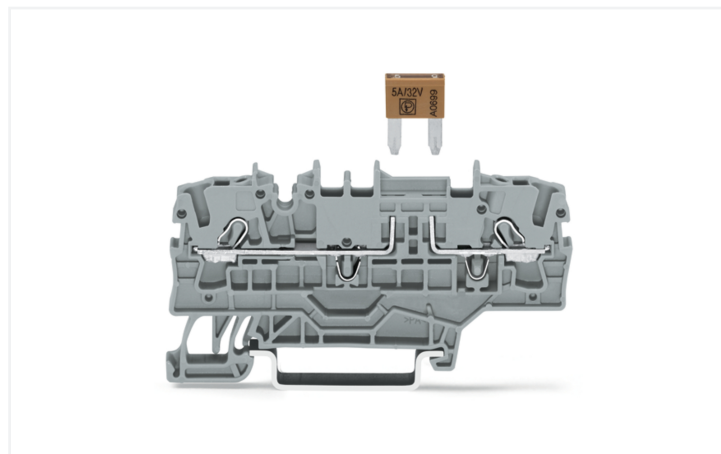
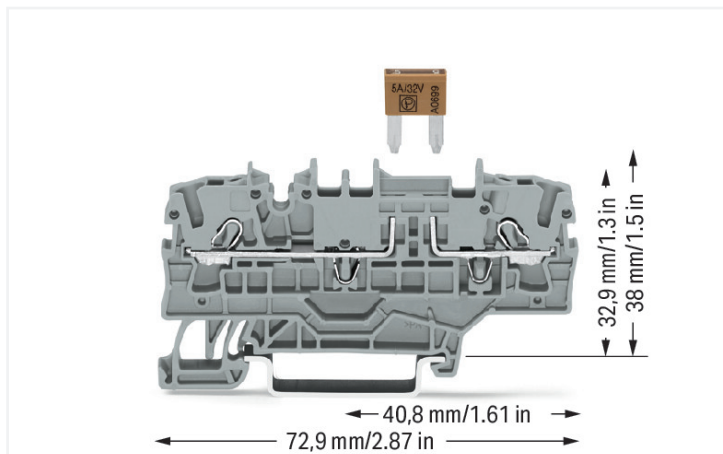


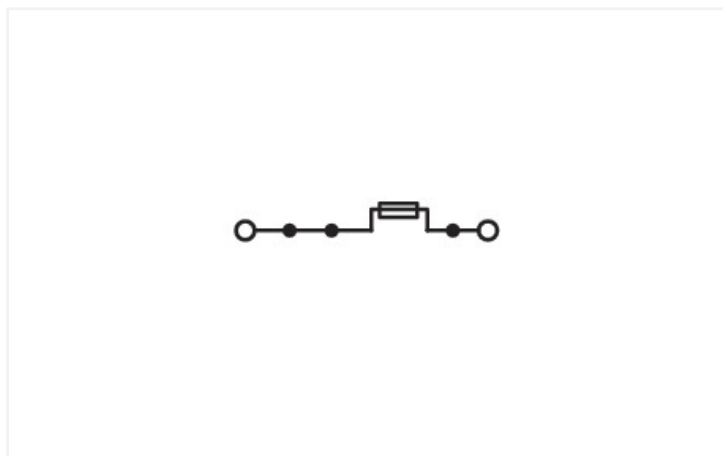
## Data Sheet | Item Number: 2002-1981

2-conductor fuse terminal block; for mini-automotive blade-style fuses; with test option; with additional jumper position; without blown fuse indication; 2.5 mm<sup>2</sup>; Push-in CAGE CLAMP®; gray

<https://www.wago.com/2002-1981>



Color: ■ gray



Similar to illustration

### Fuse terminal block, 2002 Series, Push-in CAGE CLAMP®

Our fuse terminal block (item number 2002-1981) simplifies electrical installations. Strip lengths must be between 10 and 12 mm when connecting conductors to this fuse terminal block. This product features conductor terminals and utilizes Push-in CAGE CLAMP®. Our Push-in CAGE CLAMP® is a universal, maintenance-free connection solution for all conductor types, boasting a key feature: both solid and fine-stranded conductors with ferrules can be directly inserted without the need for tools or any preparation, such as crimping the ferrule. This fuse terminal block is suitable for conductor cross sections ranging from 0.25 mm<sup>2</sup> to 4 mm<sup>2</sup>.

