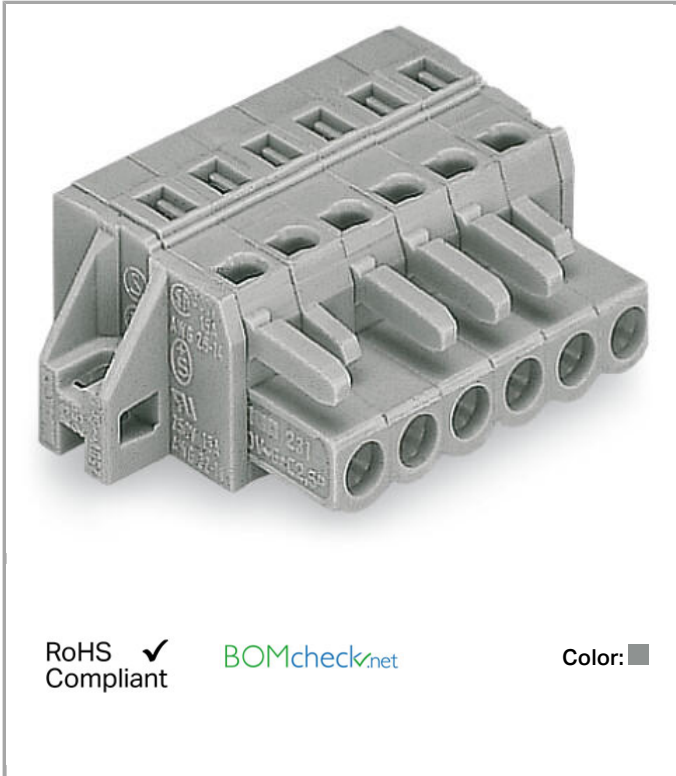


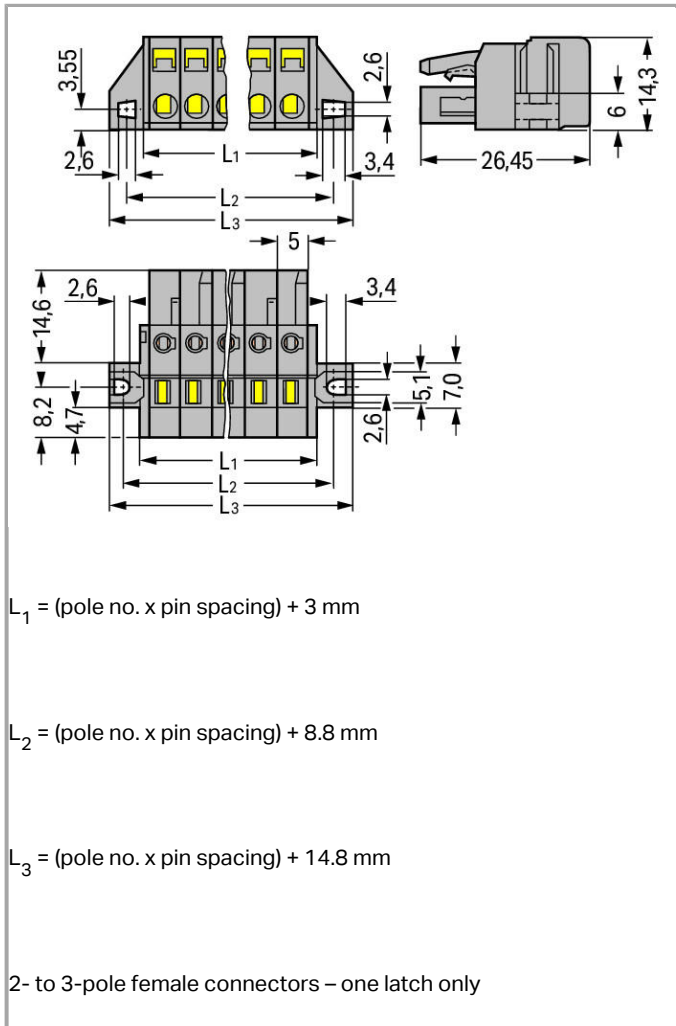
Data sheet | Item number: 231-124/031-000

1-conductor female plug; clamping collar; 2.5 mm<sup>2</sup>; Pin spacing 5 mm; 24-pole



231-124/031-000





### Item description

- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP<sup>®</sup> 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.

