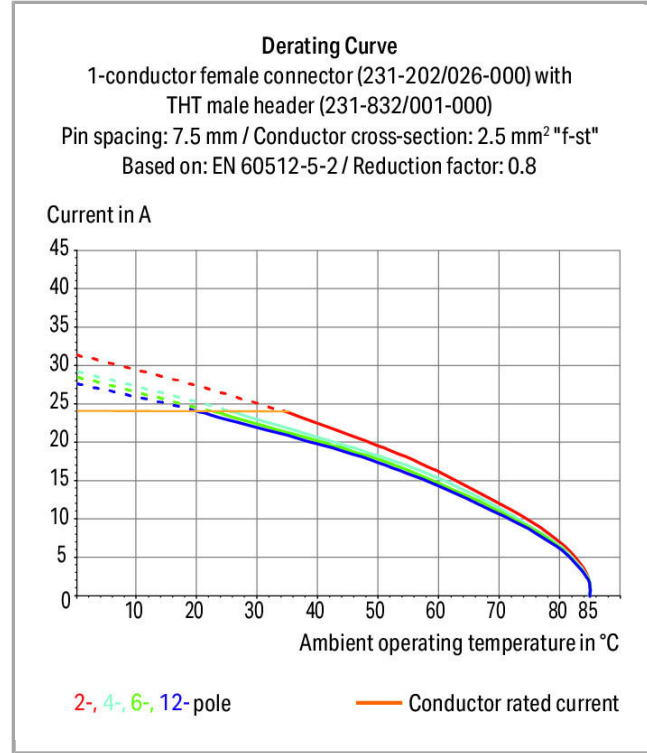


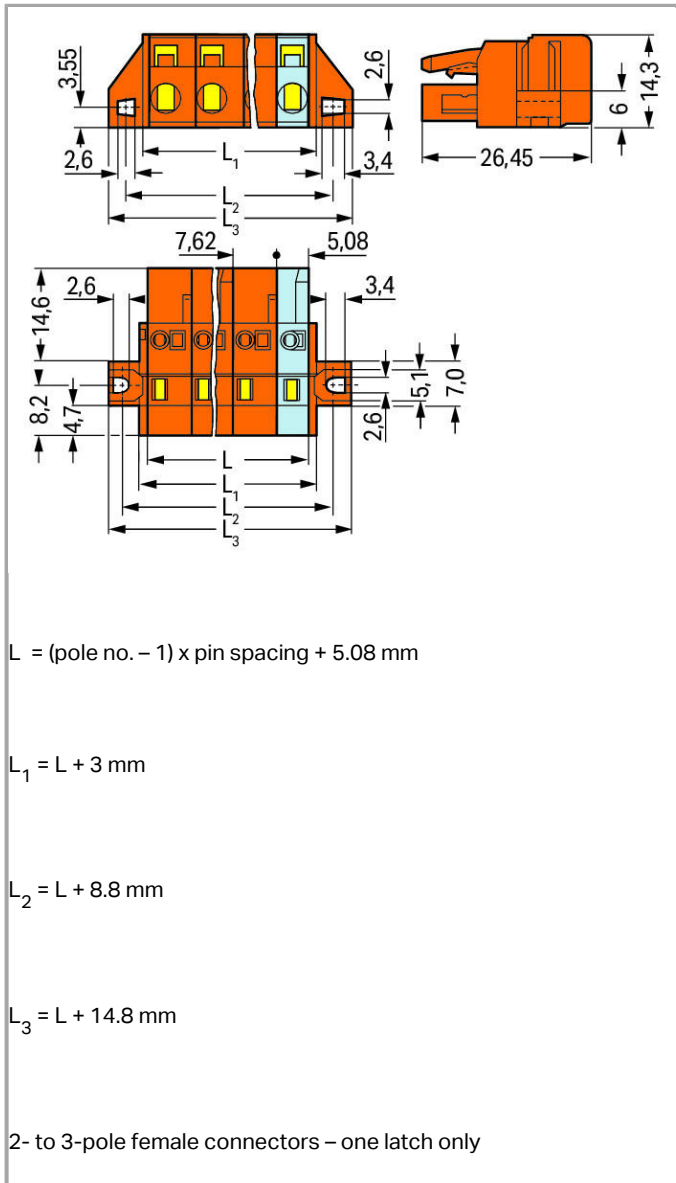
Data sheet | Item number: 231-709/031-000

1-conductor female plug; clamping collar; 2.5 mm<sup>2</sup>; Pin spacing 7.62 mm; 9-pole



231-709/031-000





### 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)	500 V
Rated impulse voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated impulse voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated impulse voltage (II / 2)	6 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	9
Total number of connection points	9
Total number of potentials	9