## Notes

## Safety Information

The 2 mm test slot is only approved for high impedance measurement up to max. 100 mA.

## Electrical data

| Ratings per                     | IEC/EN 60947-7-3 |     |    |
|---------------------------------|------------------|-----|----|
| Overvoltage category            | III              | III | II |
| Pollution degree                | 3                | 2   | 2  |
| Nominal voltage                 | 400 V            | -   | -  |
| Rated impulse withstand voltage | 6 kV             | -   | -  |
| Rated current                   | 10 A             | -   | -  |

## Ratings per IEC/EN – Notes

Ratings (note) Electrical ratings are given by the fuse.

## Ratings per IEC/EN 2

|                |  |
|----------------|--|
| Ratings (note) | Blade-style fuses: Observe touch-proof protection for 42 V and higher voltages!                                      |
|                | <ul style="list-style-type: none"> <li>• 10 A (individual arrangement)</li> <li>• 5 A (block arrangement)</li> </ul> |

## Approvals per

## UL 1059

| Use group     | B     | C     | D |
|---------------|-------|-------|---|
| Rated voltage | 250 V | 250 V | - |
| Rated current | 10 A  | 10 A  | - |

## Ratings per CSA

|                                 |       |
|---------------------------------|-------|
| Rated voltage CSA (Use Group B) | 300 V |
| Rated current CSA (Use Group B) | 6.3 A |
| Rated voltage CSA (Use Group C) | 300 V |
| Rated current CSA (Use Group C) | 6.3 A |

## General information

|                  |  |
|------------------|--|
| Fuse receptacle  | pluggable                                    |
| Fuse type        | Mini flat plug-in fuse; 10.9 x 3.6 x 16.3 mm |
| Wiring direction | Front-entry wiring                           |

## Connection Data

|                            |   |
|----------------------------|---|
| Clamping units             | 2 |
| Total number of potentials | 2 |
| Number of levels           | 1 |
| Number of jumper slots     | 3 |

## Connection 1

|  |   |
|--|---|
| Connection technology                                      | Push-in CAGE CLAMP®   |
| Actuation type   | Operating tool  |
| Connectable conductor materials                            | Copper  |
| Nominal cross-section                                      | 2.5 mm <sup>2</sup>   |
| Solid conductor  | 0.25 ... 4 mm <sup>2</sup> / 22 ... 12 AWG  |
| Solid conductor; push-in termination                       | 0.75 ... 4 mm <sup>2</sup> / 18 ... 12 AWG  |
| Fine-stranded conductor                                    | 0.25 ... 4 mm <sup>2</sup> / 22 ... 12 AWG  |
| Fine-stranded conductor; with insulated ferrule            | 0.25 ... 2.5 mm <sup>2</sup> / 22 ... 14 AWG  |
| Fine-stranded conductor; with ferrule; push-in termination | 1 ... 2.5 mm <sup>2</sup> / 18 ... 14 AWG   |
| Note (conductor cross-section)                             | Depending on the conductor characteristic, a conductor with a smaller cross-section can also be inserted via push-in termination. |
| Strip length   | 10 ... 12 mm / 0.39 ... 0.47 inches   |
| Wiring direction   | Front-entry wiring  |

### Physical data

|                                   |                        |
|-----------------------------------|------------------------|
| Width                             | 5.2 mm / 0.205 inches  |
| Height                            | 72.9 mm / 2.87 inches  |
| Depth from upper-edge of DIN-rail | 32.9 mm / 1.295 inches |

### Mechanical data

|               |                     |
|---------------|---------------------|
| Mounting type | DIN-35 rail         |
| Marking level | Center/side marking |

### Material data

|                                    |  |
|------------------------------------|--|
| Note (material data)               | <a href="#">Information on material specifications can be found here</a> |
| Color                              | gray   |
| Material group                     | I  |
| Insulation material (main housing) | Polyamide (PA66)   |
| Flammability class per UL94        | V0   |
| Fire load                          | 0.17 MJ  |
| Weight                             | 8 g  |

### Environmental requirements

|                                  |                 |
|----------------------------------|-----------------|
| Processing temperature           | -35 ... +85 °C  |
| Continuous operating temperature | -60 ... +105 °C |

