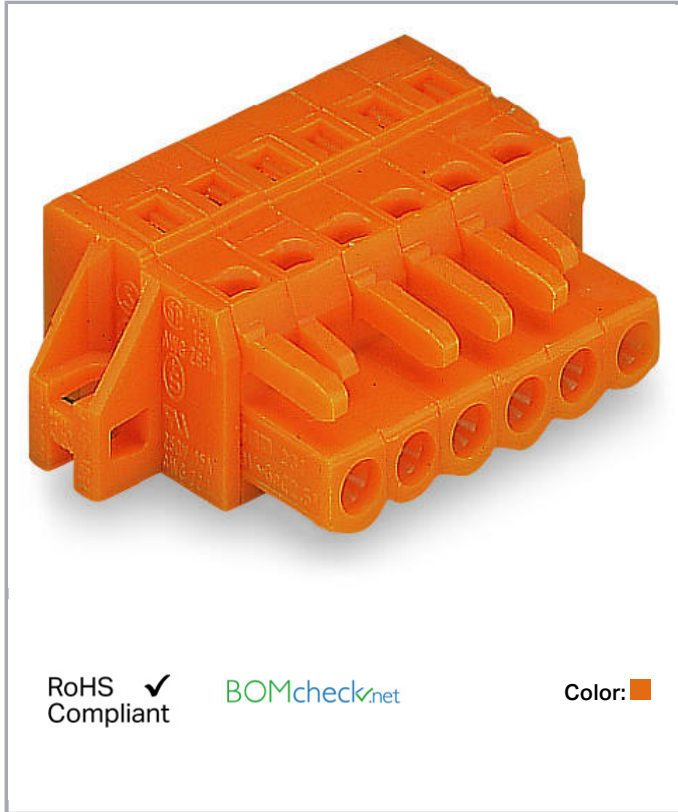


Data sheet | Item number: 231-312/031-000

1-conductor female plug; clamping collar; 2.5 mm²; Pin spacing 5.08 mm; 12-pole; 2,50 mm²; orange

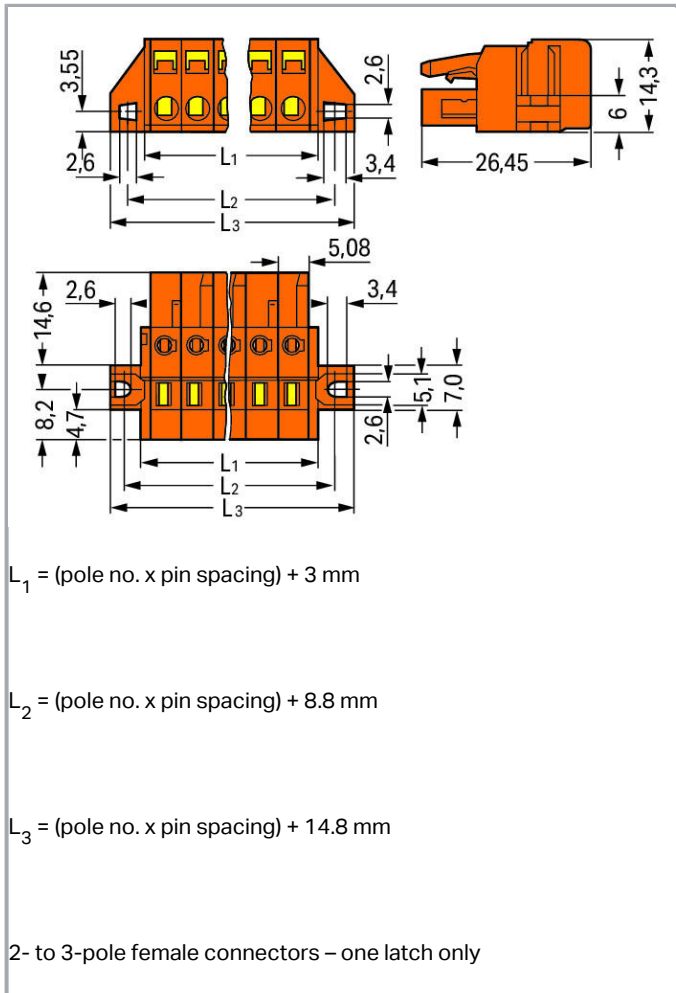
www.wago.com/231-312/031-000



Subject to changes. Please also observe the further product documentation!

