  | 4 mm                 |
| Screw thread   | M4                   |
| Tightening torque, min   | 1.4 Nm               |
| Tightening torque max  | 2 Nm                 |
| Connection method  | Push-in connection   |
| Connection in acc. with standard   | IEC 60947-7-1        |
| Conductor cross section solid min.   | 0.2 mm <sup>2</sup>  |
| Conductor cross section solid max.   | 4 mm <sup>2</sup>    |
| Conductor cross section AWG min.   | 24                   |
| Conductor cross section AWG max.   | 12                   |
| Conductor cross section flexible min.                                      | 0.2 mm <sup>2</sup>  |
| Conductor cross section flexible max.                                      | 4 mm <sup>2</sup>    |
| Min. AWG conductor cross section, flexible                                 | 24                   |
| Max. AWG conductor cross section, flexible                                 | 12                   |
| Conductor cross section flexible, with ferrule without plastic sleeve min. | 0.25 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule without plastic sleeve max. | 2.5 mm <sup>2</sup>  |
| Conductor cross section flexible, with ferrule with plastic sleeve min.    | 0.25 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule with plastic sleeve max.    | 2.5 mm <sup>2</sup>  |
| Conductor cross section solid min.   | 0.5 mm <sup>2</sup>  |
| Conductor cross section solid max.   | 4 mm <sup>2</sup>    |
| Conductor cross section AWG min.   | 20                   |
| Conductor cross section AWG max.   | 12                   |
| Conductor cross section flexible, with ferrule with plastic sleeve min.    | 0.5 mm <sup>2</sup>  |
| Conductor cross section flexible, with ferrule with plastic sleeve max.    | 2.5 mm <sup>2</sup>  |
| Conductor cross section flexible, with ferrule without plastic sleeve min. | 0.5 mm <sup>2</sup>  |
| Conductor cross section flexible, with ferrule without plastic sleeve max. | 2.5 mm <sup>2</sup>  |

#### Connection data (JIS standard)

|                                  |                |
|----------------------------------|----------------|
| Connection method                | Ring cable lug |
| Connection in acc. with standard | JIS 8207-7-1   |

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## Technical data

### Connection data (JIS standard)

|  |                     |
|--|---------------------|
| Conductor cross section flexible min.                                      | 0.5 mm <sup>2</sup> |
| Conductor cross section flexible max.                                      | 3.5 mm <sup>2</sup> |
| Cable lug connection according to standard                                 | JIS 8207-7-1        |
| Min. cross section for cable lug connection                                | 0.5 mm <sup>2</sup> |
| Max. cross section for cable lug connection                                | 3.5 mm <sup>2</sup> |
| Hole diameter, min.  | 4.3 mm              |
| Cable lug width, max.  | 8.8 mm              |
| Bolt diameter  | 4 mm                |
| Screw thread   | M4                  |
| Tightening torque, min   | 1.4 Nm              |
| Tightening torque max  | 2 Nm                |
| Nominal current I <sub>N</sub>   | 30 A                |
| Maximum load current   | 30 A                |
| Nominal voltage U <sub>N</sub>   | 600 V               |
| Connection method  | Push-in connection  |
| Connection in acc. with standard   | JIS 8207-7-1        |
| Single-wire/terminal point, solid diameter min.                            | 0.5 mm              |
| Single-wire/terminal point, solid diameter max.                            | 2 mm                |
| Conductor cross section flexible min.                                      | 0.5 mm <sup>2</sup> |
| Conductor cross section flexible max.                                      | 3.5 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule without plastic sleeve min. | 0.5 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule without plastic sleeve max. | 2 mm <sup>2</sup>   |
| Conductor cross section flexible, with ferrule with plastic sleeve min.    | 0.5 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule with plastic sleeve max.    | 2 mm <sup>2</sup>   |
| Connection cross sections directly pluggable                               | 0.8 mm 2 mm         |
| Single-wire/terminal point, solid diameter min.                            | 0.8 mm              |
| Single-wire/terminal point, solid diameter max.                            | 2 mm                |
| Conductor cross section flexible, with ferrule without plastic sleeve min. | 0.5 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule without plastic sleeve max. | 2 mm <sup>2</sup>   |
| Conductor cross section flexible, with ferrule with plastic sleeve min.    | 0.5 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule with plastic sleeve max.    | 2 mm <sup>2</sup>   |

### Standards and Regulations

|  |               |
|--|---------------|
| Connection in acc. with standard       | IEC 60947-7-1 |
|  | IEC 60947-7-1 |
| Flammability rating according to UL 94 | V0            |

### Environmental Product Compliance

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

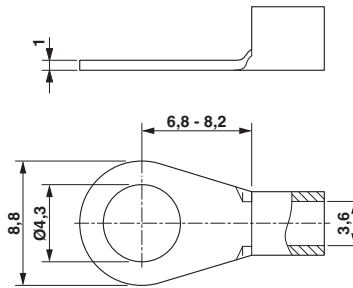
## Drawings

# Feed-through terminal block - BTH 3,5 - 3281115

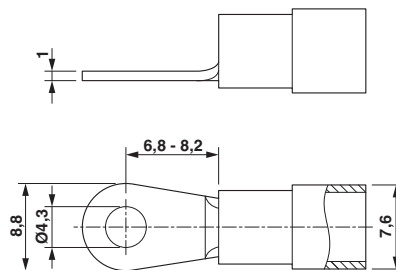
Circuit diagram



Dimensional drawing



Dimensional drawing



## Approvals

### Approvals

Approvals

DNV GL / CSA / UL Recognized / cUL Recognized / cULus Recognized

Ex Approvals

### Approval details


|        |  |   |            |
|--------|--|---|------------|
| DNV GL |  | <a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a> | TAE00001S2 |
|--------|--|---|------------|

|     |  |   |       |
|-----|--|---|-------|
| CSA |  | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | 13631 |
|-----|--|---|-------|

|                            | B     | C     |
|----------------------------|-------|-------|
| Nominal voltage UN         | 600 V | 600 V |
| Nominal current IN         | 20 A  | 20 A  |
| mm <sup>2</sup> /AWG/kcmil | 26-12 | 26-12 |

## Feed-through terminal block - BTH 3,5 - 3281115

### Approvals

|               |   |   |              |
|---------------|---|---|--------------|
| UL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 60425 |
|---------------|---|---|--------------|

|                            | B     | C     |
|----------------------------|-------|-------|
| Nominal voltage UN         | 600 V | 600 V |
| Nominal current IN         | 20 A  | 20 A  |
| mm <sup>2</sup> /AWG/kcmil | 26-12 | 26-12 |

|                |   |   |              |
|----------------|---|---|--------------|
| cUL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 60425 |
|----------------|---|---|--------------|

|                            | B     | C     |
|----------------------------|-------|-------|
| Nominal voltage UN         | 600 V | 600 V |
| Nominal current IN         | 20 A  | 20 A  |
| mm <sup>2</sup> /AWG/kcmil | 26-12 | 26-12 |

|                  |   |
|------------------|---|
| cULus Recognized |  |
|------------------|---|

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