

Data Sheet | Item Number: 733-210

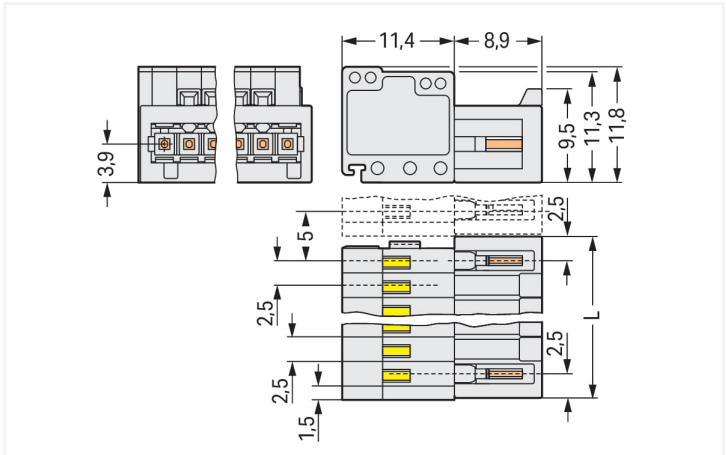
1-conductor male connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 10-pole; 100% protected against mismatching; 0,50 mm²; light gray

<https://www.wago.com/733-210>

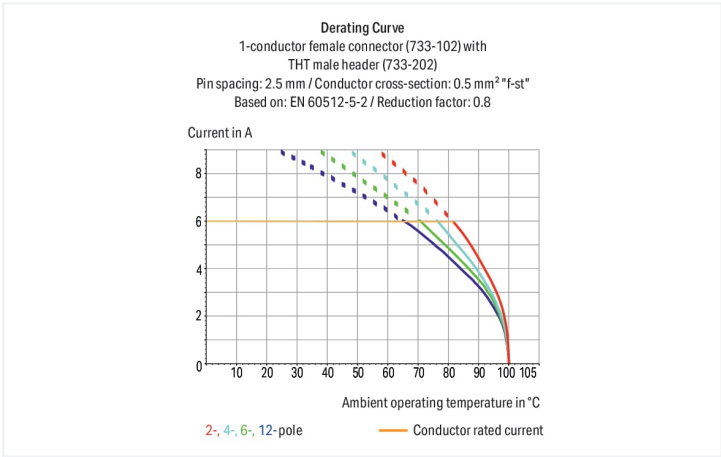


Color: ■ light gray

Similar to illustration



Dimensions in mm
L = (pole no. + 1) x pin spacing



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire connections
- 100% protected against mismatching
- 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 versions (or variants) can be requested from WAGO Sales or configured at https://configurator.wago.com/ . Other pole numbers Gold-plated or partially gold-plated contact surfaces



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

Clamping units	10	Connection 1	
Total number of potentials	10	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	10
		Conductor entry direction to mating direction	0°

Physical data

Pin spacing	2.5 mm / 0.098 inches
Width	27.5 mm / 1.083 inches
Height	11.8 mm / 0.465 inches
Depth	20.3 mm / 0.799 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	0.097 MJ
Weight	5 g

Environmental requirements	
Limit temperature range	-60 ... +100 °C
Processing temperature	-35 ... +60 °C
Environmental Testing (Environmental Conditions)	
Test specification Railway applications – Rolling stock – Electronic equipment	DIN EN 50155 (VDE 0115-200):2022-06
Test procedure Railway applications – Rolling stock equipment – Shock and vibration tests	DIN EN 61373 (VDE 0115-0106):2011-04
Spectrum/Installation location	Service life test, Category 1, Class A/B
Function test with noise-like vibration	Test passed according to Section 8 of the standard
Frequency	f ₁ = 5 Hz to f ₂ = 150 Hz f ₁ = 5 Hz to f ₂ = 150 Hz
Acceleration	0.101g (highest test level used for all axes) 0.572g (highest test level used for all axes) 5g (highest test level used for all axes)
Test duration per axis	10 min. 5 h
Test directions	X, Y and Z axes X, Y and Z axes X, Y and Z axes
Monitoring for contact faults/interruptions	Passed
Voltage drop measurement before and after each axis	Passed
Simulated service life test through increased levels of noise-like vibration	Test passed according to Section 9 of the standard
Extended test scope: Monitoring for contact faults/interruptions	Passed Passed
Extended test scope: Voltage drop measurement before and after each axis	Passed Passed
Shock test	Test passed according to Section 10 of the standard
Shock form	Half sine
Shock duration	30 ms
Number of shocks per axis	3 pos. und 3 neg.
Vibration and shock stress for rolling stock equipment	Passed



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 9.0	EC002638	
ETIM 8.0	EC002638	
PU (SPU)	100 pcs	
Packaging type	Box	
Country of origin	PL	
GTIN	4044918849609	
Customs tariff number	85366930000	

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 733-210

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Documentation

Additional Information

Technical Section

03.04.2019

pdf

2027.26 KB

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CAD/CAE-Data

CAD data

2D/3D Models 733-210

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CAE data

EPLAN Data Portal 733-210

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ZUKEN Portal 733-210

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1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket

Item No.: 733-110
1-conductor female connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 10-pole; 100% protected against mismatching; 0,50 mm²; light gray

Item No.: 733-110/037-000
1-conductor female connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 10-pole; 100% protected against mismatching; Lateral locking levers; 0,50 mm²; light gray

1.2 Optional Accessories

1.2.1 Coding

1.2.1.1 Coding

Item No.: 733-331
Coding key; snap-on type; black

Item No.: 733-330
Coding key; snap-on type; white

1.2.2 Ferrule

1.2.2.1 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

1.2.3 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

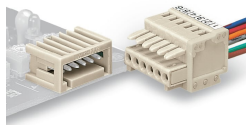
1.2.5 Tool

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	

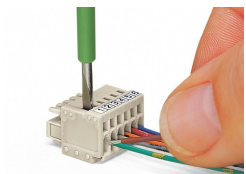
Installation Notes

Mismating protection

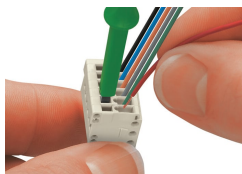


Male headers and female connectors are 100% protected against mismating. Only mating halves with the same pole number can be connected.

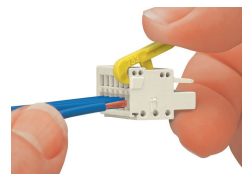
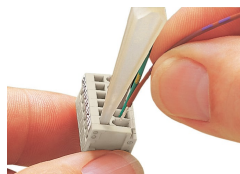
Conductor termination



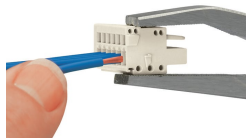
Inserting conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



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

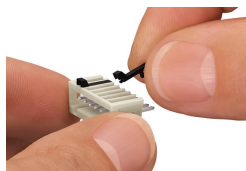


Conductor termination via operating tool (733-191)



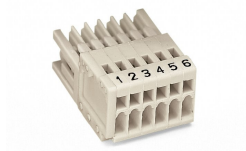
Conductor termination via operating tool (210-251)

Coding

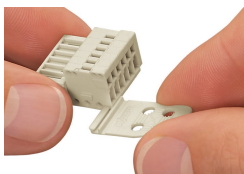


Coding a male header – fitting coding key(s).

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.