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Item description

- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- Integrated test ports
- With coding fingers

Safety information 1:

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall 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.

Subject to changes. Please also observe the further product documentation!

Data

Electrical data

Ratings per IEC/EN 60664-1

| Ratings per | IEC/EN 60664-1 |
|---------------------------------|---|
| Rated voltage (III / 3) | 320 V |
| Rated impulse voltage (III / 3) | 4 kV |
| Rated voltage (III / 2) | 320 V |
| Rated impulse voltage (III / 2) | 4 kV |
| Rated voltage (II / 2) | 630 V |
| Rated impulse voltage (II / 2) | 4 kV |
| Rated current | 16 A |
| Legend (ratings) | (III / 2) $\hat{=}$ Overvoltage category III / Pollution degree 2 |

Approvals per UL 1059

| | |
|--------------------------------|---------|
| Rated voltage UL (Use Group B) | 300 V |
| Rated current UL (Use Group B) | 15 A |
| Rated voltage UL (Use Group D) | 300 V |
| Rated current UL (Use Group D) | 10 A |
| Approvals per | UL 1059 |

Approvals per UL 1977

| | |
|---|-------|
| Rated voltage per UL 1977 (factory wiring only) | 600 V |
| Rated current per UL 1977 (factory wiring only) | 15 A |

Approvals per CSA

| | |
|---------------------------------|-------|
| Rated voltage CSA (Use Group B) | 300 V |
| Rated current CSA (Use Group B) | 15 A |
| Rated voltage CSA (Use Group D) | 300 V |
| Rated current CSA (Use Group D) | 10 A |

Connection data

| | |
|-----------------------|----------------|
| Connection technology | CAGE CLAMP® |
| Actuation type | Operating tool |

Subject to changes. Please also observe the further product documentation!



| | |
|---|--|
| Solid conductor | 0.08 ... 2.5 mm ² / 28 ... 12 AWG |
| Fine-stranded conductor | 0.08 ... 2.5 mm ² / 28 ... 12 AWG |
| Fine-stranded conductor with ferrule with plastic collar | 0.25 ... 1.5 mm ² |
| Fine-stranded conductor with ferrule without plastic collar | 0.25 ... 2.5 mm ² |
| Strip length | 8 ... 9 mm / 0.31 ... 0.35 inch |
| No. of poles | 12 |
| Total number of connection points | 12 |
| Total number of potentials | 12 |
| Number of connection types | 1 |
| Number of levels | 1 |
| Conductor entry direction to mating direction | 0° |

Geometrical Data

| | |
|-------------|-----------------------|
| Pin spacing | 5.08 mm / 0.2 inch |
| Width | 75.76 mm / 2.983 inch |
| Height | 14.3 mm / 0.563 inch |
| Depth | 26.45 mm / 1.041 inch |

Mechanical data

| | |
|------------------|---|
| Mounting type | Mounting flange |
| Type of mounting | Feed-through mounting Panel mounting |

Plug connection

| | |
|------------------------------------|-------------------------|
| Contact type (pluggable connector) | Female connector/socket |
| Connector connection type | for conductors |
| Mismatching protection | No |

Material Data

| | |
|-----------------------------|-----------------------------------|
| Color | orange |
| Material group | I |
| Insulating material | Polyamide 66 (PA 66) |
| Flammability class per UL94 | V0 |
| Clamping spring material | Chrome nickel spring steel (CrNi) |
| Contact material | Copper alloy |
| Contact plating | tin-plated |
| Fire load | 0.33 MJ |

Subject to changes. Please also observe the further product documentation!

| | |
|--------|-------|
| Weight | 22.9g |
|--------|-------|

Environmental Requirements



| | |
|-------------------------|----------------|
| Limit temperature range | -60 ... +85 °C |
|-------------------------|----------------|

Commercial data


| | |
|--------------------|------------------------|
| Product Group | 3 (Multi Conn. System) |
| Packaging type | BOX |
| Country of origin | DE |
| GTIN | 4044918348584 |
| Customs Tariff No. | 85366990990 |

