

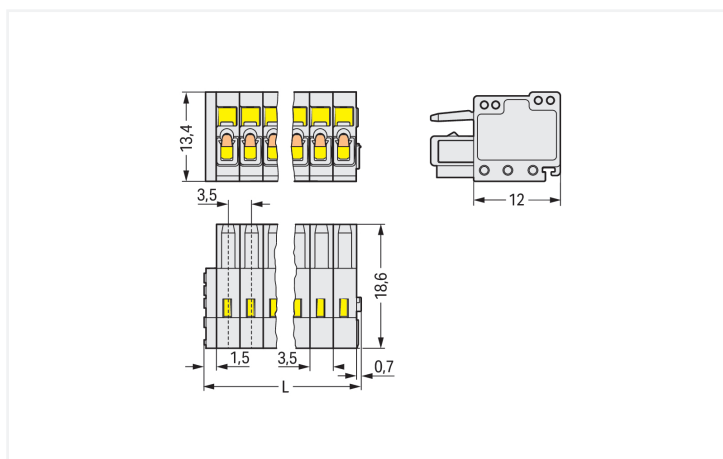
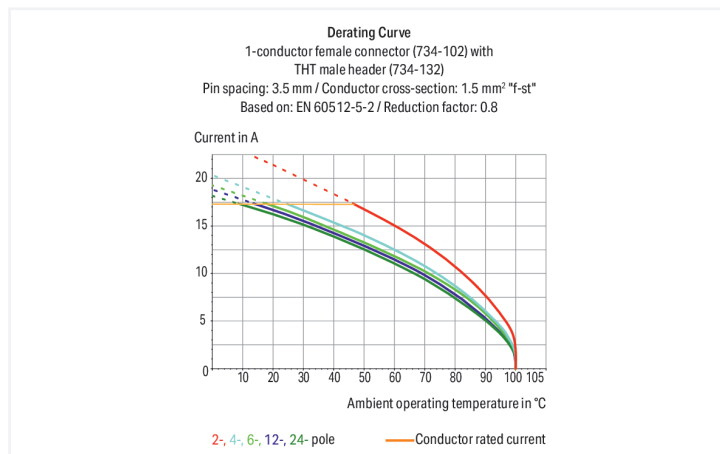
Data Sheet | Item Number: 734-109

1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole;
100% protected against mismatching; light gray

<https://www.wago.com/734-109>



Color: ■ light gray



Dimensions in mm

L = (pole no. x pin spacing) + 2.2 mm

Female connector, 734 Series, operating tool

Our female connector (item number 734-109) is designed for seamless electrical installations. Ensure that the strip lengths are between 6 and 7 mm when connecting conductors to this female connector. Featuring one conductor terminal along with CAGE CLAMP®, this connector delivers reliable performance. Our celebrated universal connection known as CAGE CLAMP® is the industry standard when it comes to connection technology and electrical interconnections. Dimensions: (33.7 x 13.4 x 18.6) 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.



Notes	
Safety Information	The MCS – <i>MULTI CONNECTION SYSTEM</i> 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	160 V	160 V	320 V		Rated current	10 A	-	10 A
Rated impulse withstand voltage	2.5 kV	2.5 kV	2.5 kV					
Rated current	10 A	10 A	10 A					
Approvals per		CSA						
Use group	B	C	D					
Rated voltage	300 V	-	300 V					
Rated current	10 A	-	10 A					

Connection Data	
Clamping units	9
Total number of potentials	9
Number of connection types	1
Number of levels	1
Connection 1	
Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Actuation direction 1	Operation parallel to conductor entry
Actuation direction 2	Operation perpendicular to conductor entry
Solid conductor	0.08 ... 1.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 1.5 mm² / 28 ... 14 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1.5 mm²
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm²
Note (conductor cross-section)	Terminating 1.5 mm² conductors is possible; however insulation diameter does not allow clamping units to be terminated in a row.
Strip length	6 ... 7 mm / 0.24 ... 0.28 inches
Pole number	9
Conductor entry direction to mating direction	0 °