### Environmental Testing

|   |   |
|---|---|
| Test specification:<br>Railway applications –<br>Rolling stock –<br>Electronic equipment            | DIN EN 50155 (VDE 0115-200):2022-06                 |
| Test procedure:<br>Railway applications –<br>Rolling stock equipment –<br>Vibration and shock tests | DIN EN 61373 (VDE 0115-0106):2011-04                |
| Spectrum/Mounting location  | Service life test, Category 1, Class A/B            |
| Functional test with noise-like oscillations  | Test passed according to Section 8 of the standard  |
| Frequency   | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| Acceleration  | 0.101g (highest test level used for all axes)       |
| Test duration per axis  | 10 min.   |
| Test directions   | X, Y and Z axes                                     |
| Monitoring of contact faults and interruptions  | Passed  |
| Voltage drop measurement before and after each axis   | Passed  |
| Simulated service life test through increased levels of noise-like oscillations                     | Test passed according to Section 9 of the standard  |
| Frequency   | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| Acceleration  | 0.572g (highest test level used for all axes)       |
| Test duration per axis  | 5 h   |
| Test directions   | X, Y and Z axes                                     |
| Extended testing: Monitoring of contact faults and interruptions                                    | Passed  |
| Extended testing: Voltage drop measurement before and after each axis                               | Passed  |
| Shock test  | Test passed according to Section 10 of the standard |
| Shock pulse form  | Half sine   |
| Acceleration  | 5g (highest test level used for all axes)           |
| Shock duration  | 30 ms   |
| Number of shocks (per axis)   | 3 pos. und 3 neg.                                   |
| Test directions   | X, Y and Z axes                                     |

### Environmental Testing

|   |        |
|---|--------|
| Extended testing: Monitoring of contact faults and interruptions      | Passed |
| Extended testing: Voltage drop measurement before and after each axis | Passed |
| Vibration and shock stress for rolling stock equipment                | Passed |

### Commercial data

|                       |               |
|-----------------------|---------------|
| Product Group         | 22 (TOPJOB S) |
| PU (SPU)              | 50 pcs        |
| Packaging type        | Box           |
| Country of origin     | CN            |
| GTIN                  | 4055143302791 |
| Customs tariff number | 85369095000   |

### Product Classification

|             |                      |
|-------------|----------------------|
| UNSPSC      | 39121410             |
| eCl@ss 10.0 | 27-14-11-16          |
| eCl@ss 9.0  | 27-14-11-16          |
| ETIM 9.0    | EC000899             |
| ETIM 10.0   | EC000899             |
| ECCN        | NO US CLASSIFICATION |

### Environmental Product Compliance

|                        |                         |
|------------------------|-------------------------|
| RoHS Compliance Status | Compliant, No Exemption |
|------------------------|-------------------------|

### Approvals / Certificates

#### General approvals



| Approval                              | Standard      | Certificate Name |
|---------------------------------------|---------------|------------------|
| CCA<br>DEKRA Certification B.V.       | EN 60947      | NTR NL-8054      |
| CSA<br>CSA Group                      | C22.2 No. 158 | 154112           |
| DEKRA<br>DEKRA Certification B.V.     | EN 60947      | 71-149763        |
| KEMA/KEUR<br>DEKRA Certification B.V. | EN 60947      | 71-124163        |
| UL<br>Underwriters Laboratories Inc.  | UL 1059       | E45172           |

#### Declarations of conformity and manufacturer's declarations



| Approval   | Standard | Certificate Name |
|--|----------|------------------|
| EU-Declaration of Conformity<br>WAGO GmbH & Co. KG | -        | -                |
| Railway<br>WAGO GmbH & Co. KG                      | -        | Railway Ready    |
| UK-Declaration of Conformity<br>WAGO GmbH & Co. KG | -        | -                |

**Approvals for marine applications**



| Approval  | Standard | Certificate Name  |
|---|----------|-------------------|
| ABS<br>American Bureau of Ship-<br>ping               | EN 60947 | 24-0152298-PDA    |
| DNV GL<br>Det Norske Veritas, Ger-<br>manischer Lloyd | -        | TAE00001V2        |
| PRS<br>Polski Rejestr Statków                         | -        | TE/1094/880590/23 |

**Downloads**

**Environmental Product Compliance**

| Compliance Search                             |                   |
|---|-------------------|
| Environmental Product<br>Compliance 2002-1981 | <a href="#">↓</a> |

