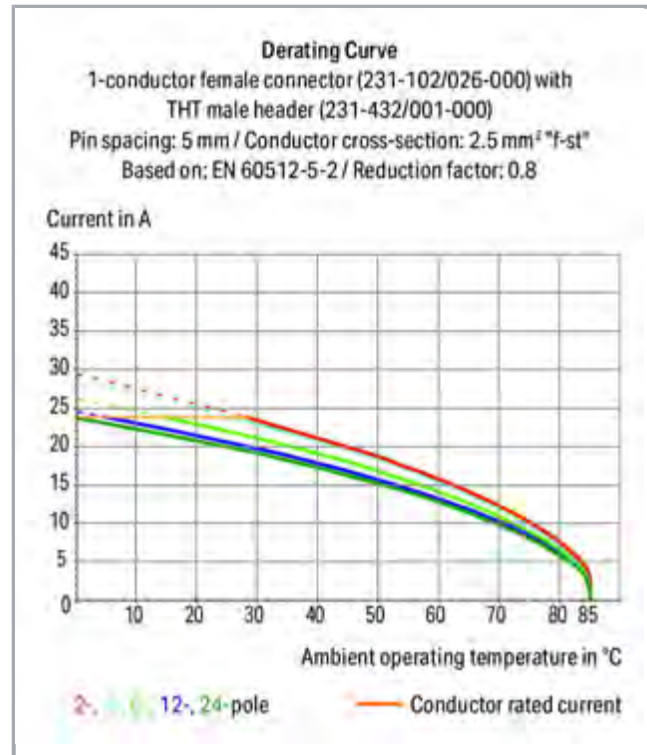
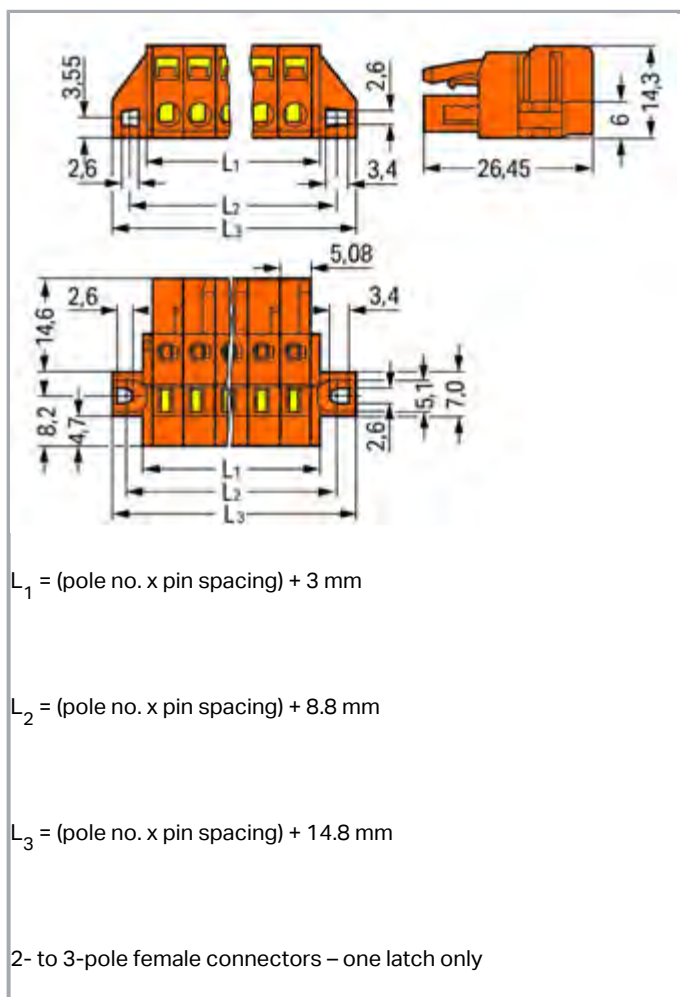


