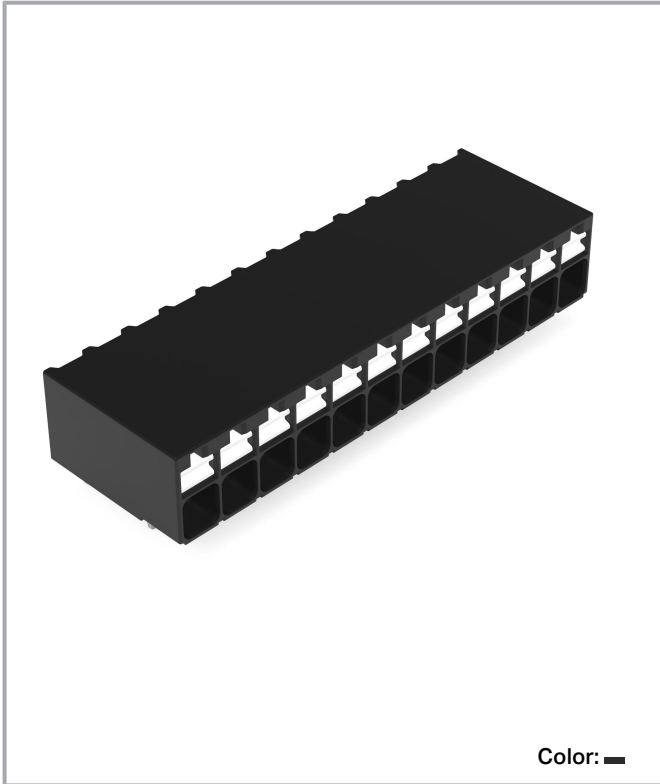


**Data sheet | Item number: 2086-1212**

THR PCB terminal block; push-button; 1.5 mm<sup>2</sup>; Pin spacing 3.5 mm; 12-pole;  
Push-in CAGE CLAMP®; 1,50 mm<sup>2</sup>; black

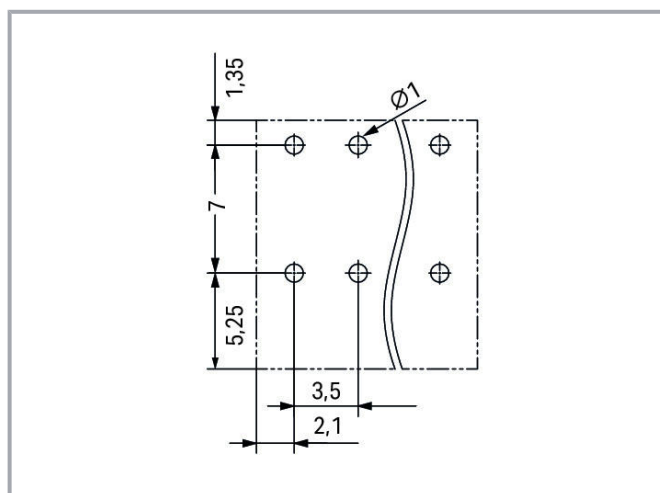
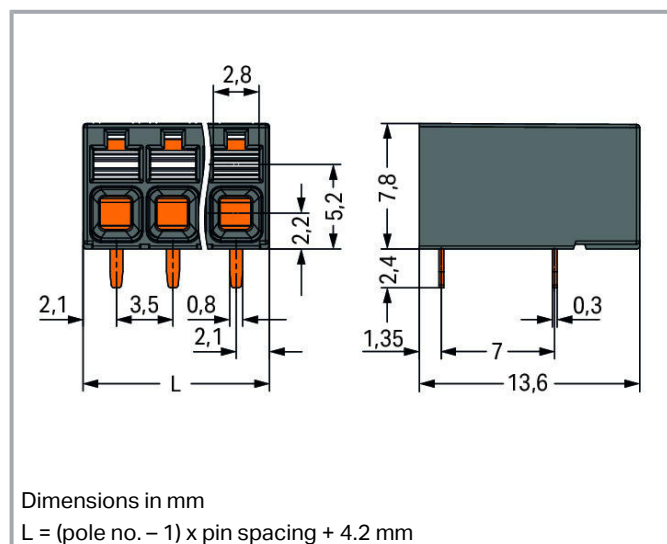
[www.wago.com/2086-1212](http://www.wago.com/2086-1212)



Subject to changes. Please also observe the further product documentation!

