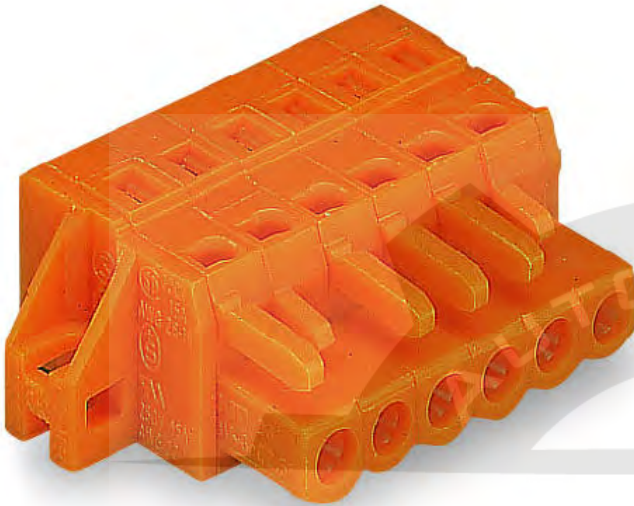


## Data sheet | Item number: 231-313/031-000

1-conductor female plug; clamping collar; 2.5 mm<sup>2</sup>; Pin spacing 5.08 mm; 13-pole



231-313/031-000



RoHS  
Compliant

BOMcheck.net

Color: 

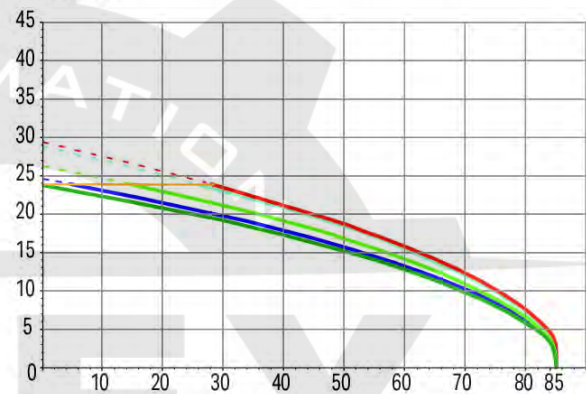
### Derating Curve

1-conductor female connector (231-102/026-000) with  
THT male header (231-432/001-000)

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

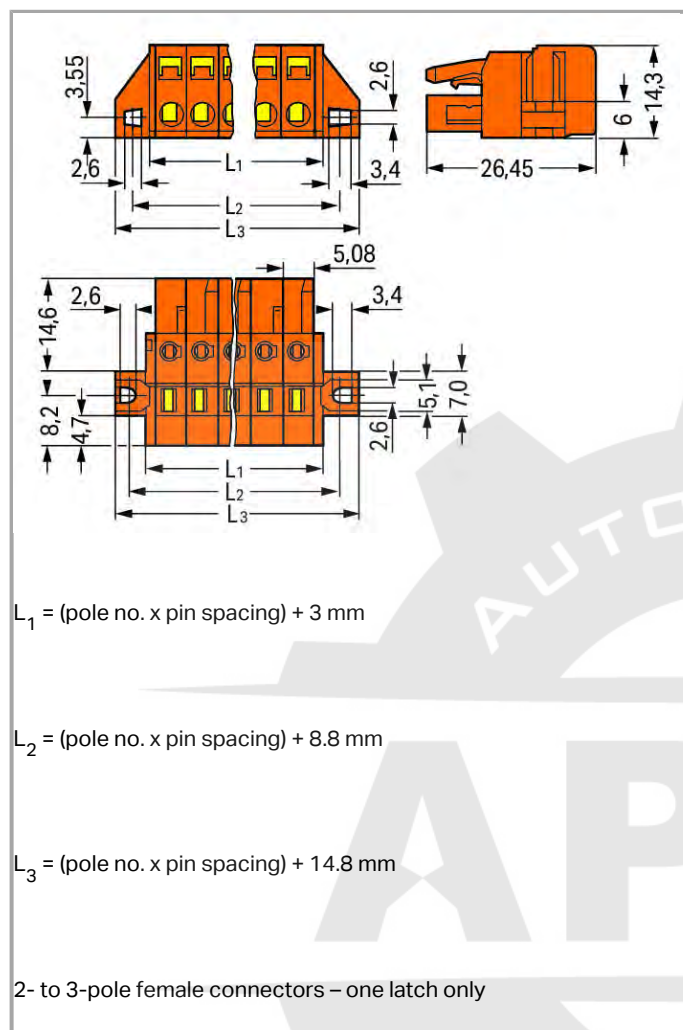
Current in A



Ambient operating temperature in °C

2-, 4-, 6-, 12-, 24-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
- 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 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                                                | 13                               |
| Total number of connection points                           | 13                               |
| Total number of potentials                                  | 13                               |
| 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       | 80.84 mm / 3.183 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                       | 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                   | 0.355 MJ                          |
| Weight                      | 24.58 g                           |

## Environmental Requirements

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

## Commercial data

|                    |                        |
|--------------------|------------------------|
| Product Group      | 3 (Multi Conn. System) |
| Country of origin  | DE                     |
| GTIN               | 4044918348812          |
| Customs Tariff No. | 85366990990            |

## 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>KEMA/KEUR</b><br>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 |

### UL-Approvals

| Logo                                                                               | Approval                                    | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|---------------------------------------------|--------------------------|------------------|
|  | <b>UL</b><br>UL International Germany GmbH  | UL 1977                  | E45171           |
|  | <b>UL</b><br>UL International Germany GmbH  | UL 1977                  | E45171           |
|  | <b>UR</b><br>Underwriters Laboratories Inc. | UL 1059                  | E45172           |

### Compatible products

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><br>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>                                                                                                                                                               |         |

|                                                                                   |                                                                                                                                                                                      |         |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
|    | 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 |

assembling

|                                                                                    |                                                                                                                                        |         |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------|
|    | <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>check</b>                                                                       |                                                                                                                                        |         |
|    | <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 |
| <b>General accessories</b>                                                         |                                                                                                                                        |         |
|    | <b>Item no.: 231-669</b><br>Lockout caps; for covering unused clamping units                                                           | 231-669 |
| <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 |
| <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>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>Marking accessories</b>                                                         |                                                                                                                                                                                              |                     |
|                                                                                    | <b>Item no.: 210-331/508-103</b><br>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  | 210-331<br>/508-103 |
|                                                                                    | <b>Item no.: 210-331/508-104</b><br>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 | 210-331<br>/508-104 |
|                                                                                    | <b>Item no.: 210-332/508-202</b><br>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             | 210-332<br>/508-202 |
|                                                                                    | <b>Item no.: 210-332/508-204</b>                                                                                                                                                             |                     |



|                                                                                                                                               |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 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 | 210-332  |
|                                                                                                                                               | 1508-204 |

|                                                                                                                                                                                 |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>Item no.: 210-332/508-205</b><br>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 | 210-332  |
|                                                                                                                                                                                 | 1508-205 |

|                                                                                                                                                                                   |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>Item no.: 210-332/508-206</b><br>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 | 210-332  |
|                                                                                                                                                                                   | 1508-206 |

## Downloads

## CAD/CAE - Smart Data

## CAD data

|                             |     |          |
|-----------------------------|-----|----------|
| 3D Download 231-313/031-000 | URL | Download |
|-----------------------------|-----|----------|

Subject to changes.