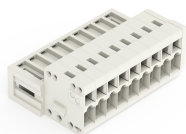


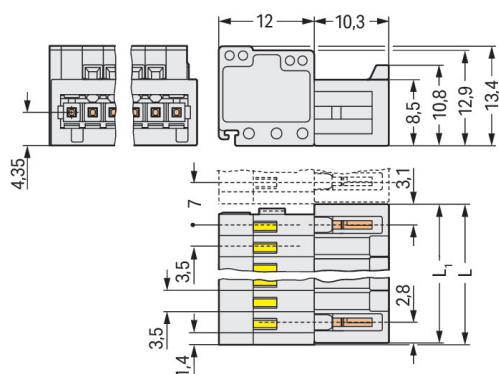
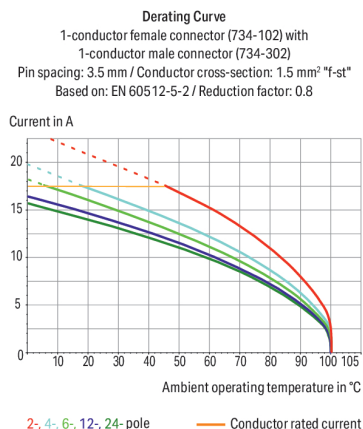
Data Sheet | Item Number: 734-309

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

<https://www.wago.com/734-309>



Color: ■ light gray



Dimensions in mm

$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.9 \text{ mm} + 0.45 \text{ mm}$
 $L_1 = L - 0.45 \text{ mm}$

Male connector, 734 Series, operating tool

This male connector (item number 734-309) provides hassle-free electrical installations. Ensure that the strip lengths are between 6 and 7 mm when connecting conductors to this male connector. This product features one conductor terminal and utilizes CAGE CLAMP®. Our CAGE CLAMP® connection offers a secure 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. Dimensions: (33.9 x 13.4 x 22.3) mm (width x height x depth). Depending on the conductor type, this male connector is designed for conductor cross sections ranging from 0.08 mm² to 1.5 mm².

Tin is used for coating the contact surfaces.



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	33.9 mm / 1.335 inches
Height	13.4 mm / 0.528 inches
Depth	22.3 mm / 0.878 inches



Mechanical data	
Variable coding	Yes
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)	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	Electrolytic copper (E _{Cu})
Contact Plating	Tin
Fire load	0.115 MJ
Weight	7.4 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><tr><td>Shock pulse form</td><td>Half sine</td></tr><tr><td>Acceleration</td><td>5g (highest test level used for all axes)</td></tr><tr><td>Shock duration</td><td>30 ms</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	Shock pulse form	Half sine	Acceleration	5g (highest test level used for all axes)	Shock duration	30 ms
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Shock pulse form	Half sine																																													
Acceleration	5g (highest test level used for all axes)																																													
Shock duration	30 ms																																													
Processing temperature	-35 ... +60 °C																																													



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	PL	
GTIN	4044918513647	
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	

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 734-309



Documentation

Additional Information
Technical Section
03.04.2019
pdf 2027.26 KB



CAD/CAE-Data

CAD data
2D/3D Models 734-309



CAE data
EPLAN Data Portal 734-309
ZUKEN Portal 734-309



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 Female connector/socket



Item No.: 734-109/037-000
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; Lateral locking levers; light gray



Item No.: 734-109/037-000/034-000
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; Lateral locking levers; Strain relief plate; 1,50 mm²; light gray



Item No.: 734-109
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; light gray



Item No.: 734-109/008-000
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; Snap-in mounting feet; light gray



Item No.: 2734-109/031-000
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; clamping collar; light gray



Item No.: 2734-109/037-000
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; Lateral locking levers; light gray



Item No.: 2734-109
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; light gray



Item No.: 734-539
THT female header; angled; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; 0.9 x 0.9 mm solder pin; light gray



Item No.: 734-539/037-000
THT female header; angled; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; Locking lever; 0.9 x 0.9 mm solder pin; light gray



Item No.: 734-469
THT female header; straight; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; 0.9 x 0.9 mm solder pin; light gray



Item No.: 734-469/037-000
THT female header; straight; Pin spacing 3.5 mm; 9-pole; 100% protected against mismatching; Locking lever; 0.9 x 0.9 mm solder pin; light gray

1.2 Optional Accessories

1.2.1 Cover

1.2.1.1 Cover



Item No.: 734-420
Cover for male connectors; for 734 Series; IP20 protection; black

1.2.2 Ferrule

1.2.2.1 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

1.2.3 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.: 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



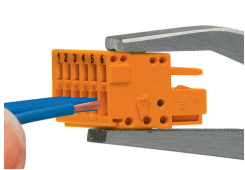
Item No.: 210-250
Operating tool; for MCS MINI and MIDI with CAGE CLAMP® connection; red



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

Installation Notes

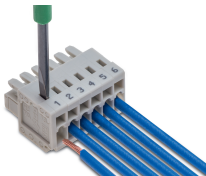
Conductor termination



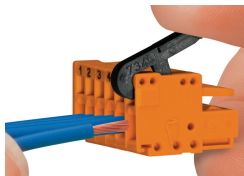
Inserting a conductor into CAGE CLAMP® unit via operating tool (210-251 or 210-250).



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

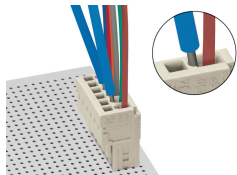


Inserting a conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



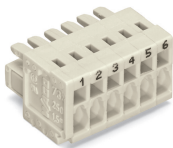
Inserting a conductor into CAGE CLAMP® unit via operating tool (734-191).

Testing



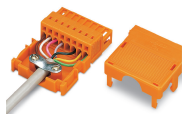
Testing via 1 mm Ø test pin (735-500) – CAGE CLAMP® connection – touch contact.

Marking



Labeling via direct marking or self-adhesive strips.

Installation



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