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## Item description

- Ideal for compact device connection, panel feedthrough and tight spaces
- Push-in CAGE CLAMP® allows push-in termination of solid and fine-stranded conductors with ferrules
- SMD and THR variants available
- Delivery in tape-and-reel packaging for full integration into SMT soldering process
- Push-button moves in direction of conductor connection

Subject to changes. Please also observe the further product documentation!

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- Conductor connection and mating direction both parallel and perpendicular to the PCB
- Choice of double pin spacing or alternating pin spacing, 3.5 and 5 mm pin spacing

## Data

### Electrical data

#### Ratings per IEC/EN

| Ratings per                 | IEC/EN 60664-1                                                       |
|-----------------------------|----------------------------------------------------------------------|
| Nominal voltage (III/3)     | 160 V                                                                |
| Rated surge voltage (III/3) | 2.5 kV                                                               |
| Rated voltage (III/2)       | 160 V                                                                |
| Rated surge voltage (III/2) | 2.5 kV                                                               |
| Nominal voltage (II/2)      | 320 V                                                                |
| Rated surge voltage (II/2)  | 2.5 kV                                                               |
| Rated current               | 17.5 A                                                               |
| Legend (ratings)            | (III / 2) $\triangleq$ Overvoltage category III / Pollution degree 2 |

#### Ratings per UL

| Approvals per                  | UL 1059 |
|--------------------------------|---------|
| Rated voltage UL (Use Group B) | 300 V   |
| Rated current UL (Use Group B) | 10 A    |
| Rated voltage UL (Use Group C) | 300 V   |
| Rated current UL (Use Group C) | 10 A    |
| Rated voltage UL (Use Group D) | 300 V   |
| Rated current UL (Use Group D) | 10 A    |

#### Ratings per CSA

| Approvals per                   | CSA   |
|---------------------------------|-------|
| Rated voltage CSA (Use Group B) | 300 V |
| Rated current CSA (Use Group B) | 10 A  |
| Rated voltage CSA (Use Group D) | 300 V |
| Rated current CSA (Use Group D) | 10 A  |

### Connection data

|                            |    |
|----------------------------|----|
| Total number of potentials | 12 |
| Number of connection types | 1  |

Subject to changes. Please also observe the further product documentation!



|                  |   |
|------------------|---|
| Number of levels | 1 |
|------------------|---|

## Connection 1

|                                                   |                                              |
|---------------------------------------------------|----------------------------------------------|
| Connection technology                             | Push-in CAGE CLAMP®                          |
| Actuation type                                    | Push-button                                  |
| Solid conductor                                   | 0.14 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG |
| Fine-stranded conductor                           | 0.14 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG |
| Fine-stranded conductor; with insulated ferrule   | 0.25 ... 0.75 mm <sup>2</sup>                |
| Fine-stranded conductor; with uninsulated ferrule | 0.25 ... 1.5 mm <sup>2</sup>                 |
| Conductor diameter                                | 24 ... 16 AWG                                |
| Strip length                                      | 8 ... 9 mm / 0.31 ... 0.35 inch              |
| Conductor connection direction to PCB             | 0°                                           |
| Pole No.                                          | 12                                           |

## Physical data

|                                    |                      |
|------------------------------------|----------------------|
| Pin spacing                        | 3.5 mm / 0.138 inch  |
| Width                              | 42.7 mm / 1.681 inch |
| Height                             | 10.2 mm / 0.402 inch |
| Height from the surface            | 7.8 mm / 0.307 inch  |
| Depth                              | 13.6 mm / 0.535 inch |
| Solder pin length                  | 2.4 mm               |
| Solder pin dimensions              | 0.3 x 0.8 mm         |
| Plated through-hole diameter (THR) | 1 (+0.1) mm          |

## PCB contact

|                                     |                                          |
|-------------------------------------|------------------------------------------|
| PCB Contact                         | THR                                      |
| Solder pin arrangement              | over the entire terminal strip (in-line) |
| Number of solder pins per potential | 2                                        |

