

**Data sheet | Item number: 224-104**

Lighting connector; push-button on lighting side; Lighting side: for all conductor types; Inst. side: for solid conductors; 224 Series; max. 2.5 mm²; Surrounding air temperature: max 75°C; 2,50 mm²; black

[www.wago.com/224-104](http://www.wago.com/224-104)



Color: ■

**Data**

**Notes**

|                    |                         |
|--------------------|-------------------------|
| Safety information | in grounded power lines |
|--------------------|-------------------------|

**Electrical data**

**Ratings per IEC/EN**

|                            |                                                         |
|----------------------------|---------------------------------------------------------|
| Ratings per                | EN 60664                                                |
| Nominal voltage (II/2)     | 400 V                                                   |
| Rated surge voltage (II/2) | 4 kV                                                    |
| Rated current              | 24 A                                                    |
| Legend (ratings)           | (II / 2) ≙ Overvoltage category II / Pollution degree 2 |

**Connection data**

|                            |   |
|----------------------------|---|
| Connection points          | 2 |
| Total number of potentials | 1 |

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

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Do you have any questions about our products?  
We are always happy to take your call at +49 (571) 887-44222.

## Connection 1

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connection type 1                      | Installation side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Connection technology                  | PUSH WIRE®                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Number of connection points            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Actuation type                         | Push-in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Connectable conductor materials        | Copper<br>Aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Connectable conductor materials (note) | <p><b>Terminating Aluminum Conductors (Not for use in North America)</b><br/>WAGO spring clamp terminal blocks are suitable for solid aluminum conductors up to 4 mm²/12 AWG if WAGO "Alu-Plus" Contact Paste 249-130 is used for termination.</p> <p>"Alu-Plus" Contact Paste Advantages:</p> <ul style="list-style-type: none"><li>■ Automatically destroys the oxide film during clamping.</li><li>■ Prevents fresh oxidation at the clamping point.</li><li>■ Prevents electrolytic corrosion between aluminum and copper conductors (in the same terminal block).</li><li>■ Provides long-term protection against corrosion.</li></ul> <p>Using terminal blocks with CAGE CLAMP® Spring Pressure Connection Technology, <b>aluminum conductors must first be cleaned with a blade</b> and then immediately be inserted into the clamping units filled with "Alu-Plus" Contact Paste.</p> <p>For spring clamp connections with PUSH WIRE® connection technology, <b>WAGO recommends that the aluminum conductor first be cleaned</b> and then immediately inserted into the clamping unit filled with "Alu-Plus" contact paste.</p> <p>It is also possible to apply WAGO "Alu-Plus" <b>additionally</b> on the whole surface of the aluminum conductor before termination.</p> <p>Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors::<br/>2.5 mm² = 16 A<br/>4 mm² = 22 A</p> |
| Solid conductor                        | 1 ... 2.5 mm² / 14 ... 12 AWG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Strip length                           | 9 ... 11 mm / 0.35 ... 0.43 inches                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Wiring direction                       | Side-entry wiring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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



## Connection 2

|                               |                                 |
|-------------------------------|---------------------------------|
| Connection type 2             | Lighting side                   |
| Connection technology 2       | CAGE CLAMP®                     |
| Number of connection points 2 | 1                               |
| Solid conductor 2             | 0.5 ... 2.5 mm² / 20 ... 16 AWG |
| Fine-stranded conductor 2     | 0.5 ... 2.5 mm² / 20 ... 16 AWG |

## Physical data

|        |                        |
|--------|------------------------|
| Width  | 8 mm / 0.315 inches    |
| Height | 15.5 mm / 0.61 inches  |
| Depth  | 20.4 mm / 0.803 inches |

## Material data

|                      |                                                          |
|----------------------|----------------------------------------------------------|
| Note (material data) | Information on material specifications can be found here |
| Color                | black                                                    |
| Fire load            | 0.046 MJ                                                 |
| Weight               | 2.2 g                                                    |

