

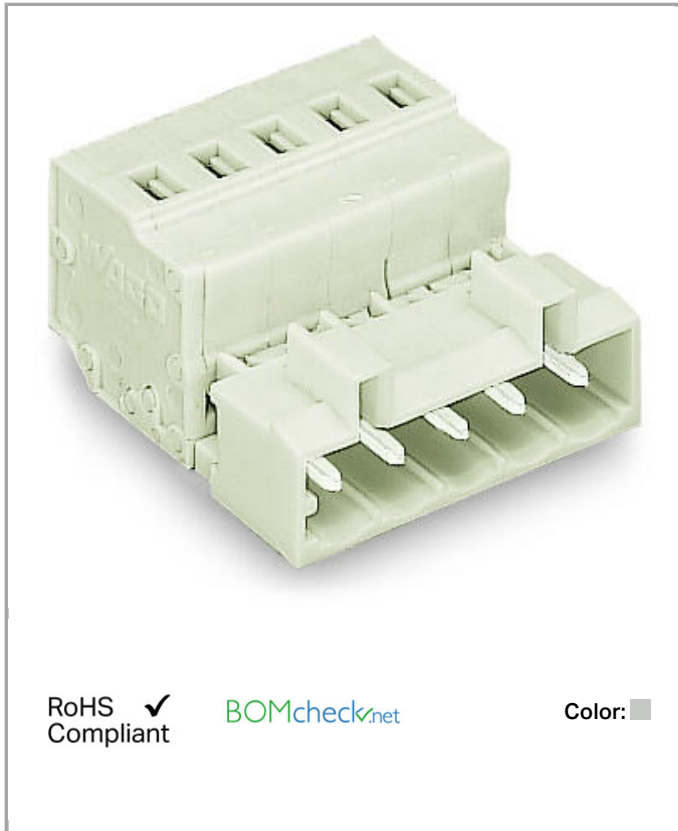
## Data sheet | Item number: 721-616

1-conductor male connector; 100% protected against mismatching; 2.5 mm<sup>2</sup>;

Pin spacing 5 mm; 16-pole



721-616



RoHS  
Compliant

BOMcheck.net

Color:

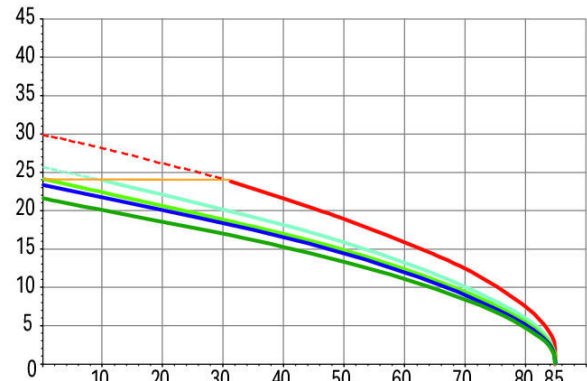
### Derating Curve

1-conductor female connector (721-102/026-000) with  
1-conductor male header (721-602)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm<sup>2</sup> "f-st"