Number of connection types	1
Number of levels	1
Conductor entry direction to mating direction	0°

### Geometrical Data

Pin spacing	7.62 mm / 0.3 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 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	0.333 MJ
Weight	19.633 g

### 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	4044918376754
Customs Tariff No.	85366990990

## Approvals / Certificates

### Country specific Approvals







Logo	Approval	Additional Approval Text	Certificate name
	<b>CB</b> DEKRA Certification B.V.	IEC 61984	NL-39756

### UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>UR</b> Underwriters Laboratories Inc.	UL 1977	E45171
	<b>UR</b> Underwriters Laboratories Inc.	UL 1059	E45172
















## Compatible products


















### tools


	<b>Item no.: 210-657</b> Operating tool with partially insulated shaft; Blade (3.5 x 0.5) mm; short	210-657
	<b>Item no.: 210-720</b> Operating tool with partially insulated shaft; Type 2, blade (3.5 x 0.5) mm	210-720
	<b>Item no.: 231-131</b> Push-button; for female and male connectors; loose	231-131
	<b>Item no.: 231-159</b> 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> Combination operating tool; for male and female connectors with CAGE CLAMP®	231-231
	<b>Item no.: 231-291</b> Operating tool; for male and female connectors with CAGE CLAMP®; loose	231-291

### assembling

	<b>Item no.: 209-147</b> Self-tapping screw	209-147
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	<b>Item no.: 231-194</b> Self-tapping screw; B 2.2x13, fixing hole 1.8 mm Ø	231-194
	<b>Item no.: 231-195</b> Screw with nut; M2x12; for fixing element	231-195
	<b>Item no.: 231-295</b> Screw with nut	231-295
<b>check</b>		
	<b>Item no.: 210-136</b> Test plug; 2 mm Ø; with 500 mm cable	210-136
	<b>Item no.: 210-137</b> Test plug; 2.3 mm Ø; with 500 mm cable	210-137
	<b>Item no.: 231-662</b> Test plugs for female connectors; for 7.5 mm and 7.62 mm pin spacing	231-662
<b>General accessories</b>		
	<b>Item no.: 231-669</b> Lockout caps; for covering unused clamping units	231-669
<b>Marking accessories</b>		
	<b>Item no.: 210-331/762-202</b> Marking strips; as a DIN A4 sheet; MARKED; 1-16 (100x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive	210-331 // 62-202
	<b>Item no.: 210-332/762-020</b> Marking strips; as a DIN A4 sheet; MARKED; 1-20 (80x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive	210-332 // 62-020
<b>ferrule</b>		
	<b>Item no.: 216-101</b> Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated	216-101
	<b>Item no.: 216-102</b> Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated	216-102
	<b>Item no.: 216-103</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated	216-103
	<b>Item no.: 216-104</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated	216-104
	<b>Item no.: 216-106</b> Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; uninsulated; electro-tin plated	216-106
	<b>Item no.: 216-121</b> Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated	216-121
	<b>Item no.: 216-122</b> Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated	216-122
	<b>Item no.: 216-123</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated	216-123

	<b>Item no.: 216-124</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated	216-124
	<b>Item no.: 216-131</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated	216-131
	<b>Item no.: 216-132</b> Ferrule; Sleeve for 0.34 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated	216-132
	<b>Item no.: 216-141</b> 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> 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> 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> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated	216-151
	<b>Item no.: 216-152</b> Ferrule; Sleeve for 0.34 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated	216-152
	<b>Item no.: 216-201</b> Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated	216-201
	<b>Item no.: 216-202</b> 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> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated	216-204
	<b>Item no.: 216-221</b> Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated	216-221
	<b>Item no.: 216-222</b> Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated	216-222
	<b>Item no.: 216-223</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated	216-223
	<b>Item no.: 216-224</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated	216-224
	<b>Item no.: 216-241</b> 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> 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> 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> 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> 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> 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> 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> 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> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated	216-301
	<b>Item no.: 216-302</b> Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated	216-302
	<b>Item no.: 216-321</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated	216-321
	<b>Item no.: 216-322</b> Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated	216-322
<b>Insulation stop</b>		
	<b>Item no.: 231-673</b> Insulation stop; 0.08-0.2 mm <sup>2</sup> / 0.2 mm <sup>2</sup> "s"	231-673
	<b>Item no.: 231-674</b> Insulation stop; 0.25 - 0.5 mm <sup>2</sup>	231-674
	<b>Item no.: 231-675</b> Insulation stop; 0.75 - 1 mm <sup>2</sup>	231-675

## Downloads

## CAD/CAE - Smart Data

## CAD data

3D Download 231-709/031-000	URL	Download



Subject to changes.

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