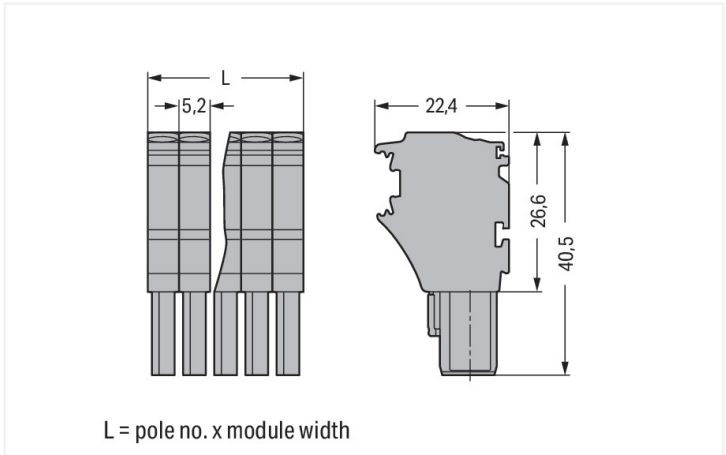


Color: ■ gray

Similar to illustration



Dimensions in mm

Female connector, 2022 Series, operating tool

This female connector (item number 2022-112) is designed for fault-free electrical installations. Pluggable rail-mount terminal blocks are primarily found in switchgear units and control systems, most notably in railroad technology. These innovative systems combine the benefits of rail-mount terminal blocks and connectors for a flexible and reliable wiring system. You also have the option of pre-assembling installations, which not only makes production but also installation, operation, and maintenance more efficient and cost-effective. Rated current and voltage are key factors to consider when choosing a pluggable rail-mount terminal block, as they determine the product's suitability for different applications. This product has a rated voltage of 690 V and a rated current of 24 A. Strip lengths must be between 10 mm and 12 mm when connecting conductors to this female connector. 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. Both solid and fine-stranded conductors with ferrules can be plugged in without needing to use any tools—all thanks to its pluggable design. Dimensions: 62.4 x 40.5 x 22.4 mm (width x height x depth). Depending on the conductor type, this female connector is ideal for conductor cross sections ranging from 0.25 mm² to 4 mm². There are twelve clamping points available for connecting twelve different potentials / twelve poles. The gray housing is made of polyamide (PA66) for insulation. An operating tool is used to operate this female connector/socket. Conductors made of copper can be connected via front-entry wiring.

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		
Overvoltage category		III	III	II
Pollution degree		3	2	2
Nominal voltage		690 V	-	-
Rated surge voltage		6 kV	-	-
Rated current		24 A	-	-
Current at conductor cross-section (max.) mm²		32 A	-	-
Approvals per		CSA 22.2 No 158		
Use group		B	C	D
Rated voltage		-	600 V	-
Rated current		-	20 A	-
Approvals per		UL 1059		
Use group		B	C	D
Rated voltage		600 V	600 V	-
Rated current		20 A	20 A	-

## Connection data

Clamping units	12	<b>Connection 1</b>	
Total number of potentials	12	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
		Pole number	12
		Wiring direction	Front-entry wiring

## Physical data

Width	62.4 mm / 2.457 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)	<a href="#">Information on material specifications can be found here</a>
Color	gray
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.758 MJ
Weight	40.6 g



Environmental requirements

Processing temperature	-35 ... +85 °C	Environmental Testing (Environmental Conditions)	
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 – Shock and vibration tests	DIN EN 61373 (VDE 0115-0106):2011-04
		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 <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 Hz f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 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 Passed
		Extended test scope: Voltage drop measurement before and after each axis	Passed 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	18 (X-COM-System)
PU (SPU)	25 pcs
Packaging type	Box
Country of origin	CN
GTIN	4050821242833
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

Environmental Product Compliance	
RoHS Compliance Status	Compliant,No Exemption

Approvals / Certificates			Declarations of conformity and manufacturer's declarations		
General approvals					
  					
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
CSA DEKRA Certification B.V.	C22.2 No. 158	2437422	EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-101560	Railway WAGO GmbH & Co. KG	-	Z00004392.000
UL Underwriters Laboratories Inc.	UL 1059	E45172	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	20-HG1941090-PDA
BV Bureau Veritas S.A.	EN 60947	38586/B0 BV
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE00001V2

Downloads	
Environmental Product Compliance	
Compliance Search	
Environmental Product Compliance 2022-112	



Documentation

Bid Text			
2022-112	17.05.2019	xml 4.11 KB	
2022-112	14.05.2019	docx 15.34 KB	

CAD/CAE-Data

CAD data		CAE data	
2D/3D Models 2022-112		EPLAN Data Portal 2022-112	
		WSCAD Universe 2022-112	
		ZUKEN Portal 2022-112	

1 Compatible Products

1.1 Optional Accessories

1.1.1 Ferrule

1.1.1.1 Ferrule

<b>Item No.: 216-241</b> 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	<b>Item No.: 216-242</b> 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	<b>Item No.: 216-262</b> 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	<b>Item No.: 216-243</b> Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red
<b>Item No.: 216-263</b> Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red	<b>Item No.: 216-244</b> 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	<b>Item No.: 216-264</b> 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	<b>Item No.: 216-284</b> 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
<b>Item No.: 216-246</b> 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	<b>Item No.: 216-266</b> 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	<b>Item No.: 216-286</b> 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	

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.: 2022-151**  
Locking lever; gray



**Item No.: 2022-152**  
Locking lever; orange

1.1.4 Marking

1.1.4.1 Label



**Item No.: 210-805**  
Labels; for Smart Printer; permanent ad-  
hesive; 6 x 15 mm; 3000 pieces on roll;  
white



**Item No.: 210-805/000-002**  
Labels; for Smart Printer; permanent ad-  
hesive; 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 pie-  
ces 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; whi-  
te



**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.: 734-430**  
Strain relief plate; for female and male connectors; 1 part; gray

1.1.8 Tool

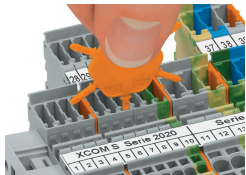
1.1.8.1 Operating tool



**Item No.: 210-720**  
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

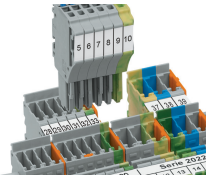
Coding



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

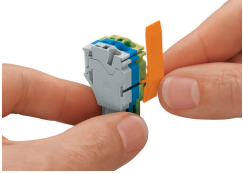


Coding a female plug: remove coding finger using a suitable tool.

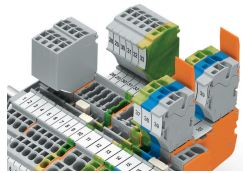


Insert coded female plug into X-COM®S-SYSTEM terminal block assembly.

Locking system



Slide the locking lever into position.



Female plugs can be individually locked.