Data sheet | Item number: 231-304/031-000

1-conductor female plug; clamping collar; 2.5 mm²; Pin spacing 5.08 mm; 4-pole; 2,50 mm²; orange



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 mm ² / 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.	4
Total number of connection points	4
Total number of potentials	4
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	35.12 mm / 1.383 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

Plug connection

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

Material Data

Color	orange
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	0.13 MJ
Weight	8.2 g

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

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	4044918345996
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
	KEMA/KEUR DEKRA Certification B.V.	EN 61984	2190761.01

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 UL International Germany GmbH	UL 1977	E45171

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

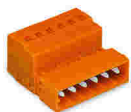


UR
Underwriters Laboratories Inc.

UL 1059

E45172

Counterpart

**Item no.231-634**1-conductor male connector; 2.5 mm²; Pin spacing 5.08 mm; 4-pole; 2,50 mm²; orange**Item no.231-334/001-000**

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5.08 mm; 4-pole; orange

**Item no.231-534/001-000**

THT male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5.08 mm; 4-pole; orange

Compatible products

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

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.: 210-657

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short



Item no.: 210-720

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft



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

Operating tool; made of insulating material; 8-way



Item no.: 280-440

Operating tool; made of insulating material; 10-way

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

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

**Item no.: 231-661**Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light gray**Strain relief plate****Item no.: 232-634**

Strain relief housing; orange

General accessories**Item no.: 231-669**

Lockout caps; for covering unused clamping units; orange

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**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 mm ² / 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 mm ² / 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 mm ² / 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 mm ² / AWG 24; insulated; electro-tin plated; yellow
	Item no.: 216-302 Ferrule; Sleeve for 0.34 mm ² / 22 AWG; insulated; electro-tin plated; green
	Item no.: 216-321 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated; yellow
	Item no.: 216-322 Ferrule; Sleeve for 0.34 mm ² / 22 AWG; insulated; electro-tin plated; green

Marking accessories

	Item no.: 210-331/508-103 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; white
	Item no.: 210-331/508-104 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; white
	Item no.: 210-332/508-202 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.: 210-332/508-204 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.: 210-332/508-205 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.: 210-332/508-206 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

Insulation stop

	Item no.: 231-670 Insulation stop; 0.08-0.2 mm ² / 0.2 mm ² "s"; white
	Item no.: 231-671 Insulation stop; 0.25 - 0.5 mm ² ; light gray

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



Item no.: 231-672
Insulation stop; 0.75 - 1 mm²; dark gray

assembling



Item no.: 209-147
Self-tapping screw



Item no.: 231-194
Self-tapping screw; B 2.2x13, fixing hole 1.8 mm Ø



Item no.: 231-195
Screw with nut; M2x12; for fixing element



Item no.: 231-295
Screw with nut

Downloads

CAD/CAE-Data

CAD data

2D/3D Models 231-304/031-000

CAE data

EPLAN Data Portal 231-304/031-000

ZUKEN Portal 231-304/031-000

Installation Notes

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



Female connectors with mounting flanges can be used as PCB through-panel connectors – conductor termination parallel to CAGE CLAMP® actuation.



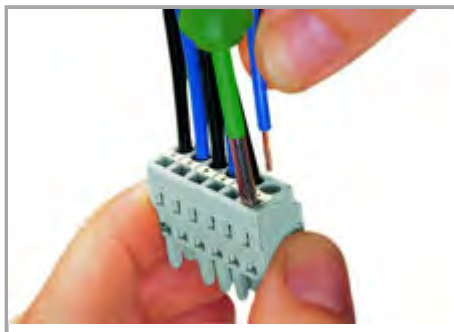
PCB female connectors with mounting flanges can be used as through-panel connectors for external wiring.



16-pole female connector with mounting flanges in a 19" rack – conductor termination parallel to CAGE CLAMP® actuation

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

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



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

Testing

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



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



Labeling via direct marking or self-adhesive strips.

Product family

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



<i>MCS</i> MIDI Classic

Show all products from the family

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