### Data

#### Electrical data

### 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  |

### 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 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                               |
| Solid conductor   | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG |
| Fine-stranded conductor                                     | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG |
| Fine-stranded conductor with ferrule with plastic collar    | 0.25 ... 1.5 mm <sup>2</sup>                 |
| Fine-stranded conductor with ferrule without plastic collar | 0.25 ... 2.5 mm <sup>2</sup>                 |
| Strip length  | 8 ... 9 mm / 0.31 ... 0.35 inch              |
| No. of poles  | 24   |
| Total number of connection points                           | 24   |
| Total number of potentials                                  | 24   |
| Number of connection types                                  | 1  |
| Number of levels  | 1  |

Conductor entry direction to mating direction 0°

---

### Geometrical Data

|             |                       |
|-------------|-----------------------|
| Pin spacing | 5 mm / 0.197 inch     |
| Width       | 134.8 mm / 5.307 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<br>Panel mounting |

---

### Plug connection

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

---

### Material Data

|                             |                                   |
|-----------------------------|-----------------------------------|
| Color                       | gray                              |
| 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                   | 0.608 MJ                          |
| Weight                      | 42.724 g                          |

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### Environmental Requirements

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

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### Commercial data

|                    |                        |
|--------------------|------------------------|
| Product Group      | 3 (Multi Conn. System) |
| Country of origin  | DE                     |
| GTIN               | 4044918343381          |
| Customs Tariff No. | 85366990990            |



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## Approvals / Certificates



### Country specific Approvals

| Logo   | Approval                               | Additional Approval Text | Certificate name |
|--|--|--------------------------|------------------|
|  | <b>CB</b><br>DEKRA Certification B.V.  | IEC 61984                | NL-39756         |
|  | <b>CSA</b><br>DEKRA Certification B.V. | C22.2                    | 1466354          |
|  | <b>CSA</b><br>DEKRA Certification B.V. | C22.2                    | 1466354          |

### Ship Approvals




| Logo   | Approval  | Additional Approval Text | Certificate name         |
|--|---|--------------------------|--------------------------|
|   | <b>ABS</b><br>American Bureau of Shipping               | -                        | 14-<br>HG1241537-<br>PDA |
|  | <b>DNV GL</b><br>Det Norske Veritas, Germanischer Lloyd | -                        | TAE000016Z               |

### UL-Approvals















| Logo   | Approval                                   | Additional Approval Text | Certificate name |
|--|--|--------------------------|------------------|
|  | <b>UR</b><br>UL International Germany GmbH | UL 1977                  | E45171           |
|  | <b>UR</b><br>UL International Germany GmbH | UL 1977                  | E45171           |




















### Compatible products


















## check











|  |  |         |
|--|--|---------|
|  | <b>Item no.: 210-136</b><br>Test plug; 2 mm Ø; with 500 mm cable                               | 210-136 |
|  | <b>Item no.: 210-137</b><br>Test plug; 2.3 mm Ø; with 500 mm cable                             | 210-137 |
|  | <b>Item no.: 231-661</b><br>Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing | 231-661 |





## ferrule

|  |  |         |
|--|--|---------|
|    | <b>Item no.: 216-101</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated  | 216-101 |
|    | <b>Item no.: 216-102</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated   | 216-102 |
|    | <b>Item no.: 216-103</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated  | 216-103 |
|    | <b>Item no.: 216-104</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated  | 216-104 |
|   | <b>Item no.: 216-106</b><br>Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; uninsulated; electro-tin plated  | 216-106 |
|  | <b>Item no.: 216-121</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated  | 216-121 |
|  | <b>Item no.: 216-122</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated   | 216-122 |
|  | <b>Item no.: 216-123</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated  | 216-123 |
|  | <b>Item no.: 216-124</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated  | 216-124 |
|  | <b>Item no.: 216-131</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated   | 216-131 |
|  | <b>Item no.: 216-132</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated   | 216-132 |
|  | <b>Item no.: 216-141</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92  | 216-141 |
|  | <b>Item no.: 216-142</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92 | 216-142 |
|  | <b>Item no.: 216-143</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92    | 216-143 |
|  | <b>Item no.: 216-144</b>   |         |