**Documentation**

| Bid Text  |            |                  |                   |
|-----------|------------|------------------|-------------------|
| 2002-1981 | 23.04.2019 | xml<br>4.46 KB   | <a href="#">↓</a> |
| 2002-1981 | 23.04.2019 | docx<br>15.91 KB | <a href="#">↓</a> |

**CAD/CAE-Data**

| CAD data                  |                   |
|---------------------------|-------------------|
| 2D/3D Models<br>2002-1981 | <a href="#">↓</a> |

| CAE data                       |                   |
|--------------------------------|-------------------|
| EPLAN Data Portal<br>2002-1981 | <a href="#">↓</a> |
| WSCAD Universe<br>2002-1981    | <a href="#">↓</a> |
| ZUKEN Portal<br>2002-1981      | <a href="#">↓</a> |

## 1 Compatible Products

### 1.1 Required Accessories

#### 1.1.1 End plate

##### 1.1.1.1 End plate



**Item No.: 2002-1991**

End and intermediate plate; 1 mm thick; gray

**Item No.: 2002-1992**

End and intermediate plate; 1 mm thick; orange

### 1.2 Optional Accessories

#### 1.2.1 DIN-rail

##### 1.2.1.1 Mounting accessories



**Item No.: 210-196**

Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



**Item No.: 210-198**

Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored



**Item No.: 210-508**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored



**Item No.: 210-197**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored



**Item No.: 210-506**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored



**Item No.: 210-114**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



**Item No.: 210-118**

Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored



**Item No.: 210-115**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored



**Item No.: 210-112**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored



**Item No.: 210-504**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored



**Item No.: 210-113**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored



**Item No.: 210-505**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored

#### 1.2.2 Ferrule

##### 1.2.2.1 Ferrule



**Item No.: 216-241**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white



**Item No.: 216-242**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray



**Item No.: 216-262**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray



**Item No.: 216-243**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red



**Item No.: 216-263**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red



**Item No.: 216-244**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black



**Item No.: 216-264**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black



**Item No.: 216-246**

Ferrule; Sleeve for 2.5 mm<sup>2</sup> / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue



**Item No.: 216-266**

Ferrule; Sleeve for 2.5 mm<sup>2</sup> / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue

### 1.2.3 Installation

#### 1.2.3.1 Cover



**Item No.: 709-156**

Cover; Type 3; suitable for cover carrier, type 3; 1 m long; transparent

#### 1.2.3.2 Cover carrier



**Item No.: 709-169**

Cover carrier; Type 3; incl. fixing/retaining screws and knurled nut; suitable for 279 to 282 and 880 Series rail-mounted terminal blocks; suitable for 264 Series miniature rail-mounted terminal blocks; suitable for 270 Series sensor and actuator terminal blocks; gray

