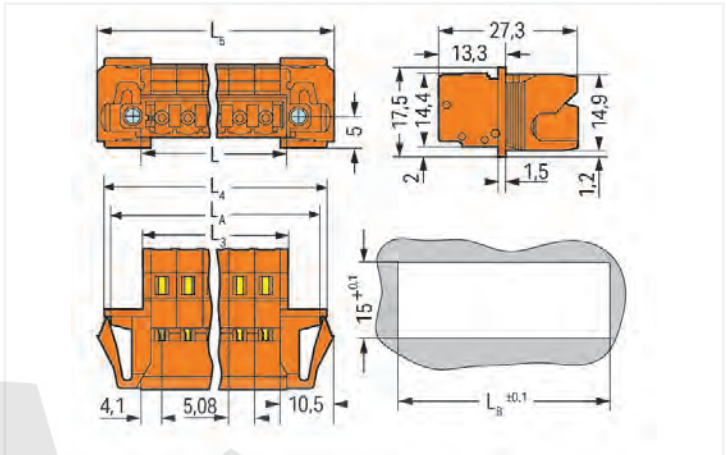
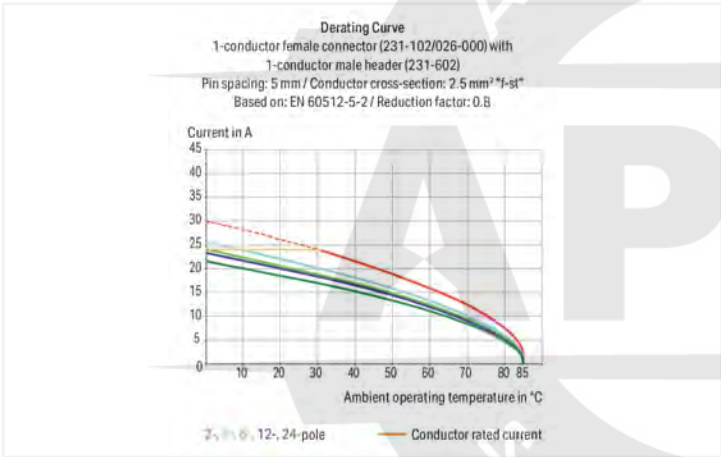


Color:  orange

Similar to illustration



Dimensions in mm  
 $L = (\text{pole no.} \times \text{pin spacing}) + 3.2 \text{ mm}$   
 $L3 = L - 0.2 \text{ mm}$   
 $L4 = L3 + 15.2 \text{ mm}$   
 $L5 = L3 + 18 \text{ mm}$   
 $LA = L3 + 12.6 \text{ mm}$   
 $LB = L3 + 13.2 \text{ mm}$



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

## 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. 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

### Ratings per IEC/EN

Ratings per	IEC/EN 60664-1
Nominal 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
Nominal voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
Rated current	12 A
Legend (ratings)	(III / 2) $\triangle$ Overvoltage category III / Pollution degree 2

### Ratings per UL 1059

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

### Ratings per UL 1977

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

### Ratings per CSA

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 points	16
Total number of potentials	16
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 mm² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm² / 28 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1.5 mm²
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm²
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Pole number	16
Conductor entry direction to mating direction	0°

## Physical data

Pin spacing	5.08 mm / 0.2 inches
Width	102.28 mm / 4.027 inches
Height	17.5 mm / 0.689 inches
Depth	27.5 mm / 1.083 inches




Mechanical Data	
Variable coding	Yes
Housing sheet thickness	0.5 ... 2.5 mm / 0.02 ... 0.098 inches
Mounting type	Snap-in flange Feed-through mounting
Anti-rotation protection	Yes

Plug-in connection	
Contact type (pluggable connector)	Male connector/plug
Connector (connection type)	for conductor
Mismating protection	No
Locking of plug-in connection	Threaded flange

Material Data	
Note (material data)	<a href="#">Information on material specifications can be found here</a>
Color	orange
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 <sub>Cu</sub> )
Contact plating	Tin
Fire load	0.405 MJ
Weight	27.5 g

Environmental requirements	
Limit temperature range	-60 ... +100 °C
Processing temperature	-35 ... +60 °C

Commercial data	
eCl@ss 10.0	27-44-03-09
eCl@ss 9.0	27-44-03-09
ETIM 8.0	EC002638
ETIM 7.0	EC002638
PU (SPU)	10 pcs
Packaging type	Box
Country of origin	DE
GTIN	4050821280095
Customs tariff number	85366990990

