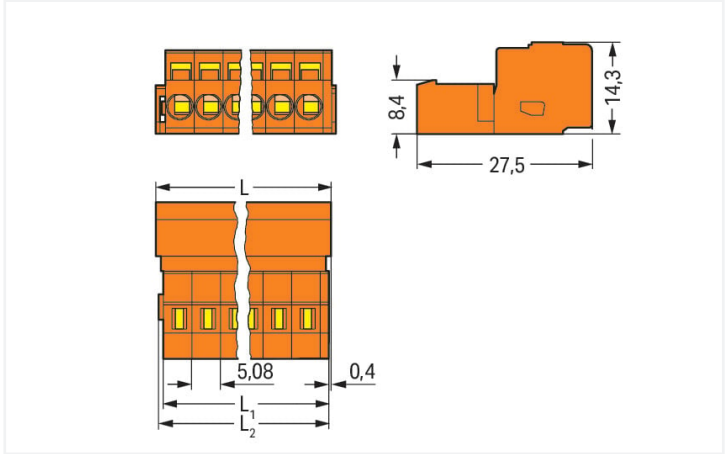
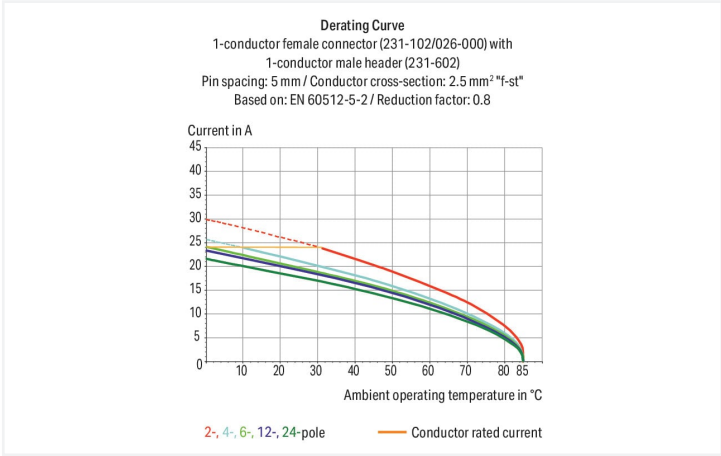




Color: ■ orange



Dimensions in mm  
 $L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$   
 $L1 = L - 1.7 \text{ mm}$   
 $L2 = L - 1.2 \text{ mm}$



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire and board-to-wire connections
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- With coding fingers

| 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:          | Other pole numbers<br>Gold-plated or partially gold-plated contact surfaces<br>Other versions (or variants) can be requested from WAGO Sales or configured at <a href="https://configurator.wago.com/">https://configurator.wago.com/</a> .   |



Electrical data

| Ratings per IEC/EN 60664-1 |       |       |       | Approvals per UL 1059 |       |   |       |
|----------------------------|-------|-------|-------|-----------------------|-------|---|-------|
| Overvoltage category       | III   | III   | II    | Use group             | B     | C | D     |
| Pollution degree           | 3     | 2     | 2     | Rated voltage         | 300 V | - | 300 V |
| Nominal voltage            | 320 V | 320 V | 630 V | Rated current         | 15 A  | - | 10 A  |
| Rated surge voltage        | 4 kV  | 4 kV  | 4 kV  |                       |       |   |       |
| Rated current              | 12 A  | 12 A  | 12 A  |                       |       |   |       |

| Approvals per UL 1977 |       | Approvals per CSA |       |   |       |
|-----------------------|-------|-------------------|-------|---|-------|
| Rated voltage         | 600 V | Use group         | B     | C | D     |
| Rated current         | 15 A  | Rated voltage     | 300 V | - | 300 V |
|                       |       | Rated current     | 15 A  | - | 10 A  |

