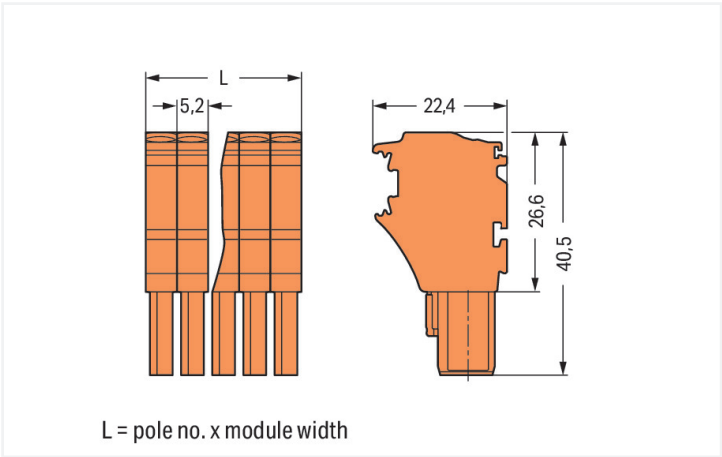
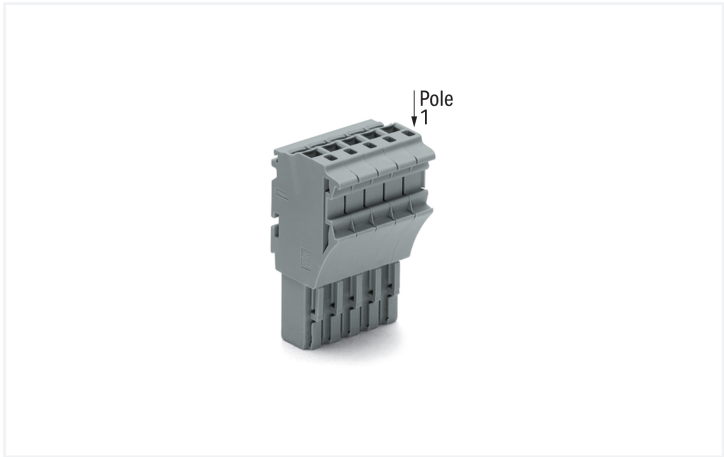




Color: ■ orange                      Similar to illustration                      Dimensions in mm

Female connector, 2022 Series, orange

Our female connector (item number 2022-112/000-012) ensures effortless electrical installations. Ensure that the strip lengths are between 10 and 12 mm when connecting conductors to this female connector. Pluggable rail-mount terminal blocks are primarily found in switchgear units and control systems, most notably in railroad technology. These innovative systems combine the properties of rail-mount terminal blocks and connectors for a flexible and reliable wiring system. You also have the option of pre-assembling installations, which not only makes production but also installation, operation, and maintenance more efficient and cost-effective. This product features conductor terminals and utilizes Push-in CAGE CLAMP®. Push-in CAGE CLAMP® technology provides a universal connection solution for any type of conductor. It allows both solid and fine-stranded conductors with ferrules to be inserted directly into the clamping point without the need for tools. Dimensions: (62.4 x 40.5 x 22.4) mm (width x height x depth). Depending on the type of conductor, this female connector is suitable for conductor cross sections ranging from 0.25 mm² to 4 mm².

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.) mm² | 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             | 12 |
| Total number of potentials | 12 |

| Connection 1                                               |                                                                                                                                   |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Connection technology                                      | Push-in CAGE CLAMP®                                                                                                               |
| Actuation type                                             | Operating tool                                                                                                                    |
| Connectable conductor materials                            | Copper                                                                                                                            |
| Nominal cross-section                                      | 2.5 mm²                                                                                                                           |
| Solid conductor                                            | 0.25 ... 4 mm² / 22 ... 12 AWG                                                                                                    |
| Solid conductor; push-in termination                       | 0.75 ... 4 mm² / 18 ... 12 AWG                                                                                                    |
| Fine-stranded conductor                                    | 0.25 ... 4 mm² / 22 ... 12 AWG                                                                                                    |
| Fine-stranded conductor; with insulated ferrule            | 0.25 ... 2.5 mm² / 22 ... 14 AWG                                                                                                  |
| Fine-stranded conductor; with ferrule; push-in termination | 1 ... 2.5 mm² / 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                                                | 12                                                                                                                                |
| Wiring direction                                           | Front-entry wiring                                                                                                                |

