

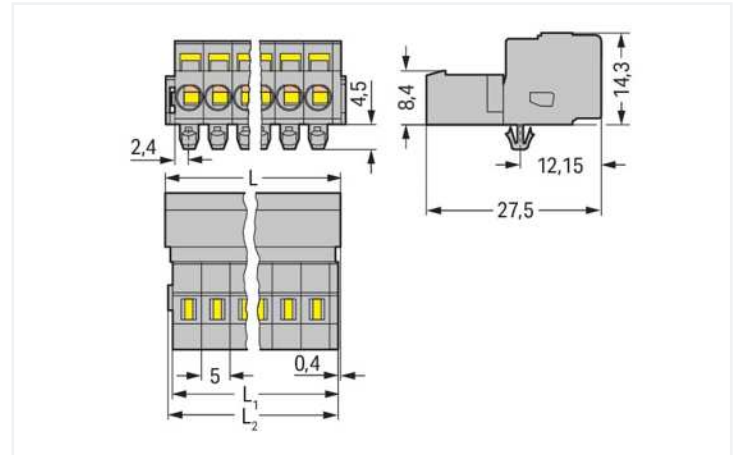
Data Sheet | Item Number: 231-610/018-000

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 10-pole;
DIN-35 rail/panel mounting; Snap-in mounting feet; 2,50 mm²; gray

<https://www.wago.com/231-610/018-000>



Color: ■ gray

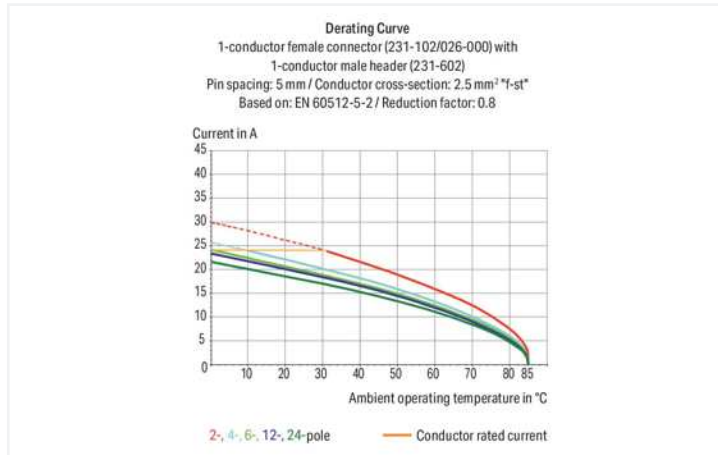


Dimensions in mm

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

$L1 = L - 1.7 \text{ mm}$

$L2 = L - 1.2 \text{ mm}$



- 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

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 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	320 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	12 A	12 A	12 A

Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	15 A	-	10 A

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

Approvals per	CSA		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	15 A	-	10 A

Connection data

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

Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Actuation direction 1	Operation parallel to conductor entry
Actuation direction 2	Operation perpendicular to conductor entry
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 inches
Pole number	10
Conductor entry direction to mating direction	0°

Physical data

Pin spacing	5 mm / 0.197 inches
Width	53.2 mm / 2.094 inches
Height	18.8 mm / 0.74 inches
Height from the surface	14.3 mm / 0.563 inches
Depth	27.5 mm / 1.083 inches

Mechanical data

Variable coding	Yes
Housing sheet thickness	0.6 ... 1.2 mm / 0.024 ... 0.047 inches
Mounting type	Snap-in foot Panel mounting
Anti-rotation protection	Yes

Plug-in connection

Contact type (pluggable connector)	Male connector/plug
Connector (connection type)	for conductor
Mismating protection	No

Material data

Note (material data)	Information on material specifications can be found here
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
Fire load	0.499 MJ
Weight	15.6 g

Environmental requirements

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

Commercial data

Product Group	3 (Multi Conn. System)
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)	50 pcs
Packaging type	Box
Country of origin	DE
GTIN	4044918258081
Customs tariff number	85366930000

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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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
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-121453
UL Underwriters Laboratories Inc.	UL 1977	E45171

Declarations of conformity and manufacturer's declarations



Approval	Standard	Certificate Name
Railway WAGO GmbH & Co. KG	-	Railway Ready

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	19-HG1869876-PDA
BV Bureau Veritas S.A.	IEC 60998	11915/D0 BV
DNV DNV GL SE	-	TAE000016Z

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 231-610/018-000

Documentation

Additional Information			
Technical Section	03.04.2019	pdf 2010.85 KB	

CAD/CAE-Data

CAD data
2D/3D Models 231-610/018-000

CAE data
EPLAN Data Portal 231-610/018-000
ZUKEN Portal 231-610/018-000

1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket



Item No.: 231-110/026-000
 1-conductor female connector; CAGE
 CLAMP®; 2.5 mm²; Pin spacing 5 mm; 10-
 pole; 2,50 mm²; gray

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.: 231-668
Lockout caps; for covering unused clamping units; gray

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; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; 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; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



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



Item No.: 216-204

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



Item No.: 216-224

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



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.: 216-264

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.: 216-124

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



Item No.: 216-144

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



Item No.: 216-104

Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; silver-colored



Item No.: 216-106

Ferrule; Sleeve for 2.5 mm² / AWG 14; un-insulated; electro-tin plated; silver-colored

1.2.4 Installation

1.2.4.1 Mounting accessories



Item No.: 209-137

Mounting adapter; can be used as end stop; 6.5 mm wide; gray

1.2.5 Insulation stop

1.2.5.1 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

1.2.6 Jumper

1.2.6.1 Jumper



Item No.: 231-910

Jumper; for conductor entry; 10-way; insulated; gray



Item No.: 231-902

Jumper; for conductor entry; 2-way; insulated; 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

1.2.7 Marking

1.2.7.1 Marking strip



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.: 210-332/500-202
 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.: 210-332/500-205
 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.: 210-331/500-104
 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



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.: 210-332/500-206
 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

1.2.8 Mounting adapter

1.2.8.1 Mounting accessories



Item No.: 209-148
 Multi mounting adapter; for female and male connectors; 25 mm wide; 3 parts; gray

1.2.9 Strain relief

1.2.9.1 Strain relief housing



Item No.: 232-610
 Strain relief housing; for female and male connectors; 2 parts; Pin spacing 5 mm; 10-pole; gray

1.2.10 Tool

1.2.10.1 Operating tool



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

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.: 210-250
 Operating tool; for MCS MINI and MIDI with CAGE CLAMP® connection; red

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-/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

1.2.10.1 Operating tool

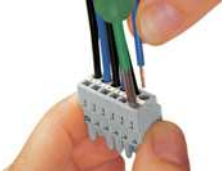


Item No.: 231-159

Operating tool; natural

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.