### 1.2.4 Insulation stop

#### 1.2.4.1 Insulation stop



**Item No.: 2002-171**

Insulation stop; 0.25 - 0.5 mm<sup>2</sup>; 5 pieces/strip; light gray



**Item No.: 2002-172**

Insulation stop; 0.75 - 1 mm<sup>2</sup>; 5 pieces/strip; dark gray

### 1.2.5 Jumper

#### 1.2.5.1 Jumper



**Item No.: 2002-400**

Continuous jumper; 2-way; insulated; light gray



**Item No.: 2002-413**

Continuous jumper; 3-way; insulated; light gray



**Item No.: 2002-415**

Continuous jumper; 5-way; insulated; light gray



**Item No.: 2002-423/000-006**

Continuous jumper; from 1 to 3; insulated; blue



**Item No.: 2002-423**

Continuous jumper; from 1 to 3; insulated; light gray



**Item No.: 2002-423/000-005**

Continuous jumper; from 1 to 3; insulated; red



**Item No.: 2002-424/000-006**

Continuous jumper; from 1 to 4; insulated; blue



**Item No.: 2002-424**

Continuous jumper; from 1 to 4; insulated; light gray



**Item No.: 2002-424/000-005**

Continuous jumper; from 1 to 4; insulated; red



**Item No.: 2002-406/020-000**

Delta jumper; insulated; light gray



**Item No.: 2002-410/000-006**

Jumper; 10-way; insulated; blue



**Item No.: 2002-410**

Jumper; 10-way; insulated; light gray



**Item No.: 2002-410/000-005**

Jumper; 10-way; insulated; red



**Item No.: 2002-402/000-006**

Jumper; 2-way; insulated; blue



**Item No.: 2002-402**

Jumper; 2-way; insulated; light gray



**Item No.: 2002-402/000-005**

Jumper; 2-way; insulated; red



**Item No.: 2002-403/000-006**

Jumper; 3-way; insulated; blue



**Item No.: 2002-403**

Jumper; 3-way; insulated; light gray



**Item No.: 2002-403/000-005**

Jumper; 3-way; insulated; red



**Item No.: 2002-404/000-006**

Jumper; 4-way; insulated; blue



**Item No.: 2002-404**

Jumper; 4-way; insulated; light gray



**Item No.: 2002-404/000-005**

Jumper; 4-way; insulated; red



**Item No.: 2002-405/000-006**





















Jumper; 5-way; insulated; blue



**Item No.: 2002-405**




Jumper; 5-way; insulated; light gray

1.2.5.1 Jumper

|   |  |   |  |
|---|--|---|--|
| <br><a href="#">Item No.: 2002-405/000-005</a><br>Jumper; 5-way; insulated; red                                | <br><a href="#">Item No.: 2002-406/000-006</a><br>Jumper; 6-way; insulated; blue                    | <br><a href="#">Item No.: 2002-406</a><br>Jumper; 6-way; insulated; light gray              | <br><a href="#">Item No.: 2002-406/000-005</a><br>Jumper; 6-way; insulated; red                   |
| <br><a href="#">Item No.: 2002-407/000-006</a><br>Jumper; 7-way; insulated; blue                               | <br><a href="#">Item No.: 2002-407</a><br>Jumper; 7-way; insulated; light gray                      | <br><a href="#">Item No.: 2002-407/000-005</a><br>Jumper; 7-way; insulated; red             | <br><a href="#">Item No.: 2002-408/000-006</a><br>Jumper; 8-way; insulated; blue                  |
| <br><a href="#">Item No.: 2002-408</a><br>Jumper; 8-way; insulated; light gray                                 | <br><a href="#">Item No.: 2002-408/000-005</a><br>Jumper; 8-way; insulated; red                     | <br><a href="#">Item No.: 2002-409/000-006</a><br>Jumper; 9-way; insulated; blue            | <br><a href="#">Item No.: 2002-409</a><br>Jumper; 9-way; insulated; light gray                    |
| <br><a href="#">Item No.: 2002-409/000-005</a><br>Jumper; 9-way; insulated; red                                | <br><a href="#">Item No.: 2002-440</a><br>Jumper; from 1 to 10; insulated; light gray               | <br><a href="#">Item No.: 2002-433</a><br>Jumper; from 1 to 3; insulated; light gray        | <br><a href="#">Item No.: 2002-434</a><br>Jumper; from 1 to 4; insulated; light gray              |
| <br><a href="#">Item No.: 2002-435</a><br>Jumper; from 1 to 5; insulated; light gray                           | <br><a href="#">Item No.: 2002-436</a><br>Jumper; from 1 to 6; insulated; light gray                | <br><a href="#">Item No.: 2002-437</a><br>Jumper; from 1 to 7; insulated; light gray        | <br><a href="#">Item No.: 2002-438</a><br>Jumper; from 1 to 8; insulated; light gray              |
| <br><a href="#">Item No.: 2002-439</a><br>Jumper; from 1 to 9; insulated; light gray                           | <br><a href="#">Item No.: 2002-480</a><br>Staggered jumper; 10-way; insulated; light gray           | <br><a href="#">Item No.: 2002-481</a><br>Staggered jumper; 11-way; insulated; light gray   | <br><a href="#">Item No.: 2002-482</a><br>Staggered jumper; 12-way; insulated; light gray         |
| <br><a href="#">Item No.: 2002-473/011-000</a><br>Staggered jumper; 2-way; from 1 to 3; insulated; light gray | <br><a href="#">Item No.: 2002-472</a><br>Staggered jumper; 2-way; insulated; light gray           | <br><a href="#">Item No.: 2002-473</a><br>Staggered jumper; 3-way; insulated; light gray   | <br><a href="#">Item No.: 2002-475/011-000</a><br>Staggered jumper; 3-way; insulated; light gray |
| <br><a href="#">Item No.: 2002-474</a><br>Staggered jumper; 4-way; insulated; light gray                     | <br><a href="#">Item No.: 2002-475</a><br>Staggered jumper; 5-way; insulated; light gray          | <br><a href="#">Item No.: 2002-476</a><br>Staggered jumper; 6-way; insulated; light gray  | <br><a href="#">Item No.: 2002-477</a><br>Staggered jumper; 7-way; insulated; light gray        |
| <br><a href="#">Item No.: 2002-478</a><br>Staggered jumper; 8-way; insulated; light gray                     | <br><a href="#">Item No.: 2002-479</a><br>Staggered jumper; 9-way; insulated; light gray          | <br><a href="#">Item No.: 2002-477/011-000</a><br>Staggered jumper; insulated; light gray | <br><a href="#">Item No.: 2002-479/011-000</a><br>Staggered jumper; insulated; light gray       |
| <br><a href="#">Item No.: 2002-481/011-000</a><br>Staggered jumper; insulated; light gray                    | <br><a href="#">Item No.: 2002-405/011-000</a><br>Star point jumper; 3-way; insulated; light gray | <br><a href="#">Item No.: 210-103</a><br>Wire commoning chain; insulated; black           | <br><a href="#">Item No.: 210-123</a><br>Wire commoning chain; insulated; blue                  |

