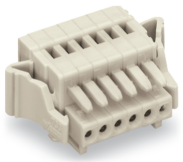
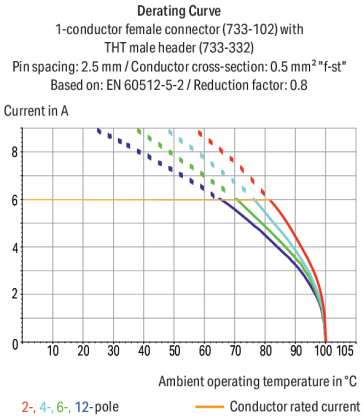
Data Sheet | Item Number: 733-109/037-000

1-conductor female connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 9-pole; 100% protected against mismating; Lateral locking levers; light gray

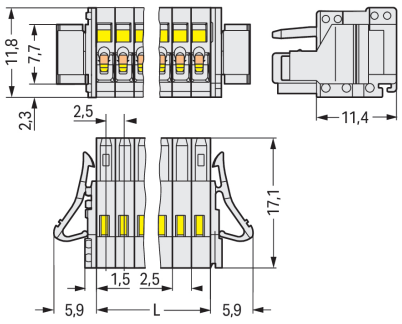
https://www.wago.com/733-109/037-000





Color: light gray

Similar to illustration



Dimensions in mm
L = pole no. x pin spacing

Female connector, 733 Series, CAGE CLAMP®

Our female connector (item number 733-109/037-000) simplifies electrical installations. Strip lengths must be between 5 and 6 mm when connecting conductors to this female connector. This product features one conductor terminal and utilizes CAGE CLAMP®. Our tried-and-tested universal connection known as CAGE CLAMP® is the industry standard when it comes to connection technology and electrical interconnections. Dimensions: (34.3 x 11.8 x 17.1) mm (width x height x depth). Depending on the conductor type, this female connector is ideal for conductor cross sections ranging from 0.08 mm² to 0.5 mm².

Tin is used for coating the contact surfaces.

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	100 V	160 V	320 V
Rated impulse withstand voltage	2.5 kV	2.5 kV	2.5 kV
Rated current	6 A	6 A	6 A

Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	150 V	-	-
Rated current	4 A	-	-

Approvals per	CSA		
Use group	B	C	D
Rated voltage	150 V	-	-
Rated current	4 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 … 0.5 mm² / 28 … 20 AWG
Fine-stranded conductor	0.08 … 0.5 mm² / 28 … 20 AWG
Fine-stranded conductor; with insulated ferrule	0.25 … 0.34 mm²
Fine-stranded conductor; with uninsulated ferrule	0.25 … 0.34 mm²
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Pole number	9
Conductor entry direction to mating direction	0 °

Physical data

Pin spacing	2.5 mm / 0.098 inches
Width	34.3 mm / 1.35 inches
Height	11.8 mm / 0.465 inches
Depth	17.1 mm / 0.673 inches

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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

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	0.081 MJ
Weight	4.3 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

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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)	50 pcs
Packaging type	Box
Country of origin	DE
GTIN	4045454215651
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

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
BV Bureau Veritas S.A.	IEC 60998	11915/E0 BV

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Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance
733-109/037-000

Documentation

Additional Information

Technical Section	03.04.2019	pdf 2027.26 KB

CAD/CAE-Data

CAD data

2D/3D Models
733-109/037-000

CAE data

ZUKEN Portal
733-109/037-000

1 Compatible Products

1.1 System counterpart

1.1.1 Male connector/plug

Item No.: 733-209
1-conductor male connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 9-pole; 100% protected against mismating; light gray

Item No.: 733-369
THT male header; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismating; Pin spacing 2.5 mm; 9-pole; light gray

Item No.: 733-339
THT male header; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismating; Pin spacing 2.5 mm; 9-pole; light gray

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.: 216-151
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated

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.: 216-152
Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated

1.2.2 Marking

1.2.2.1 Marking strip

Item No.: 210-331/250-202
Marking strips; as a DIN A4 sheet; MARKED; 1-16 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white

Item No.: 210-331/250-207
Marking strips; as a DIN A4 sheet; MARKED; 1-48 (100x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white

Item No.: 210-331/250-204
Marking strips; as a DIN A4 sheet; MARKED; 17-32 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white

Item No.: 210-331/250-206
Marking strips; as a DIN A4 sheet; MARKED; 33-48 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white

1.2.3 Strain relief

1.2.3.1 Strain relief plate

Item No.: 734-128
Strain relief plate; for female and male connectors; 12.5 mm wide; 1 part; Pin spacing 3.5 mm; light gray

1.2.4 Test and measurement

1.2.4.1 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

1.2.5 Tool

1.2.5.1 Operating tool

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

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

Item No.: 233-335
Operating tool; green

Item No.: 233-331
Operating tool; insulated; yellow

Item No.: 733-130
Operating tool; made of insulating material; 1-way; loose; white

Item No.: 733-191
Operating tool; made of insulating material; 1-way; loose; yellow

Item No.: 233-332
Operating tool; made of insulating material; white

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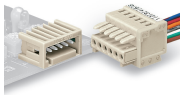
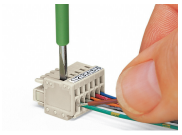
Installation Notes

Mismating protection

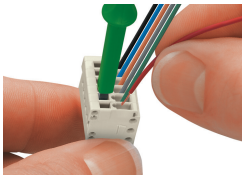


Male headers and female connectors are 100% protected against mismating. Only mating halves with the same pole number can be connected.

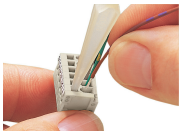
Conductor termination

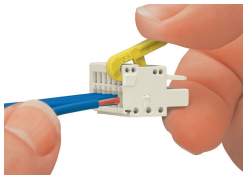


Inserting conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.

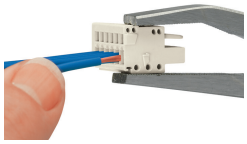


Conductor termination via screwdriver (233-335) – parallel to CAGE CLAMP® actuation





Conductor termination via operating tool (733-191)



Conductor termination via operating tool (210-251)

Coding

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

Marking

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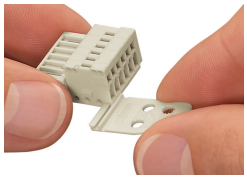
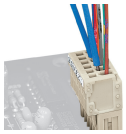
Strain relief



Strain relief plates for factory or in-the-field assembly

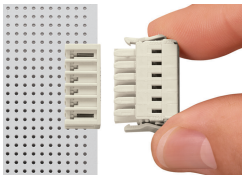
Testing



Testing via 1 mm Ø test pin (735-500), touch contact.

Locking system

Locking levers prevent accidental disconnection.



Locking levers prevent accidental disconnection.