Physical data

|              |                        |
|--------------|------------------------|
| Width        | 62.4 mm / 2.457 inches |
| Height       | 40.5 mm / 1.594 inches |
| Depth        | 22.4 mm / 0.882 inches |
| Module width | 5.2 mm / 0.205 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           |
| Mismating 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                          | 0.758 MJ                                                                 |
| Weight                             | 41.9 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 <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 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 <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 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                                     |
| 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)              | 25 pcs            |
| Packaging type        | Box               |
| Country of origin     | DE                |
| GTIN                  | 4066966677201     |
| 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

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<br>2022-112/000-012 |  |

Documentation

| Bid Text         |            |                  |  |
|------------------|------------|------------------|--|
| 2022-112/000-012 | 17.05.2019 | xml<br>4.12 KB   |  |
| 2022-112/000-012 | 14.05.2019 | docx<br>15.29 KB |  |



| CAD/CAE-Data                                                                  |                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>CAD data</div> <div>2D/3D Models<br/>2022-112/000-012</div> <div>↓</div> | <div>CAE data</div> <div>EPLAN Data Portal<br/>2022-112/000-012</div> <div>↓</div> <div>WSCAD Universe<br/>2022-112/000-012</div> <div>↓</div> <div>ZUKEN Portal<br/>2022-112/000-012</div> <div>↓</div> |

1 Compatible Products

1.1 Optional Accessories

1.1.1 Ferrule

1.1.1.1 Ferrule

|                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <div><a href="#">Item No.: 216-241</a><br/>Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white</div>  |  <div><a href="#">Item No.: 216-242</a><br/>Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray</div>  |  <div><a href="#">Item No.: 216-262</a><br/>Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray</div>  |  <div><a href="#">Item No.: 216-243</a><br/>Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red</div>      |
|  <div><a href="#">Item No.: 216-263</a><br/>Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red</div>     |  <div><a href="#">Item No.: 216-244</a><br/>Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black</div> |  <div><a href="#">Item No.: 216-264</a><br/>Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black</div> |  <div><a href="#">Item No.: 216-284</a><br/>Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black</div> |
|  <div><a href="#">Item No.: 216-246</a><br/>Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue</div> |  <div><a href="#">Item No.: 216-266</a><br/>Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue</div> |  <div><a href="#">Item No.: 216-286</a><br/>Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue</div> |                                                                                                                                                                                                                                                                                          |

1.1.2 Insulation stop

1.1.2.1 Insulation stop

|                                                                                                                                                                                                   |                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <div><a href="#">Item No.: 2002-171</a><br/>Insulation stop; 0.25 - 0.5 mm²; 5 pieces/strip; light gray</div> |  <div><a href="#">Item No.: 2002-172</a><br/>Insulation stop; 0.75 - 1 mm²; 5 pieces/strip; dark gray</div> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



1.1.3 Locking system

1.1.3.1 Locking system



**Item No.: 2022-151**  
Locking lever; gray



**Item No.: 2022-152**  
Locking lever; orange

1.1.4 Marking

1.1.4.1 Label



**Item No.: 210-805**  
Labels; for Smart Printer; permanent adhesive; 6 x 15 mm; 3000 pieces on roll; white



**Item No.: 210-805/000-002**  
Labels; for Smart Printer; permanent adhesive; 6 x 15 mm; 3000 pieces on roll; yellow

1.1.4.2 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

1.1.4.3 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

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.

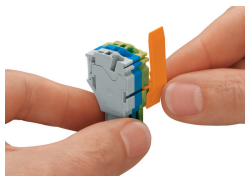


Coding a female plug: remove coding finger using a suitable tool.

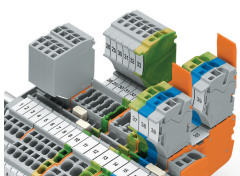


Insert coded female plug into X-COM®S-SYSTEM terminal block assembly.

Locking system



Slide the locking lever into position.



Female plugs can be individually locked.