1.2.6 Marking

1.2.6.1 Group marker carrier

|   |   |  |
|---|---|--|
| <br><a href="#">Item No.: 2009-191</a><br>Group marker carrier; gray | <br><a href="#">Item No.: 2009-192</a><br>Group marker carrier; gray | <br><a href="#">Item No.: 2009-193</a><br>Group marker carrier; gray |
|---|---|--|

1.2.6.2 Marker

|   |  |   |   |
|---|--|---|---|
| <p><b>Item No.: 2009-145/000-006</b><br/>Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue</p>           | <p><b>Item No.: 2009-145/000-007</b><br/>Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray</p>                | <p><b>Item No.: 2009-145/000-023</b><br/>Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green</p>          | <p><b>Item No.: 2009-145/000-012</b><br/>Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange</p>       |
| <p><b>Item No.: 2009-145/000-005</b><br/>Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red</p>            | <p><b>Item No.: 2009-145/000-024</b><br/>Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet</p>              | <p><b>Item No.: 2009-145</b><br/>Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white</p>                  | <p><b>Item No.: 2009-145/000-002</b><br/>Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow</p>       |
| <p><b>Item No.: 248-501/000-006</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue</p>  | <p><b>Item No.: 248-501/000-007</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray</p>   | <p><b>Item No.: 248-501/000-023</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green</p>   | <p><b>Item No.: 248-501/000-017</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green</p>                                   |
| <p><b>Item No.: 248-501/000-012</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange</p>  | <p><b>Item No.: 248-501/000-005</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red</p>  | <p><b>Item No.: 248-501/000-024</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet</p>  | <p><b>Item No.: 248-501</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white</p>   |
| <p><b>Item No.: 248-501/000-002</b><br/>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow</p>  | <p><b>Item No.: 793-5501/000-006</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; blue</p>        | <p><b>Item No.: 793-5501/000-014</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; brown</p>  | <p><b>Item No.: 793-5501/000-007</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; gray</p> |
| <p><b>Item No.: 793-5501/000-023</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; green</p>  | <p><b>Item No.: 793-5501/000-017</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; light green</p> | <p><b>Item No.: 793-5501/000-012</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; orange</p> | <p><b>Item No.: 793-5501/000-005</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; red</p>  |
| <p><b>Item No.: 793-5501/000-024</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; violet</p> | <p><b>Item No.: 793-5501</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white</p>               | <p><b>Item No.: 793-5501/000-002</b><br/>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; yellow</p> | <p><b>Item No.: 2009-115/000-006</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue</p>              |
| <p><b>Item No.: 2009-115/000-007</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray</p>                | <p><b>Item No.: 2009-115/000-023</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green</p>                    | <p><b>Item No.: 2009-115/000-017</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green</p>         | <p><b>Item No.: 2009-115/000-012</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange</p>            |
| <p><b>Item No.: 2009-115/000-005</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red</p>                 | <p><b>Item No.: 2009-115/000-024</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet</p>                   | <p><b>Item No.: 2009-115</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white</p>                       | <p><b>Item No.: 2009-115/000-002</b><br/>WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow</p>            |