## Material data

|                             |                                        |
|-----------------------------|----------------------------------------|
| Color                       | black                                  |
| Insulation material         | Polyphthalamide (PPA GF)               |
| Flammability class per UL94 | V0                                     |
| Clamping spring material    | Chrome nickel spring steel (CrNi)      |
| Contact material            | Electrolytic copper (E <sub>Cu</sub> ) |

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|                 |            |
|-----------------|------------|
| Contact plating | tin-plated |
| Weight          | 5.6 g      |

## Environmental requirements

|                         |                 |
|-------------------------|-----------------|
| Limit temperature range | -60 ... +105 °C |
|-------------------------|-----------------|

## Commercial data

|                       |               |
|-----------------------|---------------|
| PU (SPU)              | 72 Stück      |
| Packaging type        | BOX           |
| Country of origin     | CH            |
| GTIN                  | 4055144088984 |
| Customs tariff number | 85369010000   |

## Approvals / Certificates

### Country specific Approvals

| Logo                                                                               | Approval                                     | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|----------------------------------------------|--------------------------|------------------|
|                                                                                    | <b>CB</b><br>DEKRA Certification B.V.        | IEC 60947-7-4            | NL-74022         |
|  | <b>CSA</b><br>DEKRA Certification B.V.       | C22.2                    | 80060692         |
|  | <b>KEMA/KEUR</b><br>DEKRA Certification B.V. | EN 60947-7-4             | 71-<br>119449    |

## Optional accessories

### Testing and measuring

|                                                                                    |                                                                                    |  |                                                                |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|----------------------------------------------------------------|
| Testing accessories                                                                |                                                                                    |  |                                                                |
|  | <b>Item no.: 735-500</b><br>Test pin; 1 mm Ø; with solder connection for test wire |  | <a href="http://www.wago.com/735-500">www.wago.com/735-500</a> |
|  | <b>Item no.: 859-500</b><br>Test pin; 1 mm Ø; with solder connection for test wire |  | <a href="http://www.wago.com/859-500">www.wago.com/859-500</a> |

### Tool

|                                                                                   |                          |  |  |
|-----------------------------------------------------------------------------------|--------------------------|--|--|
| Operating tool                                                                    |                          |  |  |
|  | <b>Item no.: 210-719</b> |  |  |

Subject to changes. Please also observe the further product documentation!



Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

[www.wago.com/210-719](http://www.wago.com/210-719)

| Ferrule                                                                           |                                                                                                                                                                                                       |                                                                |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Ferrule                                                                           |                                                                                                                                                                                                       |                                                                |
|    | <b>Item no.: 216-101</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated; silver-colored                                                                         | <a href="http://www.wago.com/216-101">www.wago.com/216-101</a> |
|    | <b>Item no.: 216-104</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated; silver-colored                                                                         | <a href="http://www.wago.com/216-104">www.wago.com/216-104</a> |
|    | <b>Item no.: 216-102</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated; silver-colored                                                                        | <a href="http://www.wago.com/216-102">www.wago.com/216-102</a> |
|    | <b>Item no.: 216-103</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated                                                                                           | <a href="http://www.wago.com/216-103">www.wago.com/216-103</a> |
|    | <b>Item no.: 216-142</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                | <a href="http://www.wago.com/216-142">www.wago.com/216-142</a> |
|    | <b>Item no.: 216-132</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated                                                                                        | <a href="http://www.wago.com/216-132">www.wago.com/216-132</a> |
|    | <b>Item no.: 216-121</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated; silver-colored                                                                         | <a href="http://www.wago.com/216-121">www.wago.com/216-121</a> |
|    | <b>Item no.: 216-143</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                   | <a href="http://www.wago.com/216-143">www.wago.com/216-143</a> |
|  | <b>Item no.: 216-131</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated; silver-colored                                                                        | <a href="http://www.wago.com/216-131">www.wago.com/216-131</a> |
|  | <b>Item no.: 216-141</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                 | <a href="http://www.wago.com/216-141">www.wago.com/216-141</a> |
|  | <b>Item no.: 216-152</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated                                                                                        | <a href="http://www.wago.com/216-152">www.wago.com/216-152</a> |
|  | <b>Item no.: 216-202</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray                                                                                    | <a href="http://www.wago.com/216-202">www.wago.com/216-202</a> |
|  | <b>Item no.: 216-151</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated                                                                                        | <a href="http://www.wago.com/216-151">www.wago.com/216-151</a> |
|  | <b>Item no.: 216-144</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; silver-colored | <a href="http://www.wago.com/216-144">www.wago.com/216-144</a> |
|  | <b>Item no.: 216-201</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated; white                                                                                    | <a href="http://www.wago.com/216-201">www.wago.com/216-201</a> |
|  | <b>Item no.: 216-241</b><br>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            | <a href="http://www.wago.com/216-241">www.wago.com/216-241</a> |