Approvals / Certificates

Country specific Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|--|--|--------------------------|------------------|
| | CB DEKRA Certification B.V. | IEC 61984 | NL-39756 |
|  | CSA DEKRA Certification B.V. | C22.2 | 1466354 |
|  | KEMA/KEUR DEKRA Certification B.V. | EN 61984 | 2190761.01 |

Ship Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|--|---|--------------------------|--------------------------|
|  | ABS American Bureau of Shipping | - | 19- HG1869876- PDA |

UL-Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|------|--|--------------------------|------------------|
| | UL UL International Germany GmbH | UL 1977 | E45171 |

Subject to changes. Please also observe the further product documentation!

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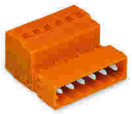
UR

Underwriters Laboratories Inc.

UL 1059

E45172

Counterpart



Item no.231-642

1-conductor male connector; 2.5 mm²; Pin spacing 5.08 mm; 12-pole; 2,50 mm²; orange

www.wago.com/231-642



Item no.231-342/001-000

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5.08 mm; 12-pole; orange

www.wago.com/231-342/001-000



Item no.231-542/001-000

THT male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5.08 mm; 12-pole; orange

www.wago.com/231-542/001-000

Compatible products

General accessories

Item no.: 231-669

Lockout caps; for covering unused clamping units; orange

www.wago.com/231-669

Jumper



Item no.: 231-902

Comb-style jumper bar; for 5 mm and 5.08 mm pin spacing; reduces conductor size to 1.5 mm; gray

www.wago.com/231-902



Item no.: 231-903

Comb-style jumper bar; 3-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated; gray

www.wago.com/231-903

Item no.: 231-905

Subject to changes. Please also observe the further product documentation!

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| | | |
|--|---|--|
|  | Comb-style jumper bar; 5-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated; gray | www.wago.com/231-905 |
| | Item no.: 231-907 | |
|  | Comb-style jumper bar; 7-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated; gray | www.wago.com/231-907 |
| | Item no.: 231-910 | |
|  | Comb-style jumper bar; 10-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated; gray | www.wago.com/231-910 |
| Insulation stop | | |
| | Item no.: 231-670 | www.wago.com/231-670 |
| | Insulation stop; 0.08-0.2 mm ² / 0.2 mm ² "s"; white | |
|  | Item no.: 231-671 | www.wago.com/231-671 |
| | Insulation stop; 0.25 - 0.5 mm ² ; light gray | |
|  | Item no.: 231-672 | www.wago.com/231-672 |
| | Insulation stop; 0.75 - 1 mm ² ; dark gray | |
| Marking accessories | | |
| | Item no.: 210-331/508-103 | www.wago.com/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.: 210-331/508-104 | www.wago.com/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.: 210-332/508-202 | www.wago.com/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.: 210-332/508-204 | www.wago.com/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.: 210-332/508-205 | www.wago.com/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.: 210-332/508-206 | www.wago.com/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 | |
| Test Accessories | | |
| | Item no.: 210-136 | www.wago.com/210-136 |
| | Test plug; 2 mm Ø; with 500 mm cable; red | |
|  | Item no.: 210-137 | www.wago.com/210-137 |
| | Test plug; 2.3 mm Ø; with 500 mm cable; yellow | |
| | Item no.: 231-661 | |

Subject to changes. Please also observe the further product documentation!

Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light graywww.wago.com/231-661

ferrule

**Item no.: 216-101**Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin platedwww.wago.com/216-101**Item no.: 216-102**Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin platedwww.wago.com/216-102**Item no.: 216-103**Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin platedwww.wago.com/216-103**Item no.: 216-104**Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin platedwww.wago.com/216-104**Item no.: 216-106**Ferrule; Sleeve for 2.5 mm² / AWG 14; uninsulated; electro-tin platedwww.wago.com/216-106**Item no.: 216-121**Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin platedwww.wago.com/216-121**Item no.: 216-122**Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin platedwww.wago.com/216-122**Item no.: 216-123**Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin platedwww.wago.com/216-123**Item no.: 216-124**Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin platedwww.wago.com/216-124**Item no.: 216-131**Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin platedwww.wago.com/216-131**Item no.: 216-132**Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin platedwww.wago.com/216-132**Item no.: 216-141**Ferrule; Sleeve for 0.5 mm² / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92www.wago.com/216-141**Item no.: 216-142**Ferrule; Sleeve for 0.75 mm² / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92www.wago.com/216-142**Item no.: 216-143**Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92www.wago.com/216-143**Item no.: 216-144**Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92www.wago.com/216-144**Item no.: 216-151**Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin platedwww.wago.com/216-151

Subject to changes. Please also observe the further product documentation!

