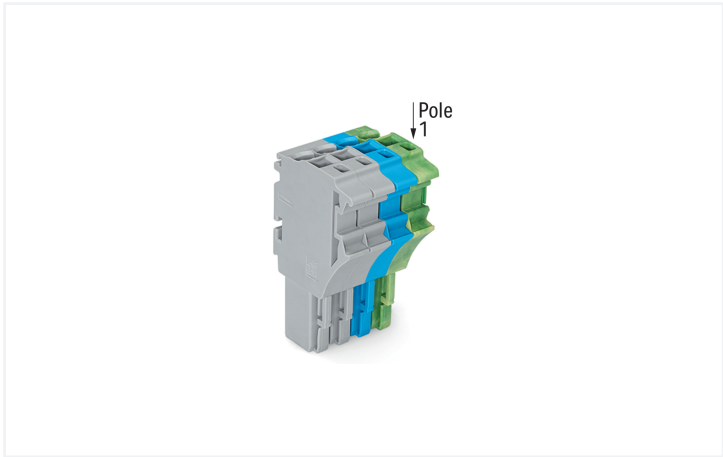




Color:  gray/blue/green-yellow

Female connector, 2022 Series, gray/blue/green-yellow

Our female connector (item number 2022-104/000-038/999-953) ensures effortless 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 hugely popular in switchgear and control systems, for example, in railroad technology. They combine the best of rail-mount terminal blocks and connectors for the perfect solution. Variable wiring systems make pre-assembly easy, which leads to considerable time and cost savings in production, installation, operation, and maintenance. Featuring conductor terminals along with Push-in CAGE CLAMP®, this product is highly versatile. Push-in CAGE CLAMP® connection technology is ideal for connecting all conductor types. It allows direct insertion of both solid and fine-stranded conductors with ferrules without needing to use any tools—all thanks to its pluggable design. The item's dimensions are (20.8 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.

An operating tool is used to operate this female connector/socket. This product is designed for specific Ex applications (please refer to the product datasheet).

| 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 |     |    | Approvals per |               |
|                                 |  |              |     |    | UL 1059       |               |
| Overvoltage category            |  | III          | III | II | Use group     | B C D         |
| Pollution degree                |  | 3            | 2   | 2  | Rated voltage | 600 V 600 V - |
| Nominal voltage                 |  | -            | -   | -  | Rated current | 20 A 20 A -   |
| Rated impulse withstand voltage |  | -            | -   | -  |               |               |
| Rated current                   |  | -            | -   | -  |               |               |



| 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 |

| Ex information             |       |
|----------------------------|-------|
| Rated voltage EN (Ex e II) | 630 V |

Connection Data

|                            |   |
|----------------------------|---|
| Clamping units             | 4 |
| Total number of potentials | 4 |

| 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                                                | 4                                                                                                                                 |
| Wiring direction                                           | Front-entry wiring                                                                                                                |

Physical data

|              |                        |
|--------------|------------------------|
| Width        | 20.8 mm / 0.819 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/blue/green-yellow                                                   |
| Material group                     | I                                                                        |
| Insulation material (main housing) | Polyamide (PA66)                                                         |
| Flammability class per UL94        | V0                                                                       |
| Fire load                          | 0.265 MJ                                                                 |
| Weight                             | 14.4 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       |  |               |
|-----------------------|--|---------------|
| PU (SPU)              |  | 100 pcs       |
| Packaging type        |  | Box           |
| Country of origin     |  | DE            |
| GTIN                  |  | 4066966674200 |
| 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                                                                 |               |                  | Declarations of conformity and manufacturer's declarations                          |          |                  |
|-----------------------------------------------------------------------------------|---------------|------------------|-------------------------------------------------------------------------------------|----------|------------------|
|  |               |                  |  |          |                  |
| Approval                                                                          | Standard      | Certificate Name | Approval                                                                            | Standard | Certificate Name |
| CSA<br>CSA Group                                                                  | C22.2 No. 158 | 2437422          | Railway<br>WAGO GmbH & Co. KG                                                       | -        | Z00004391.000    |

### Approvals for hazardous areas

| <div><div>PTB 0102<br/>Ex ec IIC Gc<br/> II 3 G</div><div></div><div></div></div> |                |                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------------------|
| Approval                                                                                                                                                                                                                                                                                                                                  | Standard       | Certificate Name                             |
| ATEX<br>Physikalisch Technische<br>Bundesanstalt                                                                                                                                                                                                                                                                                          | EN IEC 60079-0 | PTB 13 ATEX 1004 U (II 3 G<br>Ex ec II C Gc) |
| CCC<br>CNEX                                                                                                                                                                                                                                                                                                                               | GB/T 3836.3    | 2020312313000255 (Ex<br>ec IIC Gc)           |
| IECEx<br>Physikalisch Technische<br>Bundesanstalt                                                                                                                                                                                                                                                                                         | IEC 60079-0    | IECEx PTB 13.0004U (Ex<br>ec IIC Gc)         |



Downloads

Environmental Product Compliance

Compliance Search

↓

| Documentation            |            |                  |   |
|--------------------------|------------|------------------|---|
| Bid Text                 |            |                  |   |
| 2022-104/000-038/999-953 | 14.05.2019 | docx<br>15.49 KB | ↓ |
| 2022-104/000-038/999-953 | 15.05.2019 | xml<br>4.27 KB   | ↓ |

CAD/CAE-Data

CAE data

↓

1 Compatible Products

1.1 Optional Accessories

1.1.1 Ferrule

1.1.1.1 Ferrule

|                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><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 | <br><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 | <br><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 | <br><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     |
| <br><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     | <br><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 | <br><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 | <br><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 |
| <br><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  | <br><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  | <br><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  |                                                                                                                                                                                                                                                                                  |

1.1.2 Insulation stop

1.1.2.1 Insulation stop



**Item No.: 2002-171**  
Insulation stop; 0.25 - 0.5 mm²; 5 pieces/strip; light gray

**Item No.: 2002-172**  
Insulation stop; 0.75 - 1 mm²; 5 pieces/strip; dark gray

1.1.3 Marking

1.1.3.1 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

1.1.3.2 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

1.1.3.3 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

1.1.4 Protective warning marker

1.1.4.1 Cover



**Item No.: 2002-115**  
Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

1.1.5 Screwless end stop

1.1.5.1 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

1.1.6 Strain relief

1.1.6.1 Strain relief plate



**Item No.: 734-328**  
Strain relief plate; for female and male connectors; 12.5 mm wide; 1 part; gray

1.1.7 Tool

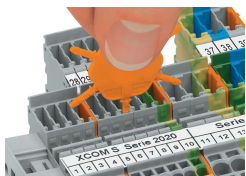
1.1.7.1 Operating tool



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

Installation Notes

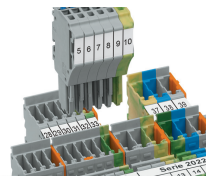
Coding



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.