

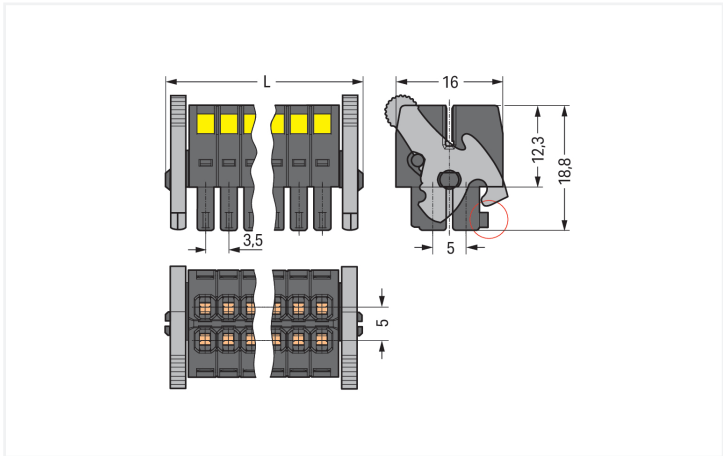
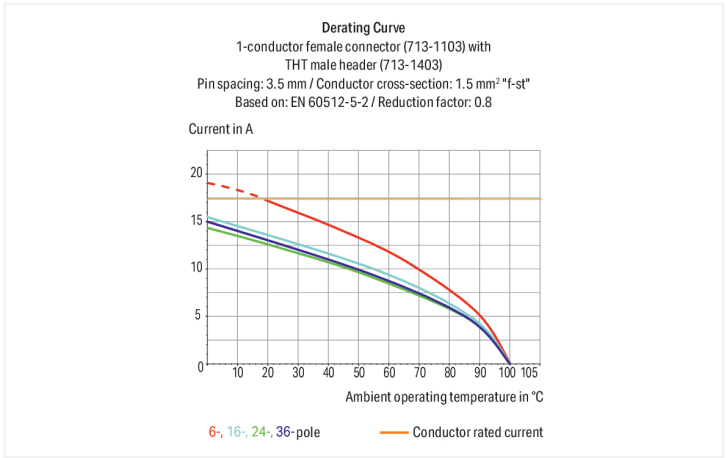
Data Sheet | Item Number: 713-1111/037-9037/034-000
1-conductor female connector, 2-row; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 22-pole; 100% protected against mismatching; Levers; Strain relief plate; direct marking; 1,50 mm²; black

<https://www.wago.com/713-1111/037-9037/034-000>

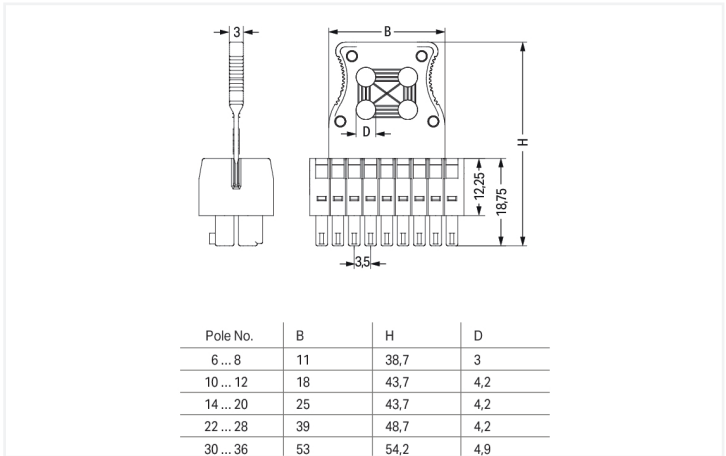


Color: ■ black

Similar to illustration



Dimensions in mm
 $L = [(pole\ no./2) - 1] \times pin\ spacing + 12.2\ mm$ Coding finger (red circle)



Dimensions in mm
The arrangement of the attachments for cable ties allows single conductors or multi-core cables to be secured in different ways. The width of the cable ties must correspond to the hole dimensions of the strain relief plates shown above. Cable ties and binding tools are not offered by WAGO.

Female connector, 713 Series, operating tool

Convenient electrical installations are guaranteed with this female connector (item number 713-1111/037-9037/034-000). Conductors should only be connected to this female connector if their strip length is between 6 and 7 mm . This product incorporates one conductor terminal and utilizes CAGE CLAMP®. Our celebrated universal connection known as CAGE CLAMP® is the industry standard when it comes to connection technology and electrical interconnections. Dimensions: (47 x 48.7 x 16) mm (width x height x depth). This female connector is suitable for conductor cross sections ranging from 0.08 mm² to 1.5 mm².

The contact surface is coated with tin. The strain relief plate is a safety precaution for connected conductors that also makes cables much easier to handle..



