

Data Sheet | Item Number: 733-109

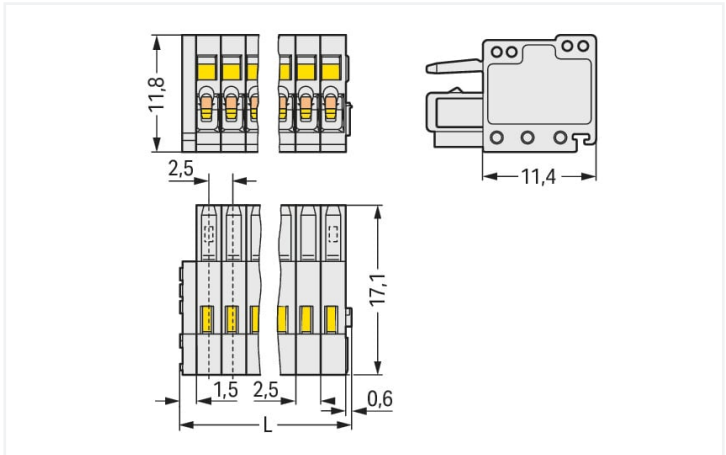
1-conductor female connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 9-po-
le; 100% protected against mismating; 0,50 mm²; light gray

<https://www.wago.com/733-109>



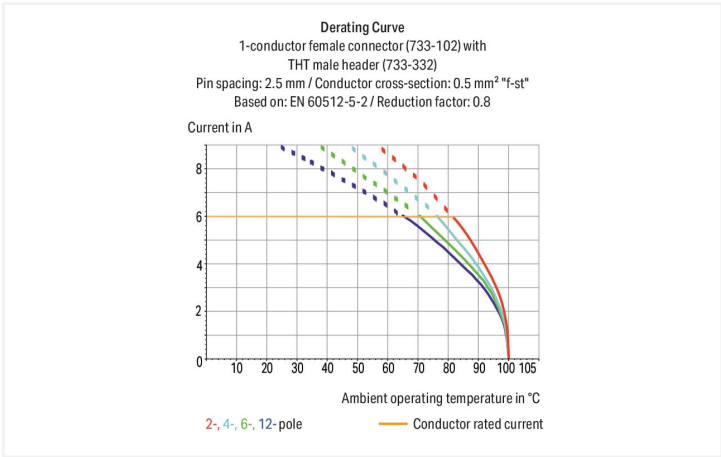
Color: ■ light gray

Similar to illustration



Dimensions in mm

$L = (\text{pole no.} \times \text{pin spacing}) + 2.1 \text{ mm}$



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- Strain relief plates for factory and field assembly
- 100% protected against mismating
- Coding option available

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				Approvals per UL 1059			
Overvoltage category	III	III	II	Use group	B	C	D
Pollution degree	3	2	2	Rated voltage	150 V	-	-
Nominal voltage	100 V	160 V	320 V	Rated current	4 A	-	-
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV				
Rated current	6 A	6 A	6 A				

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

Connection data

Connection points	9	Connection 1	
Total number of potentials	9	Connection technology	CAGE CLAMP®
Number of connection types	1	Actuation type	Operating tool
Number of levels	1	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	24.6 mm / 0.969 inches
Height	11.8 mm / 0.465 inches
Depth	17.1 mm / 0.673 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		Polyamide (PA66)
Flammability class per UL94		V0
Clamping spring material		Chrome-nickel spring steel (CrNi)
Contact material		Copper alloy
Contact plating		Tin
Fire load		0.069 MJ
Weight		3.9 g

Environmental requirements		
Limit temperature range		-60 ... +100 °C
Processing temperature		-35 ... +60 °C

Commercial data		
Product Group		3 (Multi Conn. System)
eCl@ss 10.0		27-44-03-09
eCl@ss 9.0		27-44-03-09
ETIM 8.0		EC002638
ETIM 7.0		EC002638
PU (SPU)		100 pcs
Packaging type		Box
Country of origin		DE
GTIN		4045454819194
Customs tariff number		85366990990

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	2169534.01	Railway WAGO GmbH & Co. KG	-	Railway Ready
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	E45172			



Approvals for marine applications

  		
Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	19-HG1869876-PDA
DNV DNV GL SE	-	TAE000016Z
LR Lloyds Register	IEC 61984	96/20035 (E5)

Downloads

Environmental Product Compliance	
Compliance Search	
Environmental Product Compliance 733-109	

Documentation

Additional Information			
Technical Section	03.04.2019	pdf 2027.26 KB	

CAD/CAE-Data

CAD data	CAE data
2D/3D Models 733-109 	ZUKEN Portal 733-109 

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 mismatching; 0,50 mm²; light gray	 Item No.: 733-209/033-000 1-conductor male connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 9-pole; 100% protected against mismatching; Strain relief plate; 0,50 mm²; light gray	 Item No.: 733-369/105-604/997-406 THR male header; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 2.5 mm; 9-pole; black	 Item No.: 733-369/105-604 THR male header; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; Pin spacing 2.5 mm; 9-pole; black
 Item No.: 733-339/105-604/997-446 THR male header; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 2.5 mm; 9-pole; black	 Item No.: 733-339/105-604 THR male header; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; Pin spacing 2.5 mm; 9-pole; black	 Item No.: 733-369 THT male header; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; 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 mismatching; 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



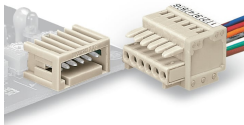
Item No.: 733-191
Operating tool; made of insulating material; 1-way; loose; yellow



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

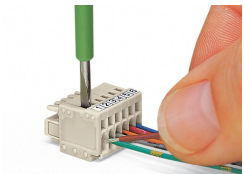
Installation Notes

Mismatching protection

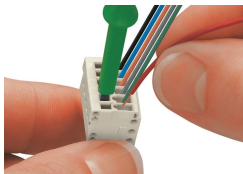


Male headers and female connectors are 100% protected against mismatching. Only mating halves with the same pole number can be connected.

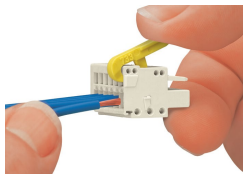
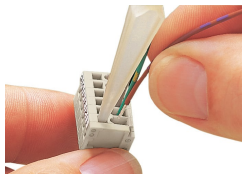
Conductor termination



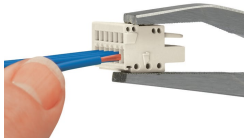
Inserting conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



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

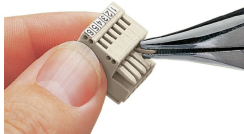


Conductor termination via operating tool (733-191)



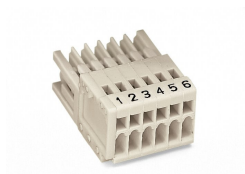
Conductor termination via operating tool (210-251)

Coding

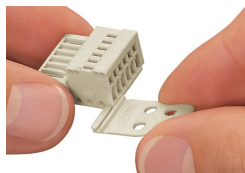


Coding a female connector – removing coding finger(s).

Marking

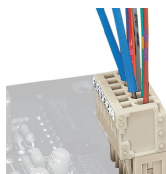


Strain relief



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

Testing



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