

# MSB 2,5-RZ - Mini feed-through terminal block



3244164

<https://www.phoenixcontact.com/us/products/3244164>

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Mini feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, number of connections: 2, connection method: Spring-cage connection, 1 level, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.08 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: on mounting panel, color: gray

## Your advantages

- Can be freely combined with MS(D)B 2,5-M middle terminal blocks
- Space saving, thanks to the compact design and mounting option directly on the mounting panel
- Clear arrangement thanks to marking of all terminal points

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 3244164             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | BE02                |
| Product key                          | BE2165              |
| Catalog page                         | Page 224 (C-1-2019) |
| GTIN                                 | 4046356145480       |
| Weight per piece (including packing) | 3.781 g             |
| Weight per piece (excluding packing) | 3.38 g              |
| Customs tariff number                | 85369010            |
| Country of origin                    | CN                  |

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## Technical data

### Product properties

|                       |                          |
|-----------------------|--------------------------|
| Product type          | Miniature terminal block |
| Number of connections | 2                        |
| Number of rows        | 1                        |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

|   |        |
|---|--------|
| Rated surge voltage                             | 8 kV   |
| Maximum power dissipation for nominal condition | 0.77 W |

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 2                   |
| Nominal cross section           | 2.5 mm <sup>2</sup> |

#### 1 level

|   |   |
|---|---|
| Stripping length  | 8 mm  |
| Internal cylindrical gage   | A3  |
| Connection in acc. with standard  | IEC 60947-7-1   |
| Conductor cross section rigid   | 0.08 mm <sup>2</sup> ... 4 mm <sup>2</sup>            |
| Cross section AWG   | 28 ... 12 (converted acc. to IEC)                     |
| Conductor cross section flexible  | 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| Conductor cross section, flexible [AWG]   | 28 ... 14 (converted acc. to IEC)                     |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| Flexible conductor cross section (ferrule with plastic sleeve)                            | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup>                                   |
| Nominal current   | 24 A  |
| Maximum load current  | 30 A (with 4 mm <sup>2</sup> conductor cross section) |
| Nominal voltage   | 800 V   |
| Nominal cross section   | 2.5 mm <sup>2</sup>                                   |
| Connection in acc. with standard  | IEC/EN 60079-7  |
| Cross section AWG   | 28 ... 12 (converted acc. to IEC)                     |
| Conductor cross section, flexible [AWG]   | 28 ... 14 (converted acc. to IEC)                     |

### Ex data

#### Rated data (ATEX/IECEx)

|                             |                       |
|-----------------------------|-----------------------|
| Identification              | Ⓜ II 2 G Ex eb IIC Gb |
| Operating temperature range | -60 °C ... 110 °C     |
| Ex-certified accessories    | 3024177 D-MZB 1,5     |

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|  |                                      |
|--|--------------------------------------|
|  | 1204517 SZF 1-0,6X3,5                |
| Ex temperature increase  | 40 K (21.3 A / 2.5 mm <sup>2</sup> ) |
| Rated insulation voltage when mounting on DIN rails                | 630 V                                |
| Rated insulation voltage when directly mounted on mounting surface | 500 V                                |
| output   | (Permanent)                          |

## Ex level General

|  |         |
|--|---------|
| Rated voltage when mounting on DIN rails                 | 690 V   |
| Rated voltage during direct mounting on mounting surface | 550 V   |
| Rated current  | 21 A    |
| Maximum load current                                     | 26 A    |
| Contact resistance                                       | 0.87 mΩ |

## Ex connection data General

|                              |  |
|------------------------------|--|
| Nominal cross section        | 2.5 mm <sup>2</sup>                          |
| Rated cross section AWG      | 14   |
| Connection capacity rigid    | 0.08 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Connection capacity AWG      | 28 ... 12                                    |
| Connection capacity flexible | 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Connection capacity AWG      | 28 ... 14                                    |

## Dimensions

|                    |                   |
|--------------------|-------------------|
| Width              | 5.2 mm            |
| End cover width    | 4 mm              |
| Height             | 32 mm             |
| Depth              | 22 mm             |
| Drill hole spacing | 5.2 mm            |
| Hole diameter      | 3.5 mm            |
| Plate thickness    | 0.6 mm ... 1.5 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      |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 130 °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)                        | 28 MJ/kg    |
| Surface flammability NFPA 130 (ASTM E 162)                              | passed      |

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|   |        |
|---|--------|
| 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 | 9.8 kV      |
| Result                | Test passed |

### Temperature-rise test

|  |                                     |
|--|-------------------------------------|
| Requirement temperature-rise test                | Increase in temperature $\leq$ 45 K |
| Result   | Test passed                         |
| Short-time withstand current 2.5 mm <sup>2</sup> | 0.3 kA                              |
| Short-time withstand current 4 mm <sup>2</sup>   | 0.48 kA                             |
| Result   | Test passed                         |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 2 kV        |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

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

### Technical data

|                    |        |
|--------------------|--------|
| Drill hole spacing | 5.2 mm |
|--------------------|--------|

## Mechanical tests

### Mechanical strength

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

### Attachment on the carrier

|                         |                           |
|-------------------------|---------------------------|
| DIN rail/fixing support | Conductive mounting panel |
| Test force setpoint     | 1 N                       |
| Result                  | Test passed               |

### Test for conductor damage and slackening

|                                |                               |
|--------------------------------|-------------------------------|
| Rotation speed                 | 10 rpm                        |
| Revolutions                    | 135                           |
| Conductor cross section/weight | 0.08 mm <sup>2</sup> / 0.1 kg |
|                                | 2.5 mm <sup>2</sup> / 0.7 kg  |
|                                | 4 mm <sup>2</sup> / 0.9 kg    |
| Result                         | Test passed                   |

## Environmental and real-life conditions

### Aging

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|                    |             |
|--------------------|-------------|
| Temperature cycles | 192         |
| Result             | Test passed |

## Needle-flame test

|                  |             |
|------------------|-------------|
| Time of exposure | 30 s        |
| Result           | Test passed |

## Oscillation/broadband noise

|                        |   |
|------------------------|---|
| Specification          | DIN EN 50155 (VDE 0115-200):2008-03                 |
| Spectrum               | Service life test category 1, class B, body mounted |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| ASD level              | $1.857 \text{ (m/s}^2\text{)}^2\text{/Hz}$          |
| Acceleration           | 0.8g  |
| Test duration per axis | 5 h   |
| Test directions        | X-, Y- and Z-axis                                   |
| Result                 | Test passed   |

## 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, 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

|                                  |                |
|----------------------------------|----------------|
| Connection in acc. with standard | IEC 60947-7-1  |
|                                  | IEC/EN 60079-7 |

## Mounting

|                 |                   |
|-----------------|-------------------|
| Mounting type   | on mounting panel |
| Plate thickness | 0.6 mm ... 1.5 mm |

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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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