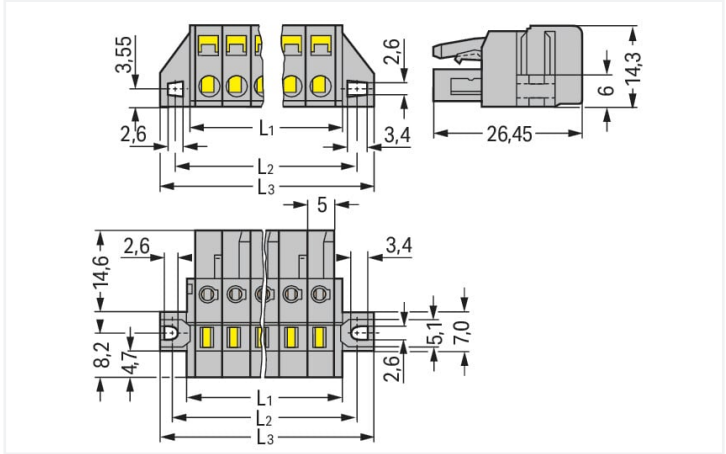
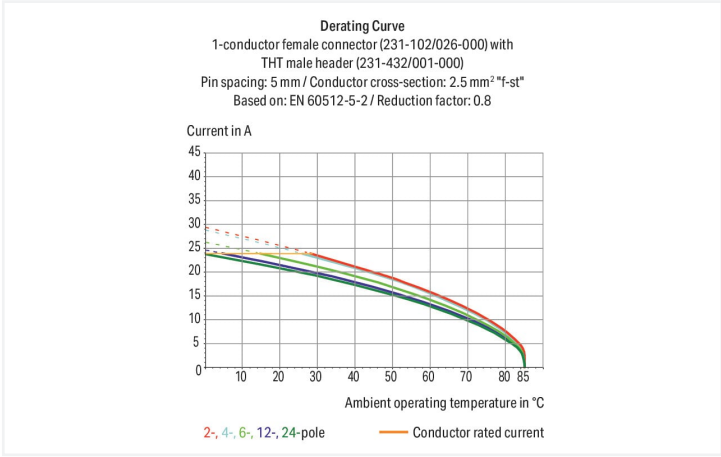




Color: ■ gray



Dimensions in mm
L1 = (pole no. x pin spacing) + 3 mm
L2 = (pole no. x pin spacing) + 8.8 mm
L3 = (pole no. x pin spacing) + 14.8 mm
2- to 3-pole female connectors – one latch only



- 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

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:	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				Approvals per UL 1059			
Overvoltage category	III	III	II	Use group	B	C	D
Pollution degree	3	2	2	Rated voltage	300 V	-	300 V
Nominal voltage	320 V	320 V	630 V	Rated current	15 A	-	10 A
Rated surge voltage	4 kV	4 kV	4 kV				
Rated current	16 A	16 A	16 A				

Approvals per UL 1977		Approvals per CSA			
Rated voltage	600 V	Use group	B	C	D
Rated current	15 A	Rated voltage	300 V	-	300 V
		Rated current	15 A	-	10 A

Connection data

Connection points	10	Connection 1	
Total number of potentials	10	Connection technology	CAGE CLAMP®
Number of connection types	1	Actuation type	Operating tool
Number of levels	1	Actuation direction 1	Operation parallel to conductor entry
		Actuation direction 2	Operation perpendicular to conductor entry
		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	10
		Conductor entry direction to mating direction	0°

Physical data

Pin spacing	5 mm / 0.197 inches
Width	64.8 mm / 2.551 inches
Height	14.3 mm / 0.563 inches
Depth	26.45 mm / 1.041 inches

Mechanical data

Variable coding	Yes
Mounting type	Mounting flange Feed-through mounting Panel mounting
Anti-rotation protection	Yes



Plug-in connection		
Contact type (pluggable connector)	Female connector/socket	
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	Copper alloy	
Contact plating	Tin	
Fire load	0.456 MJ	
Weight	18.8 g	

Environmental requirements		
Limit temperature range	-60 ... +85 °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)	25 pcs	
Packaging type	Box	
Country of origin	DE	
GTIN	4044918341066	
Customs tariff number	85366990990	

Environmental Product Compliance		
RoHS Compliance Status	Compliant, No Exemption	

Approvals / Certificates

General approvals			General approvals		
   			UR	UL 1977	E45171
			Underwriters Laboratories Inc.		
Approval	Standard	Certificate Name			
CB DEKRA Certification B.V.	IEC 61984	NL-39756/A1			
CSA DEKRA Certification B.V.	C22.2	LR 18677-25			
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-121453			
UL Underwriters Laboratories Inc.	UL 1059	E45172			