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| | | |
|--|--|--|
|  | Item no.: 216-152 Ferrule; Sleeve for 0.34 mm ² / AWG 24; uninsulated; electro-tin plated | www.wago.com/216-152 |
|  | Item no.: 216-201 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; white | www.wago.com/216-201 |
| | Item no.: 216-202 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; gray | www.wago.com/216-202 |
|  | Item no.: 216-203 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; red | www.wago.com/216-203 |
|  | Item no.: 216-204 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; black | www.wago.com/216-204 |
| | Item no.: 216-221 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; white | www.wago.com/216-221 |
|  | Item no.: 216-222 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; gray | www.wago.com/216-222 |
|  | Item no.: 216-223 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; red | www.wago.com/216-223 |
|  | Item no.: 216-224 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; black | www.wago.com/216-224 |
| | Item no.: 216-241 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white | www.wago.com/216-241 |
|  | Item no.: 216-242 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray | www.wago.com/216-242 |
|  | Item no.: 216-243 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red | www.wago.com/216-243 |
| | Item no.: 216-244 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black | www.wago.com/216-244 |
| | Item no.: 216-262 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray | www.wago.com/216-262 |
|  | Item no.: 216-263 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red | www.wago.com/216-263 |
|  | Item no.: 216-264 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black | www.wago.com/216-264 |
| | Item no.: 216-284 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black | www.wago.com/216-284 |

Subject to changes. Please also observe the further product documentation!

| | | |
|--|--|--|
| | Item no.: 216-301 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated; yellow | www.wago.com/216-301 |
|  | Item no.: 216-302 Ferrule; Sleeve for 0.34 mm ² / 22 AWG; insulated; electro-tin plated; green | www.wago.com/216-302 |
| | Item no.: 216-321 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated; yellow | www.wago.com/216-321 |
|  | Item no.: 216-322 Ferrule; Sleeve for 0.34 mm ² / 22 AWG; insulated; electro-tin plated; green | www.wago.com/216-322 |
| assembling | | |
|  | Item no.: 209-147 Self-tapping screw | www.wago.com/209-147 |
| | Item no.: 231-194 Self-tapping screw; B 2.2x13, fixing hole 1.8 mm Ø | www.wago.com/231-194 |
|  | Item no.: 231-195 Screw with nut; M2x12; for fixing element | www.wago.com/231-195 |
| | Item no.: 231-295 Screw with nut | www.wago.com/231-295 |
| Strain relief plate | | |
|  | Item no.: 232-642 Strain relief housing; orange | www.wago.com/232-642 |
| tools | | |
|  | Item no.: 209-130 Operating tool; suitable for 264, 280 and 281 Series; 1-way; of insulating material | www.wago.com/209-130 |
|  | Item no.: 209-132 Operating tool; for connecting comb-style jumper bar; 2-way; of insulating material | www.wago.com/209-132 |
|  | Item no.: 210-657 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short | www.wago.com/210-657 |
| | Item no.: 210-720 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft | www.wago.com/210-720 |
|  | Item no.: 231-131 Push-button; loose | www.wago.com/231-131 |
|  | Item no.: 231-159 Operating tool; natural | www.wago.com/231-159 |
|  | Item no.: 231-231 Combination operating tool; red | www.wago.com/231-231 |
|  | Item no.: 231-291 Operating tool; loose; red | www.wago.com/231-291 |

Subject to changes. Please also observe the further product documentation!