## Environmental requirements

|                                  |        |
|----------------------------------|--------|
| Ambient temperature (operation)  | +75 °C |
| Continuous operating temperature | 120 °C |

## Commercial data

|                       |               |
|-----------------------|---------------|
| eCl@ss 10.0           | 27-14-11-03   |
| eCl@ss 9.0            | 27-14-11-03   |
| ETIM 8.0              | EC000447      |
| ETIM 7.0              | EC000447      |
| ECCN                  | NO DATA       |
| PU (SPU)              | 100 pcs       |
| Packaging type        | box           |
| Country of origin     | CH            |
| GTIN                  | 4044918584050 |
| Customs tariff number | 85369010000   |

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

## Environmental Product Compliance

RoHS Compliance Status

Compliant, No Exemption

## Approvals / Certificates

## General approvals

| Logo                                                                               | Approval                                     | Additional Approval Text | Certificate name                         |
|------------------------------------------------------------------------------------|----------------------------------------------|--------------------------|------------------------------------------|
|    | CSA<br>DEKRA Certification B.V.              | C22.2                    | 1053495                                  |
|    | UL<br>UL International Germany GmbH          | EN 60998                 | CCA-<br>2617-A1                          |
|    | UL<br>UL International Germany GmbH          | EN 60998                 | D-05895-A1<br>(EN60998-1<br>EN60998-2-2) |
|  | VDE<br>VDE Prüf- und Zertifizierungsinstitut | EN 60998                 | 40022792                                 |

## Declarations of conformity and manufacturer's declarations

| Logo                                                                               | Approval                                           | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------|------------------|
|  | EU-Declaration of Conformity<br>WAGO GmbH & Co. KG | -                        | -                |
|  | UK-Declaration of Conformity<br>WAGO GmbH & Co. KG | -                        | -                |

## Approvals for marine applications

| Logo | Approval                           | Additional Approval Text | Certificate name  |
|------|------------------------------------|--------------------------|-------------------|
|      | ABS<br>American Bureau of Shipping | -                        | 18-<br>HG1755093- |

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



**BV**  
Bureau Veritas S.A.

EN 60998

11914/D0 BV



**DNV GL**  
Det Norske Veritas, Germanischer Lloyd

EN 60998

TAE000015T



**LR**  
Lloyds Register

EN 60998

LR22207029TA

## Optional accessories

### Tool

"Alu-Plus" contact paste



**Item no.: 249-130**

Syringe; Contents: 20 ml Alu-Plus contact paste

[www.wago.com/249-130](http://www.wago.com/249-130)

## Downloads

### Documentation

#### Bid Text

|              |              |         |          |
|--------------|--------------|---------|----------|
| 224-104      | 2019 年2月21 日 | docx    | Download |
| docx - Datei |              | 15.9 kB |          |
| 224-104      | 2019 年2月19 日 | xml     | Download |
| X81 - Datei  |              | 3.6 kB  |          |

## CAD/CAE-Data

### CAD data

|                      |     |          |
|----------------------|-----|----------|
| 2D/3D Models 224-104 | URL | Download |
|----------------------|-----|----------|

### CAE data

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



|                                    |                     |                          |
|------------------------------------|---------------------|--------------------------|
| WSCAD Universe 224-104             | <a href="#">URL</a> | <a href="#">Download</a> |
| ZUKEN Portal 224-104               | <a href="#">URL</a> | <a href="#">Download</a> |
| EPLAN Data Portal 224-104          | <a href="#">URL</a> | <a href="#">Download</a> |
| <b>Asset Administration Shell</b>  |                     |                          |
| Asset Administration Shell 224-104 | <a href="#">URL</a> | <a href="#">Download</a> |