Connection data

| Connection points          | 10 | Connection 1                                      |  |
|----------------------------|----|---|--|
| Total number of potentials | 10 | Connection technology                             | CAGE CLAMP®                                |
| Number of connection types | 1  | Actuation type                                    | Operating tool                             |
| Number of levels           | 1  | Actuation direction 1                             | Operation parallel to conductor entry      |
|                            |    | Actuation direction 2                             | Operation perpendicular to conductor entry |
|                            |    | Solid conductor                                   | 0.08 ... 2.5 mm² / 28 ... 12 AWG           |
|                            |    | Fine-stranded conductor                           | 0.08 ... 2.5 mm² / 28 ... 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                                      | 8 ... 9 mm / 0.31 ... 0.35 inches          |
|                            |    | Pole number                                       | 10   |
|                            |    | Conductor entry direction to mating direction     | 0°   |

Physical data

|             |                        |
|-------------|------------------------|
| Pin spacing | 5.08 mm / 0.2 inches   |
| Width       | 53.4 mm / 2.102 inches |
| Height      | 14.3 mm / 0.563 inches |
| Depth       | 27.5 mm / 1.083 inches |

Mechanical data

|                          |     |
|--------------------------|-----|
| Variable coding          | Yes |
| Anti-rotation protection | Yes |

Plug-in connection

|                                    |                     |
|------------------------------------|---------------------|
| Contact type (pluggable connector) | Male connector/plug |
| Connector (connection type)        | for conductor       |
| Mismating protection               | No                  |








| Material data               |  |  |
|-----------------------------|--|--|
| Note (material data)        |  | <a href="#">Information on material specifications can be found here</a> |
| Color                       |  | orange   |
| Material group              |  | I  |
| Insulation material         |  | Polyamide (PA66)   |
| Flammability class per UL94 |  | V0   |
| Clamping spring material    |  | Chrome-nickel spring steel (CrNi)  |
| Contact material            |  | Electrolytic copper (E <sub>Cu</sub> )                                   |
| Contact plating             |  | Tin  |
| Fire load                   |  | 0.257 MJ   |
| Weight                      |  | 15.4 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     |  | DE                     |
| GTIN                  |  | 4044918260558          |
| Customs tariff number |  | 85366930000            |




| 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 |
| CB<br>DEKRA Certification B.V.   | IEC 61984 | NL-39756/A1      | Railway<br>WAGO GmbH & Co. KG   | -        | Railway Ready    |
| CSA<br>DEKRA Certification B.V.  | C22.2     | 1466354          |   |          |                  |
| KEMA/KEUR<br>DEKRA Certification B.V.  | EN 61984  | 71-121453        |   |          |                  |
| UL<br>UL International Germany GmbH  | UL 1977   | E45171           |   |          |                  |
| UR<br>Underwriters Laboratories Inc.   | UL 1059   | E45172           |   |          |                  |



Approvals for marine applications

|  |  |  |
|--|---|---|
| Approval   | Standard  | Certificate Name  |
| ABS<br>American Bureau of Ship-<br>ping  | -   | 19-HG1869876-PDA  |
| DNV<br>DNV GL SE   | -   | TAE000016Z  |
| LR<br>Lloyds Register  | IEC 61984   | 96/20035 (E5)   |




Downloads

| Environmental Product Compliance            |   |
|---|---|
| Compliance Search                           |   |
| Environmental Product<br>Compliance 231-640 |  |

Documentation

| Additional Information |            |                   |   |
|------------------------|------------|-------------------|---|
| Technical Section      | 03.04.2019 | pdf<br>2027.26 KB |  |









CAD/CAE-Data

| CAD data  | CAE data  |
|---|---|
| 2D/3D Models 231-640  | EPLAN Data Portal<br>231-640  |
|  |  |
|   | ZUKEN Portal 231-640  |
|   |  |

