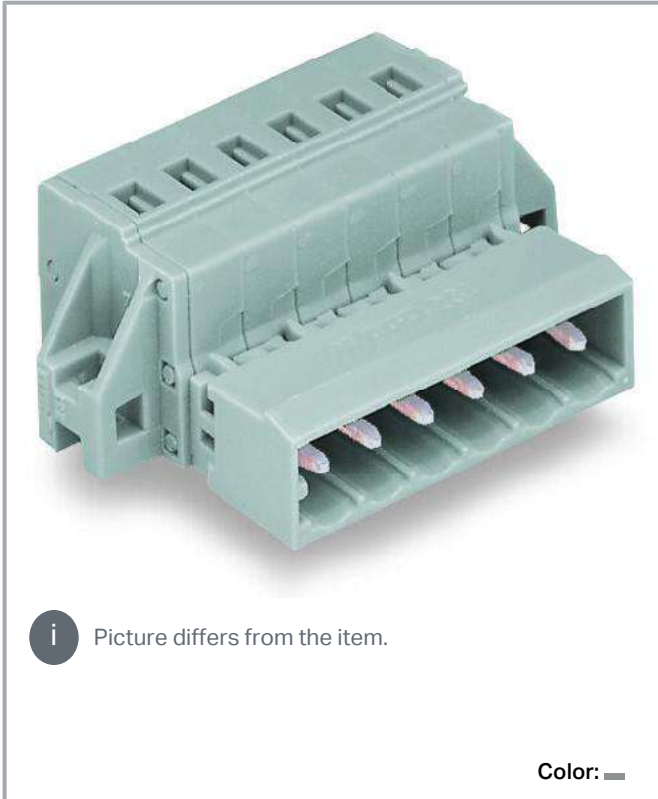


Data sheet | Item number: 231-610/019-044

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm;
10-pole; clamping collar; direct marking; 2,50 mm²; gray

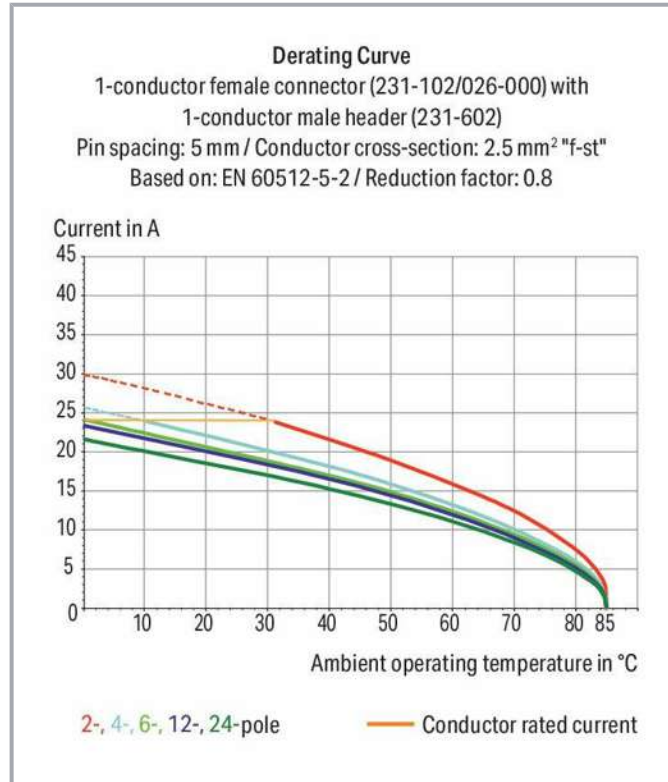


www.wago.com/231-610_019-044



Picture differs from the item.

Color:



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

WAGO Corporation
Germantown, WI 53022
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222
Email: info.us@wago.com | Web: www.wago.us

Do you have any questions about our products?
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Dimensions in mm

$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

$$L_3 = L - 0.2 \text{ mm}$$

$$L_4 = L_3 + 5.8 \text{ mm}$$

$$L_5 = L_3 + 11.8 \text{ mm}$$

Item description

- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP[®] actuation

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



- For wire-to-wire and board-to-wire connections
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- With coding fingers

Data

Notes

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.

