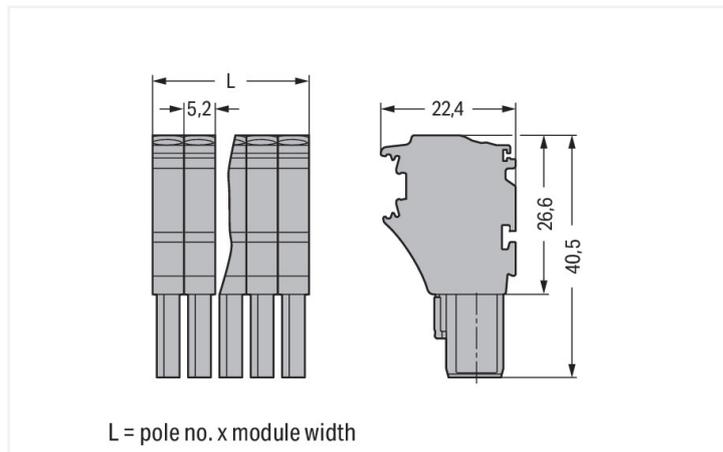


Data Sheet | Item Number: 2022-102

1-conductor female connector; Push-in CAGE CLAMP®; 4 mm²; Pin spacing 5.2 mm;
2-pole; 4,00 mm²; gray

<https://www.wago.com/2022-102>



Color: ■ gray

Similar to illustration

Dimensions in mm

Female connector, 2022 Series, operating tool

Enjoy convenient electrical installations with this female connector (item number 2022-102). Strip lengths must be between 10 and 12 mm when connecting conductors to this female connector. Pluggable rail-mount terminal blocks are hugely popular in switchgear and control systems, for example, in railroad technology. They combine the best of rail-mount terminal blocks and connectors for the perfect solution. Variable wiring systems make pre-assembly easy, which saves both time and money in production, installation, operation, and maintenance. Featuring conductor terminals along with Push-in CAGE CLAMP®, this product outperforms the competition. Push-in CAGE CLAMP® technology provides a universal connection solution for all conductor types. It allows both solid and fine-stranded conductors with ferrules to be inserted directly into the clamping point without the need for tools. The dimensions are (10.4 x 40.5 x 22.4) mm (width x height x depth). Depending on the conductor type, this female connector is designed for conductor cross sections ranging from 0.25 mm² to 4 mm².

This female connector/socket is operated with an operating tool.

Notes

Safety Information

According to EN 61984, pluggable connectors without current interrupting capacity must not be mated or unmated when live or under load.

Electrical data

Ratings per	IEC/EN 61984			Approvals per	UL 1059		
	III	III	II		B	C	D
Overvoltage category	III	III	II	Use group	B	C	D
Pollution degree	3	2	2	Rated voltage	600 V	600 V	-
Nominal voltage	690 V	-	-	Rated current	20 A	20 A	-
Rated impulse withstand voltage	6 kV	-	-				
Rated current	24 A	-	-				
Current at conductor cross-section (max.) mm ²	32 A	-	-				

Approvals per	CSA 22.2 No 158		
Use group	B	C	D
Rated voltage	-	600 V	-
Rated current	-	20 A	-

General information	
Wiring direction	Front-entry wiring

Connection Data

Clamping units	2
Total number of potentials	2

Connection 1	
Connection technology	Push-in CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper
Nominal cross-section	2.5 mm ²
Solid conductor	0.25 ... 4 mm ² / 22 ... 12 AWG
Solid conductor; push-in termination	0.75 ... 4 mm ² / 18 ... 12 AWG
Fine-stranded conductor	0.25 ... 4 mm ² / 22 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm ² / 22 ... 14 AWG
Fine-stranded conductor; with ferrule; push-in termination	1 ... 2.5 mm ² / 18 ... 14 AWG
Note (conductor cross-section)	Depending on the conductor characteristic, a conductor with a smaller cross-section can also be inserted via push-in termination.
Strip length	10 ... 12 mm / 0.39 ... 0.47 inches
Pole number	2
Wiring direction	Front-entry wiring

Physical data

Width	10.4 mm / 0.409 inches
Height	40.5 mm / 1.594 inches
Depth	22.4 mm / 0.882 inches
Module width	5.2 mm / 0.205 inches

Mechanical data

Variable coding	Yes
Marking level	Side marking
Anti-rotation protection	Yes

Plug-in connection

Contact type (pluggable connector)	Female connector/socket
Connector (connection type)	for conductor
Mismating protection	No
Plugging without loss of pin spacing	Yes

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
Fire load	0.128 MJ
Weight	7 g