1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket

|  |   |  |  |
|--|---|--|--|
|   |    |    |   |
| <b>Item No.: 232-310/026-000</b><br>1-conductor female connector, angled;<br>CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08<br>mm; 10-pole; 2,50 mm²; orange               | <b>Item No.: 232-410/026-000</b><br>1-conductor female connector, angled;<br>CAGE CLAMP®; 2.5 mm²; Pin spacing<br>5.08 mm; 10-pole; 2,50 mm²; orange                    | <b>Item No.: 231-310/026-000</b><br>1-conductor female connector; CAGE<br>CLAMP®; 2.5 mm²; Pin spacing 5.08 mm;<br>10-pole; 2,50 mm²; orange                           | <b>Item No.: 231-310/027-000</b><br>1-conductor female connector; CAGE<br>CLAMP®; 2.5 mm²; Pin spacing 5.08 mm;<br>10-pole; clamping collar; 2,50 mm²; oran-<br>ge         |
|   |    |    |   |
| <b>Item No.: 231-310/031-000</b><br>1-conductor female connector; CAGE<br>CLAMP®; 2.5 mm²; Pin spacing 5.08 mm;<br>10-pole; clamping collar; 2,50 mm²; oran-<br>ge | <b>Item No.: 231-310/037-000</b><br>1-conductor female connector; CAGE<br>CLAMP®; 2.5 mm²; Pin spacing 5.08 mm;<br>10-pole; Lateral locking levers; 2,50 mm²;<br>orange | <b>Item No.: 231-310/008-000</b><br>1-conductor female connector; CAGE<br>CLAMP®; 2.5 mm²; Pin spacing 5.08 mm;<br>10-pole; Snap-in mounting feet; 2,50<br>mm²; orange | <b>Item No.: 231-310/102-000</b><br>1-conductor female connector; CAGE<br>CLAMP®; 2.5 mm²; Pin spacing 5.08 mm;<br>10-pole; with integrated end plate; 2,50<br>mm²; orange |



1.1.1 Female connector/socket



**Item No.: 2231-310/026-000**  
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 10-pole; 2,50 mm²; orange



**Item No.: 2231-310/031-000**  
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 10-pole; clamping collar; 2,50 mm²; orange



**Item No.: 2231-310/037-000**  
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 10-pole; Lateral locking levers; 2,50 mm²; orange



**Item No.: 2231-310/008-000**  
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 10-pole; Snap-in mounting feet; 2,50 mm²; orange



**Item No.: 2231-310/102-000**  
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 10-pole; with integrated end plate; 2,50 mm²; orange



**Item No.: 231-2310/037-000**  
2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 10-pole; Lateral locking levers; 2,50 mm²; orange



**Item No.: 231-2310/026-000**  
2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 10-pole; with integrated end plate; 2,50 mm²; orange



**Item No.: 232-270**  
THT female header; angled; Pin spacing 5.08 mm; 10-pole; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-270/031-000**  
THT female header; angled; Pin spacing 5.08 mm; 10-pole; clamping collar; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-270/039-000**  
THT female header; angled; Pin spacing 5.08 mm; 10-pole; Locking lever; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-270/047-000**  
THT female header; angled; Pin spacing 5.08 mm; 10-pole; Spacer flange; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-170**  
THT female header; straight; Pin spacing 5.08 mm; 10-pole; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-170/031-000**  
THT female header; straight; Pin spacing 5.08 mm; 10-pole; clamping collar; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-170/039-000**  
THT female header; straight; Pin spacing 5.08 mm; 10-pole; Locking lever; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-170/047-000**  
THT female header; straight; Pin spacing 5.08 mm; 10-pole; Spacer flange; 0.6 x 1.0 mm solder pin; orange

1.2 Optional Accessories

1.2.1 Coding

1.2.1.1 Coding



**Item No.: 231-129**  
Coding key; snap-on type; light gray

1.2.2 Cover

1.2.2.1 Cover



**Item No.: 231-669**  
Lockout caps; for covering unused clamping units; orange

1.2.3 Ferrule

1.2.3.1 Ferrule



**Item No.: 216-301**  
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow



**Item No.: 216-321**  
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow



**Item No.: 216-151**  
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated



**Item No.: 216-131**  
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated; silver-colored



**Item No.: 216-302**  
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise



**Item No.: 216-322**  
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise
































**Item No.: 216-132**  
Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated



**Item No.: 216-152**  
Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated



1.2.3.1 Ferrule

|   |   |   |   |
|---|---|---|---|
| <br><b>Item No.: 216-241</b><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><b>Item No.: 216-201</b><br>Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white   | <br><b>Item No.: 216-221</b><br>Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white   | <br><b>Item No.: 216-141</b><br>Ferrule; Sleeve for 0.5 mm² / 20 AWG; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92       |
| <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.: 216-203</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   |   |   |   |



