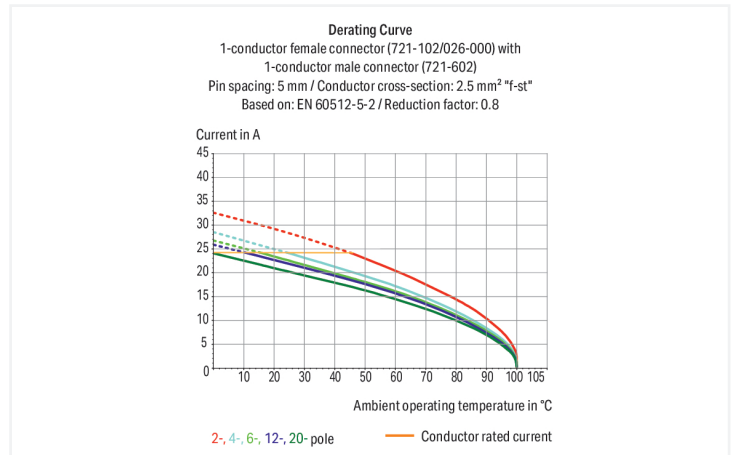


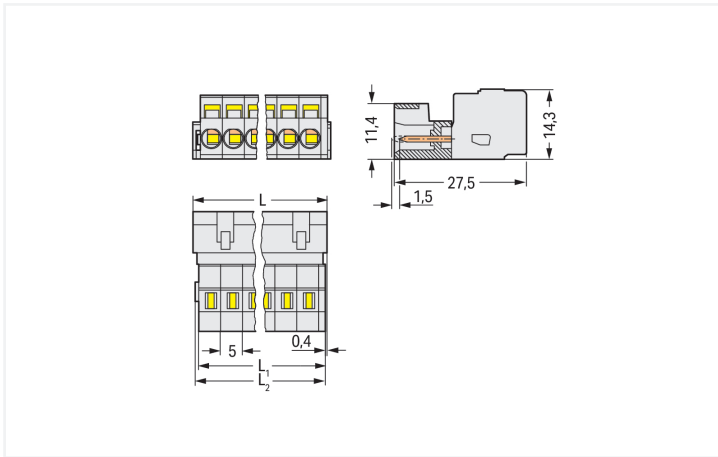
## Data Sheet | Item Number: 721-613

1-conductor male connector; CAGE CLAMP®; 2.5 mm<sup>2</sup>; Pin spacing 5 mm; 13-pole;  
100% protected against mismatching; 2,50 mm<sup>2</sup>; light gray

<https://www.wago.com/721-613>



Color: ■ light gray



Dimensions in mm

$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$   
 $L_2 = L - 1.7 \text{ mm}$   
 $L_3 = L - 1.2 \text{ mm}$

### Male connector, 721 Series, CAGE CLAMP®

Effortless electrical installations are guaranteed with this male connector (item number 721-613). Ensure that the strip lengths are between 8 and 9 mm when connecting conductors to this male connector. Featuring one conductor terminal along with CAGE CLAMP®, this product is highly versatile. Our CAGE CLAMP® connection provides a safe and maintenance-free way to connect all types of conductors. You do not need to prepare the conductor in any way, such as crimping ferrules. The dimensions are (68.2 x 14.3 x 27.5) mm (width x height x depth). This male connector is suitable for conductor cross sections ranging from 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup>.

The contact surface is coated with tin.

## Notes

## Safety Information

The MCS – MULTI CONNECTION SYSTEM includes connectors without breaking capacity in accordance with DIN EN 61984. When used as intended, these connectors must not be connected/disconnected when live or under load. When used as intended, these connectors must not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

## Variants:

Other pole numbers  
Gold-plated or partially gold-plated contact surfaces  
Other versions (or variants) can be requested from WAGO Sales or configured at <https://configurator.wago.com/>.