| | | |
|--|--|--|
|  | Item no.: 280-432 Operating tool; made of insulating material; 2-way | www.wago.com/280-432 |
|  | Item no.: 280-433 Operating tool; made of insulating material; 3-way | www.wago.com/280-433 |
| | Item no.: 280-434 Operating tool; made of insulating material; 4-way | www.wago.com/280-434 |
|  | Item no.: 280-435 Operating tool; made of insulating material; 5-way; gray | www.wago.com/280-435 |
|  | Item no.: 280-436 Operating tool; made of insulating material; 6-way | www.wago.com/280-436 |
|  | Item no.: 280-437 Operating tool; made of insulating material; 7-way | www.wago.com/280-437 |
|  | Item no.: 280-438 Operating tool; made of insulating material; 8-way | www.wago.com/280-438 |
|  | Item no.: 280-440 Operating tool; made of insulating material; 10-way | www.wago.com/280-440 |

Downloads

Documentation

Additional Information

| | | | |
|------------------------|-------------|---------------|----------|
| Technical explanations | Apr 3, 2019 | pdf 3.6 MB | Download |
|------------------------|-------------|---------------|----------|

CAD/CAE-Data

CAD data

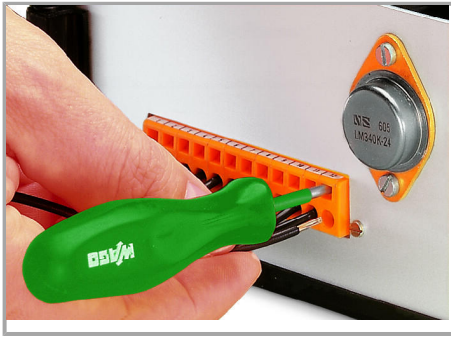
| | | |
|------------------------------|-----|----------|
| 2D/3D Models 231-312/031-000 | URL | Download |
|------------------------------|-----|----------|

CAE data

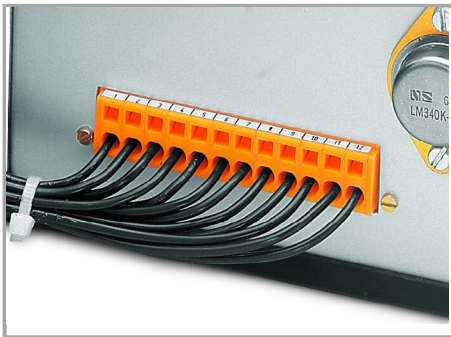
| | | |
|-----------------------------------|-----|----------|
| EPLAN Data Portal 231-312/031-000 | URL | Download |
|-----------------------------------|-----|----------|

Installation Notes

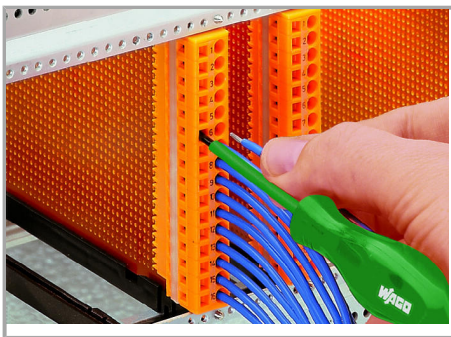
Subject to changes. Please also observe the further product documentation!



Female connectors with mounting flanges can be used as PCB through-panel connectors – conductor termination parallel to CAGE CLAMP® actuation.



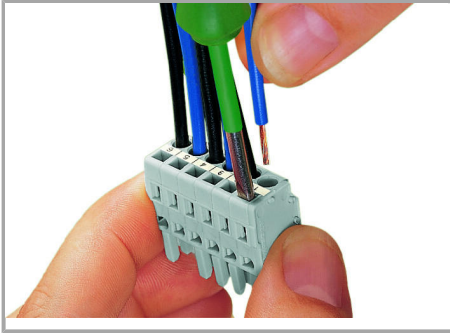
PCB female connectors with mounting flanges can be used as through-panel connectors for external wiring.



