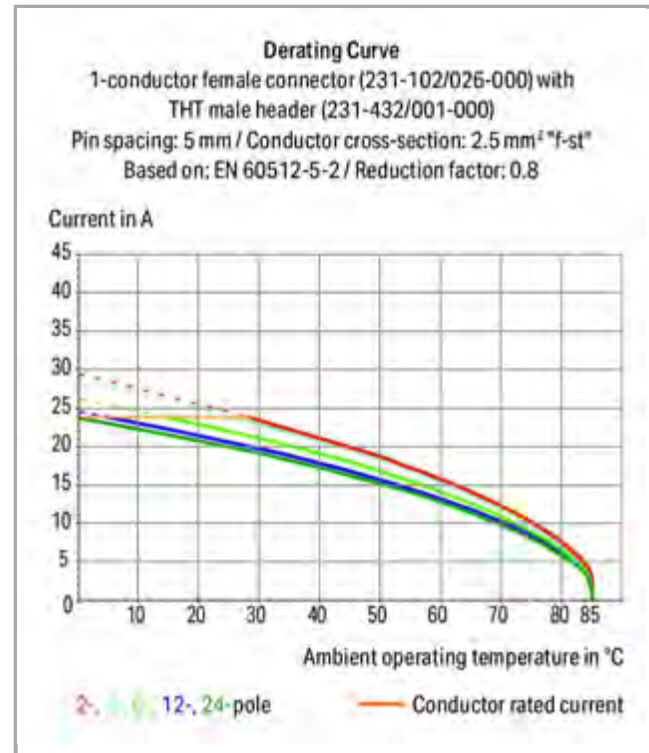
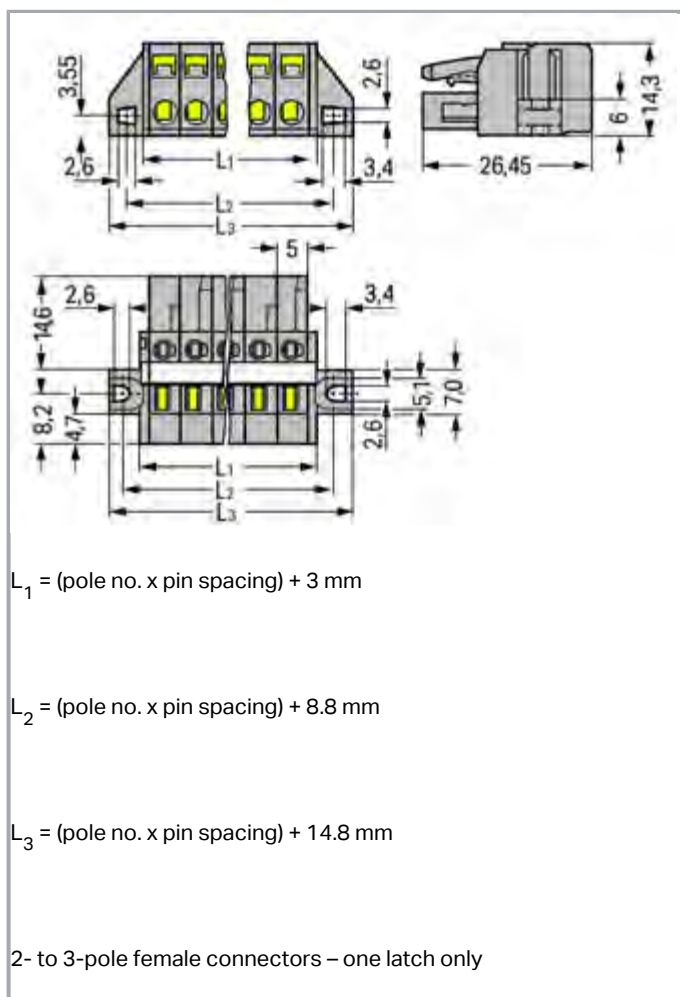


Data sheet | Item number: 231-110/027-000

1-conductor female plug; clamping collar; 2.5 mm²; Pin spacing 5 mm; 10-pole; 2,50 mm²; gray



Subject to changes. Please also observe the further product documentation!



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 MCS – MULTI CONNECTION SYSTEM includes connectors without breaking capacity in accordance with DIN EN 61984. When used as intended, these connectors must 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.

Subject to changes. Please also observe the further product documentation!



Data

Electrical data

Ratings per IEC/EN 60664-1

Ratings per	IEC/EN 60664-1
Nominal voltage (III/3)	320 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Nominal voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
Rated current	16 A
Legend (ratings)	(III / 2) $\triangleq$ Overvoltage category III / Pollution degree 2

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 UL 1977	600 V
Rated current UL 1977	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

Subject to changes. Please also observe the further product documentation!



Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm ²
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Pole No.	10
Total number of connection points	10
Total number of potentials	10
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	64.8 mm / 2.551 inch
Height	14.3 mm / 0.563 inch
Depth	26.45 mm / 1.041 inch

Mechanical data

Mounting type	Mounting flange
Mounting type	Feed-through mounting Panel mounting
with reinforcing strips	1

Plug connection

Contact type (pluggable connector)	Female connector/socket
Connector (connection type)	for conductor
Mismating protection	No

Material Data

Color	gray
Material group	I
Insulation 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	0.278 MJ

Subject to changes. Please also observe the further product documentation!



Weight	18.6 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)
Packaging type	BOX
Country of origin	DE
GTIN	4044918341059
Customs tariff number	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

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	19- HG1869876- PDA

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL Underwriters Laboratories Inc.	UL 1059	20190731- E45172
	UR UL International Germany GmbH	UL 1977	E45171

Subject to changes. Please also observe the further product documentation!