1.2.6.3 Marker carrier

|  |  |  |
|--|--|--|
| <p><b>Item No.: 2002-121</b><br/>Adaptor; gray</p> | <p><b>Item No.: 2002-161</b><br/>Adaptor; gray</p> | <p><b>Item No.: 2009-198</b><br/>Adaptor; gray</p> |
|--|--|--|

1.2.6.4 Marking strip



**Item No.: 2009-110**  
 Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.2.7 Protective warning marker

1.2.7.1 Cover



**Item No.: 2002-115**  
 Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

1.2.8 Push-in type wire jumper

1.2.8.1 Jumper



**Item No.: 2009-414**  
 Push-in type wire jumper; 1.5 mm<sup>2</sup>; insulated; 110 mm long; black



**Item No.: 2009-414/000-005**  
 Push-in type wire jumper; 1.5 mm<sup>2</sup>; insulated; 110 mm long; black



**Item No.: 2009-416**  
 Push-in type wire jumper; 1.5 mm<sup>2</sup>; insulated; 250 mm long; black



**Item No.: 2009-414/000-006**  
 Push-in type wire jumper; insulated; 110 mm long; black



**Item No.: 2009-412**  
 Push-in type wire jumper; insulated; 60 mm long; black

1.2.9 Screwless end stop

1.2.9.1 Mounting accessories



**Item No.: 249-117**  
 Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray



**Item No.: 249-116**  
 Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

1.2.10 Test and measurement

1.2.10.1 Testing accessories



**Item No.: 2002-560**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 10-pole; gray



**Item No.: 2002-511**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 1-pole; gray



**Item No.: 2002-552**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 2-pole; gray



**Item No.: 2002-553**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 3-pole; gray



**Item No.: 2002-554**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 4-pole; gray



**Item No.: 2002-555**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 5-pole; gray



**Item No.: 2002-556**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 6-pole; gray



**Item No.: 2002-557**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 7-pole; gray



**Item No.: 2002-558**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 8-pole; gray



**Item No.: 2002-559**  
 Modular TOPJOB®S connector; modular; for jumper contact slot; 9-pole; gray



**Item No.: 2002-549**  
 Spacer module; modular; e.g., for bridging commoned terminal blocks; gray



**Item No.: 2009-174**  
 Test plug adapter; for 4 mm Ø test plugs; for testing TOPJOB®S rail-mounted terminal blocks; gray

### 1.2.10.1 Testing accessories



**Item No.: 210-136**

Test plug; 2 mm Ø; with 500 mm cable; red



**Item No.: 2009-182**

Testing tap; for max. 2.5 mm<sup>2</sup>; tool-free connection for individual test wires 0.08 - 2.5 mm; gray



**Item No.: 2002-649**

TOPJOB®S L-type spacer module; modular; e.g., for bridging commoned terminal blocks; gray



**Item No.: 2002-611**

TOPJOB®S L-type test plug module; modular; 1-pole; gray

### 1.2.11 Tool

#### 1.2.11.1 Operating tool



**Item No.: 210-658**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short; multicoloured



**Item No.: 210-720**

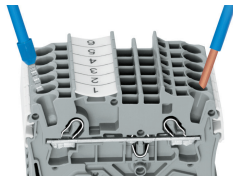
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

### Installation Notes

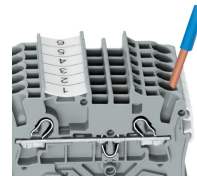
#### Conductor termination



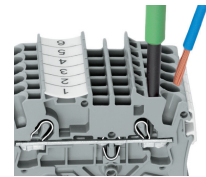
All conductor types at a glance



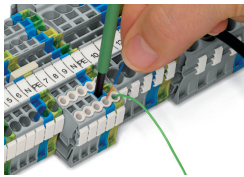
Push-in termination of solid and ferruled conductors



**Inserting a conductor via push-in termination:**  
Solid conductors with cross-sections from either one size above, or up to two sizes below, the rated cross-section can be simply pushed in – no tools needed.

