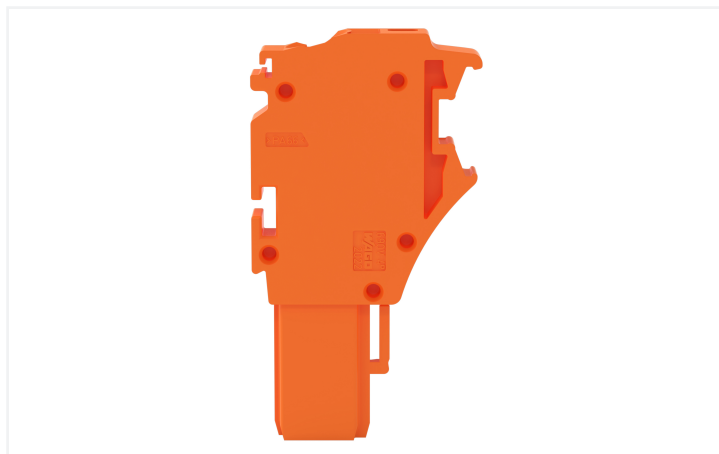


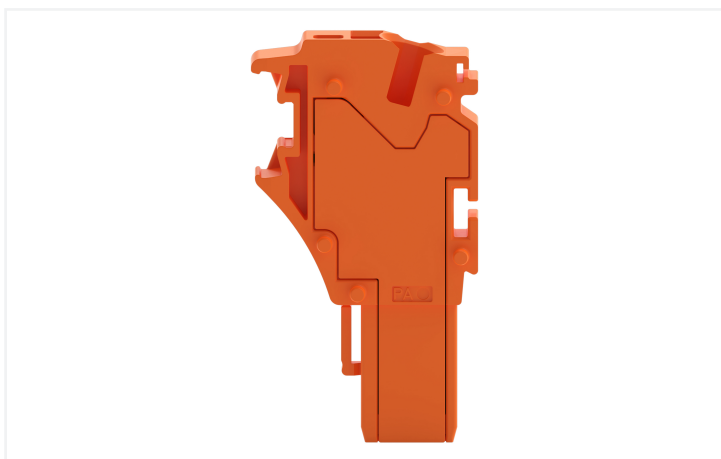
## Data Sheet | Item Number: 2022-172

Center module for 1-conductor female connector; Push-in CAGE CLAMP®; 4 mm<sup>2</sup>; Pin spacing 5.2 mm; 1-pole; 4,00 mm<sup>2</sup>; orange

<https://www.wago.com/2022-172>



Color: ■ orange



### Female connector, 2022 Series, operating tool

Our female connector (item number 2022-172) simplifies electrical installations. Conductors can only be connected to this female connector if their strip length is between 10 and 12 mm . Pluggable rail-mount terminal blocks are mainly used in switchgear units and control systems (e.g., in railroad technology). They are essentially a combination of rail-mount terminal blocks and pluggable connectors. You can also pre-assemble installations thanks to the variable wiring system. This saves both time and money during manufacture, installation, operation, and maintenance. 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, featuring a winning design: It allows direct insertion of both solid and fine-stranded conductors with ferrules without needing tools. No preparation is required; for example, crimping the conductor's ferrule is not necessary. The item's dimensions are (5.2 x 40.5 x 22.4) mm (width x height x depth). This female connector is suitable for conductor cross sections ranging from 0.25 mm<sup>2</sup> to 4 mm<sup>2</sup>.

An operating tool is used to operate this female connector/socket.

## Notes

## Safety Information

According to EN 61984, pluggable connectors without current interrupting capacity must not be mated or unmated when live or under load.

## Electrical data

| Ratings per   | IEC/EN 61984 |     |    |
|---|--------------|-----|----|
| Overvoltage category                                      | III          | III | II |
| Pollution degree  | 3            | 2   | 2  |
| Nominal voltage   | 690 V        | -   | -  |
| Rated impulse withstand voltage                           | 6 kV         | -   | -  |
| Rated current   | 24 A         | -   | -  |
| Current at conductor cross-section (max.) mm <sup>2</sup> | 32 A         | -   | -  |

| Approvals per | UL 1059 |       |   |
|---------------|---------|-------|---|
| Use group     | B       | C     | D |
| Rated voltage | 600 V   | 600 V | - |
| Rated current | 20 A    | 20 A  | - |

| Approvals per | CSA 22.2 No 158 |       |   |
|---------------|-----------------|-------|---|
| Use group     | B               | C     | D |
| Rated voltage | -               | 600 V | - |
| Rated current | -               | 20 A  | - |

## General information

Wiring direction Front-entry wiring

## Connection Data

|                            |   |
|----------------------------|---|
| Clamping units             | 1 |
| Total number of potentials | 1 |

## 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   |
| Pole number  | 1   |
| Wiring direction   | Front-entry wiring  |

## Physical data

|        |                        |
|--------|------------------------|
| Width  | 5.2 mm / 0.205 inches  |
| Height | 40.5 mm / 1.594 inches |
| Depth  | 22.4 mm / 0.882 inches |

### Mechanical data

|                          |              |
|--------------------------|--------------|
| Variable coding          | Yes          |
| Marking level            | Side marking |
| Anti-rotation protection | Yes          |

### Plug-in connection

|                                      |                         |
|--------------------------------------|-------------------------|
| Contact type (pluggable connector)   | Female connector/socket |
| Connector (connection type)          | for conductor           |
| Mismatching protection               | No                      |
| Plugging without loss of pin spacing | Yes                     |

