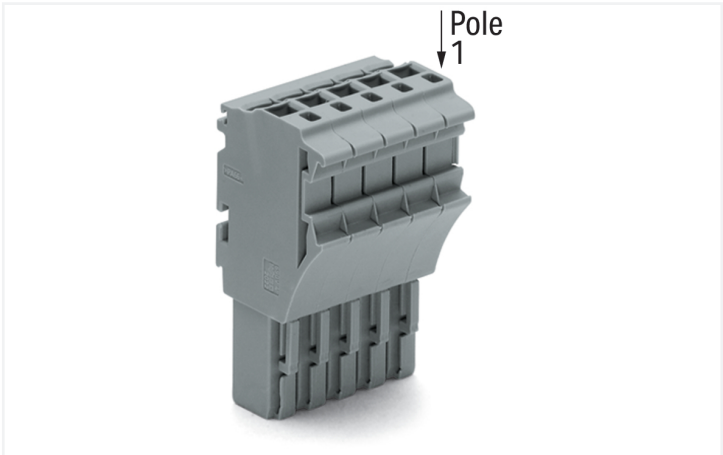
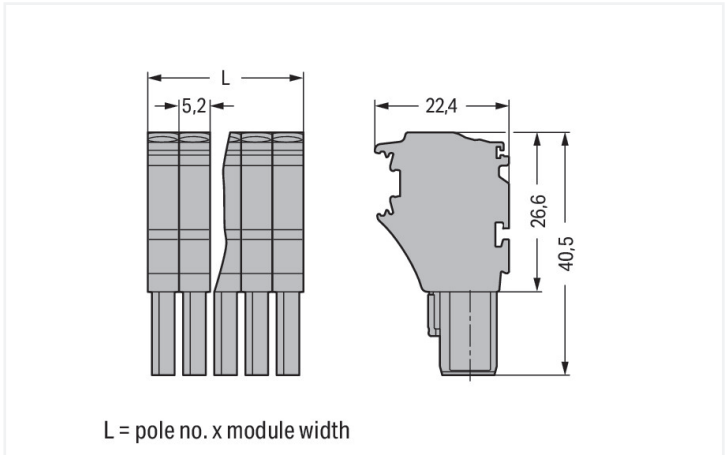




Color: ■ gray

Similar to illustration



Dimensions in mm

Female connector, 2022 Series, operating tool

Easy electrical installations are guaranteed with this female connector (item number 2022-113). 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 pluggable rail-mount terminal block has a rated voltage of 690 V and can handle currents up to 24 A. Ensure that the strip lengths are between 10 mm and 12 mm when connecting conductors to this female connector. 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. The dimensions are 67.6 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 mm² to 4 mm². Up to thirteen potentials / thirteen poles can be connected to this terminal strip using thirteen clamping points. The gray housing is made of polyamide (PA66) for insulation. An operating tool is used to operate this female connector/socket. You can connect copper conductors thanks to front-entry wiring.

| 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 surge 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  | - |

## Connection data

|                            |    |                                                            |                                                                                                                                   |
|----------------------------|----|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Clamping units             | 13 | <b>Connection 1</b>                                        |                                                                                                                                   |
| Total number of potentials | 13 | 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                                                | 13                                                                                                                                |
|                            |    | Wiring direction                                           | Front-entry wiring                                                                                                                |

## Physical data

|              |                        |
|--------------|------------------------|
| Width        | 67.6 mm / 2.661 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                              | gray                                                                     |
| Material group                     | I                                                                        |
| Insulation material (main housing) | Polyamide (PA66)                                                         |
| Flammability class per UL94        | V0                                                                       |
| Fire load                          | 0.821 MJ                                                                 |
| Weight                             | 41.6 g                                                                   |



Environmental requirements

|                                  |                 |                                                                                                    |                                                                                                                                             |
|----------------------------------|-----------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Processing temperature           | -35 ... +85 °C  | Environmental Testing (Environmental Conditions)                                                   |                                                                                                                                             |
| Continuous operating temperature | -60 ... +105 °C | 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>Shock and vibration tests | DIN EN 61373 (VDE 0115-0106):2011-04                                                                                                        |
|                                  |                 | Spectrum/Installation location                                                                     | Service life test, Category 1, Class A/B                                                                                                    |
|                                  |                 | Function test with noise-like vibration                                                            | Test passed according to Section 8 of the standard                                                                                          |
|                                  |                 | Frequency                                                                                          | f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 Hz<br>f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 Hz                                        |
|                                  |                 | Acceleration                                                                                       | 0.101g (highest test level used for all axes)<br>0.572g (highest test level used for all axes)<br>5g (highest test level used for all axes) |
|                                  |                 | Test duration per axis                                                                             | 10 min.<br>5 h                                                                                                                              |
|                                  |                 | Test directions                                                                                    | X, Y and Z axes<br>X, Y and Z axes<br>X, Y and Z axes                                                                                       |
|                                  |                 | Monitoring for contact faults/interruptions                                                        | Passed                                                                                                                                      |
|                                  |                 | Voltage drop measurement before and after each axis                                                | Passed                                                                                                                                      |
|                                  |                 | Simulated service life test through increased levels of noise-like vibration                       | Test passed according to Section 9 of the standard                                                                                          |
|                                  |                 | Extended test scope: Monitoring for contact faults/interruptions                                   | Passed<br>Passed                                                                                                                            |
|                                  |                 | Extended test scope: Voltage drop measurement before and after each axis                           | Passed<br>Passed                                                                                                                            |
|                                  |                 | Shock test                                                                                         | Test passed according to Section 10 of the standard                                                                                         |
|                                  |                 | Shock form                                                                                         | Half sine                                                                                                                                   |
|                                  |                 | Shock duration                                                                                     | 30 ms                                                                                                                                       |
|                                  |                 | Number of shocks per axis                                                                          | 3 pos. und 3 neg.                                                                                                                           |
|                                  |                 | Vibration and shock stress for rolling stock equipment                                             | Passed                                                                                                                                      |