|   |  |         |
|---|--|---------|
|    | Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                            | 216-144 |
|    | <b>Item no.: 216-151</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated   | 216-151 |
|    | <b>Item no.: 216-152</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated   | 216-152 |
|    | <b>Item no.: 216-201</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated  | 216-201 |
|    | <b>Item no.: 216-202</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated   | 216-202 |
|    | <b>Item no.: 216-203</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated  | 216-203 |
|    | <b>Item no.: 216-204</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated  | 216-204 |
|    | <b>Item no.: 216-221</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated  | 216-221 |
|    | <b>Item no.: 216-222</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated   | 216-222 |
|   | <b>Item no.: 216-223</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated  | 216-223 |
|  | <b>Item no.: 216-224</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated  | 216-224 |
|  | <b>Item no.: 216-241</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90  | 216-241 |
|  | <b>Item no.: 216-242</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90 | 216-242 |
|  | <b>Item no.: 216-243</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90    | 216-243 |
|  | <b>Item no.: 216-244</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90  | 216-244 |
|  | <b>Item no.: 216-262</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90 | 216-262 |
|  | <b>Item no.: 216-263</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90    | 216-263 |
|  | <b>Item no.: 216-264</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90  | 216-264 |
|  | <b>Item no.: 216-284</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90  | 216-284 |

|  |  |         |
|--|--|---------|
|  | <b>Item no.: 216-301</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated                             | 216-301 |
|     | <b>Item no.: 216-302</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated                             | 216-302 |
|  | <b>Item no.: 216-321</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated                             | 216-321 |
|     | <b>Item no.: 216-322</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated                             | 216-322 |
| <b>tools</b>   |  |         |
|    | <b>Item no.: 209-130</b><br>Operating tool; suitable for 264, 280 and 281 Series; 1-way; of insulating material                          | 209-130 |
|    | <b>Item no.: 209-132</b><br>Operating tool; for connecting comb-style jumper bar; 2-way; of insulating material                          | 209-132 |
|    | <b>Item no.: 210-657</b><br>Operating tool with partially insulated shaft; Blade (3.5 x 0.5) mm; short                                   | 210-657 |
|    | <b>Item no.: 210-720</b><br>Operating tool with partially insulated shaft; Type 2, blade (3.5 x 0.5) mm                                  | 210-720 |
|   | <b>Item no.: 231-131</b><br>Push-button; for female and male connectors; loose   | 231-131 |
|  | <b>Item no.: 231-159</b><br>Operating tool; for male and female connectors with CAGE CLAMP®; of Series 231, 232, 721, 722, 723, 731, 732 | 231-159 |
|  | <b>Item no.: 231-231</b><br>Combination operating tool; for male and female connectors with CAGE CLAMP®                                  | 231-231 |
|  | <b>Item no.: 231-291</b><br>Operating tool; for male and female connectors with CAGE CLAMP®; loose                                       | 231-291 |
|  | <b>Item no.: 280-432</b><br>Operating tool; of insulating material; 2-way  | 280-432 |
|  | <b>Item no.: 280-433</b><br>Operating tool; of insulating material; 3-way  | 280-433 |
|  | <b>Item no.: 280-434</b><br>Operating tool; of insulating material; 4-way  | 280-434 |
|   | <b>Item no.: 280-435</b><br>Operating tool; of insulating material; 5-way  | 280-435 |
|  | <b>Item no.: 280-436</b><br>Operating tool; of insulating material; 6-way  | 280-436 |
|  | <b>Item no.: 280-437</b><br>Operating tool; of insulating material; 7-way  | 280-437 |
|  | <b>Item no.: 280-438</b><br>Operating tool; of insulating material; 8-way  | 280-438 |