Based on: EN 60512-5-2 / Reduction factor: 0.8

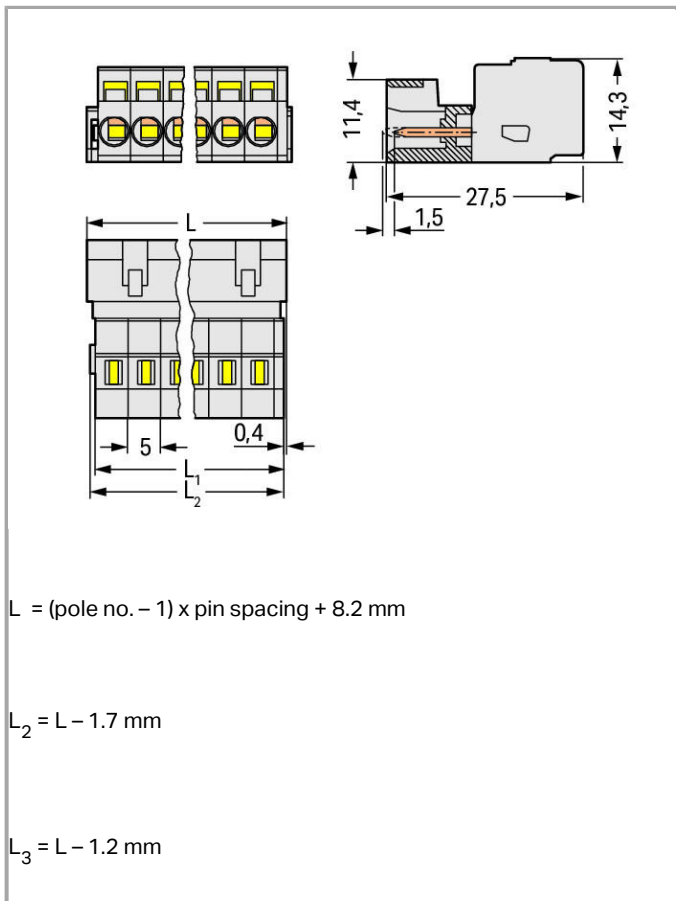
Current in A



Ambient operating temperature in °C

2-, 4-, 6-, 12-, 20- pole

Conductor rated current



### Item description

- 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
- 3- to 5-pole male connectors are also available with preceding ground contact
- 100 % protected against mismatching
- With coding fingers

### 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                  | 12 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 mm² / 28 ... 12 AWG |
| Fine-stranded conductor                                     | 0.08 ... 2.5 mm² / 28 ... 12 AWG |
| Fine-stranded conductor with ferrule with plastic collar    | 0.25 ... 1.5 mm²                 |
| Fine-stranded conductor with ferrule without plastic collar | 0.25 ... 2.5 mm²                 |
| Strip length                                                | 8 ... 9 mm / 0.31 ... 0.35 inch  |
| No. of poles                                                | 16                               |
| Total number of connection points                           | 16                               |
| Total number of potentials                                  | 16                               |
| 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       | 83.2 mm / 3.276 inch |
| Height      | 14.3 mm / 0.563 inch |

|       |                      |
|-------|----------------------|
| Depth | 27.5 mm / 1.083 inch |
|-------|----------------------|

## Plug connection

|                                    |                     |
|------------------------------------|---------------------|
| Contact type (pluggable connector) | Male connector/plug |
| Connector connection type          | for conductors      |
| Mismating protection               | Yes                 |

## Material Data

|                             |                                        |
|-----------------------------|----------------------------------------|
| Color                       | light 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            | Electrolytic copper (E <sub>Cu</sub> ) |
| Contact plating             | tin-plated                             |
| Fire load                   | 0.42 MJ                                |
| Weight                      | 23.94 g                                |

## Environmental Requirements

|                         |                 |
|-------------------------|-----------------|
| Limit temperature range | -60 ... +100 °C |
|-------------------------|-----------------|

## Commercial data

|                    |                        |
|--------------------|------------------------|
| Product Group      | 3 (Multi Conn. System) |
| Country of origin  | DE                     |
| GTIN               | 4044918264730          |
| Customs Tariff No. | 85366990990            |

## Approvals / Certificates

### Country specific Approvals

| Logo                                                                               | Approval                        | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|---------------------------------|--------------------------|------------------|
|                                                                                    | CB<br>DEKRA Certification B.V.  | IEC 61984                | NL-39756         |
|  | CSA<br>DEKRA Certification B.V. | C22.2                    | 1466354          |
|  | CSA<br>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         |
|----------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------|--------------------------|
|  | <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>UL</b><br>UL International Germany GmbH | UL 1059                  | E45172           |
|  | <b>UR</b><br>UL International Germany GmbH | UL 1977                  | E45171           |
|  | <b>UR</b><br>UL International Germany GmbH | UL 1977                  | E45171           |

## Compatible products

## Marking accessories

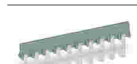
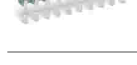
|                                                                                                                                                                                                |                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <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 | <b>210-331</b><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;                                                          | <b>210-331</b><br>/500-104 |

