

3248178

<https://www.phoenixcontact.com/us/products/3248178>

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Micro feed-through terminal block, bridged internally, nom. voltage: 500 V, nominal current: 17.5 A, number of connections: 20, connection method: Push-in connection, cross section: 0.14 mm<sup>2</sup> - 1.5 mm<sup>2</sup>, mounting type: NS 15, color: gray

Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3248178       |
| Packing unit                         | 20 pc         |
| Minimum order quantity               | 20 pc         |
| Product key                          | BE2269        |
| GTIN                                 | 4055626252186 |
| Weight per piece (including packing) | 17.35 g       |
| Weight per piece (excluding packing) | 17.35 g       |
| Country of origin                    | PL            |

# MP 20X1,5 - Micro feed-through terminal block



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## Technical data

### Product properties

|                       |    |
|-----------------------|----|
| Number of connections | 20 |
| Number of rows        | 1  |
| Potentials            | 1  |

### Insulation characteristics

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

### Electrical properties

|                     |      |
|---------------------|------|
| Rated surge voltage | 6 kV |
|---------------------|------|

### Connection data

|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Number of connections per level                                   | 20                                           |
| Nominal cross section                                             | 1.5 mm <sup>2</sup>                          |
| Rated cross section AWG                                           | 14                                           |
| Connection method                                                 | Push-in connection                           |
| Stripping length                                                  | 8 mm ... 10 mm                               |
| Internal cylindrical gage                                         | A1 / B1                                      |
| Connection in acc. with standard                                  | IEC 60947-7-1/IEC 60947-7-2                  |
| Conductor cross-section rigid                                     | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Cross section AWG                                                 | 26 ... 16 (converted acc. to IEC)            |
| Conductor cross-section flexible                                  | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section, flexible [AWG]                           | 26 ... 16 (converted acc. to IEC)            |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Nominal current                                                   | 17.5 A                                       |
| Maximum load current                                              | 17.5 A                                       |
| Nominal voltage                                                   | 500 V                                        |

### Connection cross sections directly pluggable

|                                                                   |                                              |
|-------------------------------------------------------------------|----------------------------------------------|
| Conductor cross-section rigid                                     | 0.34 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section, rigid [AWG]                              | 24 ... 16 (converted acc. to IEC)            |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Flexible conductor cross-section (ferrule with plastic sleeve)    | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |

### Dimensions

|       |       |
|-------|-------|
| Width | 42 mm |
|-------|-------|

### Material specifications

|                                        |      |
|----------------------------------------|------|
| Color                                  | gray |
| Flammability rating according to UL 94 | V0   |
| Insulating material group              | I    |

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|                                                                         |             |
|-------------------------------------------------------------------------|-------------|
| 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      |
| 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 $\leq 45$ K |
| Result                                           | Test passed                         |
| Short-time withstand current 1.5 mm <sup>2</sup> | 0.18 kA                             |
| Result                                           | Test passed                         |

### Power-frequency withstand voltage

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

## Mechanical properties

### Mechanical data

|                 |    |
|-----------------|----|
| Open side panel | No |
|-----------------|----|

## Mechanical tests

### Mechanical strength

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

### Attachment on the carrier

|                         |             |
|-------------------------|-------------|
| DIN rail/fixing support | NS 15       |
| Test force setpoint     | 1 N         |
| Result                  | Test passed |

### Test for conductor damage and slackening

|                |        |
|----------------|--------|
| Rotation speed | 10 rpm |
| Revolutions    | 135    |

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|                                |                               |
|--------------------------------|-------------------------------|
| Conductor cross-section/weight | 0.14 mm <sup>2</sup> / 0.2 kg |
|                                | 1.5 mm <sup>2</sup> / 0.4 kg  |
| Result                         | Test passed                   |

## Environmental and real-life conditions

### Aging

|                    |             |
|--------------------|-------------|
| 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               | Long 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):2008-03 |
| 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

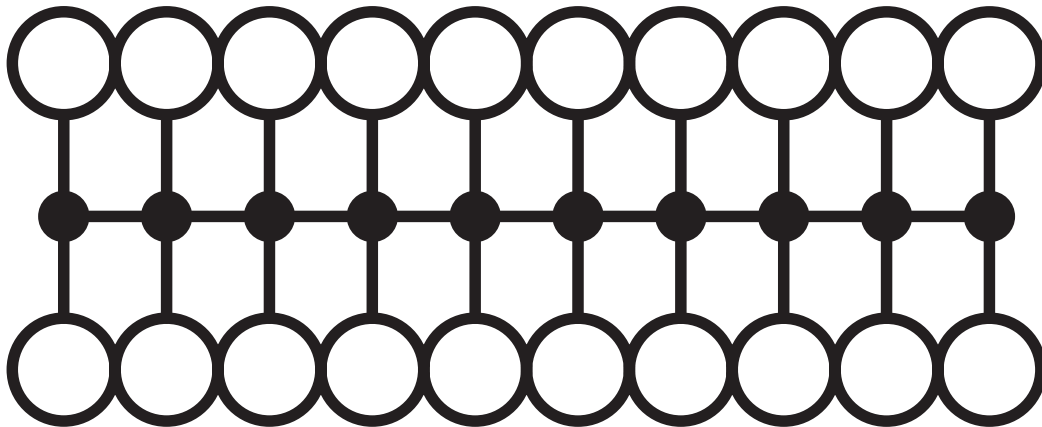
|                                  |                             |
|----------------------------------|-----------------------------|
| Connection in acc. with standard | IEC 60947-7-1/IEC 60947-7-2 |
|----------------------------------|-----------------------------|

## Mounting

|               |       |
|---------------|-------|
| Mounting type | NS 15 |
|---------------|-------|

## Drawings

Circuit diagram



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## Environmental product compliance

### EU RoHS

|                                         |                    |
|-----------------------------------------|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|-----------------------------------------|--------------------|

### China RoHS

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|                                        | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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