Physical data	
Pin spacing	3.5 mm / 0.138 inches
Width	33.7 mm / 1.327 inches
Height	13.4 mm / 0.528 inches
Depth	18.6 mm / 0.732 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

Material data	
Note (material data)	Information on material specifications can be found here
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	Copper alloy
Contact Plating	Tin
Fire load	0.095 MJ
Weight	6.8 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 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



Environmental Testing	
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)	50 pcs	
Packaging type	Box	
Country of origin	DE	
GTIN	4044918493451	
Customs tariff number	85366990990	

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	

Approvals / Certificates					
General approvals			Declarations of conformity and manufacturer's declarations		
  					
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 61984	2169534.02	Railway WAGO GmbH & Co. KG	-	Railway Ready
CCA DEKRA Certification B.V.	EN 61984	nl-54190			
CSA DEKRA Certification B.V.	C22.2	1465035			
UL Underwriters Laboratories Inc.	UL 1977	E 45171			



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 734-109



Documentation

Additional Information
Technical Section
03.04.2019
pdf 2027.26 KB



CAD/CAE-Data

CAD data
2D/3D Models 734-109



CAE data
EPLAN Data Portal 734-109
ZUKEN Portal 734-109



1 Compatible Products

1.1 System counterpart

1.1.1 Distribution connector



Item No.: 734-369
2-conductor combi strip; 100% protected
against mismatching; 1.5 mm²; 9-pole; Pin
spacing 3.5 mm; light gray



Item No.: 734-369/037-000
2-conductor combi strip; 100% protected
against mismatching; 1.5 mm²; Locking lever;
9-pole; Pin spacing 3.5 mm; light gray



Item No.: 734-369/008-000
2-conductor combi strip; 100% protected
against mismatching; Snap-in mounting feet;
1.5 mm²; 9-pole; Pin spacing 3.5 mm; light
gray



1.1.2 Male connector/plug

 Item No.: 734-309/019-000 1-conductor male connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; clamping collar; light gray	 Item No.: 734-309/018-000 1-conductor male connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; DIN-35 rail/panel mounting; Snap-in mounting feet; light gray	 Item No.: 734-309 1-conductor male connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; light gray	 Item No.: 734-169/105-604/997-407 THR male header; 1.0 x 1.0 mm solder pin; angled; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 3.5 mm; 9-pole; black
 Item No.: 734-169/105-604 THR male header; 1.0 x 1.0 mm solder pin; angled; 100% protected against mismatching; Pin spacing 3.5 mm; 9-pole; black	 Item No.: 734-139/105-604/997-407 THR male header; 1.0 x 1.0 mm solder pin; straight; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 3.5 mm; 9-pole; black	 Item No.: 734-139/105-604 THR male header; 1.0 x 1.0 mm solder pin; straight; 100% protected against mismatching; Pin spacing 3.5 mm; 9-pole; black	 Item No.: 734-409 THT double-deck male header; 1.0 x 1.0 mm solder pin; angled; 100% protected against mismatching; Pin spacing 3.5 mm; 18-pole; light gray
 Item No.: 734-409/001-000 THT double-deck male header; 1.0 x 1.0 mm solder pin; angled; 100% protected against mismatching; Pin spacing 3.5 mm; 18-pole; light gray	 Item No.: 734-169 THT male header; 1.0 x 1.0 mm solder pin; angled; 100% protected against mismatching; Pin spacing 3.5 mm; 9-pole; light gray	 Item No.: 734-139/010-000 THT male header; 1.0 x 1.0 mm solder pin; straight; 100% protected against mismatching; Gold-plated contacts; Pin spacing 3.5 mm; 9-pole; light gray	 Item No.: 734-139 THT male header; 1.0 x 1.0 mm solder pin; straight; 100% protected against mismatching; Pin spacing 3.5 mm; 9-pole; light gray
 Item No.: 734-139/046-000 THT male header; 1.0 x 1.0 mm solder pin; straight; 100% protected against mismatching; Pin spacing 3.5 mm; 9-pole; light gray			