### Material data

|                                    |  |
|------------------------------------|--|
| Note (material data)               | <a href="#">Information on material specifications can be found here</a> |
| Color                              | orange   |
| Material group                     | I  |
| Insulation material (main housing) | Polyamide (PA66)   |
| Flammability class per UL94        | V0   |
| Fire load                          | 0.063 MJ   |
| Weight                             | 3.5 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   |

**Environmental Testing**

|   |                   |
|---|-------------------|
| Number of shocks (per axis)   | 3 pos. und 3 neg. |
| 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            |
| Vibration and shock stress for rolling stock equipment                | Passed            |

**Commercial data**

|                       |                   |
|-----------------------|-------------------|
| Product Group         | 18 (X-COM-System) |
| PU (SPU)              | 250 pcs           |
| Packaging type        | Bag               |
| Country of origin     | CN                |
| GTIN                  | 4066966659948     |
| Customs tariff number | 85366990990       |

**Product Classification**

|             |                      |
|-------------|----------------------|
| UNSPSC      | 39121409             |
| eCl@ss 10.0 | 27-14-11-06          |
| eCl@ss 9.0  | 27-14-11-06          |
| ETIM 9.0    | EC001284             |
| ETIM 10.0   | EC001284             |
| ECCN        | NO US CLASSIFICATION |

**Environmental Product Compliance**

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

**Approvals / Certificates**

**General approvals**



| Approval         | Standard      | Certificate Name |
|------------------|---------------|------------------|
| CSA<br>CSA Group | C22.2 No. 158 | 2437422          |

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



| Approval                      | Standard | Certificate Name |
|-------------------------------|----------|------------------|
| Railway<br>WAGO GmbH & Co. KG | -        | Z00004392.000    |

**Downloads**

**Environmental Product Compliance**

**Compliance Search**

|   |                   |
|---|-------------------|
| Environmental Product Compliance 2022-172 | <a href="#">↓</a> |
|---|-------------------|

Documentation

| Bid Text |            |                  |  |
|----------|------------|------------------|--|
| 2022-172 | 19.02.2019 | xml<br>4.27 KB   |  |
| 2022-172 | 14.05.2019 | docx<br>16.10 KB |  |

CAD/CAE-Data

| CAD data                 |  |
|--------------------------|--|
| 2D/3D Models<br>2022-172 |  |

| CAE data                      |  |
|-------------------------------|--|
| EPLAN Data Portal<br>2022-172 |  |
| WSCAD Universe<br>2022-172    |  |
| ZUKEN Portal<br>2022-172      |  |

1 Compatible Products

1.1 Optional Accessories

1.1.1 Ferrule

1.1.1.1 Ferrule

|  |  |  |  |
|--|--|--|--|
| <br><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 | <br><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 | <br><b>Item No.: 216-262</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 | <br><b>Item No.: 216-243</b><br>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     |
| <br><b>Item No.: 216-263</b><br>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     | <br><b>Item No.: 216-244</b><br>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 | <br><b>Item No.: 216-264</b><br>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 | <br><b>Item No.: 216-284</b><br>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 |
| <br><b>Item No.: 216-246</b><br>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  | <br><b>Item No.: 216-266</b><br>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  | <br><b>Item No.: 216-286</b><br>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  |  |

### 1.1.2 Insulation stop

#### 1.1.2.1 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

### 1.1.3 Locking system

#### 1.1.3.1 Locking system



**Item No.: 2022-141**

Locking lever; gray



**Item No.: 2022-151**

Locking lever; gray



**Item No.: 2022-142**

Locking lever; orange



**Item No.: 2022-152**

Locking lever; orange

### 1.1.4 Marking

#### 1.1.4.1 Marker



**Item No.: 793-5501**

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white



**Item No.: 2009-115**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

#### 1.1.4.2 Marking strip



**Item No.: 210-833**

Marking strips; 25 m on roll; 6 mm wide; plain; Self-adhesive; white



**Item No.: 2009-110**

Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white



**Item No.: 210-831**

Marking strips; on reel; 2.3 mm wide; plain; Self-adhesive; white



**Item No.: 210-832**

Marking strips; on reel; 3 mm wide; plain; Self-adhesive; white



**Item No.: 210-834**

Marking strips; on reel; 5 mm wide; plain; Self-adhesive; white

### 1.1.5 Protective warning marker

#### 1.1.5.1 Cover



**Item No.: 2002-115**

Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

## 1.1.6 Screwless end stop

### 1.1.6.1 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

## 1.1.7 Strain relief

### 1.1.7.1 Strain relief plate



**Item No.: 734-430**

Strain relief plate; for female and male connectors; 1 part; gray



**Item No.: 734-328**

Strain relief plate; for female and male connectors; 12.5 mm wide; 1 part; gray



**Item No.: 734-329**

Strain relief plate; for female and male connectors; 25 mm wide; 1 part; gray



**Item No.: 734-326**

Strain relief plate; for female and male connectors; 35 mm wide; 1 part; gray



**Item No.: 734-327**

Strain relief plate; for female and male connectors; 6 mm wide; 1 part; gray



**Item No.: 734-431**

Strain relief plate; for female and male connectors; 75 mm wide; 1 part; gray

## 1.1.8 Tool

### 1.1.8.1 Operating tool

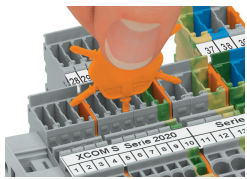


**Item No.: 210-720**

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

## Installation Notes

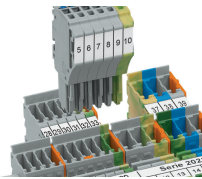
### Coding



Insert coding pin into the corresponding slot and twist it off.



Coding a female plug: remove coding finger using a suitable tool.



Insert coded female plug into X-COM®S-SYSTEM terminal block assembly.