Variants:

Other pole numbers
 Gold-plated or partially gold-plated contact surfaces
 Other versions (or variants) can be requested from WAGO Sales or configured at <https://configurator.wago.com/>

Electrical data

IEC Approvals

Ratings per	IEC/EN 60664-1
Rated 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	12 A
Legend (ratings)	(III / 2) ≙ Overvoltage category III / Pollution degree 2

UL Approvals

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

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

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Ratings per UL

Rated voltage UL 1977	600 V
Rated current UL 1977	15 A

CSA Approvals

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

Total number of potentials	10
Number of connection types	1
Number of levels	1

Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG
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
Number of poles	10
Conductor entry direction to mating direction	0°

Physical data

Pin spacing	5 mm / 0.197 inch
Width	64.8 mm / 2.551 inch
Height	14.3 mm / 0.563 inch
Depth	27.5 mm / 1.083 inch

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

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Mechanical data

Mounting type	Mounting flange
Mounting type	Feed-through mounting Panel mounting

Plug-in connection

Contact type (pluggable connector)	Male connector/plug
Connector (connection type)	for conductor
Mismating protection	No
Locking of plug-in connection	Without

Material data

Color	gray
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{Cu})
Contact plating	tin-plated
Fire load	0.29 MJ
Weight	15.9 g

Environmental requirements

Limit temperature range	-60 ... +100 °C
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Commercial data

Product Group	3 (Multi Conn. System)
PU (SPU)	25 Stück
Packaging type	box
Country of origin	DE
GTIN	4044918279833
Customs tariff number	85366990990


Approvals / Certificates

Country specific Approvals


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

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Logo	Approval	Additional Approval Text	Certificate name
	CSA DEKRA Certification B.V.	C22.2	1466354




Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	BV Bureau Veritas S.A.	IEC 60998	11915/D0 BV

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL Underwriters Laboratories Inc.	UL 1977	E45171

Counterpart

	Item no.231-110/026-000 Female plug; 10-pole; 12 AWG max; pin spacing 5 mm; 1 conductor per pole; gray	www.wago.com/231-110/026-000
	Item no.232-140 THT female header; straight; Pin spacing 5 mm; 10-pole; 0.6 x 1.0 mm solder pin; gray	www.wago.com/232-140
	Item no.232-240 THT female header; angled; Pin spacing 5 mm; 10-pole; 0.6 x 1.0 mm solder pin; gray	www.wago.com/232-240

Optional accessories

Strain relief

Strain relief housing

	Item no.: 232-610 Strain relief housing; gray	www.wago.com/232-610
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Coding

Coding

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



Item no.: 231-129
Coding key; snap-on type; light gray

www.wago.com/231-129

Jumpers

Jumper



Item no.: 231-905
Jumper; for conductor entry; 5-way; insulated; gray

www.wago.com/231-905



Item no.: 231-903
Jumper; for conductor entry; 3-way; insulated; gray

www.wago.com/231-903



Item no.: 231-907
Jumper; for conductor entry; 7-way; insulated; gray

www.wago.com/231-907



Item no.: 231-910
Jumper; for conductor entry; 10-way; insulated; gray

www.wago.com/231-910



Item no.: 231-902
Jumper; for conductor entry; 2-way; insulated; gray

www.wago.com/231-902

Tools

Operating tool



Item no.: 209-130
Operating tool; suitable for 264, 280 and 281 Series; 1-way; of insulating material; white

www.wago.com/209-130



Item no.: 209-132
Operating tool; for connecting comb-style jumper bar; 2-way; of insulating material

www.wago.com/209-132



Item no.: 231-159
Operating tool; natural

www.wago.com/231-159



Item no.: 210-250
Operating tool; for MCS MINI & MIDI with CAGE CLAMP® connection; red

www.wago.com/210-250



Item no.: 231-231
Combination operating tool; red

www.wago.com/231-231



Item no.: 210-657
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

www.wago.com/210-657



Item no.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

www.wago.com/210-720



Item no.: 231-131
Operating tool; made of insulating material; 1-way; loose; white

www.wago.com/231-131






Item no.: 231-291
Operating tool; made of insulating material; 1-way; loose; red

www.wago.com/231-291


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

	Item no.: 280-432 Operating tool; made of insulating material; 2-way; white	www.wago.com/280-432
	Item no.: 280-434 Operating tool; made of insulating material; 4-way	www.wago.com/280-434
	Item no.: 280-437 Operating tool; made of insulating material; 7-way	www.wago.com/280-437
	Item no.: 280-440 Operating tool; made of insulating material; 10-way	www.wago.com/280-440
	Item no.: 280-435 Operating tool; made of insulating material; 5-way; gray	www.wago.com/280-435
	Item no.: 280-436 Operating tool; made of insulating material; 6-way	www.wago.com/280-436
	Item no.: 280-438 Operating tool; made of insulating material; 8-way	www.wago.com/280-438
	Item no.: 280-433 Operating tool; made of insulating material; 3-way	www.wago.com/280-433



