# Mini feed-through terminal block - MSBV 2,5 - 3249017

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Mini feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Spring-cage connection, number of connections: 2, cross section: 0.08 mm² - 4 mm², AWG: 28 - 12, width: 5.2 mm, height: 22 mm, color: gray, mounting type: NS 15

## Your advantages

- Space saving thanks to compact design and mounting option on a 15 mm DIN rail
- Clear arrangement thanks to marking of all terminal points

## Key Commercial Data

| | |
|---|---|
| Packing unit | 50 pc |
| GTIN | 4 046356 166485 |
| GTIN | 4046356166485 |

## Technical data

### General

| | |
|---|---|
| Number of levels | 1 |
| Number of connections | 2 |
| Potentials | 1 |
| Nominal cross section | 2.5 mm² |
| Color | gray |
| Insulating material | PA |
| Flammability rating according to UL 94 | V0 |
| Rated surge voltage | 8 kV |
| Degree of pollution | 3 |
| Overvoltage category | III |
| Insulating material group | I |
| Maximum power dissipation for nominal condition | 0.77 W |
| Maximum load current | 30 A (with 4 mm² conductor cross section) |
| Nominal current $I_N$ | 24 A |

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## Technical data

### General

| | |
|---|---|
| Nominal voltage $U_N$ | 800 V |
| Open side panel | Yes |
| Ambient temperature (operation) | -60 °C ... 85 °C |
| Ambient temperature (storage/transport) | -25 °C ... 55 °C (For a short time, not exceeding 24 h, -60 to +70 °C) |
| Permissible humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 70 °C |
| Ambient temperature (actuation) | -5 °C ... 70 °C |
| 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 |
| Result of power-frequency withstand voltage test | Test passed |
| Power frequency withstand voltage setpoint | 2 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 | 0.08 mm² / 0.1 kg |
| | 2.5 mm² / 0.7 kg |
| | 4 mm² / 0.9 kg |
| Tensile test result | Test passed |
| Result of tight fit on support | Test passed |
| Tight fit on carrier | NS 15 |
| Setpoint | 1 N |
| Result of voltage-drop test | Test passed |
| Result of temperature-rise test | Test passed |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |
| Short circuit stability result | Test passed |
| Conductor cross section short circuit testing | 2.5 mm² |
| Short-time current | 0.3 kA |
| Conductor cross section short circuit testing | 4 mm² |
| Short-time current | 0.48 kA |
| Result of thermal test | Test passed |
| Ageing test for screwless modular terminal block temperature cycles | 192 |
| Proof of thermal characteristics (needle flame) effective duration | 30 s |
| Result of aging test | Test passed |
| 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 1, class B, body mounted |
| Test frequency | $f_1$ = 5 Hz to $f_2$ = 150 Hz |

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## Technical data

### General

| | |
|---|---|
| ASD level | 0.02 g²/Hz |
| Acceleration | 0,8 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 | 5g |
| Shock duration | 30 ms |
| Number of shocks per direction | 3 |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |
| Relative insulation material temperature index (Elec., UL 746 B) | 130 °C |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 130 °C |
| Static insulating material application in cold | -60 °C |
| Surface flammability NFPA 130 (ASTM E 162) | passed |
| Specific optical density of smoke NFPA 130 (ASTM E 662) | passed |
| Calorimetric heat release NFPA 130 (ASTM E 1354) | 28 MJ/kg |
| Smoke gas toxicity NFPA 130 (SMP 800C) | passed |
| 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 |

### Dimensions

| | |
|---|---|
| Width | 5.2 mm |
| End cover width | 4 mm |
| Length | 32 mm |
| Height | 22 mm |
| Height NS 15 | 30 mm |

### Connection data

| | |
|---|---|
| Connection | 1 level |
| Connection method | Spring-cage connection |
| Stripping length | 8 mm |
| Connection in acc. with standard | IEC 60947-7-1 |
| Conductor cross section solid min. | 0.08 mm² |
| Conductor cross section solid max. | 4 mm² |
| Conductor cross section AWG min. | 28 |
| Conductor cross section AWG max. | 12 |
| Conductor cross section flexible min. | 0.08 mm² |
| Conductor cross section flexible max. | 2.5 mm² |

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## Technical data

### Connection data

| | |
|---|---|
| Min. AWG conductor cross section, flexible | 28 |
| Max. AWG conductor cross section, flexible | 14 |
| Conductor cross section flexible, with ferrule without plastic sleeve min. | 0.14 mm² |
| Conductor cross section flexible, with ferrule without plastic sleeve max. | 2.5 mm² |
| Conductor cross section flexible, with ferrule with plastic sleeve min. | 0.14 mm² |
| Conductor cross section flexible, with ferrule with plastic sleeve max. | 2.5 mm² |
| Two conductors with the same cross section, flexible, with TWIN ferrules, with plastic sleeve, maximum | 0.5 mm² |
| Connection in acc. with standard | IEC/EN 60079-7 |
| Internal cylindrical gage | A3 |

### Standards and Regulations

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

Circuit diagram

## Classifications

### eCl@ss

| | |
|---|---|
| eCl@ss 10.0.1 | 27141120 |
| eCl@ss 4.0 | 27141100 |
| eCl@ss 4.1 | 27141100 |
| eCl@ss 5.0 | 27141100 |
| eCl@ss 5.1 | 27141100 |
| eCl@ss 6.0 | 27141100 |
| eCl@ss 7.0 | 27141120 |
| eCl@ss 8.0 | 27141120 |
| eCl@ss 9.0 | 27141120 |