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		
Overvoltage category		III	III	II
Pollution degree		3	2	2
Nominal voltage		80 V	160 V	250 V
Rated impulse withstand voltage		2.5 kV	2.5 kV	2.5 kV
Rated current		10 A	10 A	10 A
Approvals per		UL 1059		
Use group		B	C	D
Rated voltage		300 V	50 V	-
Rated current		10 A	10 A	-
Approvals per		CSA		
Use group		B	C	D
Rated voltage		300 V	-	-
Rated current		10 A	-	-

Connection Data		
Clamping units	22	Connection 1 Connection technologyCAGE CLAMP® Actuation typeOperating tool Actuation direction 1Operation perpendicular to conductor entry Solid conductor0.08 ... 1.5 mm² / 28 ... 16 AWG Fine-stranded conductor0.08 ... 1.5 mm² / 28 ... 16 AWG Fine-stranded conductor; with insulated ferrule0.25 ... 1 mm² Fine-stranded conductor; with uninsulated ferrule0.25 ... 1 mm² Strip length6 ... 7 mm / 0.24 ... 0.28 inches Pole number22 Conductor entry direction to mating direction0°
Total number of potentials	22	
Number of connection types	1	
Number of levels	2	

Physical data	
Pin spacing	3.5 mm / 0.138 inches
Width	47.2 mm / 1.858 inches
Height	16.5 mm / 0.65 inches
Depth	48.7 mm / 1.917 inches



Mechanical data	
Variable coding	Yes
Anti-rotation protection	Yes

Plug-in connection	
Contact type (pluggable connector)	Female connector/socket
Connector (connection type)	for conductor
Mismating protection	Yes
Locking of plug-in connection	Locking lever
Strain relief	Strain relief plate

Material data	
Note (material data)	Information on material specifications can be found here
Color	black
Material group	II
Insulation material (main housing)	Glass fiber-reinforced polyamide (PA66 GF)
Flammability class per UL94	V0
Clamping spring material	Chrome-nickel spring steel (CrNi)
Contact material	Copper alloy
Contact Plating	Tin
Fire load	0.209 MJ
Weight	13.6 g

Environmental requirements																																								
Limit temperature range	-60 ... +100 °C	<table><tr><th colspan="2">Environmental Testing</th></tr><tr><td>Test specification: Railway applications – Rolling stock – Electronic equipment</td><td>DIN EN 50155 (VDE 0115-200):2022-06</td></tr><tr><td>Test procedure: Railway applications – Rolling stock equipment – Vibration and shock tests</td><td>DIN EN 61373 (VDE 0115-0106):2011-04</td></tr><tr><td>Spectrum/Mounting location</td><td>Service life test, Category 1, Class A/B</td></tr><tr><td>Functional test with noise-like oscillations</td><td>Test passed according to Section 8 of the standard</td></tr><tr><td>Frequency</td><td>f₁ = 5 Hz to f₂ = 150 Hz</td></tr><tr><td>Acceleration</td><td>0.101g (highest test level used for all axes)</td></tr><tr><td>Test duration per axis</td><td>10 min.</td></tr><tr><td>Test directions</td><td>X, Y and Z axes</td></tr><tr><td>Monitoring of contact faults and interruptions</td><td>Passed</td></tr><tr><td>Voltage drop measurement before and after each axis</td><td>Passed</td></tr><tr><td>Simulated service life test through increased levels of noise-like oscillations</td><td>Test passed according to Section 9 of the standard</td></tr><tr><td>Frequency</td><td>f₁ = 5 Hz to f₂ = 150 Hz</td></tr><tr><td>Acceleration</td><td>0.572g (highest test level used for all axes)</td></tr><tr><td>Test duration per axis</td><td>5 h</td></tr><tr><td>Test directions</td><td>X, Y and Z axes</td></tr><tr><td>Extended testing: Monitoring of contact faults and interruptions</td><td>Passed</td></tr><tr><td>Extended testing: Voltage drop measurement before and after each axis</td><td>Passed</td></tr><tr><td>Shock test</td><td>Test passed according to Section 10 of the standard</td></tr></table>	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
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Processing temperature	-35 ... +60 °C																																							



Environmental Testing	
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	
Product Group	3 (Multi Conn. System)
PU (SPU)	25 pcs
Packaging type	Box
Country of origin	PL
GTIN	4050821177548
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	
REACH Candidate List Substance	Perfluorobutane sulfonic acid (PFBS) and its salts
RoHS Compliance Status	Compliant, No Exemption
SCIP notification number (Austria)	9cbffa72-0008-4c2f-bd32-049640a063fe
SCIP notification number (Belgium)	1a27a7e2-96d4-4c9c-8fe8-856f46011041
SCIP notification number (Bulgaria)	7377c4ad-eada-4719-a15a-06602ca804f0
SCIP notification number (Czech Republic)	3b615f62-010c-4dde-974f-c03bffe3e92e
SCIP notification number (Denmark)	0c2238c9-5f00-44a4-98d1-851cabcf91b
SCIP notification number (Finland)	18c61164-ce4e-4aa9-897b-2710c3a12f61
SCIP notification number (France)	c60ed265-69d4-48f4-8629-49e98cfeccd0
SCIP notification number (Germany)	2de21836-3903-428d-a352-c16223330900
SCIP notification number (Hungary)	8202377c-361e-44f2-b019-010c95b52e83
SCIP notification number (Italy)	e7760874-318f-49ef-ba30-8e836977e0e8
SCIP notification number (Netherlands)	0093bf15-a802-4f06-be3b-f41fa4cd43f1
SCIP notification number (Poland)	94279885-d8d9-44cc-85c5-4bb4415b55a6
SCIP notification number (Romania)	75eda5b4-79dc-4c9f-aaf0-d481c83648a0
SCIP notification number (Sweden)	7b0a2629-765c-4fc6-a62e-7fdcd522b359



Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
CB DEKRA Certification B.V.	IEC 61984	NL-102427
CSA CSA Group	C22.2	2315087
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-133740
UL Underwriters Laboratories Inc.	UL 1059	UL-US-L45172-6187124-22905991-1

Declarations of conformity and manufacturer's declarations



Approval	Standard	Certificate Name
Railway WAGO GmbH & Co. KG	-	Z00004423.000

Downloads

Environmental Product Compliance

Compliance Search

Documentation

Additional Information			
Technical Section	03.04.2019	pdf 2027.26 KB	

1 Compatible Products

1.1 System counterpart

1.1.1 Male connector/plug



Item No.: 713-1431/116-000/997-408
THR male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; Levers; in tape-and-reel packaging; Pin spacing 3.5 mm; 22-pole; black



Item No.: 713-1431/116-000
THR male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; Levers; Pin spacing 3.5 mm; 22-pole; black



Item No.: 713-1411/116-000/997-408
THR male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; Levers; in tape-and-reel packaging; Pin spacing 3.5 mm; 22-pole; black



Item No.: 713-1411/116-000
THR male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; Levers; Pin spacing 3.5 mm; 22-pole; black



Item No.: 713-1431/037-000
THT male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; Levers; Pin spacing 3.5 mm; 22-pole; black



Item No.: 713-1411/037-000
THT male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; Levers; Pin spacing 3.5 mm; 22-pole; black



1.2 Optional Accessories

1.2.1 Ferrule

1.2.1.1 Ferrule

 Item No.: 216-301 Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow	 Item No.: 216-321 Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow	 Item No.: 216-131 Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated; silver-colored	 Item No.: 216-302 Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise
 Item No.: 216-322 Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise	 Item No.: 216-132 Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated	 Item No.: 216-201 Ferrule; Sleeve for 0.5 mm² / 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 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white
 Item No.: 216-221 Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white	 Item No.: 216-141 Ferrule; Sleeve for 0.5 mm² / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92	 Item No.: 216-101 Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored	 Item No.: 216-121 Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored
 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.: 216-202 Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray	 Item No.: 216-222 Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray
 Item No.: 216-142 Ferrule; Sleeve for 0.75 mm² / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92	 Item No.: 216-102 Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated; silver-colored	 Item No.: 216-122 Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated; silver-colored	 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.: 216-203 Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red	 Item No.: 216-223 Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red	 Item No.: 216-103 Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated
 Item No.: 216-143 Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92	 Item No.: 216-123 Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; silver-colored		

1.2.2 Stickers with operating instructions

1.2.2.1 Stickers with operating instructions



Item No.: 210-493
Stickers for operating instructions

1.2.3 Strain relief

1.2.3.1 Strain relief plate



Item No.: 713-128
Strain relief plate; for female connectors;
39 mm wide; 1 part; Pin spacing 3.5 mm;
black

1.2.4 Tool

1.2.4.1 Operating tool



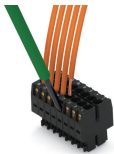
Item No.: 210-719
Operating tool; Blade: 2.5 x 0.4 mm; with a
partially insulated shaft



Item No.: 210-647
Operating tool; Blade: 2.5 x 0.4 mm; with a
partially insulated shaft; multicoloured

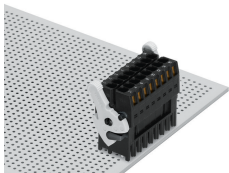
Installation Notes

Conductor termination

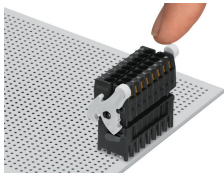


Inserting a conductor via (2.5 x 0.4) mm
screwdriver.

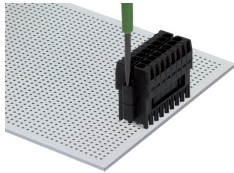
Locking system



Lever as a lock – when closed, female
connector is locked.

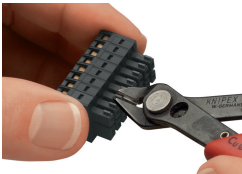


Lever as a disconnection aid – when open-
ed, female connector is disconnected.
Rotating the lever lifts the female
connector out of the male header.



Screw interlock can only be disconnected
using a tool.

Coding

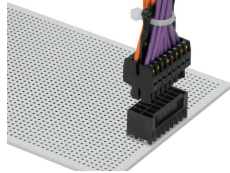


Coding a female connector by removing
coding finger(s).

Strain relief



Strain relief plate for field assembly



Centered strain relief plate anchors conductors for easy disconnection.