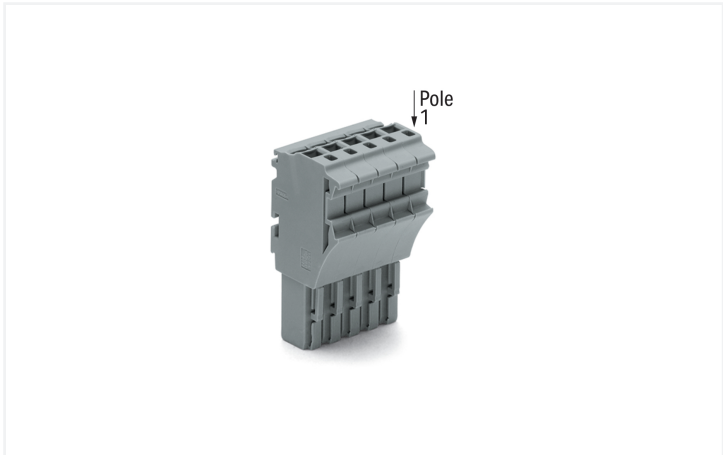




Color: ■ gray Similar to illustration

Female connector, 2022 Series, operating tool

Our female connector (item number 2022-108/999-953) is designed for seamless electrical installations. Ensure that the strip lengths are between 10 and 12 mm when connecting conductors to this female connector. Pluggable rail-mount terminal blocks are mainly used in switchgear units and control systems (e.g., in railroad technology). They are essentially a combination of rail-mount terminal blocks and pluggable connectors. You can also pre-assemble installations thanks to the variable wiring system. This saves both time and money during manufacture, installation, operation, and maintenance. Featuring conductor terminals along with Push-in CAGE CLAMP®, this connector is highly versatile. 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 item's dimensions are (41.6 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.

An operating tool is used to operate this female connector/socket. This product is designed for specific Ex applications (please refer to the product datasheet).

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	
Overvoltage category	III	III	II		Use group	B C D
Pollution degree	3	2	2		Rated voltage	600 V 600 V -
Nominal voltage	-	-	-		Rated current	20 A 20 A -
Rated impulse withstand voltage	-	-	-			
Rated current	-	-	-			



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

Ex information	
Rated voltage EN (Ex e II)	630 V

Connection Data

Clamping units	8
Total number of potentials	8

Connection 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
Pole number	8
Wiring direction	Front-entry wiring

Physical data

Width	41.6 mm / 1.638 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	0.517 MJ
Weight	28.4 g

Environmental requirements	
Processing temperature	-35 ... +85 °C
Continuous operating temperature	-60 ... +105 °C
Environmental Testing	
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 Hz to f ₂ = 150 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 Hz to f ₂ = 150 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)	50 pcs
Packaging type	Box
Country of origin	DE
GTIN	4066966668360
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

Approvals / Certificates

General approvals			Declarations of conformity and manufacturer's declarations		
					
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
CSA CSA Group	C22.2 No. 158	2437422	Railway WAGO GmbH & Co. KG	-	Z00004391.000

Approvals for hazardous areas

PTB 0102 Ex ec IIC Gc  II 3 G  		
Approval	Standard	Certificate Name
ATEX Physikalisch Technische Bundesanstalt	EN IEC 60079-0	PTB 13 ATEX 1004 U (II 3 G Ex ec II C Gc)
CCC CNEX	GB/T 3836.3	2020312313000255 (Ex ec IIC Gc)
IECEx Physikalisch Technische Bundesanstalt	IEC 60079-0	IECEx PTB 13.0004U (Ex ec IIC Gc)



Downloads			
Environmental Product Compliance			
Compliance Search			
Environmental Product Compliance			↓
2022-108/999-953			

Documentation			
Bid Text			
2022-108/999-953	17.05.2019	xml 4.26 KB	↓
2022-108/999-953	14.05.2019	docx 15.55 KB	↓

CAD/CAE-Data	
CAD data	CAE data
2D/3D Models 2022-108/999-953	EPLAN Data Portal 2022-108/999-953
↓	↓
	WSCAD Universe 2022-108/999-953
	↓

1 Compatible Products
1.1 Optional Accessories
1.1.1 Ferrule
1.1.1.1 Ferrule

 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.: 216-242 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.: 216-243 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.: 216-244 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
 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	 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	 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	



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 Marking

1.1.3.1 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

1.1.3.2 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

1.1.3.3 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

1.1.4 Protective warning marker

1.1.4.1 Cover



Item No.: 2002-115
Protective warning marker; for 5 terminal
blocks; with high-voltage symbol, black;
yellow

1.1.5 Screwless end stop

1.1.5.1 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

1.1.6 Strain relief

1.1.6.1 Strain relief plate



Item No.: 734-326
Strain relief plate; for female and male connectors; 35 mm wide; 1 part; gray

1.1.7 Tool

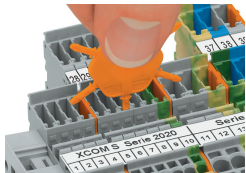
1.1.7.1 Operating tool



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

Installation Notes

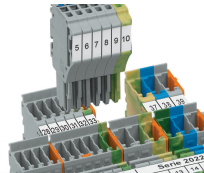
Coding



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

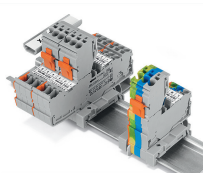


Coding a female plug: remove coding finger using a suitable tool.



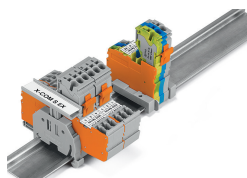
Insert coded female plug into X-COM®S-SYSTEM terminal block assembly.

Locking system



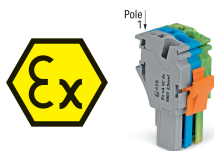
Each female plug is supplied with a locking lever.

Marking



Group marking with height-adjustable group marker carrier (2009-163)

Ex application

**Ex marking:**

"Ex" sign and extended item number ".../999-953" are printed on the side of both carrier terminal blocks and female plugs with Ex approval. Shorter locking lever (factory-mounted) makes accidental disconnection more difficult.