

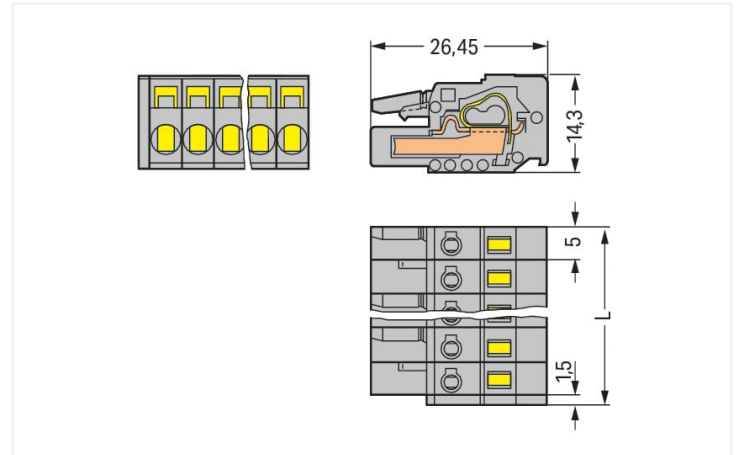
Data Sheet | Item Number: 231-103/026-000

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 3-pole;
2,50 mm²; gray

<https://www.wago.com/231-103/026-000>



Color: ■ gray



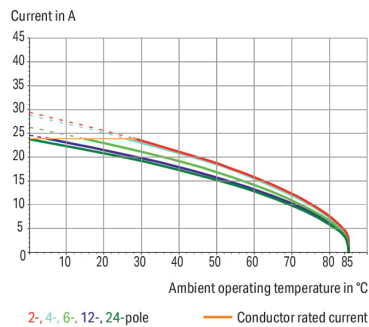
Dimensions in mm

$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$

2- to 3-pole female connectors – one latch only

Derating Curve

1-conductor female connector (231-102/026-000) with
THT male header (231-432/001-000)
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² *f-st*
Based on: EN 60512-5-2 / Reduction factor: 0.8



- 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		
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	16 A	16 A	16 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

Clamping units	3
Total number of potentials	3
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	3
Conductor entry direction to mating direction	0°

Physical data

Pin spacing	5 mm / 0.197 inches
Width	16.5 mm / 0.65 inches
Height	14.3 mm / 0.563 inches
Depth	26.45 mm / 1.041 inches

Mechanical data

Variable coding	Yes
Anti-rotation protection	Yes

Plug-in connection

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

Material data

Note (material data)	Information on material specifications can be found here
Color	gray
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Clamping spring material	Chrome-nickel spring steel (CrNi)
Contact material	Copper alloy
Contact Plating	Tin
Fire load	0.113 MJ
Weight	5.5 g

Environmental requirements

Limit temperature range	-60 ... +85 °C	Environmental Testing (Environmental Conditions)	
Processing temperature	-35 ... +60 °C	Test specification	DIN EN 50155 (VDE 0115-200):2022-06
		Railway applications – Rolling stock – Electronic equipment	
		Test procedure	DIN EN 61373 (VDE 0115-0106):2011-04
		Railway applications – Rolling stock equipment – Shock and vibration tests	
		Spectrum/Installation location	Service life test, Category 1, Class A/B
		Function test with noise-like vibration	Test passed according to Section 8 of the standard
		Frequency	$f_1 = 5 \text{ Hz to } f_2 = 150 \text{ Hz}$ $f_1 = 5 \text{ Hz to } f_2 = 150 \text{ Hz}$
		Acceleration	0.101g (highest test level used for all axes) 0.572g (highest test level used for all axes) 5g (highest test level used for all axes)
		Test duration per axis	10 min. 5 h
		Test directions	X, Y and Z axes X, Y and Z axes X, Y and Z axes
		Monitoring for contact faults/interruptions	Passed
		Voltage drop measurement before and after each axis	Passed
		Simulated service life test through increased levels of noise-like vibration	Test passed according to Section 9 of the standard
		Extended test scope: Monitoring for contact faults/interruptions	Passed
		Extended test scope: Voltage drop measurement before and after each axis	Passed
		Shock test	Test passed according to Section 10 of the standard
		Shock form	Half sine
		Shock duration	30 ms
		Number of shocks per axis	3 pos. und 3 neg.
		Vibration and shock stress for rolling stock equipment	Passed