1.2.4 Insulation stop

1.2.4.1 Insulation stop



[Item No.: 231-670](#)  
Insulation stop; 0.08-0.2 mm² / 0.2 mm²  
"s"; white



[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

1.2.5 Jumper

1.2.5.1 Jumper



[Item No.: 231-910](#)  
Jumper; for conductor entry; 10-way; insulated; gray



[Item No.: 231-902](#)  
Jumper; for conductor entry; 2-way; insulated; gray



[Item No.: 231-903](#)  
Jumper; for conductor entry; 3-way; insulated; gray



[Item No.: 231-905](#)  
Jumper; for conductor entry; 5-way; insulated; gray



[Item No.: 231-907](#)  
Jumper; for conductor entry; 7-way; insulated; gray

1.2.6 Marking

1.2.6.1 Marking strip



[Item No.: 210-331/508-103](#)  
Marking strips; as a DIN A4 sheet; MARKED; 1-12 (200x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white



[Item No.: 210-332/508-202](#)  
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.: 210-332/508-205](#)  
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.: 210-331/508-104](#)  
Marking strips; as a DIN A4 sheet; MARKED; 13-24 (200x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white



[Item No.: 210-332/508-204](#)  
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.: 210-332/508-206](#)  
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

1.2.7 Strain relief

1.2.7.1 Strain relief housing



[Item No.: 232-640](#)  
Strain relief housing; for female and male connectors; 2 parts; Pin spacing 5.08 mm; 10-pole; orange

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



**Item No.: 209-132**  
Operating tool; for connecting comb-style jumper bar; made of insulating material; 2-way; natural



**Item No.: 280-440**  
Operating tool; made of insulating material; 10-way



**Item No.: 209-130**  
Operating tool; made of insulating material; 1-way; for 264 Series (1-1/2-way), 280, 281 Series (up to 3-way); natural



**Item No.: 231-291**  
Operating tool; made of insulating material; 1-way; loose; red



**Item No.: 231-131**  
Operating tool; made of insulating material; 1-way; loose; white



**Item No.: 280-432**  
Operating tool; made of insulating material; 2-way; white



**Item No.: 280-433**  
Operating tool; made of insulating material; 3-way



**Item No.: 280-434**  
Operating tool; made of insulating material; 4-way



**Item No.: 280-435**  
Operating tool; made of insulating material; 5-way; gray



**Item No.: 280-436**  
Operating tool; made of insulating material; 6-way



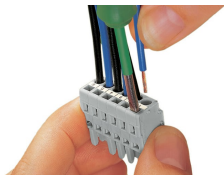
**Item No.: 280-437**  
Operating tool; made of insulating material; 7-way



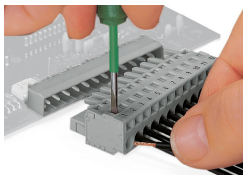
**Item No.: 280-438**  
Operating tool; made of insulating material; 8-way

Installation Notes

Conductor termination



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.

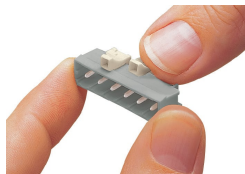


Inserting a conductor into CAGE CLAMP® unit via operating tool (231-291).



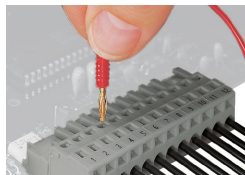
Inserting a conductor via operating tool.

Coding



Coding a male header – fitting coding key(s).

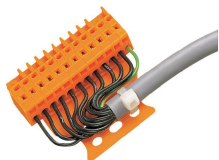
Testing



Testing – female connector with CAGE CLAMP® Integrated test ports for testing perpendicular to conductor entry via 2 or 2.3 mm Ø test plug



## Installation

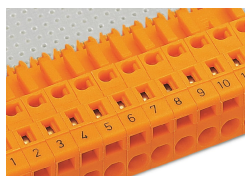


Male connector with strain relief plate



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

## Marking



Labeling via direct marking or self-adhesive strips.