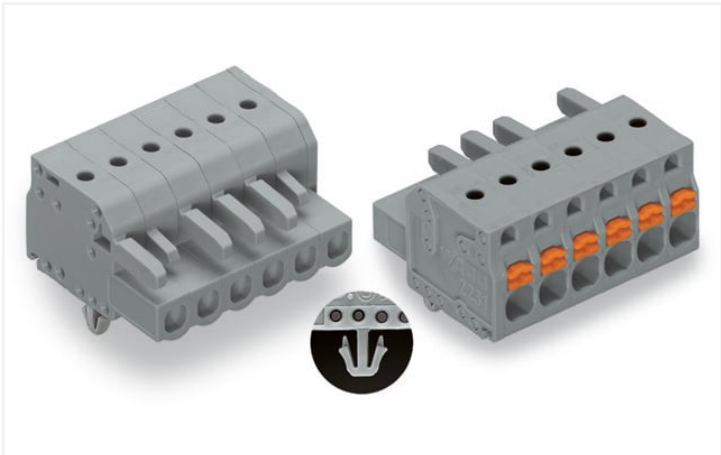


Data Sheet | Item Number: 2231-109/008-000

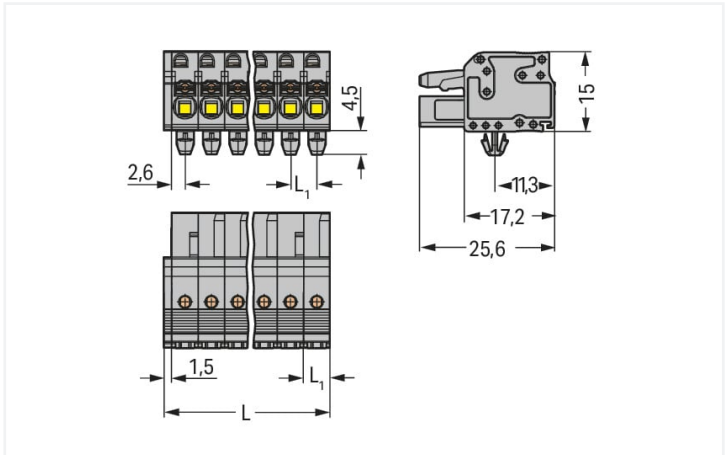
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 9-pole; Snap-in mounting feet; 2,50 mm²; gray

<https://www.wago.com/2231-109/008-000>

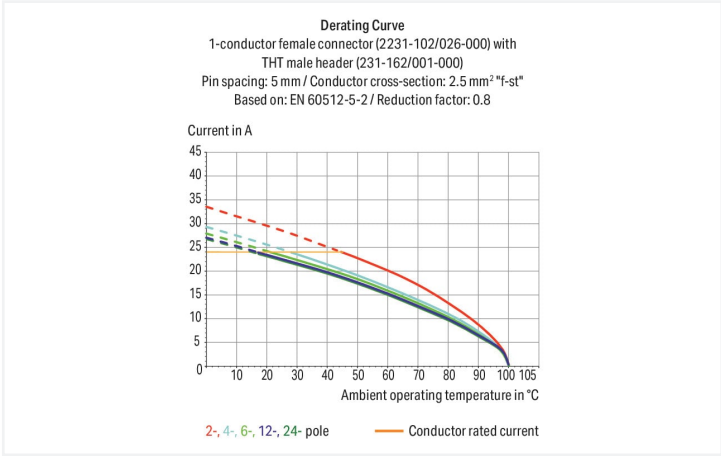


Color: ■ gray

Similar to illustration



Dimensions in mm  
L = (pole no. x pin spacing) + 1.5 mm  
L1 = 5 mm  
2- to 3-pole female connectors – one latch only



- Universal connection for all conductor types
- Easy-to-use design does not require specialty tools
- Ability to wire while mated
- Push-in termination of solid and ferruled conductors
- Integrated test ports for testing parallel to the conductor entry
- Coding option available

Notes

Safety information

The MCS – MULTI CONNECTION SYSTEM includes connectors without breaking capacity in accordance with DIN EN 61984. When used as intended, these connectors must not be connected/disconnected when live or under load. When used as intended, these connectors must not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

Variants:

Gold-plated or partially gold-plated contact surfaces  
Other versions (or variants) can be requested from WAGO Sales or configured at <https://configurator.wago.com/>.