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 231-110/031-000



Documentation

Additional Information
Technical Section
03.04.2019
pdf 2027.26 KB



CAD/CAE-Data

CAD data
2D/3D Models 231-110/031-000



CAE data
EPLAN Data Portal 231-110/031-000
ZUKEN Portal 231-110/031-000



1 Compatible Products

1.1 System counterpart

1.1.1 Male connector/plug



Item No.: [231-610](#)
1-conductor male connector; CAGE
CLAMP®; 2.5 mm²; Pin spacing 5 mm; 10-
pole; 2,50 mm²; 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



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



1.2 Optional Accessories

1.2.1 Cover

1.2.1.1 Cover



Item No.: 231-668
Lockout caps; for covering unused clamping units; gray

1.2.2 Ferrule

1.2.2.1 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



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



1.2.2.1 Ferrule



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

1.2.3 Installation

1.2.3.1 Mounting accessories



Item No.: 231-295
Screw with nut



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



Item No.: 209-147
Self-tapping screw



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

1.2.4 Insulation stop

1.2.4.1 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

1.2.5 Jumper

1.2.5.1 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



1.2.6 Marking			
1.2.6.1 Marking strip			
			
<p>Item No.: 210-331/500-103 Marking strips; as a DIN A4 sheet; MAR-KED; 1-12 (300x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>	<p>Item No.: 210-332/500-202 Marking strips; as a DIN A4 sheet; MAR-KED; 1-16 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>	<p>Item No.: 210-332/500-205 Marking strips; as a DIN A4 sheet; MAR-KED; 1-32 (80x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>	<p>Item No.: 210-331/500-104 Marking strips; as a DIN A4 sheet; MAR-KED; 13-24 (300x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>
			
<p>Item No.: 210-332/500-204 Marking strips; as a DIN A4 sheet; MAR-KED; 17-32 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>	<p>Item No.: 210-332/500-206 Marking strips; as a DIN A4 sheet; MAR-KED; 33-48 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>		
1.2.7 Strain relief			
1.2.7.1 Strain relief housing			
			
<p>Item No.: 232-610 Strain relief housing; for female and male connectors; 2 parts; Pin spacing 5 mm; 10-pole; gray</p>			
1.2.8 Test and measurement			
1.2.8.1 Testing accessories			
			
<p>Item No.: 210-136 Test plug; 2 mm Ø; with 500 mm cable; red</p>	<p>Item No.: 231-661 Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light gray</p>		
1.2.9 Tool			
1.2.9.1 Operating tool			
			
<p>Item No.: 231-231 Combination operating tool; red</p>	<p>Item No.: 210-720 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured</p>	<p>Item No.: 210-657 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured</p>	<p>Item No.: 209-132 Operating tool; for connecting comb-style jumper bar; made of insulating material; 2-way; natural</p>
			
<p>Item No.: 280-440 Operating tool; made of insulating material; 10-way</p>	<p>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</p>	<p>Item No.: 231-291 Operating tool; made of insulating material; 1-way; loose; red</p>	<p>Item No.: 231-131 Operating tool; made of insulating material; 1-way; loose; white</p>
			
<p>Item No.: 280-432 Operating tool; made of insulating material; 2-way; white</p>	<p>Item No.: 280-433 Operating tool; made of insulating material; 3-way</p>	<p>Item No.: 280-434 Operating tool; made of insulating material; 4-way</p>	<p>Item No.: 280-435 Operating tool; made of insulating material; 5-way; gray</p>

1.2.9.1 Operating tool



Item No.: 280-436
Operating tool; made of insulating material; 6-way



Item No.: 280-437
Operating tool; made of insulating material; 7-way



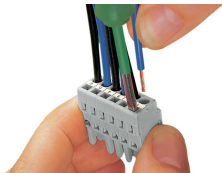
Item No.: 280-438
Operating tool; made of insulating material; 8-way



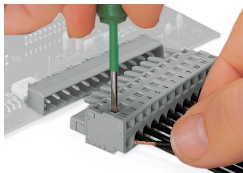
Item No.: 231-159
Operating tool; natural

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).



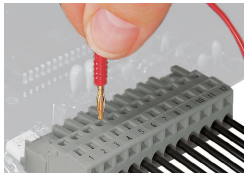
Inserting a conductor via operating tool.

Coding



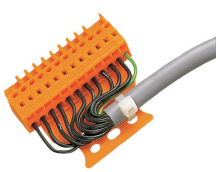
Coding a female connector by removing coding finger(s).

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.