## Electrical data

Ratings per		IEC/EN 60664-1			Approvals per		UL 1059		
Overvoltage category		III	III	II	Use group	B	C	D	
Pollution degree		3	2	2	Rated voltage	300 V	-	300 V	
Nominal voltage		320 V	320 V	630 V	Rated current	15 A	-	10 A	
Rated impulse withstand voltage		4 kV	4 kV	4 kV					
Rated current		12 A	12 A	12 A					

Approvals per		UL 1977			Approvals per		CSA		
Rated voltage		600 V			Use group	B	C	D	
Rated current		15 A			Rated voltage	300 V	-	300 V	
					Rated current	15 A	-	10 A	

## Connection Data

Clamping units	13	<b>Connection 1</b>	
Total number of potentials	13	Connection technology	CAGE CLAMP®
Number of connection types	1	Actuation type	Operating tool
Number of levels	1	Actuation direction 1	Operation parallel to conductor entry
		Actuation direction 2	Operation perpendicular to conductor entry
		Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
		Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
		Fine-stranded conductor; with insulated ferrule	0.25 ... 1.5 mm <sup>2</sup>
		Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm <sup>2</sup>
		Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
		Pole number	13
		Conductor entry direction to mating direction	0°

## Physical data

Pin spacing	5 mm / 0.197 inches
Width	68.2 mm / 2.685 inches
Height	14.3 mm / 0.563 inches
Depth	27.5 mm / 1.083 inches

### Mechanical data

Variable coding	Yes
Direct ground contact to DIN-rail/drilled hole/housing	No
Anti-rotation protection	Yes

### Plug-in connection

Contact type (pluggable connector)	Male connector/plug
Connector (connection type)	for conductor
Mismating protection	Yes

### Material data

Note (material data)	<a href="#">Information on material specifications can be found here</a>
Color	light gray
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Clamping spring material	Chrome-nickel spring steel (CrNi)
Contact material	Electrolytic copper (E <sub>Cu</sub> )
Contact Plating	Tin
Fire load	0.346 MJ
Weight	19.9 g

### Environmental requirements

Limit temperature range	-60 ... +100 °C
Processing temperature	-35 ... +60 °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 <sub>1</sub> = 5 Hz to f <sub>2</sub> = 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 <sub>1</sub> = 5 Hz to f <sub>2</sub> = 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

**Environmental Testing**

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**

Product Group	3 (Multi Conn. System)
PU (SPU)	25 pcs
Packaging type	Box
Country of origin	DE
GTIN	4045454987183
Customs tariff number	85366930000

**Product Classification**

UNSPSC	39121409
eCl@ss 10.0	27-44-03-09
eCl@ss 9.0	27-44-03-09
ETIM 9.0	EC002638
ETIM 10.0	EC002638
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
CB DEKRA Certification B.V.	IEC 61984	NL-113351
CSA DEKRA Certification B.V.	C22.2	1466354
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-130478 REV.1
UL Underwriters Laboratories Inc.	UL 1977	E45171
UL Underwriters Laboratories Inc.	UL 1059	E45172

**Declarations of conformity and manufacturer's declarations**



Approval	Standard	Certificate Name
Railway WAGO GmbH & Co. KG	-	Railway Ready

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	24-0095975-PDA
DNV DNV GL SE	-	TAE000016Z
LR Lloyds Register	IEC 61984	96/20035 (E5)
PRS Polski Rejestr Statków	-	TE/1095/880590/23

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product  
Compliance 721-613



Documentation

Additional Information

Technical Section

03.04.2019

pdf

2027.26 KB



CAD/CAE-Data

CAD data

2D/3D Models 721-613



CAE data

ZUKEN Portal 721-613



1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket



[Item No.: 722-213/026-000](#)

1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; 2,50 mm²; light gray



[Item No.: 721-313/031-000](#)

1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; clamping collar; 2,50 mm²; light gray



[Item No.: 721-313/008-000](#)

1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Snap-in mounting feet; 2,50 mm²; light gray



[Item No.: 721-113/026-000](#)