Approvals / Certificates		
General approvals		
		
Approval	Standard	Certificate Name
CB DEKRA Certification B.V.	IEC 61984	NL-39756/A1
CSA DEKRA Certification B.V.	C22.2	1466354
General approvals		
cURus Underwriters Laboratories Inc.	UL 1059	E45172
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-121453
UR Underwriters Laboratories Inc.	UL 1977	E45171

Approvals for marine applications



Approval	Standard	Certificate Name
BV Bureau Veritas S.A.	IEC 60998	11915/D0 BV

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 231-646/129-000



Documentation

Additional Information
Technical Section
03.04.2019
pdf 1949.09 KB



CAD/CAE-Data

CAD data
2D/3D Models 231-646/129-000



CAE data
ZUKEN Portal 231-646/129-000



1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket



Item No.: 231-316/107-000  
1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 16-pole; Screw flange; 2,50 mm²; orange

1.2 Optional Accessories

1.2.1 Coding



1.2.1.1 Coding



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

1.2.2 Cover

1.2.2.1 Cover



Item No.: 231-669  
Lockout caps; for covering unused clamping units; orange

1.2.3 Ferrule

1.2.3.1 Ferrule



Item No.: 216-301  
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow



Item No.: 216-321  
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow



Item No.: 216-151  
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated



Item No.: 216-131  
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated; silver-colored



Item No.: 216-302  
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise



Item No.: 216-322  
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise



Item No.: 216-132  
Ferrule; Sleeve for 0.34 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.: 216-241  
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white



Item No.: 216-201  
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white



Item No.: 216-221  
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white



Item No.: 216-141  
Ferrule; Sleeve for 0.5 mm² / 20 AWG; uninsulated; electro-tin plated; white



Item No.: 216-101  
Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored



Item No.: 216-121  
Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored



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.: 216-262  
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.: 216-202  
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray



Item No.: 216-222  
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray



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.: 216-102  
Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated; silver-colored



Item No.: 216-122  
Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated; silver-colored



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.: 216-263  
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.: 216-203  
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red



Item No.: 216-223  
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red



Item No.: 216-103  
Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated












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.: 216-123  
Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; silver-colored




1.2.3.1 Ferrule

 <b>Item No.: 216-204</b> Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black	 <b>Item No.: 216-224</b> Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black	 <b>Item No.: 216-244</b> 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	 <b>Item No.: 216-264</b> 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
 <b>Item No.: 216-284</b> 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	 <b>Item No.: 216-124</b> Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated	 <b>Item No.: 216-144</b> Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; silver-colored	 <b>Item No.: 216-104</b> Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; silver-colored
 <b>Item No.: 216-106</b> Ferrule; Sleeve for 2.5 mm² / AWG 14; un-insulated; electro-tin plated; silver-colored			





1.2.4 Insulation stop

1.2.4.1 Insulation stop

 <b>Item No.: 231-670</b> Insulation stop; 0.08-0.2 mm² / 0.2 mm² "s"; white	 <b>Item No.: 231-671</b> Insulation stop; 0.25 - 0.5 mm²; light gray	 <b>Item No.: 231-672</b> Insulation stop; 0.75 - 1 mm²; dark gray
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1.2.5 Jumper

1.2.5.1 Jumper

 <b>Item No.: 231-910</b> Jumper; for conductor entry; 10-way; insulated; gray	 <b>Item No.: 231-902</b> Jumper; for conductor entry; 2-way; insulated; gray	 <b>Item No.: 231-903</b> Jumper; for conductor entry; 3-way; insulated; gray	 <b>Item No.: 231-905</b> Jumper; for conductor entry; 5-way; insulated; gray
 <b>Item No.: 231-907</b> Jumper; for conductor entry; 7-way; insulated; gray			

1.2.6 Marking

1.2.6.1 Marking strip

 <b>Item No.: 210-331/508-103</b> 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	 <b>Item No.: 210-332/508-202</b> 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	 <b>Item No.: 210-332/508-205</b> 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	 <b>Item No.: 210-331/508-104</b> 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
 <b>Item No.: 210-332/508-204</b> 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	 <b>Item No.: 210-332/508-206</b> 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		

1.2.7 Strain relief

1.2.7.1 Strain relief housing



Item No.: 232-646  
Strain relief housing; orange

1.2.8 Tool

1.2.8.1 Operating tool



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



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



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



Item No.: 280-440  
Operating tool; made of insulating material; 10-way



Item No.: 209-130  
Operating tool; made of insulating material; 1-way; for 264 Series (1-1/2-way), 280, 281 Series (up to 3-way); natural



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



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



Item No.: 280-432  
Operating tool; made of insulating material; 2-way; white



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

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 tool (231-291).



Inserting a conductor via operating tool.



## Coding



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

## Testing



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



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.