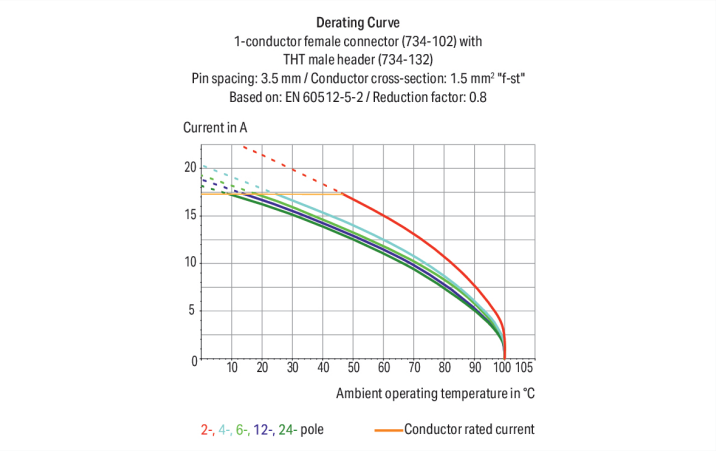
Data Sheet | Item Number: 734-109

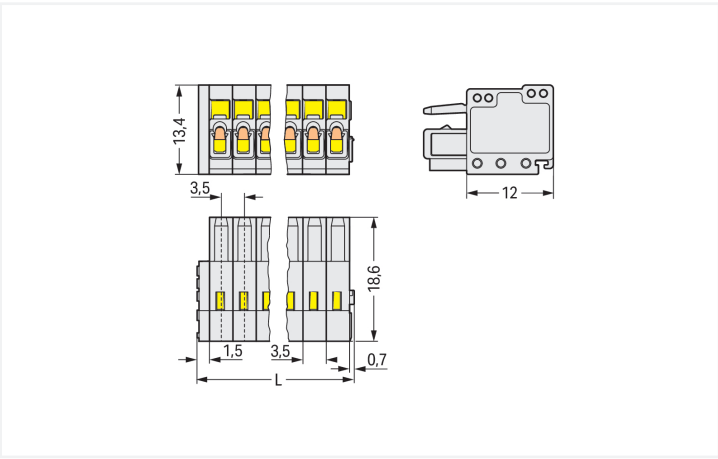
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; light gray

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, with 3.5 mm pin spacing

This female connector (item number 734-109) provides fault-free electrical installations. Strip lengths must be 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 highly-rated and maintenance-free CAGE CLAMP® connection makes it easy to connect all types of conductors without having to prepare the conductor. For example, you don't need to crimp ferrules. 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 tin-coated

- Actuation via operating tool
- The right solution for every wiring task
- Wide range of applications thanks to a conductor cross-section range from 0.08 to 25 mm²
- Ready to install, immediately usable
- Pin spacing: 3.5 mm

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	160 V	160 V	320 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	-	300 V
Rated current	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

Continued on next page

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	0.104 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

Continued on next page

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

Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 61984	2169534.02
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

Declarations of conformity and manufacturer's declarations

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

Continued on next page

Approvals for marine applications

Approval	Standard	Certificate Name
ABS American Bureau of Shipping	-	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 mismating; 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 mismating; 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 mismating; Snap-in mounting feet; 1.5 mm²; 9-pole; Pin spacing 3.5 mm; light gray

Continued on next page

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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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 mismating; 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

Continued on next page

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

 Continued on next page

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



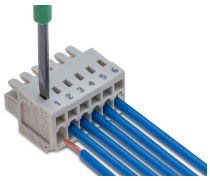
Item No.: 210-250
Operating tool; for MCS MINI and MIDI with CAGE CLAMP® connection; red

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

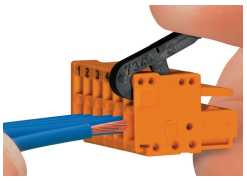
Conductor termination



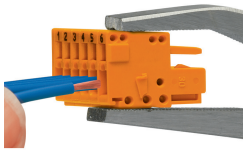
Inserting a conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



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

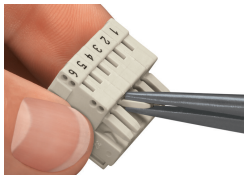


Inserting a conductor into CAGE CLAMP® unit via operating tool (734-191).



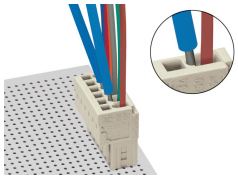
Inserting a conductor into CAGE CLAMP® unit via operating tool (210-251 or 210-250).

Coding



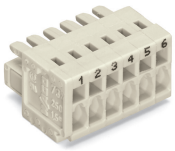
Coding a female connector – removing coding finger(s).

Testing



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

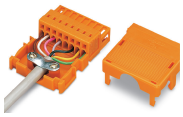
Marking



Labeling via direct marking or self-adhesive strips.

Continued on next page

Installation



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