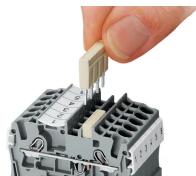


**Inserting a conductor via operating tool:**  
Connecting fine-stranded conductors without ferrules, or small cross-sectional conductors that cannot be pushed in, is performed similarly to the original CAGE CLAMP® – just use an operating tool.  
**Advantage:**  
To open the clamp, the operating tool is inserted vertically. The conductor entry is less than 15 degrees for easier wiring.

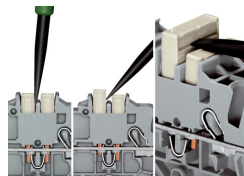


Conductor termination – insulation stop

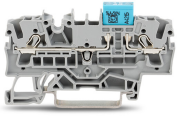
#### Commoning



Insert push-in type jumper bar and push down until it hits backstop.



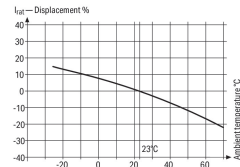
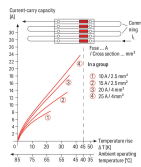
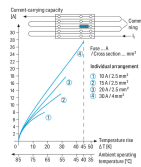
**Removing a push-in type jumper bar:**  
Insert the operating tool between the jumper and partition wall of the dual jumper slots, then lift up the jumper.  
Place the operating tool in the center of jumpers for up to five contacts (see above), or alternately on both sides for jumpers with more than five contacts.



Selecting the correct fuse cartridge is important for product safety within applications, as well as for fuse cartridge service life and reliability. Fuse cartridges can operate perfectly as protection (break-off point) if they are properly selected and used according to manufacturer specifications.

Nominal current ratings for fuse cartridges are defined differently in international standards. This is why the recommended continuous current-carrying capacity of the fuses is a max. 80% of their nominal current according to DIN 72581/Part 3 (for a surrounding air temperature of 23°C).

**Concerning product safety, fuse cartridges must generally be tested under both normal and faulty operating conditions within your application.**



Information from the mini-automotive, blade-type fuse manufacturers

| Operating Temp/°C | %  | F <sub>1</sub> |
|-------------------|----|----------------|
| -15               | 14 | 0.871          |
| -10               | 13 | 0.885          |
| -5                | 12 | 0.899          |
| 0                 | 11 | 0.913          |
| 5                 | 10 | 0.927          |
| 10                | 9  | 0.941          |
| 15                | 8  | 0.955          |
| 20                | 7  | 0.969          |
| 25                | 6  | 0.983          |
| 30                | 5  | 0.997          |
| 35                | 4  | 1.011          |
| 40                | 3  | 1.025          |
| 45                | 2  | 1.039          |
| 50                | 1  | 1.053          |
| 55                | 0  | 1.067          |
| 60                | -1 | 1.081          |
| 65                | -2 | 1.095          |
| 70                | -3 | 1.109          |
| 75                | -4 | 1.123          |
| 80                | -5 | 1.137          |
| 85                | -6 | 1.151          |

**Application Notes on Terminal Blocks for Glass Cartridge Fuses**  
Diagram: "Individual Arrangement"

**Application Notes on Terminal Blocks for Glass Cartridge Fuses**  
Diagram: "Block Arrangement"

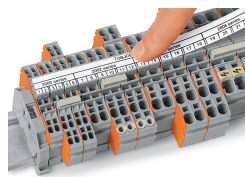
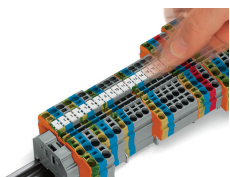
**Application Notes on Terminal Blocks for Glass Cartridge Fuses**

Nominal current ratings for fuse cartridges are defined differently in international standards. This is why the recommended continuous current-carrying capacity of the fuses is a max. 80% of their nominal current according to DIN 72581/Part 3 (for a surrounding air temperature of 23°C).

Selecting the correct fuse cartridge is important for product safety within applications, as well as for fuse cartridge service life and reliability. Fuse cartridges will only operate perfectly as protection components (break-off point) if they are properly selected and used as intended (i.e., according to the state of the technology and valid specifications, as well as data sheet characteristics), according to basic safety requirements (i.e., persons, animals and property must be protected against hazards).

Concerning product safety, fuse cartridges must generally be tested under both normal and faulty operating conditions within your application.

**Marking**



Snapping WMB Inline markers into marker slots.