|  |   |                     |
|--|---|---------------------|
|    | <b>Item no.: 280-440</b><br>Operating tool; of insulating material; 10-way  | 280-440             |
| <b>assembling</b>  |   |                     |
|    | <b>Item no.: 209-147</b><br>Self-tapping screw  | 209-147             |
|    | <b>Item no.: 231-194</b><br>Self-tapping screw; B 2.2x13, fixing hole 1.8 mm Ø  | 231-194             |
|    | <b>Item no.: 231-195</b><br>Screw with nut; M2x12; for fixing element   | 231-195             |
|    | <b>Item no.: 231-295</b><br>Screw with nut  | 231-295             |
| <b>Marking accessories</b>   |   |                     |
|  | <b>Item no.: 210-331/500-103</b><br>Marking strips; as a DIN A4 sheet; MARKED; 1-12 (300x); Height of marker strip: 2.3 mm/0.091 in;<br>Strip length 182 mm; Horizontal marking; Self-adhesive  | 210-331<br>/500-103 |
|  | <b>Item no.: 210-331/500-104</b><br>Marking strips; as a DIN A4 sheet; MARKED; 13-24 (300x); Height of marker strip: 2.3 mm/0.091 in;<br>Strip length 182 mm; Horizontal marking; Self-adhesive | 210-331<br>/500-104 |
|  | <b>Item no.: 210-332/500-202</b><br>Marking strips; as a DIN A4 sheet; MARKED; 1-16 (160x); Height of marker strip: 3 mm; Strip length<br>182 mm; Horizontal marking; Self-adhesive             | 210-332<br>/500-202 |
|  | <b>Item no.: 210-332/500-204</b><br>Marking strips; as a DIN A4 sheet; MARKED; 17-32 (160x); Height of marker strip: 3 mm; Strip length<br>182 mm; Horizontal marking; Self-adhesive            | 210-332<br>/500-204 |
|  | <b>Item no.: 210-332/500-205</b><br>Marking strips; as a DIN A4 sheet; MARKED; 1-32 (80x); Height of marker strip: 3 mm; Strip length<br>182 mm; Horizontal marking; Self-adhesive              | 210-332<br>/500-205 |
|  | <b>Item no.: 210-332/500-206</b><br>Marking strips; as a DIN A4 sheet; MARKED; 33-48 (160x); Height of marker strip: 3 mm; Strip length<br>182 mm; Horizontal marking; Self-adhesive            | 210-332<br>/500-206 |
| <b>Insulation stop</b>   |   |                     |
|  | <b>Item no.: 231-670</b><br>Insulation stop; 0.08-0.2 mm <sup>2</sup> / 0.2 mm <sup>2</sup> "s"   | 231-670             |
|  | <b>Item no.: 231-671</b><br>Insulation stop; 0.25 - 0.5 mm <sup>2</sup>   | 231-671             |
|  | <b>Item no.: 231-672</b><br>Insulation stop; 0.75 - 1 mm <sup>2</sup>   | 231-672             |
| <b>General accessories</b>   |   |                     |
|  | <b>Item no.: 231-668</b><br>Lockout caps; for covering unused clamping units  | 231-668             |
| <b>Jumper</b>  |   |                     |
|  | <b>Item no.: 231-902</b><br>Comb-style jumper bar; for 5 mm and 5.08 mm pin spacing; reduces conductor size to 1.5 mm   | 231-902             |

|  |   |         |
|--|---|---------|
|  | <p><b>Item no.: 231-903</b><br/>                 Comb-style jumper bar; 3-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated</p>  | 231-903 |
|  | <p><b>Item no.: 231-905</b><br/>                 Comb-style jumper bar; 5-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated</p>  | 231-905 |
|  | <p><b>Item no.: 231-907</b><br/>                 Comb-style jumper bar; 7-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated</p>  | 231-907 |
|  | <p><b>Item no.: 231-910</b><br/>                 Comb-style jumper bar; 10-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated</p> | 231-910 |

Downloads

CAD/CAE - Smart Data

CAD data

|                             | URL | Download |
|-----------------------------|-----|----------|
| 3D Download 231-124/031-000 |     |          |

Subject to changes.