Commercial data

|                       |               |
|-----------------------|---------------|
| PU (SPU)              | 25 pcs        |
| Packaging type        | Box           |
| Country of origin     | CN            |
| GTIN                  | 4050821687955 |
| 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 8.0    | EC001284             |
| ECCN        | NO US CLASSIFICATION |



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

Approvals / Certificates

| General approvals                                                                                                                                                                                                                                    |               |                  | Declarations of conformity and manufacturer's declarations                        |          |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-----------------------------------------------------------------------------------|----------|------------------|
|    |               |                  |  |          |                  |
| Approval                                                                                                                                                                                                                                             | Standard      | Certificate Name | Approval                                                                          | Standard | Certificate Name |
| CSA<br>DEKRA Certification B.V.                                                                                                                                                                                                                      | C22.2 No. 158 | 2437422          | EU-Declaration of Confor-<br>mity<br>WAGO GmbH & Co. KG                           | -        | -                |
| KEMA/KEUR<br>DEKRA Certification B.V.                                                                                                                                                                                                                | EN 61984      | 71-101560        | Railway<br>WAGO GmbH & Co. KG                                                     | -        | Z00004392.000    |
| UL<br>Underwriters Laboratories<br>Inc.                                                                                                                                                                                                              | UL 1059       | E45172           | UK-Declaration of Confor-<br>mity<br>WAGO GmbH & Co. KG                           | -        | -                |

Approvals for marine applications

|    |          |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|
| Approval                                                                                                                                                                                                                                             | Standard | Certificate Name |
| ABS<br>American Bureau of Ship-<br>ping                                                                                                                                                                                                              | EN 60947 | 20-HG1941090-PDA |
| BV<br>Bureau Veritas S.A.                                                                                                                                                                                                                            | EN 60947 | 38586/B0 BV      |
| DNV GL<br>Det Norske Veritas, Ger-<br>manischer Lloyd                                                                                                                                                                                                | -        | TAE00001V2       |

Downloads

| Environmental Product Compliance             |                                                                                     |
|----------------------------------------------|-------------------------------------------------------------------------------------|
| Compliance Search                            |                                                                                     |
| Environmental Product<br>Compliance 2022-113 |  |

Documentation

| Bid Text |            |                  |                                                                                     |
|----------|------------|------------------|-------------------------------------------------------------------------------------|
| 2022-113 | 17.05.2019 | xml<br>4.11 KB   |  |
| 2022-113 | 14.05.2019 | docx<br>15.25 KB |  |



| CAD/CAE-Data                                                          |                                                                            |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------|
| <div>CAD data</div> <div>2D/3D Models<br/>2022-113</div> <div>↓</div> | <div>CAE data</div> <div>EPLAN Data Portal<br/>2022-113</div> <div>↓</div> |
|                                                                       | <div>WSCAD Universe<br/>2022-113</div> <div>↓</div>                        |
|                                                                       | <div>ZUKEN Portal<br/>2022-113</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

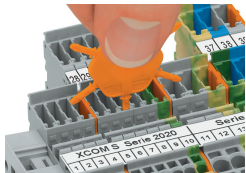
1.1.8.1 Operating tool



**Item No.: 210-720**  
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

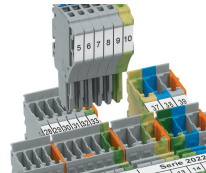
Coding



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

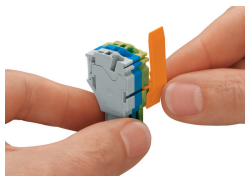


Coding a female plug: remove coding finger using a suitable tool.

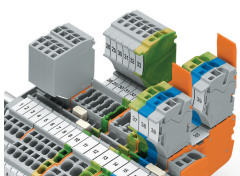


Insert coded female plug into X-COM®S-SYSTEM terminal block assembly.

Locking system



Slide the locking lever into position.



Female plugs can be individually locked.