Electrical data

| Ratings per          | IEC/EN 60664-1 |       |       |
|----------------------|----------------|-------|-------|
| Overvoltage category | III            | III   | II    |
| Pollution degree     | 3              | 2     | 2     |
| Nominal voltage      | 320 V          | 320 V | 630 V |
| Rated surge voltage  | 4 kV           | 4 kV  | 4 kV  |
| Rated current        | 16 A           | 16 A  | 16 A  |

| Approvals per | UL 1059 |       |       |
|---------------|---------|-------|-------|
| Use group     | B       | C     | D     |
| Rated voltage | 300 V   | 150 V | 300 V |
| Rated current | 15 A    | 15 A  | 10 A  |

| Approvals per | UL 1977 |
|---------------|---------|
| Rated voltage | 600 V   |
| Rated current | 15 A    |

| Approvals per | CSA   |       |       |
|---------------|-------|-------|-------|
| Use group     | B     | C     | D     |
| Rated voltage | 300 V | 150 V | 300 V |
| Rated current | 15 A  | 15 A  | 10 A  |

Connection data

|                            |   |
|----------------------------|---|
| Connection points          | 9 |
| Total number of potentials | 9 |
| Number of connection types | 1 |
| Number of levels           | 1 |

| Connection 1                                      |                                       |
|---------------------------------------------------|---------------------------------------|
| Connection technology                             | Push-in CAGE CLAMP®                   |
| Actuation type                                    | Push-button                           |
| Actuation direction 1                             | Operation parallel to conductor entry |
| Solid conductor                                   | 0.2 ... 2.5 mm² / 24 ... 12 AWG       |
| Fine-stranded conductor                           | 0.2 ... 2.5 mm² / 24 ... 12 AWG       |
| Fine-stranded conductor; with insulated ferrule   | 0.25 ... 1.5 mm²                      |
| Fine-stranded conductor; with uninsulated ferrule | 0.25 ... 2.5 mm²                      |
| Strip length                                      | 10 ... 11 mm / 0.39 ... 0.43 inches   |
| Pole number                                       | 9                                     |
| Conductor entry direction to mating direction     | 0°                                    |

Physical data

|                         |                        |
|-------------------------|------------------------|
| Pin spacing             | 5 mm / 0.197 inches    |
| Width                   | 46.5 mm / 1.831 inches |
| Height                  | 19.5 mm / 0.768 inches |
| Height from the surface | 15 mm / 0.591 inches   |
| Depth                   | 25.6 mm / 1.008 inches |

Mechanical data

|                          |                                         |
|--------------------------|-----------------------------------------|
| Variable coding          | Yes                                     |
| Housing sheet thickness  | 0.6 ... 1.2 mm / 0.024 ... 0.047 inches |
| Mounting type            | Snap-in foot<br>Panel mounting          |
| Anti-rotation protection | Yes                                     |



| Plug-in connection                 |                         |
|------------------------------------|-------------------------|
| Contact type (pluggable connector) | Female connector/socket |
| Connector (connection type)        | for conductor           |
| Mismating protection               | No                      |

| Material data               |                                                                                                                        |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------|
| Note (material data)        | <a href="https://www.wago.com/us/material-specifications">Information on material specifications can be found here</a> |
| Color                       | gray                                                                                                                   |
| Material group              | I                                                                                                                      |
| Insulation material         | Polyamide (PA66)                                                                                                       |
| Flammability class per UL94 | V0                                                                                                                     |
| Clamping spring material    | Chrome-nickel spring steel (CrNi)                                                                                      |
| Contact material            | Copper alloy                                                                                                           |
| Contact plating             | Tin                                                                                                                    |
| Fire load                   | 0.348 MJ                                                                                                               |
| Weight                      | 14.3 g                                                                                                                 |

| Environmental requirements |                 |
|----------------------------|-----------------|
| Limit temperature range    | -60 ... +100 °C |
| Processing temperature     | -35 ... +60 °C  |

| Commercial data       |                        |
|-----------------------|------------------------|
| Product Group         | 3 (Multi Conn. System) |
| eCl@ss 10.0           | 27-44-03-09            |
| eCl@ss 9.0            | 27-44-03-09            |
| ETIM 8.0              | EC002638               |
| ETIM 7.0              | EC002638               |
| PU (SPU)              | 50 pcs                 |
| Packaging type        | Box                    |
| Country of origin     | PL                     |
| GTIN                  | 4045454722166          |
| Customs tariff number | 85366990990            |