Subject to changes. Please also observe the further product documentation!

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|                                                                                 |                                                                                                                                                                                            |                                                                |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
|  | <b>Item no.: 216-242</b><br>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 | <a href="http://www.wago.com/216-242">www.wago.com/216-242</a> |
|  | <b>Item no.: 216-301</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow                                                                       | <a href="http://www.wago.com/216-301">www.wago.com/216-301</a> |
|  | <b>Item no.: 216-302</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated; green                                                                        | <a href="http://www.wago.com/216-302">www.wago.com/216-302</a> |

## Downloads

### Documentation

#### Additional Information

|                        |             |                 |          |
|------------------------|-------------|-----------------|----------|
| Technical explanations | Apr 3, 2019 | pdf<br>2.0 MB   | Download |
| THR Soldering Process  |             | pdf<br>548.2 kB | Download |

## CAD/CAE-Data

### CAE data

|                        |     |          |
|------------------------|-----|----------|
| ZUKEN Portal 2086-1212 | URL | Download |
|------------------------|-----|----------|

### CAD data

|                        |     |          |
|------------------------|-----|----------|
| 2D/3D Models 2086-1212 | URL | Download |
|------------------------|-----|----------|

## Environmental Product Compliance

### Compliance Search

|                                                                                                                                           |     |          |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----|----------|
| Environmental Product Compliance 2086-1212                                                                                                | URL | Download |
| THR PCB terminal block; push-button; 1.5 mm <sup>2</sup> ; Pin spacing 3.5 mm; 12-pole; Push-in CAGE CLAMP®; 1,50 mm <sup>2</sup> ; black |     |          |

## Installation Notes

### Conductor termination

Subject to changes. Please also observe the further product documentation!

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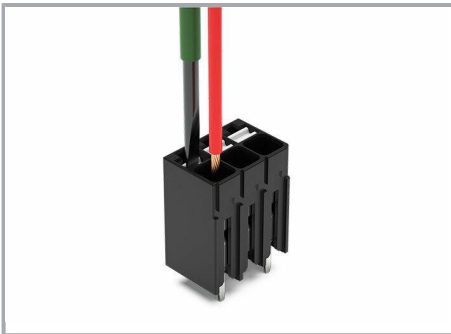
Inserting solid conductor via push-in termination.

#### Conductor removal



Removing fine-stranded conductors via push-buttons.

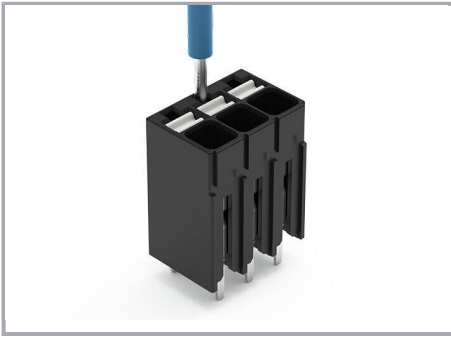
#### Conductor termination



Inserting and removing fine-stranded conductors via push-buttons.

#### Testing

Subject to changes. Please also observe the further product documentation!



Testing via 1 mm Ø test pin.

Touch contact with current bar.

### Marking



Pole marking via direct marking  
perpendicular to conductor entry.

Subject to changes. Please also observe the further product documentation!