Insulations stops

Insulation stop		
	Item no.: 231-672 Insulation stop; 0.75 - 1 mm ² ; dark gray	www.wago.com/231-672
	Item no.: 231-670 Insulation stop; 0.08-0.2 mm ² / 0.2 mm ² "s"; white	www.wago.com/231-670
	Item no.: 231-671 Insulation stop; 0.25 - 0.5 mm ² ; light gray	www.wago.com/231-671

Cover

Cover		
	Item no.: 231-668 Lockout caps; for covering unused clamping units; gray	www.wago.com/231-668

Ferrules

Ferrule		
	Item no.: 216-101 Ferrule; Sleeve for 0.5 mm ² / AWG 22; uninsulated; electro-tin plated; silver-colored	www.wago.com/216-101
	Item no.: 216-104 Ferrule; Sleeve for 1.5 mm ² / AWG 16; uninsulated; electro-tin plated; silver-colored	www.wago.com/216-104

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



Item no.: 216-106 Ferrule; Sleeve for 2.5 mm ² / AWG 14; uninsulated; electro-tin plated; silver-colored	www.wago.com/216-106
Item no.: 216-102 Ferrule; Sleeve for 0.75 mm ² / AWG 20; uninsulated; electro-tin plated; silver-colored	www.wago.com/216-102
Item no.: 216-103 Ferrule; Sleeve for 1 mm ² / AWG 18; uninsulated; electro-tin plated	www.wago.com/216-103
Item no.: 216-123 Ferrule; Sleeve for 1 mm ² / AWG 18; uninsulated; electro-tin plated; silver-colored	www.wago.com/216-123
Item no.: 216-122 Ferrule; Sleeve for 0.75 mm ² / AWG 20; uninsulated; electro-tin plated; silver-colored	www.wago.com/216-122
Item no.: 216-124 Ferrule; Sleeve for 1.5 mm ² / AWG 16; uninsulated; electro-tin plated	www.wago.com/216-124
Item no.: 216-142 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92	www.wago.com/216-142
Item no.: 216-132 Ferrule; Sleeve for 0.34 mm ² / AWG 24; uninsulated; electro-tin plated	www.wago.com/216-132
Item no.: 216-121 Ferrule; Sleeve for 0.5 mm ² / AWG 22; uninsulated; electro-tin plated; silver-colored	www.wago.com/216-121
Item no.: 216-143 Ferrule; Sleeve for 1 mm ² / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92	www.wago.com/216-143
Item no.: 216-131 Ferrule; Sleeve for 0.25 mm ² / AWG 24; uninsulated; electro-tin plated; silver-colored	www.wago.com/216-131
Item no.: 216-141 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92	www.wago.com/216-141
Item no.: 216-152 Ferrule; Sleeve for 0.34 mm ² / AWG 24; uninsulated; electro-tin plated	www.wago.com/216-152
Item no.: 216-203 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; red	www.wago.com/216-203
Item no.: 216-202 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; gray	www.wago.com/216-202
Item no.: 216-151 Ferrule; Sleeve for 0.25 mm ² / AWG 24; uninsulated; electro-tin plated	www.wago.com/216-151
Item no.: 216-204 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; black	www.wago.com/216-204
Item no.: 216-144 Ferrule; Sleeve for 1.5 mm ² / AWG 16; uninsulated; electro-tin plated; electrolytic copper; gastight	www.wago.com/216-144

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



crimped; acc. to DIN 46228, Part 1/08.92; silver-colored

	Item no.: 216-201 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; white	www.wago.com/216-201
	Item no.: 216-223 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; red	www.wago.com/216-223
	Item no.: 216-241 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white	www.wago.com/216-241
	Item no.: 216-242 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray	www.wago.com/216-242
	Item no.: 216-222 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; gray	www.wago.com/216-222
	Item no.: 216-221 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; white	www.wago.com/216-221
	Item no.: 216-224 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; black	www.wago.com/216-224
	Item no.: 216-243 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	www.wago.com/216-243
	Item no.: 216-244 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	www.wago.com/216-244
	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	www.wago.com/216-263
	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	www.wago.com/216-264
	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	www.wago.com/216-284
	Item no.: 216-262 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray	www.wago.com/216-262
	Item no.: 216-301 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated; yellow	www.wago.com/216-301
	Item no.: 216-321 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated; yellow	www.wago.com/216-321
	Item no.: 216-322 Ferrule; Sleeve for 0.34 mm ² / 22 AWG; insulated; electro-tin plated; green	www.wago.com/216-322
	Item no.: 216-302	