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

Approvals / Certificates

| General approvals                                                                                                                                                                                                                                                                                                                              |               |                  | General approvals              |         |        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|--------------------------------|---------|--------|
|     |               |                  | UR                             | UL 1977 | E45171 |
|                                                                                                                                                                                                                                                                                                                                                |               |                  | Underwriters Laboratories Inc. |         |        |
| Approval                                                                                                                                                                                                                                                                                                                                       | Standard      | Certificate Name |                                |         |        |
| CB<br>DEKRA Certification B.V.                                                                                                                                                                                                                                                                                                                 | IEC 61984     | NL-39756/A1      |                                |         |        |
| CSA<br>DEKRA Certification B.V.                                                                                                                                                                                                                                                                                                                | C22.2 No. 158 | 2314554          |                                |         |        |
| KEMA/KEUR<br>DEKRA Certification B.V.                                                                                                                                                                                                                                                                                                          | EN 61984      | 71-121453        |                                |         |        |
| UL<br>Underwriters Laboratories Inc.                                                                                                                                                                                                                                                                                                           | UL 1059       | E45172           |                                |         |        |



|                                                                                                                                                                                                      |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Downloads                                                                                                                                                                                            |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| Environmental Product Compliance                                                                                                                                                                     |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| Compliance Search                                                                                                                                                                                    |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| Environmental Product Compliance<br>2231-109/008-000                                                                                                                                                 |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| Documentation                                                                                                                                                                                        |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| Additional Information                                                                                                                                                                               |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| Technical Section                                                                                                                                                                                    | 03.04.2019                                                                                                                              | pdf<br>2010.85 KB                                                                                                            |                                                                                                                                                                                                 |  |
| CAD/CAE-Data                                                                                                                                                                                         |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| CAD data                                                                                                                                                                                             |                                                                                                                                         | CAE data                                                                                                                     |                                                                                                                                                                                                 |  |
| 2D/3D Models<br>2231-109/008-000                                                                                                                                                                     |                                                                                                                                         | ZUKEN Portal<br>2231-109/008-000                                                                                             |                                                                                                                                                                                                 |  |
|                                                                                                                                                                                                      |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| 1 Compatible Products                                                                                                                                                                                |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| 1.1 System counterpart                                                                                                                                                                               |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| 1.1.1 Male connector/plug                                                                                                                                                                            |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
|                                                                                                                                                                                                      |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| <div><div>Item No.: 231-609</div><div>1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 9-pole; 2,50 mm²; gray</div></div>                                                         |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| 1.2 Optional Accessories                                                                                                                                                                             |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| 1.2.1 Ferrule                                                                                                                                                                                        |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| 1.2.1.1 Ferrule                                                                                                                                                                                      |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
|                                                                                                                                                                                                      |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| <div><div>Item No.: 216-301</div><div>Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow</div></div>                                                                       | <div><div>Item No.: 216-321</div><div>Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow</div></div>          | <div><div>Item No.: 216-151</div><div>Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated</div></div>     | <div><div>Item No.: 216-131</div><div>Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated; silver-colored</div></div>                                                        |  |
|                                                                                                                                                                                                      |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| <div><div>Item No.: 216-302</div><div>Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise</div></div>                                                              | <div><div>Item No.: 216-322</div><div>Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise</div></div> | <div><div>Item No.: 216-132</div><div>Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated</div></div>     | <div><div>Item No.: 216-152</div><div>Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated</div></div>                                                                        |  |
|                                                                                                                                                                                                      |                                                                                                                                         |                                                                                                                              |                                                                                                                                                                                                 |  |
| <div><div>Item No.: 216-241</div><div>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> | <div><div>Item No.: 216-201</div><div>Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white</div></div>            | <div><div>Item No.: 216-221</div><div>Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white</div></div> | <div><div>Item No.: 216-141</div><div>Ferrule; Sleeve for 0.5 mm² / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92</div></div> |  |



