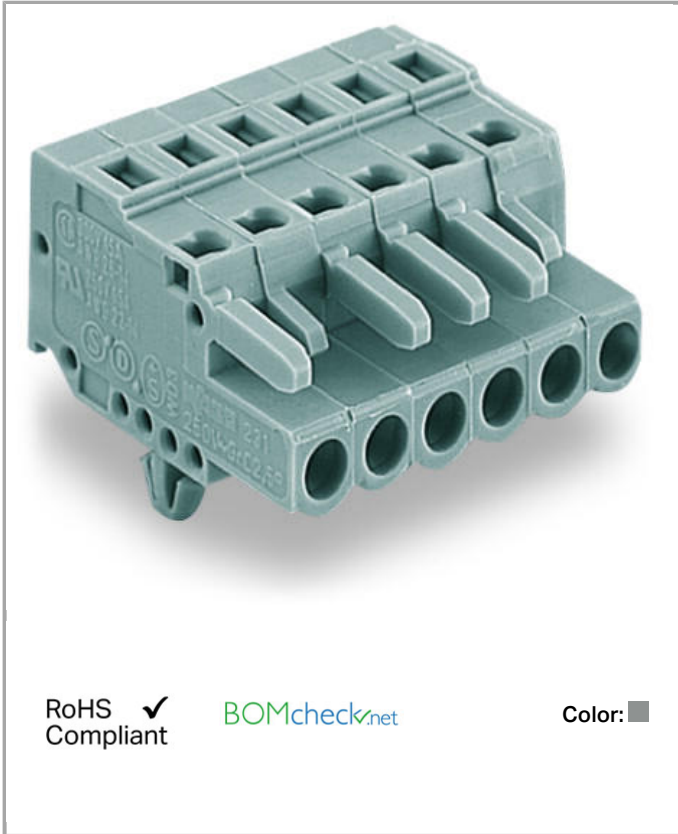


Data sheet | Item number: 231-120/008-000

1-conductor female plug; Snap-in mounting feet; 2.5 mm<sup>2</sup>; Pin spacing 5 mm; 20-pole



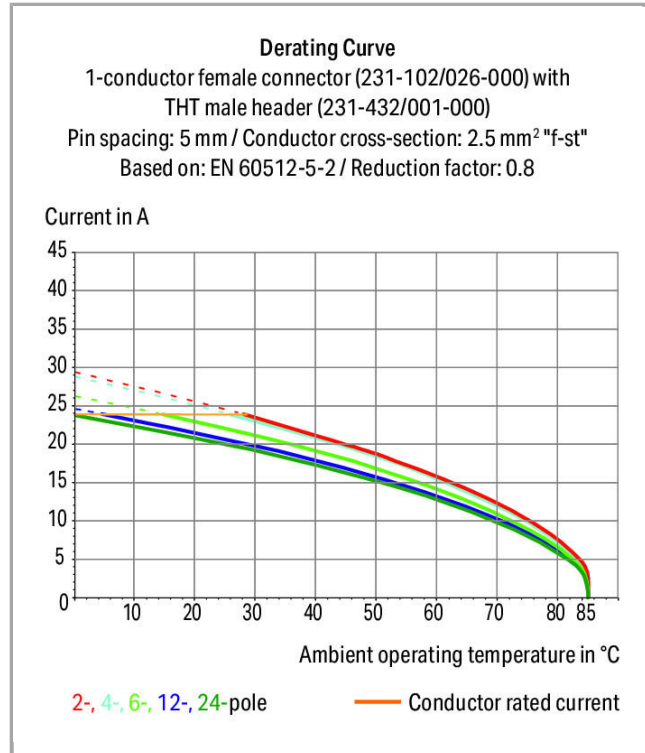
231-120/008-000

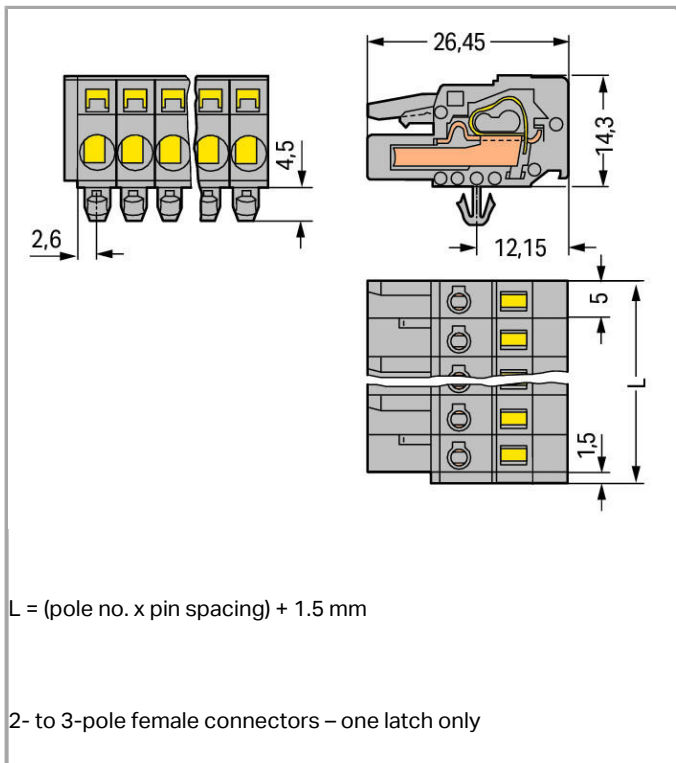


RoHS  Compliant

[BOMcheck.net](https://www.bomcheck.net)