Strip length 182 mm; Horizontal marking; Self-adhesive

|                                                                                                                                               |                          |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------|
| <b>Item no.: 210-332/500-202</b>                                                                                                              |                          | 210-332  |
| 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  |                          | 1500-202 |
| <b>Item no.: 210-332/500-204</b>                                                                                                              |                          | 210-332  |
| 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 |                          | 1500-204 |
| <b>Item no.: 210-332/500-205</b>                                                                                                              |                          | 210-332  |
| 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   |                          | 1500-205 |
| <b>Item no.: 210-332/500-206</b>                                                                                                              |                          | 210-332  |
| 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 |                          | 1500-206 |
|                                                               | <b>Item no.: 210-833</b> | 210-833  |
| Marking strips; on reel; 6 mm wide; plain; Self-adhesive                                                                                      |                          |          |
|                                                               | <b>Item no.: 210-834</b> | 210-834  |
| Marking strips; on reel; 5 mm wide; plain; Self-adhesive                                                                                      |                          |          |
| <b>Coding</b>                                                                                                                                 |                          |          |
|                                                               | <b>Item no.: 231-129</b> | 231-129  |
| Coding key; snap-on type                                                                                                                      |                          |          |
| <b>General accessories</b>                                                                                                                    |                          |          |
|                                                             | <b>Item no.: 231-668</b> | 231-668  |
| Lockout caps; for covering unused clamping units                                                                                              |                          |          |
| <b>ferrule</b>                                                                                                                                |                          |          |
|                                                             | <b>Item no.: 216-101</b> | 216-101  |
| Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated                                                             |                          |          |
|                                                             | <b>Item no.: 216-102</b> | 216-102  |
| Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated                                                            |                          |          |
|                                                             | <b>Item no.: 216-103</b> | 216-103  |
| Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated                                                               |                          |          |
|                                                             | <b>Item no.: 216-104</b> | 216-104  |
| Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated                                                             |                          |          |
|                                                             | <b>Item no.: 216-106</b> | 216-106  |
| Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; uninsulated; electro-tin plated                                                             |                          |          |
|                                                             | <b>Item no.: 216-121</b> | 216-121  |
| Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated                                                             |                          |          |
|                                                             | <b>Item no.: 216-122</b> | 216-122  |
| Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated                                                            |                          |          |
|                                                             | <b>Item no.: 216-123</b> | 216-123  |
| Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated                                                               |                          |          |
|                                                             | <b>Item no.: 216-124</b> | 216-124  |
| Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated                                                             |                          |          |

|                                                                                   |                                                                                                                                                                            |         |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
|    | <b>Item no.: 216-131</b><br>Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated                                                                         | 216-131 |
|    | <b>Item no.: 216-132</b><br>Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated                                                                         | 216-132 |
|    | <b>Item no.: 216-141</b><br>Ferrule; Sleeve for 0.5 mm² / 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 mm² / 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 mm² / 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><br>Ferrule; Sleeve for 1.5 mm² / 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 mm² / AWG 24; uninsulated; electro-tin plated                                                                         | 216-151 |
|    | <b>Item no.: 216-152</b><br>Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated                                                                         | 216-152 |
|   | <b>Item no.: 216-201</b><br>Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated                                                                            | 216-201 |
|  | <b>Item no.: 216-202</b><br>Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated                                                                           | 216-202 |
|  | <b>Item no.: 216-203</b><br>Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated                                                                              | 216-203 |
|  | <b>Item no.: 216-204</b><br>Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated                                                                            | 216-204 |
|  | <b>Item no.: 216-221</b><br>Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated                                                                            | 216-221 |
|  | <b>Item no.: 216-222</b><br>Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated                                                                           | 216-222 |
|  | <b>Item no.: 216-223</b><br>Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated                                                                              | 216-223 |
|  | <b>Item no.: 216-224</b><br>Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated                                                                            | 216-224 |
|  | <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    | 216-241 |
|  | <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   | 216-242 |
|  | <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      | 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>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>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.: 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>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 |
|  | <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  | 231-903 |
|  | <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  | 231-905 |
|  | <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  | 231-907 |
|  | <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 | 231-910 |

## Downloads

## CAD/CAE - Smart Data

## CAD data

| 3D Download 721-616 | URL | Download |
|---------------------|-----|----------|
|---------------------|-----|----------|



Subject to changes.

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