Environmental requirements

Processing temperature	-35 ... +85 °C	Environmental Testing
Continuous operating temperature	-60 ... +105 °C	
Test specification:	Railway applications – Rolling stock – Electronic equipment	DIN EN 50155 (VDE 0115-200):2022-06
Test procedure:	Railway applications – Rolling stock equipment – Vibration and shock tests	DIN EN 61373 (VDE 0115-0106):2011-04
Spectrum/Mounting location		Service life test, Category 1, Class A/B
Functional test with noise-like oscillations		Test passed according to Section 8 of the standard
Frequency		$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
Acceleration		0.101g (highest test level used for all axes)
Test duration per axis		10 min.
Test directions		X, Y and Z axes
Monitoring of contact faults and interruptions		Passed
Voltage drop measurement before and after each axis		Passed
Simulated service life test through increased levels of noise-like oscillations		Test passed according to Section 9 of the standard
Frequency		$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
Acceleration		0.572g (highest test level used for all axes)
Test duration per axis		5 h
Test directions		X, Y and Z axes
Extended testing: Monitoring of contact faults and interruptions		Passed
Extended testing: Voltage drop measurement before and after each axis		Passed
Shock test		Test passed according to Section 10 of the standard
Shock pulse form		Half sine
Acceleration		5g (highest test level used for all axes)
Shock duration		30 ms
Number of shocks (per axis)		3 pos. und 3 neg.
Test directions		X, Y and Z axes
Extended testing: Monitoring of contact faults and interruptions		Passed
Extended testing: Voltage drop measurement before and after each axis		Passed
Vibration and shock stress for rolling stock equipment		Passed

Commercial data

PU (SPU)	200 pcs
Packaging type	Box
Country of origin	CN
GTIN	4066966668094
Customs tariff number	85366990990

Product Classification

UNSPSC	39121409
eCl@ss 10.0	27-14-11-06
eCl@ss 9.0	27-14-11-06
ETIM 9.0	EC001284
ETIM 10.0	EC001284
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
CSA CSA Group	C22.2 No. 158	2437422
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-101560
UL Underwriters Laboratories Inc.	UL 1059	E45172

Declarations of conformity and manufacturer's declarations



Approval	Standard	Certificate Name
EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
Railway WAGO GmbH & Co. KG	-	Z00004391.000
UK-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	EN 60947	24-0152298-PDA
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE00001V2
PRS Polski Rejestr Statków	-	TE/1094/880590/23

Downloads

Environmental Product Compliance

Compliance Search	
Environmental Product Compliance 2022-102	↓

Documentation

Bid Text			
2022-102	15.05.2019	xml 4.11 KB	↓
2022-102	14.05.2019	docx 15.16 KB	↓

CAD/CAE-Data

CAD data	
2D/3D Models 2022-102	↓

CAE data	
EPLAN Data Portal 2022-102	↓
WSCAD Universe 2022-102	↓
ZUKEN Portal 2022-102	↓

1 Compatible Products

1.1 Optional Accessories

1.1.1 Ferrule

1.1.1.1 Ferrule

<p>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</p>	<p>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</p>	<p>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</p>	<p>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</p>
<p>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</p>	<p>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</p>	<p>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</p>	<p>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</p>
<p>Item No.: 216-246 Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue</p>	<p>Item No.: 216-266 Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue</p>	<p>Item No.: 216-286 Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue</p>	

1.1.2 Insulation stop

1.1.2.1 Insulation stop



Item No.: 2002-171

Insulation stop; 0.25 - 0.5 mm²; 5 pieces/strip; light gray



Item No.: 2002-172

Insulation stop; 0.75 - 1 mm²; 5 pieces/strip; dark gray

1.1.3 Locking system

1.1.3.1 Locking system



Item No.: 2022-141

Locking lever; gray



Item No.: 2022-142

Locking lever; orange

1.1.4 Marking

1.1.4.1 Label



Item No.: 210-805

Labels; for Smart Printer; permanent adhesive; 6 x 15 mm; 3000 pieces on roll; white



Item No.: 210-805/000-002

Labels; for Smart Printer; permanent adhesive; 6 x 15 mm; 3000 pieces on roll; yellow

1.1.4.2 Marker



Item No.: 793-5501

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white



Item No.: 2009-115

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

1.1.4.3 Marking strip



Item No.: 210-833

Marking strips; 25 m on roll; 6 mm wide; plain; Self-adhesive; white



Item No.: 2009-110

Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white



Item No.: 210-831

Marking strips; on reel; 2.3 mm wide; plain; Self-adhesive; white



Item No.: 210-832

Marking strips; on reel; 3 mm wide; plain; Self-adhesive; white



Item No.: 210-834

Marking strips; on reel; 5 mm wide; plain; Self-adhesive; white

1.1.5 Protective warning marker

1.1.5.1 Cover



Item No.: 2002-115

Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

1.1.6 Screwless end stop

1.1.6.1 Mounting accessories



Item No.: 249-117

Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray



Item No.: 249-116

Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

1.1.7 Strain relief

1.1.7.1 Strain relief plate

Item No.: 734-327

Strain relief plate; for female and male connectors; 6 mm wide; 1 part; gray

1.1.8 Tool

1.1.8.1 Operating tool

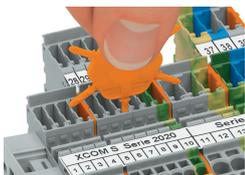


Item No.: 210-720

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

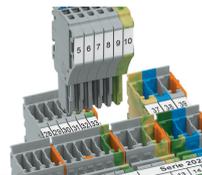
Coding



Insert coding pin into the corresponding slot and twist it off.

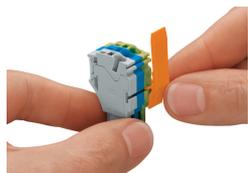


Coding a female plug: remove coding finger using a suitable tool.



Insert coded female plug into X-COM®S-SYSTEM terminal block assembly.

Locking system



Slide the locking lever into position.

Female plugs can be individually locked.