Start module for 1-conductor female connector; Push-in CAGE CLAMP®; 4 mm²; Pin spacing 5.2 mm; 1-pole; with integrated end plate; 4,00 mm²; gray



https://www.wago.com/2022-161





Color: ■ gray



Female connector, 2022 Series, Push-in CAGE CLAMP®

Enjoy effortless electrical installations with this female connector (item number 2022-161). 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 leads to considerable time and cost savings in production, installation, operation, and maintenance. Our pluggable rail-mount terminal block is rated for 690 V and is designed to handle a rated current of up to 24 A. Conductors can only be connected to this female connector if their strip length is between 10 mm and 12 mm. Featuring conductor terminals along with Push-in CAGE CLAMP®, this connector outperforms the competition. Push-in CAGE CLAMP® connection technology is ideal for connecting all conductor types. It allows direct insertion of both solid and fine-stranded conductors with ferrules without needing to use any tools—all thanks to its pluggable design. The item's dimensions are 5.2 x 40.5 x 22.4 mm (width x height x depth). This female connector is suitable for conductor cross sections ranging from 0.25 mm² to 4 mm². There is one clamping point available that you can use to connect a single potential / one pole. The gray housing is made of polyamide (PA66) for insulation. An operating tool is used to operate this female connector/socket. The front-entry wiring makes it possible to connect copper conductors.

Notes

Safety Information

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

(max.) mm²



Electrical data			
Ratings per	IE	C/EN 6198	4
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	690 V	-	-
Rated impulse withstand voltage	6 kV	-	-
Rated current	24 A	-	-
Current at conductor cross-section	32 A	-	-

Approvals per		UL 1059	
Use group	В	С	D
Rated voltage	600 V	600 V	-
Rated current	20 A	20 A	-

Front-entry wiring

Approvals per	С	SA 22.2 No 15	58
Use group	В	С	D
Rated voltage	-	600 V	-
Rated current	-	20 A	-

Connection data			
Clamping units	1	Connection 1	
Total number of potentials 1	1	Connection technology	Push-in CAGE CLAMP®
	Actuation type	Operating tool	
	Connectable conductor materials	Copper	
		Nominal cross-section	2.5 mm²
		Solid conductor	0.25 4 mm² / 22 12 AWG
		Solid conductor; push-in termination	0.75 4 mm² / 18 12 AWG
		Fine-stranded conductor	0.25 4 mm² / 22 12 AWG
	Fine-stranded conductor; with insulated ferrule	0.25 2.5 mm² / 22 14 AWG	
	Fine-stranded conductor; with ferrule; push-in termination	1 2.5 mm² / 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

Physical data	
Width	5.2 mm / 0.205 inches
Height	40.5 mm / 1.594 inches
Depth	22.4 mm / 0.882 inches

Pole number Wiring direction

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

Data Sheet | Item Number: 2022-161 https://www.wago.com/2022-161



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	1
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	VO
Fire load	0.063 MJ
Weight	3.5 g

ironmental requirements			
ocessing 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):2022-0	
	Test procedure: Railway applications – Rolling stock equipment – Vibration and shock tests	DIN EN 61373 (VDE 0115-0106):2011	
		Spectrum/Mounting location	Service life test, Category 1, Class A/E
	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 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	

https://www.wago.com/2022-161



Environmental Testing

Vibration and shock stress for rolling stock equipment

Passed

Commercial data	
Product Group	18 (X-COM-System)
PU (SPU)	250 pcs
Packaging type	Bag
Country of origin	CN
GTIN	406696659658
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 8.0	EC001284
ECCN	NO US CLASSIFICATION

RoHS Compliance Status Con

Compliant, No Exemption

Approvals / Certificates

General approvals







Approval	Standard	Certificate Name
CSA DEKRA Certification B.V.	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 Conformity WAGO GmbH & Co. KG	-	-
Railway WAGO GmbH & Co. KG	-	Z00004392.000
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications







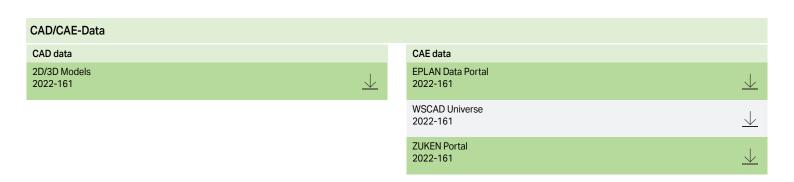
Approval ABS American Bureau of Shipping	Standard EN 60947	Certificate Name 24-0152298-PDA
BV Bureau Veritas S.A.	EN 60947	38586/B0 BV
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE00001V2

Compliance 2022-161



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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









<u>Item No.: 2022-141</u> Locking lever; gray Item No.: 2022-151 Locking lever; gray Item No.: 2022-142 Locking lever; orange Item No.: 2022-152 Locking lever; orange

1.1.4 Marking

1.1.4.1 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

1.1.4.2 Marking strip



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

0

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

<u>Item No.: 210-834</u>

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

https://www.wago.com/2022-161



1.1.6 Screwless end stop

1.1.6.1 Mounting accessories





Item No.: 249-117

Screwless end stop; 10 mm wide; for DINrail 35 x 15 and 35 x 7.5; gray

Item No.: 249-116

Screwless end stop; 6 mm wide; for DINrail 35 x 15 and 35 x 7.5; gray

1.1.7 Strain relief

1.1.7.1 Strain relief plate









Item No.: 734-430

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

Item No.: 734-328

Strain relief plate; for female and male connectors; 12.5 mm wide; 1 part; gray

Item No.: 734-329

Strain relief plate; for female and male connectors; 25 mm wide; 1 part; gray

Item No.: 734-326

Strain relief plate; for female and male connectors; 35 mm wide; 1 part; gray

Item No.: 734-327 Strain relief plate; for female and male connectors; 6 mm wide; 1 part; gray

Item No.: 734-431

Strain relief plate; for female and male connectors; 75 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.

Subject to changes. Please also observe the further product documentation!

Current addresses can be found at:: $\underline{www.wago.com}$