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; 2,50 mm²; light gray



[Item No.: 721-113/027-000](#)

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; clamping collar; 2,50 mm²; light gray



[Item No.: 721-113/031-000](#)

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; clamping collar; 2,50 mm²; light gray



[Item No.: 721-113/037-000](#)

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Lateral locking levers; 2,50 mm²; light gray



[Item No.: 721-113/008-000/037-000](#)

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Lateral locking levers; Snap-in mounting feet; 2,50 mm²; light gray

1.1.1 Female connector/socket



**Item No.: 721-113/008-000**

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Snap-in mounting feet; 2,50 mm²; light gray



**Item No.: 2721-113/026-000**

1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; 2,50 mm²; light gray



**Item No.: 2721-114/037-000**

1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 14-pole; 100% protected against mismatching; Lateral locking levers; 2,50 mm²; light gray



**Item No.: 721-2113/037-000**

2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Lateral locking levers; 2,50 mm²; light gray



**Item No.: 721-2113/026-000**

2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; with integrated end plate; 2,50 mm²; light gray



**Item No.: 722-243/005-000**

Female connector for rail-mount terminal blocks; 0.6 x 1 mm pins; angled; 100% protected against mismatching; Pin spacing 5 mm; 13-pole; light gray



**Item No.: 722-143/005-000**

Female connector for rail-mount terminal blocks; 0.6 x 1 mm pins; straight; 100% protected against mismatching; Pin spacing 5 mm; 13-pole; light gray



**Item No.: 722-243**

THT female header; angled; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; 0.6 x 1.0 mm solder pin; light gray



**Item No.: 722-243/031-000**

THT female header; angled; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; clamping collar; 0.6 x 1.0 mm solder pin; light gray



**Item No.: 722-243/039-000**

THT female header; angled; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Locking lever; 0.6 x 1.0 mm solder pin; light gray



**Item No.: 722-243/047-000**

THT female header; angled; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Spacer flange; 0.6 x 1.0 mm solder pin; light gray



**Item No.: 722-143**

THT female header; straight; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; 0.6 x 1.0 mm solder pin; light gray



**Item No.: 722-143/031-000**

THT female header; straight; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; clamping collar; 0.6 x 1.0 mm solder pin; light gray



**Item No.: 722-143/039-000**

THT female header; straight; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Locking lever; 0.6 x 1.0 mm solder pin; light gray



**Item No.: 722-143/047-000**

THT female header; straight; Pin spacing 5 mm; 13-pole; 100% protected against mismatching; Spacer flange; 0.6 x 1.0 mm solder pin; light gray

1.2 Optional Accessories

1.2.1 Coding

1.2.1.1 Coding



**Item No.: 231-129**

Coding key; snap-on type; light gray

1.2.2 Cover

1.2.2.1 Cover



**Item No.: 231-668**

Lockout caps; for covering unused clamping units; gray

1.2.3 Ferrule

1.2.3.1 Ferrule



**Item No.: 216-301**

Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow

**Item No.: 216-302**

Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise

**Item No.: 216-201**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white

**Item No.: 216-241**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white



**Item No.: 216-141**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92

**Item No.: 216-101**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / AWG 22; un-insulated; electro-tin plated; silver-colored

**Item No.: 216-242**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 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 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray



**Item No.: 216-202**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray

**Item No.: 216-142**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92

**Item No.: 216-102**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / AWG 20; un-insulated; electro-tin plated; silver-colored

**Item No.: 216-243**

Ferrule; Sleeve for 1 mm<sup>2</sup> / 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 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red

**Item No.: 216-203**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; red

**Item No.: 216-103**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; un-insulated; electro-tin plated

**Item No.: 216-143**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



**Item No.: 216-204**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; black

**Item No.: 216-244**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / 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 mm<sup>2</sup> / 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 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black



**Item No.: 216-144**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; silver-colored

**Item No.: 216-104**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; un-insulated; electro-tin plated; silver-colored