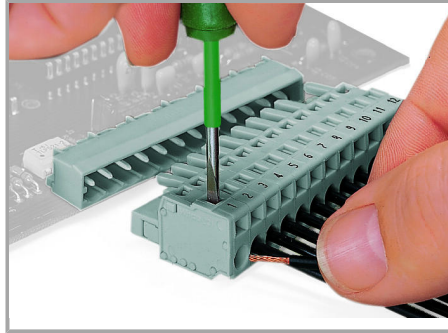
16-pole female connector with mounting flanges in a 19" rack – conductor termination parallel to CAGE CLAMP® actuation

Subject to changes. Please also observe the further product documentation!

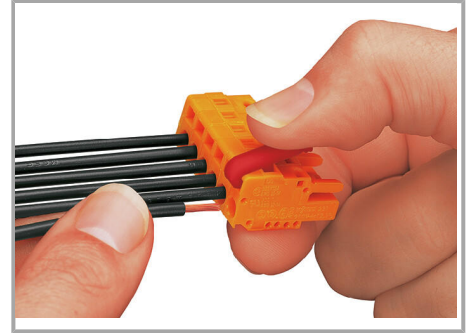
Inserting a conductor



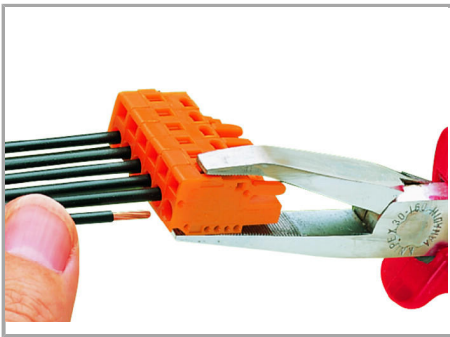
Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



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



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



Inserting a conductor via operating tool.

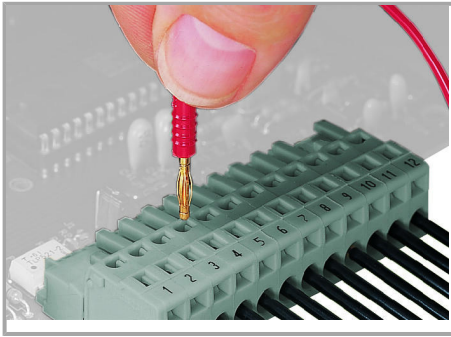
Coding



Coding a female connector – removing coding finger(s).

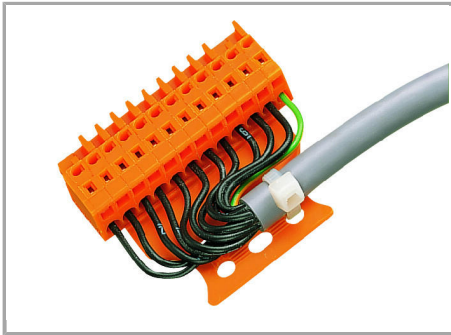
Testing

Subject to changes. Please also observe the further product documentation!

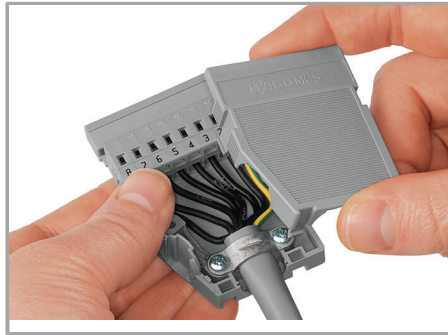


Testing perpendicular to conductor entry via 2 or 2.3 mm Ø test plug – female connector with CAGE CLAMP®.

Assembly

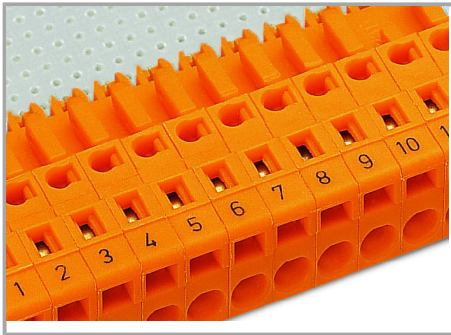


Male connector with strain relief plate



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

Marking



Labeling via direct marking or self-adhesive strips.

Product family

Subject to changes. Please also observe the further product documentation!

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<i>MCS</i> MIDI Classic

[Learn more about the product family.](#)

[Show all products from the family](#)

Subject to changes. Please also observe the further product documentation!

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