Counterpart



Item no. 231-610

1-conductor male connector; 2.5 mm²; Pin spacing 5 mm; 10-pole; 2,50 mm²; gray



Item no. 231-140/001-000

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5 mm; 10-pole; gray



Item no. 231-440/001-000

THT male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5 mm; 10-pole; gray

Compatible products

check



Item no.: 210-136

Test plug; 2 mm Ø; with 500 mm cable; red



Item no.: 210-137

Test plug; 2.3 mm Ø; with 500 mm cable; yellow



Item no.: 231-661

Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light gray

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; white

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; white

Subject to changes. Please also observe the further product documentation!

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; white

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; white

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; white

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; white

tools**Item no.: 209-130**

Operating tool; suitable for 264, 280 and 281 Series; 1-way; of insulating material

**Item no.: 209-132**

Operating tool; for connecting comb-style jumper bar; 2-way; of insulating material

**Item no.: 231-131**

Push-button; loose

**Item no.: 231-159**

Operating tool; natural

**Item no.: 231-231**

Combination operating tool; red

**Item no.: 231-291**

Operating tool; loose; red

**Item no.: 280-432**

Operating tool; made of insulating material; 2-way

**Item no.: 280-433**

Operating tool; made of insulating material; 3-way

**Item no.: 280-434**

Operating tool; made of insulating material; 4-way

**Item no.: 280-435**

Operating tool; made of insulating material; 5-way; gray

**Item no.: 280-436**

Operating tool; made of insulating material; 6-way

**Item no.: 280-437**

Operating tool; made of insulating material; 7-way

Item no.: 280-438

Subject to changes. Please also observe the further product documentation!



Operating tool; made of insulating material; 8-way



Item no.: 280-440

Operating tool; made of insulating material; 10-way

Strain relief plate



Item no.: 232-610

Strain relief housing; gray

General accessories



Item no.: 231-668

Lockout caps; for covering unused clamping units; gray

Insulation stop



Item no.: 231-670

Insulation stop; 0.08-0.2 mm² / 0.2 mm² "s"; white



Item no.: 231-671

Insulation stop; 0.25 - 0.5 mm²; light gray



Item no.: 231-672

Insulation stop; 0.75 - 1 mm²; dark gray

ferrule



Item no.: 216-101

Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated



Item no.: 216-102

Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated



Item no.: 216-103

Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated



Item no.: 216-104

Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated



Item no.: 216-106

Ferrule; Sleeve for 2.5 mm² / AWG 14; uninsulated; electro-tin plated



Item no.: 216-121

Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated



Item no.: 216-122

Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated



Item no.: 216-123

Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated



Item no.: 216-124

Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated

Subject to changes. Please also observe the further product documentation!

**Item no.: 216-131**Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated**Item no.: 216-132**Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated**Item no.: 216-141**Ferrule; Sleeve for 0.5 mm² / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92**Item no.: 216-142**Ferrule; Sleeve for 0.75 mm² / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92**Item no.: 216-143**Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92**Item no.: 216-144**Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92**Item no.: 216-151**Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated**Item no.: 216-152**Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated**Item no.: 216-201**Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white**Item no.: 216-202**Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray**Item no.: 216-203**Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red**Item no.: 216-204**Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black**Item no.: 216-221**Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white**Item no.: 216-222**Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray**Item no.: 216-223**Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red**Item no.: 216-224**Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black**Item no.: 216-241**Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white**Item no.: 216-242**

	Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray
	Item no.: 216-243 Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red
	Item no.: 216-244 Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black
	Item no.: 216-262 Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray
	Item no.: 216-263 Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red
	Item no.: 216-264 Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black
	Item no.: 216-284 Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black
	Item no.: 216-301 Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow
	Item no.: 216-302 Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; green
	Item no.: 216-321 Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow
	Item no.: 216-322 Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; green
Jumper	
	Item no.: 231-902 Jumper; for conductor entry; gray
	Item no.: 231-903 Jumper; for conductor entry; 3-way; insulated; gray
	Item no.: 231-905 Jumper; for conductor entry; 5-way; insulated; gray
	Item no.: 231-907 Jumper; for conductor entry; 7-way; insulated; gray
	Item no.: 231-910 Jumper; for conductor entry; 10-way; insulated; gray

Subject to changes. Please also observe the further product documentation!

Downloads

CAD/CAE-Data

CAD data

2D/3D Models 231-110/027-000

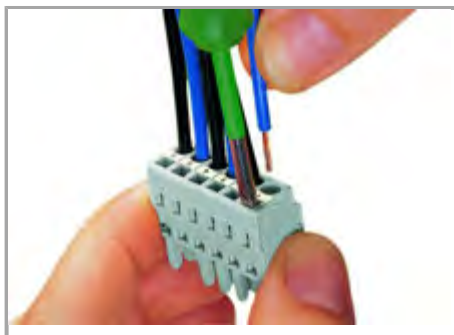
CAE data

EPLAN Data Portal 231-110/027-000

ZUKEN Portal 231-110/027-000

Installation Notes

Conductor termination



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



Inserting a conductor into CAGE CLAMP® unit via operating lever (231-291).



Inserting a conductor via operating tool.

Coding

Subject to changes. Please also observe the further product documentation!



Coding a female connector – removing coding finger(s).

Testing



Testing perpendicular to conductor entry via 2 or 2.3 mm Ø test plug – female connector with CAGE CLAMP®.

Installation



Male connector with strain relief plate



Strain relief housing shown with a male connector equipped with CAGE CLAMP®

Marking

Subject to changes. Please also observe the further product documentation!



Labeling via direct marking or self-adhesive strips.

Product family

<i>MCS</i> MIDI Classic

[Show all products from the family](#)

Subject to changes. Please also observe the further product documentation!