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 9.0	EC002638
ETIM 8.0	EC002638
PU (SPU)	100 pcs
Packaging type	Box
Country of origin	DE
GTIN	4044918337854
Customs tariff number	85366990990

Environmental Product Compliance	
RoHS Compliance Status	Compliant, No Exemption

Approvals / Certificates

General approvals			Declarations of conformity and manufacturer's declarations		
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
CB DEKRA Certification B.V.	IEC 61984	NL-39756/A1	Railway WAGO GmbH & Co. KG	-	Railway Ready
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			
UR Underwriters Laboratories Inc.	UL 1977	E45171			

Approvals for marine applications

Approval	Standard	Certificate Name
ABS American Bureau of Shipping	-	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
231-103/026-000



Documentation

Additional Information

Technical Section

03.04.2019

pdf

2027.26 KB



CAD/CAE-Data

CAD data

2D/3D Models
231-103/026-000



CAE data

EPLAN Data Portal
231-103/026-000



ZUKEN Portal

231-103/026-000



1 Compatible Products

1.1 System counterpart

1.1.1 Male connector/plug



[Item No.: 231-603](#)

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 3-pole; 2,50 mm²; gray



[Item No.: 231-603/019-000](#)

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 3-pole; clamping collar; 2,50 mm²; gray



[Item No.: 231-603/018-000](#)

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 3-pole; DIN-35 rail/panel mounting; Snap-in mounting feet; 2,50 mm²; gray



[Item No.: 231-603/114-000](#)

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 3-pole; Snap-in flange; 2,50 mm²; gray



[Item No.: 231-603/032-000](#)

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 3-pole; Strain relief plate; 2,50 mm²; gray



[Item No.: 232-503/007-000](#)

Double pin header; DIN-35 rail mounting; 3-pole; Pin spacing 5 mm; gray



[Item No.: 231-163/003-000](#)

Male connector for rail-mount terminal blocks; 1.2 x 1.2 mm pins; straight; Pin spacing 5 mm; 3-pole; gray



[Item No.:](#)

[231-433/001-000/105-604/997-405](#)
THR male header; 1.0 x 1.0 mm solder pin; angled; in tape-and-reel packaging; Pin spacing 5 mm; 3-pole; black



[Item No.: 231-433/001-000/105-604](#)

THR male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5 mm; 3-pole; black



[Item No.:](#)

[231-133/001-000/105-604/997-405](#)
THR male header; 1.0 x 1.0 mm solder pin; straight; in tape-and-reel packaging; Pin spacing 5 mm; 3-pole; black



[Item No.: 231-133/001-000/105-604](#)

THR male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5 mm; 3-pole; black



[Item No.:](#)

[231-463/001-000/105-604/997-405](#)
THR male header; 1.2 x 1.2 mm solder pin; angled; in tape-and-reel packaging; Pin spacing 5 mm; 3-pole; black



[Item No.: 231-463/001-000/105-604](#)

THR male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 5 mm; 3-pole; black



[Item No.:](#)

[231-163/001-000/105-604/997-405](#)
THR male header; 1.2 x 1.2 mm solder pin; straight; in tape-and-reel packaging; Pin spacing 5 mm; 3-pole; black



[Item No.: 231-163/001-000/105-604](#)

THR male header; 1.2 x 1.2 mm solder pin; straight; Pin spacing 5 mm; 3-pole; black



[Item No.: 232-333](#)

THT male header for double-deck assembly; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5 mm; 3-pole; gray

