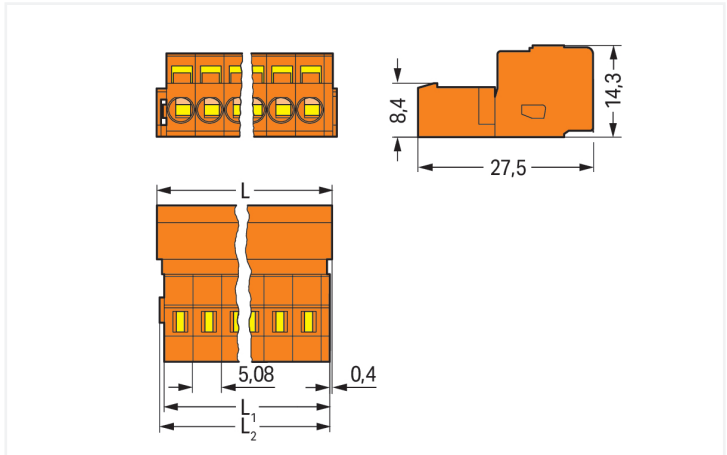
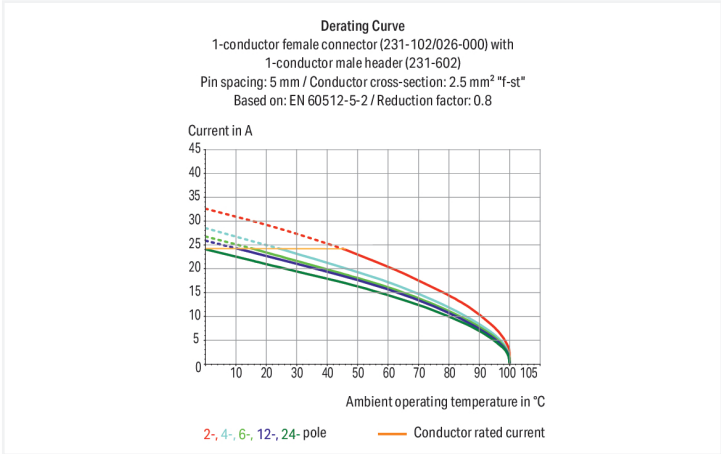




Color: ■ orange



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



**Stiftleiste Serie 231 mit Betätigungswerkzeug**

Bei dieser Stiftleiste (Artikelnummer 231-637) ist eine reibungslose Elektroinstallation das Hauptaugenmerk. Mit unseren Leiterplatten-Steckverbindern erhalten Sie ein ganzheitliches Steckverbindersystem, das vielseitig eingesetzt werden kann: als Leiterplatten-Steckverbinder, als Durchführungssteckverbinder, als fliegende Steckverbindung für verschiedene Montagearten oder als Steckverbinder auf Reihenklemmen. Für den Leiteranschluss werden bei dieser Stiftleiste Abisolierlängen von 8 bis 9 mm benötigt. Dieses Produkt ist mit der CAGE CLAMP®-Technologie ausgestattet. Der zuverlässige und wartungsfreie CAGE CLAMP® Universalanschluss bietet die Möglichkeit, alle Arten von Leitern mit einer Käfigzugfeder anzuschließen, ohne, dass eine Vorbehandlung der Leiter erforderlich ist. Das Aufcrimpen von Aderendhülsen kann somit entfallen. Die Abmessungen sind in Breite x Höhe x Tiefe (38,76 x 14,3 x 27,5) mm. In Abhängigkeit von der Leiterart eignet sich diese Stiftleiste für Leiterquerschnitte von 0,08 mm² bis 2,5 mm². Für die Oberfläche der Kontakte wurde Zinn eingesetzt. Über ein Betätigungswerkzeug wird diese Stiftleiste/Stecker betätigt. Das "Multi Connection System" – MCS von WAGO ist das vielfältige Steckverbindersystem mit überzeugenden Lösungen für Ihre Anwendungen.

| 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

| Clamping units             | 7 | Connection 1                                      |                                            |
|----------------------------|---|---------------------------------------------------|--------------------------------------------|
| Total number of potentials | 7 | 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                                       | 7                                          |
|                            |   | Conductor entry direction to mating direction     | 0°                                         |

Physical data

|             |                         |
|-------------|-------------------------|
| Pin spacing | 5.08 mm / 0.2 inches    |
| Width       | 38.76 mm / 1.526 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 (main housing) | 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                          | 0.176 MJ                                                                 |
| Weight                             | 11 g                                                                     |

| Environmental requirements                                                                         |                                                                                                                                             |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Limit temperature range                                                                            | -60 ... +100 °C                                                                                                                             |
| Processing temperature                                                                             | -35 ... +60 °C                                                                                                                              |
| Environmental Testing (Environmental Conditions)                                                   |                                                                                                                                             |
| 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       |                        |  |
|-----------------------|------------------------|--|
| Product Group         | 3 (Multi Conn. System) |  |
| PU (SPU)              | 50 pcs                 |  |
| Packaging type        | Box                    |  |
| Country of origin     | DE                     |  |
| GTIN                  | 4044918260237          |  |
| Customs tariff number | 85366930000            |  |

| Product classification |                      |  |
|------------------------|----------------------|--|
| UNSPSC                 | 39121409             |  |
| eCl@ss 10.0            | 27-44-03-09          |  |
| eCl@ss 9.0             | 27-44-03-09          |  |
| ETIM 9.0               | EC002638             |  |
| ETIM 8.0               | EC002638             |  |
| 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 |
| CB<br>DEKRA Certification B.V.                                                     | IEC 61984 | NL-113351        | 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  | 71-130478 REV.1  |                                                                                     |          |                  |
| 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 Compliance 231-637