**Item No.: 216-106**

Ferrule; Sleeve for 2.5 mm<sup>2</sup> / AWG 14; un-insulated; electro-tin plated; silver-colored

1.2.4 Insulation stop

1.2.4.1 Insulation stop



**Item No.: 231-670**

Insulation stop; 0.08-0.2 mm<sup>2</sup> / 0.2 mm<sup>2</sup> "s"; white

**Item No.: 231-671**

Insulation stop; 0.25 - 0.5 mm<sup>2</sup>; light gray

**Item No.: 231-672**

Insulation stop; 0.75 - 1 mm<sup>2</sup>; dark gray

1.2.5 Jumper

1.2.5.1 Jumper



**Item No.: 231-910**

Jumper; for conductor entry; 10-way; insulated; gray



**Item No.: 231-902**

Jumper; for conductor entry; 2-way; insulated; gray



**Item No.: 231-903**

Jumper; for conductor entry; 3-way; insulated; gray



**Item No.: 231-905**

Jumper; for conductor entry; 5-way; insulated; gray



**Item No.: 231-907**

Jumper; for conductor entry; 7-way; insulated; gray

1.2.6 Marking

1.2.6.1 Marking strip



**Item No.: 210-331/500-103**

Marking strips; as a DIN A4 sheet; MARKED; 1-12 (300x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white



**Item No.: 210-332/500-202**

Marking strips; as a DIN A4 sheet; MARKED; 1-16 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



**Item No.: 210-332/500-205**

Marking strips; as a DIN A4 sheet; MARKED; 1-32 (80x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



**Item No.: 210-331/500-104**

Marking strips; as a DIN A4 sheet; MARKED; 13-24 (300x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white



**Item No.: 210-332/500-204**

Marking strips; as a DIN A4 sheet; MARKED; 17-32 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



**Item No.: 210-332/500-206**

Marking strips; as a DIN A4 sheet; MARKED; 33-48 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

1.2.7 Tool

1.2.7.1 Operating tool



**Item No.: 231-231**

Combination operating tool; red



**Item No.: 210-720**

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



**Item No.: 210-657**

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



**Item No.: 280-440**

Operating tool; made of insulating material; 10-way; white



**Item No.: 209-130**

Operating tool; made of insulating material; 1-way; for 264 Series (1-1/2-way), 280, 281 Series (up to 3-way); natural



**Item No.: 231-291**

Operating tool; made of insulating material; 1-way; loose; red



**Item No.: 231-131**

Operating tool; made of insulating material; 1-way; loose; white



**Item No.: 280-432**

Operating tool; made of insulating material; 2-way; white



**Item No.: 280-433**

Operating tool; made of insulating material; 3-way; white



**Item No.: 280-434**

Operating tool; made of insulating material; 4-way; white



**Item No.: 280-435**

Operating tool; made of insulating material; 5-way; gray



**Item No.: 280-436**

Operating tool; made of insulating material; 6-way; white



**Item No.: 280-437**

Operating tool; made of insulating material; 7-way; white



**Item No.: 280-438**

Operating tool; made of insulating material; 8-way; white



**Item No.: 231-159**

Operating tool; natural

## Installation Notes

### Conductor termination



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.

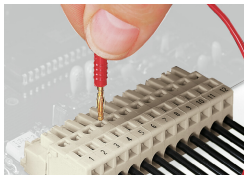


Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



Inserting a conductor via operating tool.

### Testing



Testing perpendicular to conductor entry with 2 or 2.3 mm Ø test plug – female connector with CAGE CLAMP® – via integrated test ports

### Installation

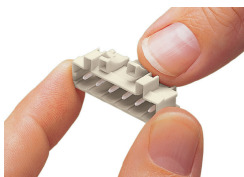


Male connector with strain relief plate



Strain relief housing shown with a male connector equipped with CAGE CLAMP®

### Coding



Coding a male header – fitting coding key(s).