1.1.1 Male connector/plug



Item No.: 231-433/040-000
 THT male header; 1.0 x 1.0 mm solder pin; angled; clamping collar; Pin spacing 5 mm; 3-pole; gray

Item No.: 231-433/001-000
 THT male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5 mm; 3-pole; gray

Item No.: 231-133/040-000
 THT male header; 1.0 x 1.0 mm solder pin; straight; clamping collar; Pin spacing 5 mm; 3-pole; gray

Item No.: 231-133/001-000
 THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5 mm; 3-pole; gray



Item No.: 231-463/040-000
 THT male header; 1.2 x 1.2 mm solder pin; angled; clamping collar; Pin spacing 5 mm; 3-pole; gray

Item No.: 231-463/001-000
 THT male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 5 mm; 3-pole; gray

Item No.: 231-163/040-000
 THT male header; 1.2 x 1.2 mm solder pin; straight; clamping collar; Pin spacing 5 mm; 3-pole; gray

Item No.: 231-163/001-000
 THT male header; 1.2 x 1.2 mm solder pin; straight; Pin spacing 5 mm; 3-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.: 216-302
 Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise



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.: 216-141
 Ferrule; Sleeve for 0.5 mm² / 20 AWG; un-insulated; 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; un-insulated; 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.: 216-142
 Ferrule; Sleeve for 0.75 mm² / 18 AWG; un-insulated; 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; un-insulated; 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.: 216-103
 Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated



Item No.: 216-143
 Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



Item No.: 216-204
 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

1.2.2.1 Ferrule



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 Insulation stop

1.2.3.1 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

1.2.4 Jumper

1.2.4.1 Jumper



Item No.: 231-902

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

Item No.: 231-903

Jumper; for conductor entry; 3-way; insulated; gray

1.2.5 Marking

1.2.5.1 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

1.2.6 Strain relief

1.2.6.1 Strain relief housing



Item No.: 232-603

Strain relief housing; for female and male connectors; 2 parts; Pin spacing 5 mm; 3-pole; gray

1.2.7 Test and measurement

1.2.7.1 Testing accessories



Item No.: 210-136

Test plug; 2 mm Ø; with 500 mm cable; red

Item No.: 231-661

Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light gray

1.2.8 Tool

1.2.8.1 Operating tool



Item No.: 231-231

Combination operating tool; red



Item No.: 209-132

Operating tool; for connecting comb-style jumper bar; made of insulating material; 2-way; natural



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; white

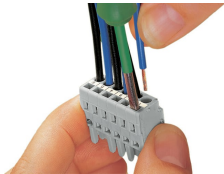


Item No.: 231-159

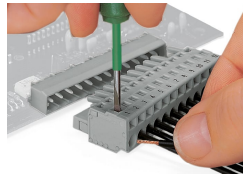
Operating tool; natural

Installation Notes

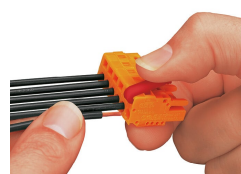
Conductor termination



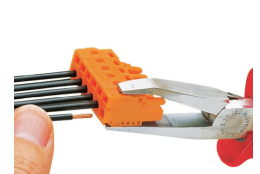
Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



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).



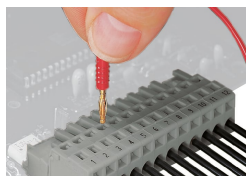
Inserting a conductor via operating tool.

Coding



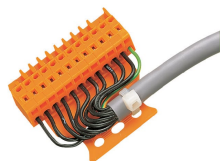
Coding a female connector by removing coding finger(s).

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

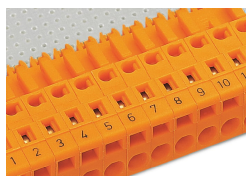


Male connector with strain relief plate



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

Marking



Labeling via direct marking or self-adhesive strips.