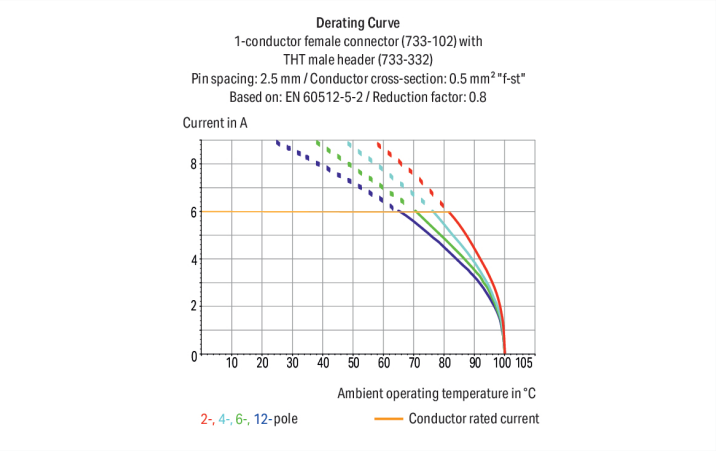
Data Sheet | Item Number: 733-110

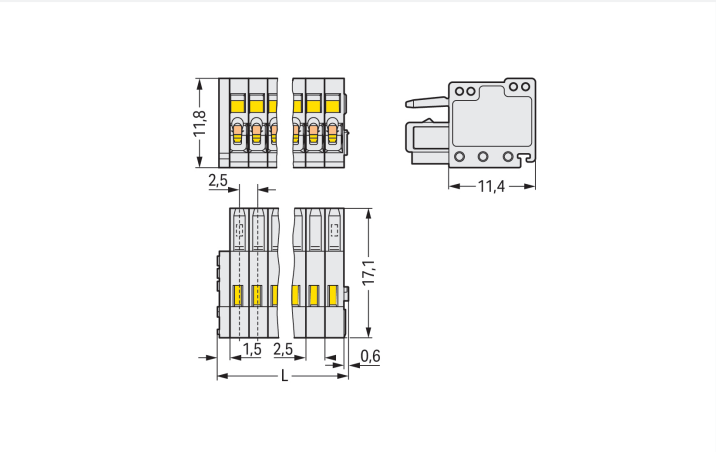
1-conductor female connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 10-pole; 100% protected against mismating; light gray

https://www.wago.com/733-110



Color: light gray

Similar to illustration



Dimensions in mm
L = (pole no. x pin spacing) + 2.1 mm

Female connector, 733 Series, CAGE CLAMP®

Our female connector (item number 733-110) simplifies electrical installations. Conductors can only be connected to this female connector if their strip length is between 5 and 6 mm . This product features one conductor terminal and utilizes CAGE CLAMP®. Our proven universal connection known as CAGE CLAMP® leads the way when it comes to connection technology and electrical interconnections. Dimensions: (27.1 x 11.8 x 17.1) mm (width x height x depth). This female connector is suitable for conductor cross sections ranging from 0.08 mm² to 0.5 mm².

Tin is used for coating the contact surfaces.

Continued on next page

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	10
Total number of potentials	10
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	10
Conductor entry direction to mating direction	0 °

Physical data

Pin spacing	2.5 mm / 0.098 inches
Width	27.1 mm / 1.067 inches
Height	11.8 mm / 0.465 inches
Depth	17.1 mm / 0.673 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	0.065 MJ
Weight	4.4 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)	100 pcs
Packaging type	Box
Country of origin	DE
GTIN	4044918294201
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	2169534.01
CCA DEKRA Certification B.V.	IEC 61984	NL-31141
CSA DEKRA Certification B.V.	C22.2	1465035
UL UL International Germany GmbH	UL 1977	E45171
UL Underwriters Laboratories Inc.	UL 1059	UL-US-L45172-6187124-1

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 733-110

Documentation

Additional Information

Technical Section	03.04.2019	pdf 2027.26 KB

CAD/CAE-Data

CAD data

2D/3D Models 733-110

CAE data

EPLAN Data Portal 733-110

ZUKEN Portal 733-110

1 Compatible Products

1.1 System counterpart

1.1.1 Male connector/plug

Item No.: 733-210
1-conductor male connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 10-pole; 100% protected against mismating; light gray

Item No.: 733-210/034-000
1-conductor male connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 10-pole; 100% protected against mismating; Strain relief plate; 0,50 mm²; light gray

Item No.: 733-370/105-604/997-406
THR male header; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismating; in tape-and-reel packaging; Pin spacing 2.5 mm; 10-pole; black

Item No.: 733-370/105-604
THR male header; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismating; Pin spacing 2.5 mm; 10-pole; black

Item No.: 733-340/105-604/997-446
THR male header; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismating; in tape-and-reel packaging; Pin spacing 2.5 mm; 10-pole; black

Item No.: 733-340/105-604
THR male header; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismating; Pin spacing 2.5 mm; 10-pole; black

Item No.: 733-370
THT male header; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismating; Pin spacing 2.5 mm; 10-pole; light gray

Item No.: 733-340
THT male header; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismating; Pin spacing 2.5 mm; 10-pole; light gray

 Continued on next page

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.: 216-151
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.: 216-152
Ferrule; Sleeve for 0.34 mm² / 22 AWG; uninsulated; electro-tin plated; silver-colored

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.: 734-129
Strain relief plate; for female and male connectors; 25 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

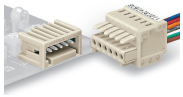
Item No.: 733-191
Operating tool; made of insulating material; 1-way; loose; yellow

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

 Continued on next page

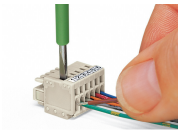
Installation Notes

Mismating protection

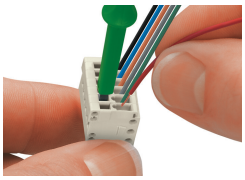


Male headers and female connectors are 100% protected against mismating.
Only mating halves with the same pole number can be connected.

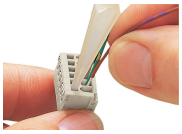
Conductor termination

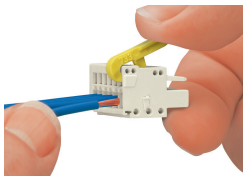


Inserting conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.

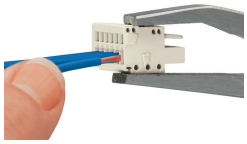


Conductor termination via screwdriver (233-335) – parallel to CAGE CLAMP® actuation





Conductor termination via operating tool (733-191)



Conductor termination via operating tool (210-251)

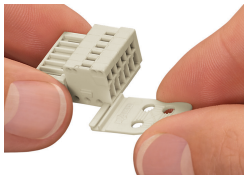
Coding

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

Marking

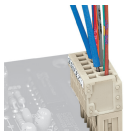
 Continued on next page

Strain relief



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

Testing



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