1.2.1.1 Ferrule

|                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Item No.: 216-101</b><br>Ferrule; Sleeve for 0.5 mm² / AWG 22; un-insulated; electro-tin plated; silver-colored                                                               | <br><b>Item No.: 216-121</b><br>Ferrule; Sleeve for 0.5 mm² / AWG 22; un-insulated; electro-tin plated; silver-colored                                                         | <br><b>Item No.: 216-242</b><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><b>Item No.: 216-262</b><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><b>Item No.: 216-202</b><br>Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray                                                                           | <br><b>Item No.: 216-222</b><br>Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray                                                                     | <br><b>Item No.: 216-142</b><br>Ferrule; Sleeve for 0.75 mm² / 18 AWG; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                  | <br><b>Item No.: 216-102</b><br>Ferrule; Sleeve for 0.75 mm² / AWG 20; un-insulated; electro-tin plated; silver-colored                                                            |
| <br><b>Item No.: 216-122</b><br>Ferrule; Sleeve for 0.75 mm² / AWG 20; un-insulated; electro-tin plated; silver-colored                                                              | <br><b>Item No.: 216-243</b><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><b>Item No.: 216-263</b><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><b>Item No.: 216-103</b><br>Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red                                                                             |
| <br><b>Item No.: 216-223</b><br>Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red                                                                               | <br><b>Item No.: 216-103</b><br>Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated                                                                           | <br><b>Item No.: 216-143</b><br>Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                     | <br><b>Item No.: 216-123</b><br>Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated; silver-colored                                                               |
| <br><b>Item No.: 216-204</b><br>Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black                                                                           | <br><b>Item No.: 216-224</b><br>Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black                                                                     | <br><b>Item No.: 216-244</b><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><b>Item No.: 216-264</b><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><b>Item No.: 216-284</b><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><b>Item No.: 216-124</b><br>Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated                                                                       | <br><b>Item No.: 216-144</b><br>Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; silver-colored | <br><b>Item No.: 216-104</b><br>Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; silver-colored                                                           |
| <br><b>Item No.: 216-106</b><br>Ferrule; Sleeve for 2.5 mm² / AWG 14; un-insulated; electro-tin plated; silver-colored                                                             |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                       |

1.2.2 Installation

1.2.2.1 Mounting accessories



**Item No.: 209-137**  
Mounting adapter; can be used as end stop; 6.5 mm wide; gray

1.2.3 Insulation stop

1.2.3.1 Insulation stop



[Item No.: 231-671](#)  
Insulation stop; 0.25 - 0.5 mm²; light gray



[Item No.: 231-672](#)  
Insulation stop; 0.75 - 1 mm²; dark gray

1.2.4 Marking

1.2.4.1 Marking strip



[Item No.: 210-332/500-202](#)  
Marking strips; as a DIN A4 sheet; MARKED; 1-16 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



[Item No.: 210-332/500-205](#)  
Marking strips; as a DIN A4 sheet; MARKED; 1-32 (80x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



[Item No.: 210-332/500-204](#)  
Marking strips; as a DIN A4 sheet; MARKED; 17-32 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



[Item No.: 210-332/500-206](#)  
Marking strips; as a DIN A4 sheet; MARKED; 33-48 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

1.2.5 Mounting adapter

1.2.5.1 Mounting accessories



[Item No.: 209-148](#)  
Multi mounting adapter; for female and male connectors; 25 mm wide; 3 parts; gray

1.2.6 Strain relief

1.2.6.1 Strain relief plate



[Item No.: 734-326](#)  
Strain relief plate; for female and male connectors; 35 mm wide; 1 part; gray

1.2.7 Test and measurement

1.2.7.1 Testing accessories



[Item No.: 210-136](#)  
Test plug; 2 mm Ø; with 500 mm cable; red



[Item No.: 231-661](#)  
Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light gray

1.2.8 Tool

1.2.8.1 Operating tool



Item No.: 210-720

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

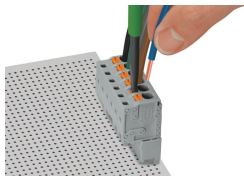


Item No.: 210-657

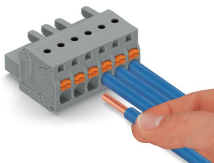
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

Installation Notes

Conductor termination

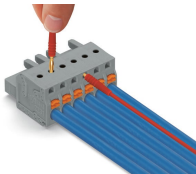


Inserting fine-stranded conductors into Push-in CAGE CLAMP® unit via push-buttons.



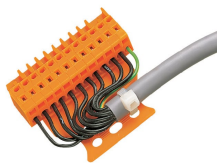
Push-in termination of solid conductors or fine-stranded conductors with ferrule

Testing

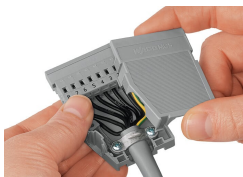


Testing parallel to conductor entry via integrated test ports – female connector with push-buttons and Push-in CAGE CLAMP® connection – touch contact perpendicular to conductor entry.

Installation

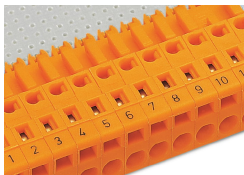


Male connector with strain relief plate



Strain relief housing shown with a male connector equipped with CAGE CLAMP®

Marking



Labeling via direct marking or self-adhesive strips.