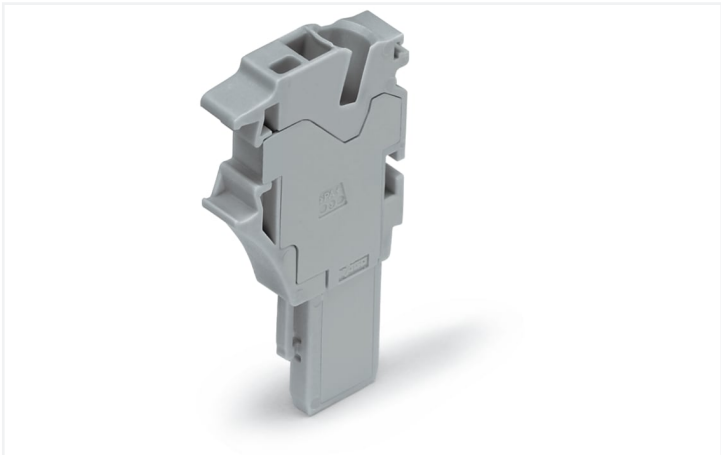


Data Sheet | Item Number: 2022-161

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

Customizing Modular Female Plugs

WAGO's modular X-COM®S-SYSTEM female plugs can be customized for applications that require a varying number of poles (e.g., when designing prototypes).

Modules and Pole Numbers

A customized X-COM®S-SYSTEM female plug consists of:

- One base module with an integrated end plate
- Up to 13 center modules (corresponding to a 15-pole female plug = maximum pole number)
- One end module

Intended Use

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

Assembly

The appropriate mounting tool shall be used to ensure that the individual modules are properly attached to each other without damaging the locking latches.

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	
		III	III	II	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		690 V	-	-	Rated current	20 A 20 A -
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	-	

Connection data			
Clamping units	1	Connection 1	
Total number of potentials	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	1
		Wiring direction	Front-entry wiring

Physical data	
Width	5.2 mm / 0.205 inches
Height	40.5 mm / 1.594 inches
Depth	22.4 mm / 0.882 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	0.06 MJ
Weight	3.4 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 ₁ = 5 Hz to f ₂ = 150 Hz f ₁ = 5 Hz to f ₂ = 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)
eCl@ss 10.0	27-14-11-06
eCl@ss 9.0	27-14-11-06
ETIM 9.0	EC001284
ETIM 8.0	EC001284
PU (SPU)	250 pcs
Packaging type	Bag
Country of origin	CN
GTIN	4050821243311
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
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
LR Lloyds Register	EN 60947	91/20112 (E9)

Downloads

Environmental Product Compliance	
Compliance Search	
Environmental Product Compliance 2022-161	

Documentation

Additional Information		Bid Text	
Technical Section	pdf 2246.92 KB	2022-161	19.02.2019
		xml 4.30 KB	
		2022-161	14.05.2019
		docx 16.07 KB	



CAD/CAE-Data	
CAD data 2D/3D Models 2022-161 ↓	CAE data EPLAN Data Portal 2022-161 ↓ WSCAD Universe 2022-161 ↓ ZUKEN Portal 2022-161 ↓

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
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1.1.3 Locking system

1.1.3.1 Locking system



[Item No.: 2022-141](#)
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



[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.: 734-430
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

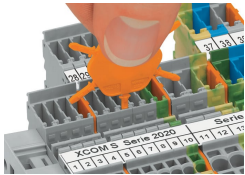
1.1.8.1 Operating tool



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

Installation Notes

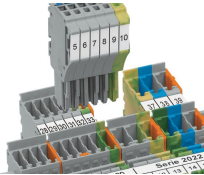
Coding



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.