↓

Documentation

Additional Information

Technical Section

03.04.2019

pdf

2027.26 KB

↓

CAD/CAE-Data

CAD data

2D/3D Models 231-637

↓

CAE data

EPLAN Data Portal 231-637

↓

ZUKEN Portal 231-637

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1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket

|                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Item No.: 232-407/026-000</b><br>1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; 2,50 mm²; orange                                          | <br><b>Item No.: 232-307/026-000</b><br>1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; direct marking; 2,50 mm²; orange                | <br><b>Item No.: 231-307/027-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; clamping collar; orange                                        | <br><b>Item No.: 231-307/031-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; clamping collar; orange                                       |
| <br><b>Item No.: 231-307/037-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; Lateral locking levers; orange                                    | <br><b>Item No.: 231-307/026-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; orange                                                  | <br><b>Item No.: 231-307/008-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; Snap-in mounting feet; orange                                  | <br><b>Item No.: 231-307/102-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; with integrated end plate; orange                             |
| <br><b>Item No.: 2231-307/026-000</b><br>1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; 2,50 mm²; orange                            | <br><b>Item No.: 2231-307/031-000</b><br>1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; clamping collar; 2,50 mm²; orange | <br><b>Item No.: 2231-307/037-000</b><br>1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; Lateral locking levers; 2,50 mm²; orange | <br><b>Item No.: 2231-307/008-000</b><br>1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; Snap-in mounting feet; 2,50 mm²; orange |
| <br><b>Item No.: 2231-307/102-000</b><br>1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; with integrated end plate; 2,50 mm²; orange | <br><b>Item No.: 231-2307/037-000</b><br>2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; Lateral locking levers; orange                 | <br><b>Item No.: 231-2307/026-000</b><br>2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 7-pole; with integrated end plate; orange                     | <br><b>Item No.: 232-267</b><br>THT female header; angled; Pin spacing 5.08 mm; 7-pole; 0.6 x 1.0 mm solder pin; orange                                                                |
| <br><b>Item No.: 232-267/031-000</b><br>THT female header; angled; Pin spacing 5.08 mm; 7-pole; clamping collar; 0.6 x 1.0 mm solder pin; orange                                           | <br><b>Item No.: 232-267/039-000</b><br>THT female header; angled; Pin spacing 5.08 mm; 7-pole; Locking lever; 0.6 x 1.0 mm solder pin; orange                                   | <br><b>Item No.: 232-267/047-000</b><br>THT female header; angled; Pin spacing 5.08 mm; 7-pole; Spacer flange; 0.6 x 1.0 mm solder pin; orange                                          | <br><b>Item No.: 232-167</b><br>THT female header; straight; Pin spacing 5.08 mm; 7-pole; 0.6 x 1.0 mm solder pin; orange                                                              |



1.1.1 Female connector/socket



**Item No.: 232-167/031-000**  
THT female header; straight; Pin spacing 5.08 mm; 7-pole; clamping collar; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-167/039-000**  
THT female header; straight; Pin spacing 5.08 mm; 7-pole; Locking lever; 0.6 x 1.0 mm solder pin; orange



**Item No.: 232-167/047-000**  
THT female header; straight; Pin spacing 5.08 mm; 7-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.: 216-302**  
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise



**Item No.: 216-201**  
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white



**Item No.: 216-241**  
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



**Item No.: 216-141**  
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



**Item No.: 216-101**  
Ferrule; Sleeve for 0.5 mm² / AWG 22; un-insulated; electro-tin plated; silver-colored



**Item No.: 216-242**  
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



**Item No.: 216-262**  
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



**Item No.: 216-202**  
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray



**Item No.: 216-142**  
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



**Item No.: 216-102**  
Ferrule; Sleeve for 0.75 mm² / AWG 20; un-insulated; electro-tin plated; silver-colored



**Item No.: 216-243**  
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red



**Item No.: 216-263**  
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red



**Item No.: 216-203**  
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red



**Item No.: 216-103**  
Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated



**Item No.: 216-143**  
Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



1.2.3.1 Ferrule



**Item No.: 216-204**  
Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black



**Item No.: 216-244**  
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



**Item No.: 216-264**  
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



**Item No.: 216-284**  
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



**Item No.: 216-144**  
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



**Item No.: 216-104**  
Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; silver-colored



**Item No.: 216-106**  
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.: 231-902**  
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.: 232-637**  
Strain relief housing; for female and male connectors; 2 parts; Pin spacing 5.08 mm; 7-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.: 209-130**  
Operating tool; made of insulating material; 1-way; for 264 Series (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; white



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



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



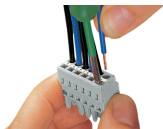
**Item No.: 280-436**  
Operating tool; made of insulating material; 6-way; white



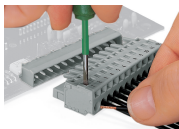
**Item No.: 280-437**  
Operating tool; made of insulating material; 7-way; white

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.

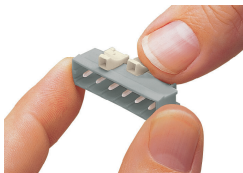


Inserting a conductor into CAGE CLAMP® unit via operating tool (231-291).



Inserting a conductor via operating tool.

Coding



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

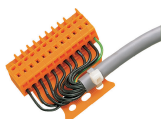
## Testing



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.