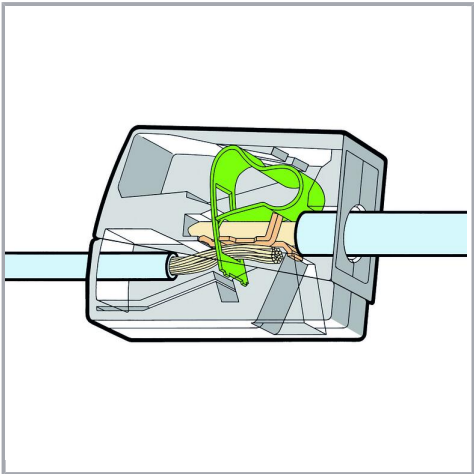
Environmental Product Compliance

Compliance Search

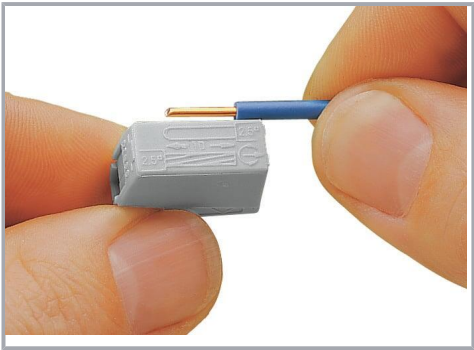
|                                                                                                                                                                                                              |                     |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------|
| Environmental Product Compliance 224-104                                                                                                                                                                     | <a href="#">URL</a> | <a href="#">Download</a> |
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Installation Notes

Conductor termination



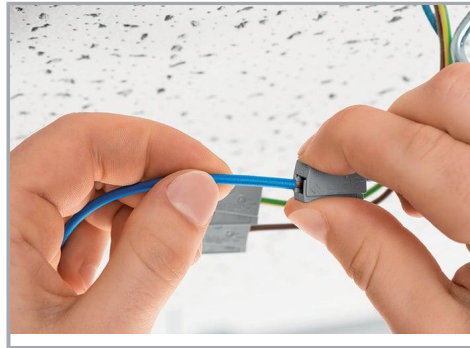
Lighting Connectors (2.5 mm²), 224 Series



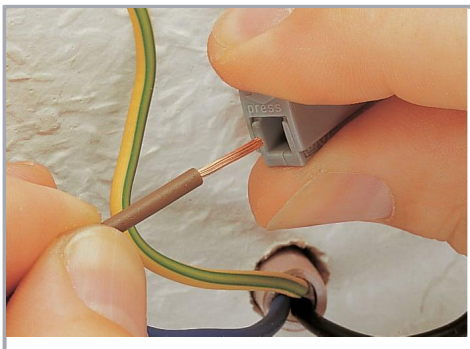
Strip conductor to 9 ... 11 mm (0.35 ... 0.43 inch).

Conductor termination

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

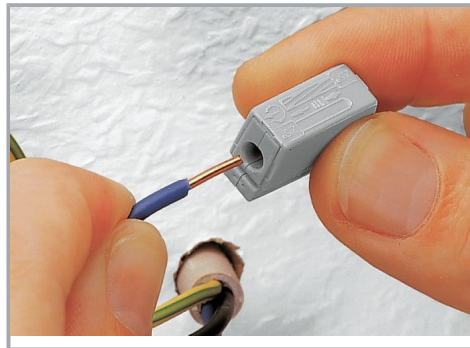


To connect: Press button fully, insert stripped conductor into square entry and release.



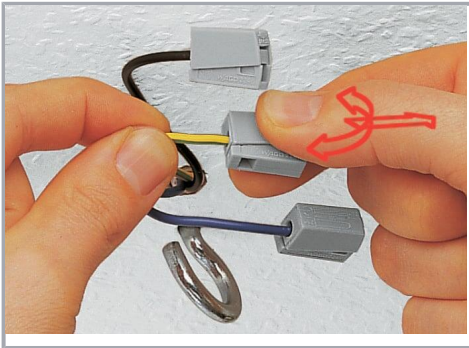
To remove: Press button and withdraw conductor.

#### Conductor termination



To connect: Insert stripped solid conductor into circular entry and push until it hits the backstop.

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



To remove: Hold conductor to be removed and twist alternately left and right while slightly pulling the connector.

#### Testing



Testing via separate test ports.

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

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Do you have any questions about our products?  
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