Color: ■





### 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
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### 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	20
Total number of connection points	20
Total number of potentials	20
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	101.5 mm / 3.996 inch
Height	18.8 mm / 0.74 inch
Height from the surface	14.3 mm / 0.563 inch
Depth	26.5 mm / 1.043 inch

## Mechanical data

Gehäuseblechstärke	0.6 ... 1.2 mm / 0.024 ... 0.047 inch
Mounting type	Snap-in mounting foot
Type of mounting	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	0.526 MJ
Weight	36.52 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	4044918342766
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





CSA  
DEKRA Certification B.V.



C22.2

1466354

## Ship Approvals




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

## UL-Approvals



















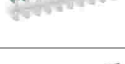
Logo	Approval	Additional Approval Text	Certificate name
	<b>UR</b> UL International Germany GmbH	UL 1977	E45171
	<b>UR</b> UL International Germany GmbH	UL 1977	E45171

## Compatible products

## check

	<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.: 231-661</b> Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing	231-661

## tools

	<b>Item no.: 209-130</b> Operating tool; suitable for 264, 280 and 281 Series; 1-way; of insulating material	209-130
	<b>Item no.: 209-132</b> Operating tool; for connecting comb-style jumper bar; 2-way; of insulating material	209-132
	<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
	<b>Item no.: 280-432</b> Operating tool; of insulating material; 2-way	280-432
	<b>Item no.: 280-433</b> Operating tool; of insulating material; 3-way	280-433
	<b>Item no.: 280-434</b> Operating tool; of insulating material; 4-way	280-434
	<b>Item no.: 280-435</b> Operating tool; of insulating material; 5-way	280-435
	<b>Item no.: 280-436</b> Operating tool; of insulating material; 6-way	280-436
	<b>Item no.: 280-437</b> Operating tool; of insulating material; 7-way	280-437
	<b>Item no.: 280-438</b> Operating tool; of insulating material; 8-way	280-438
	<b>Item no.: 280-440</b> Operating tool; of insulating material; 10-way	280-440
<b>Jumper</b>		
	<b>Item no.: 231-902</b> 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> 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> 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> 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> Comb-style jumper bar; 10-way; suitable for 231 Series female connectors; with 5 mm pin spacing; insulated	231-910

## General accessories



Item no.: 231-668

Lockout caps; for covering unused clamping units

231-668

## Marking accessories

Item no.: 210-331/500-103

Marking strips; as a DIN A4 sheet; MARKED; 1-12 (300x); Height of marker strip: 2.3 mm/0.091 in;  
Strip length 182 mm; Horizontal marking; Self-adhesive

/500-103

210-331

Item no.: 210-331/500-104

Marking strips; as a DIN A4 sheet; MARKED; 13-24 (300x); Height of marker strip: 2.3 mm/0.091 in;  
Strip length 182 mm; Horizontal marking; Self-adhesive

/500-104

210-331

Item no.: 210-332/500-202

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

/500-202

210-332

Item no.: 210-332/500-204

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

/500-204

210-332

Item no.: 210-332/500-205

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

/500-205

210-332

Item no.: 210-332/500-206

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

/500-206

210-332

## Mounting adapter



Item no.: 209-148

Multi mounting adapter; for male and female connectors with snap-in mounting feet

209-148

## Insulation stop



Item no.: 231-670

Insulation stop; 0.08-0.2 mm<sup>2</sup> / 0.2 mm<sup>2</sup> "s"

231-670



Item no.: 231-671

Insulation stop; 0.25 - 0.5 mm<sup>2</sup>

231-671



Item no.: 231-672

Insulation stop; 0.75 - 1 mm<sup>2</sup>

231-672

## assembling



Item no.: 209-137

Mounting adapter; can be used as end plate; 6.5 mm wide

209-137

## ferrule



Item no.: 216-101

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / AWG 22; uninsulated; electro-tin plated

216-101



Item no.: 216-102

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / AWG 20; uninsulated; electro-tin plated
















216-102
















Item no.: 216-103

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

## Downloads

## CAD/CAE - Smart Data

## CAD data

3D Download 231-120/008-000	URL	Download



Subject to changes.

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