1.2 Optional Accessories

1.2.1 Ferrule

1.2.1.1 Ferrule

 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.: 216-322 Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise	 Item No.: 216-132 Ferrule; Sleeve for 0.34 mm² / 22 AWG; uninsulated; electro-tin plated
 Item No.: 216-221 Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white	 Item No.: 216-121 Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored	 Item No.: 216-222 Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray	 Item No.: 216-122 Ferrule; Sleeve for 0.75 mm² / 18 AWG; uninsulated; electro-tin plated; silver-colored
 Item No.: 216-223 Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red	 Item No.: 216-123 Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; silver-colored	 Item No.: 216-224 Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black	 Item No.: 216-124 Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated

1.2.2 Insulation stop

1.2.2.1 Insulation stop



Item No.: 734-671
Insulation stop; 0.08 - 0.2 mm² "s" (0.14 mm² "f-st"); 8 pieces/strip; light gray

1.2.3 Marking

1.2.3.1 Marking strip



Item No.: 210-332/350-202
Marking strips; as a DIN A4 sheet; MARKED; 1-16 (240x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



Item No.: 210-332/350-204
Marking strips; as a DIN A4 sheet; MARKED; 17-32 (240x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



Item No.: 210-332/350-206
Marking strips; as a DIN A4 sheet; MARKED; 33-48 (240x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

1.2.4 Strain relief

1.2.4.1 Strain relief housing



Item No.: 734-609
Strain relief housing; for female and male connectors; 2 parts; Pin spacing 3.5 mm; 9-pole; light gray

1.2.4.2 Strain relief plate



Item No.: 734-129
Strain relief plate; for female and male connectors; 25 mm wide; 1 part; Pin spacing 3.5 mm; light gray

1.2.5 Test and measurement

1.2.5.1 Testing accessories



Item No.: 735-500
WAGO Test pin; 1 mm Ø; 30 V AC / 60 V DC; CAT0; 1 A; 6 mm uninsulated; Test lead for soldering up to 0,5mm²

1.2.6 Tool

1.2.6.1 Operating tool



Item No.: 734-190
Combination operating tool; natural



Item No.: 734-231
Operating tool; black



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



Item No.: 210-251
Operating tool; for MCS MICRO and MINI with CAGE CLAMP® connection; yellow



Item No.: 210-250
Operating tool; for MCS MINI and MIDI with CAGE CLAMP® connection; red



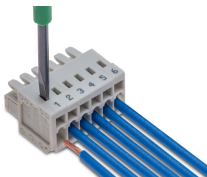
Item No.: 734-191
Operating tool; made of insulating material; 1-way; loose; black



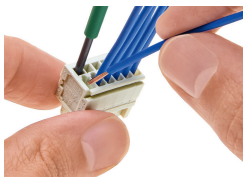
Item No.: 734-230
Operating tool; made of insulating material; 1-way; white

Installation Notes

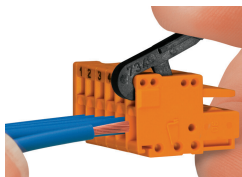
Conductor termination



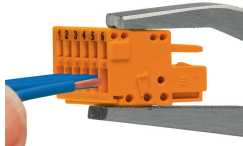
Inserting a conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



Inserting a conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.

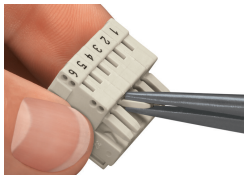


Inserting a conductor into CAGE CLAMP® unit via operating tool (734-191).



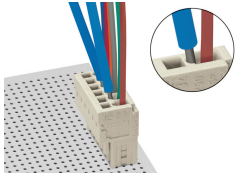
Inserting a conductor into CAGE CLAMP® unit via operating tool (210-251 or 210-250).

Coding



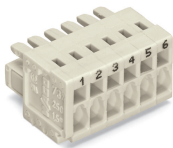
Coding a female connector – removing coding finger(s).

Testing



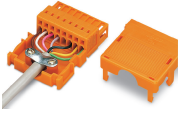
Testing via 1 mm Ø test pin (735-500) – CAGE CLAMP® connection – touch contact.

Marking



Labeling via direct marking or self-adhesive strips.

Installation



Strain relief housing for 734 Series Male and Female Connectors with CAGE CLAMP® connection