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## Classifications

### ETIM

| | |
|---|---|
| ETIM 2.0 | EC000902 |
| ETIM 3.0 | EC000902 |
| ETIM 4.0 | EC000902 |
| ETIM 5.0 | EC000897 |
| ETIM 6.0 | EC000897 |
| ETIM 7.0 | EC000897 |

### UNSPSC

| | |
|---|---|
| UNSPSC 6.01 | 30211811 |
| UNSPSC 7.0901 | 39121410 |
| UNSPSC 11 | 39121410 |
| UNSPSC 12.01 | 39121410 |
| UNSPSC 13.2 | 39121410 |
| UNSPSC 18.0 | 39121410 |
| UNSPSC 19.0 | 39121410 |
| UNSPSC 20.0 | 39121410 |
| UNSPSC 21.0 | 39121410 |

## Approvals

### Approvals

Approvals

CSA / UL Recognized / cUL Recognized / IECEE CB Scheme / VDE Zeichengenehmigung / EAC / cULus Recognized

Ex Approvals

### Approval details

| | | | |
|---|---|---|---|
| CSA | | http://www.csagroup.org/services-industries/product-listing/ | 13631 |

| | B | C | D |
|---|---|---|---|
| Nominal voltage UN | 600 V | 600 V | 600 V |
| Nominal current IN | 20 A | 20 A | 20 A |
| mm²/AWG/kcmil | 28-12 | 28-12 | 28-12 |

# Mini feed-through terminal block - MSBV 2,5 - 3249017

## Approvals

| | | | |
|---|---|---|---|
| UL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 60425 |

| | | B | C | D |
|---|---|---|---|---|
| Nominal voltage UN | 600 V | 300 V | 300 V | 600 V |
| Nominal current IN | 20 A | 20 A | 20 A | 5 A |
| mm²/AWG/kcmil | 28-12 | 28-12 | 28-12 | 28-12 |

| | | | |
|---|---|---|---|
| cUL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 60425 |

| | | B | C | D |
|---|---|---|---|---|
| Nominal voltage UN | 600 V | 300 V | 300 V | 600 V |
| Nominal current IN | 20 A | 20 A | 20 A | 5 A |
| mm²/AWG/kcmil | 28-12 | 28-12 | 28-12 | 28-12 |

| | | | |
|---|---|---|---|
| IECEE CB Scheme | | http://www.iecee.org/ | DE1-62820 |

| | | | |
|---|---|---|---|
| VDE Zeichengenehmigung | | http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx | 40029769 |

| | |
|---|---|
| Nominal voltage UN | 800 V |
| Nominal current IN | 24 A |
| mm²/AWG/kcmil | 0.2-2.5 |

| | | |
|---|---|---|
| EAC | | RU C-DE.BL08.B.00644 |

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

## Accessories

### Accessories

### DIN rail

# Mini feed-through terminal block - MSBV 2,5 - 3249017

## Accessories

DIN rail, unperforated - NS 15 UNPERF 2000MM - 1401695

DIN rail, unperforated, Standard profile, width: 15 mm, height: 5 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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DIN rail perforated - NS 15 PERF 2000MM - 1401682

DIN rail perforated, Standard profile, width: 15 mm, height: 5.5 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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DIN rail perforated - NS 15 AL PERF 2000MM - 1401763

DIN rail perforated, Standard profile, width: 15 mm, height: 5.5 mm, acc. to EN 60715, material: Aluminum, uncoated, length: 2000 mm, color: silver

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DIN rail perforated - NS 15 WH PERF 2000MM - 1204096

DIN rail perforated, Standard profile, width: 15 mm, height: 5.5 mm, acc. to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

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End block

End clamp - CLIPFIX 15 - 3022263

Snap-on end bracket, to be snapped onto NS 15 DIN rail

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End cover

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## Accessories

End cover - D-MSBV 2,5 - 3251018

End cover, length: 32 mm, width: 4 mm, height: 20 mm, color: gray

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### Labeled terminal marker

Zack Marker strip, flat - ZBF 5 CUS - 0825025

Zack Marker strip, flat, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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Zack Marker strip, flat - ZBF 5,LGS:FORTL.ZAHLEN - 0808671

Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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Zack Marker strip, flat - ZBF 5,QR:FORTL.ZAHLEN - 0808697

Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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Zack Marker strip, flat - ZBF 5,LGS:GERADE ZAHLEN - 0810821

Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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# Mini feed-through terminal block - MSBV 2,5 - 3249017

## Accessories

Zack Marker strip, flat - ZBF 5,LGS:UNGERADE ZAHLEN - 0810863

Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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Marker for terminal blocks - UC-TMF 5 CUS - 0824638

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 4.6 x 5.1 mm, Number of individual labels: 96

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Marker for terminal blocks - UCT-TMF 5 CUS - 0829658

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 4.4 x 4.7 mm, Number of individual labels: 72

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## Screwdriver tools

Screwdriver - SZF 1-0,6X3,5 - 1204517

Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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Actuation tool - ST-BW - 1207608

Actuation tool, for all 2.5 mm² - 4.0 mm² spring-cages

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## Terminal marking

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## Accessories

Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 0808642

Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

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Marker for terminal blocks - UC-TMF 5 - 0818153

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 4.6 x 5.1 mm, Number of individual labels: 96

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Marker for terminal blocks - UCT-TMF 5 - 0828744

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 4.4 x 4.7 mm, Number of individual labels: 72

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