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

Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise

www.wago.com/216-302

Mounting

Mounting accessories



Item no.: 209-147
Self-tapping screw

www.wago.com/209-147



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

www.wago.com/231-194



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

www.wago.com/231-195



Item no.: 231-295
Screw with nut

www.wago.com/231-295

Downloads

Documentation

Additional Information

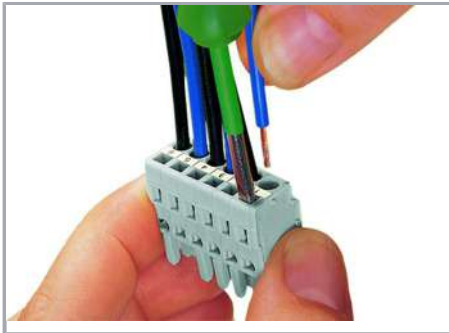
Technical explanations

2019 Apr 3

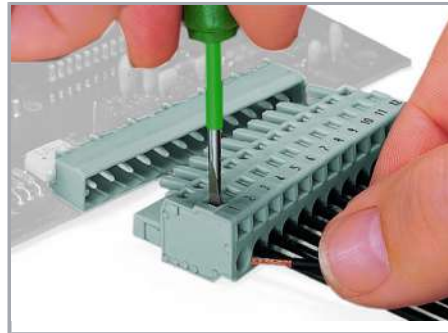
pdf
2.0 MB

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Installation Notes



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.



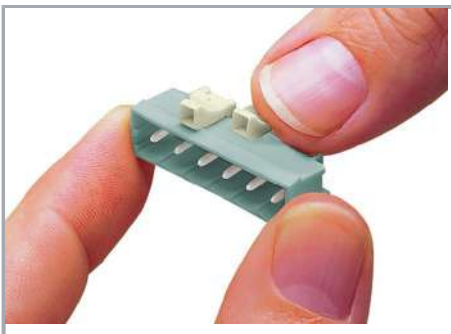
Inserting a conductor into CAGE CLAMP® unit via operating lever (231-291).

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

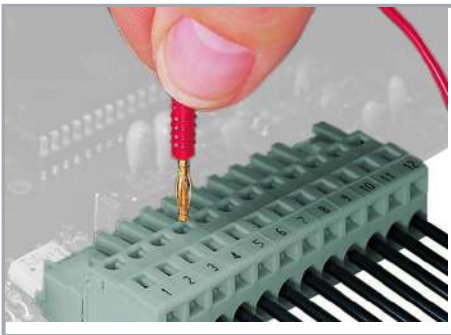


Inserting a conductor via operating tool.

Coding



Coding a male header – fitting coding key(s).

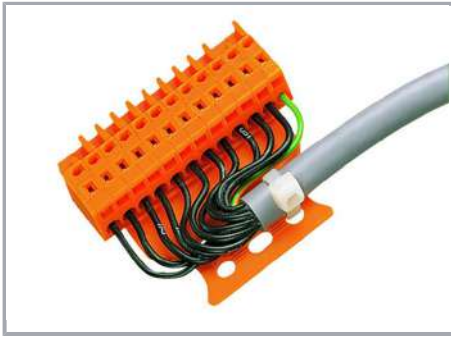


Testing – female connector with CAGE CLAMP®

Integrated test ports for testing perpendicular to conductor entry via 2 or 2.3 mm Ø test plug

Installation

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

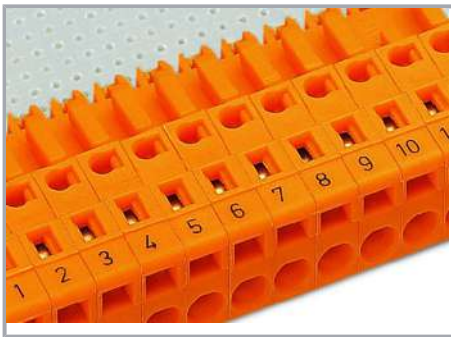


Male connector with strain relief plate



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

Marking



Labeling via direct marking or self-adhesive strips.

Product family

MCS MIDI Classic

[Show all products from the family](#)

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