

## Data Sheet | Item Number: 733-204

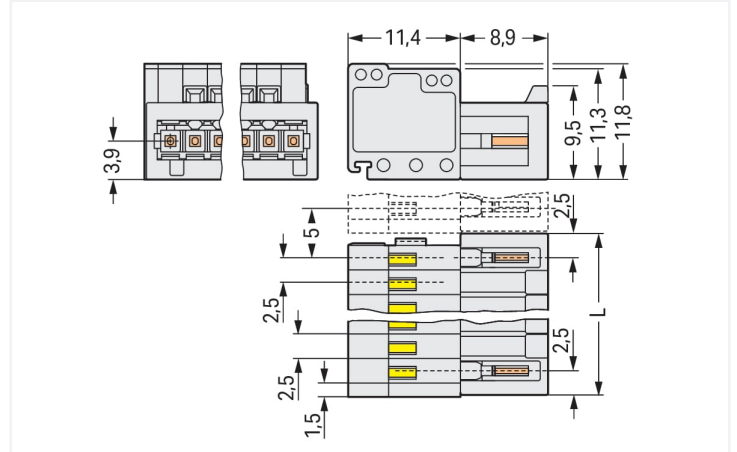
1-conductor male connector; CAGE CLAMP®; 0.5 mm<sup>2</sup>; Pin spacing 2.5 mm; 4-pole;  
100% protected against mismatching; 0,50 mm<sup>2</sup>; light gray

<https://www.wago.com/733-204>



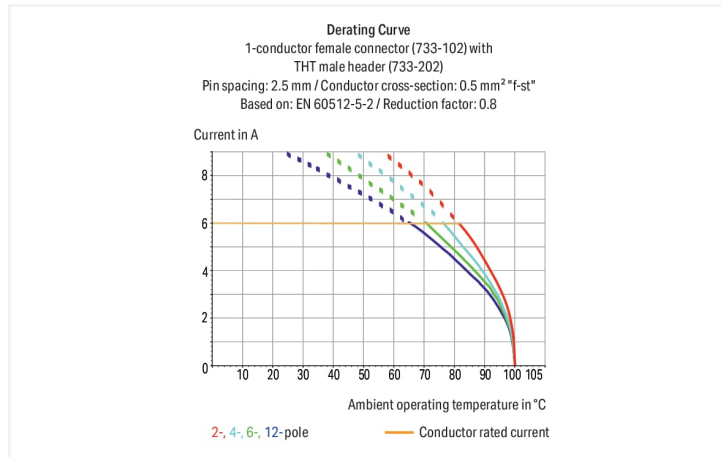
Color: ■ light gray

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 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 surge 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	4
Total number of potentials	4
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 mm <sup>2</sup> / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.34 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 0.34 mm <sup>2</sup>
Strip length	5 ... 6 mm / 0.2 ... 0.24 inches
Pole number	4
Conductor entry direction to mating direction	0°

## Physical data

Pin spacing	2.5 mm / 0.098 inches
Width	12.5 mm / 0.492 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
Mismatching 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 <sub>Cu</sub> )
Contact Plating	Tin
Fire load	0.043 MJ
Weight	2.1 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 <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 Hz f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 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
Extended test scope: Voltage drop measurement before and after each axis	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)	200 pcs
Packaging type	Box
Country of origin	PL
GTIN	4044918849548
Customs tariff number	8536693000

### 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	E45172

#### 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
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 733-204



## Documentation

### Additional Information

Technical Section

03.04.2019

pdf

2027.26 KB



## CAD/CAE-Data

### CAD data

2D/3D Models 733-204



### CAE data

EPLAN Data Portal 733-204



ZUKEN Portal 733-204



## 1 Compatible Products

### 1.1 System counterpart

#### 1.1.1 Female connector/socket



##### [Item No.: 733-104](#)

1-conductor female connector; CAGE CLAMP®; 0.5 mm<sup>2</sup>; Pin spacing 2.5 mm; 4-pole; 100% protected against mismatching; 0,50 mm<sup>2</sup>; light gray

##### [Item No.: 733-104/037-000](#)

1-conductor female connector; CAGE CLAMP®; 0.5 mm<sup>2</sup>; Pin spacing 2.5 mm; 4-pole; 100% protected against mismatching; Lateral locking levers; 0,50 mm<sup>2</sup>; 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 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow



**Item No.: 216-321**

Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow



**Item No.: 216-151**

Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated



**Item No.: 216-131**

Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated; silver-colored



**Item No.: 216-302**

Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise



**Item No.: 216-322**

Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise



**Item No.: 216-132**

Ferrule; Sleeve for 0.34 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated



**Item No.: 216-152**

Ferrule; Sleeve for 0.34 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated

## 1.2.3 Strain relief

### 1.2.3.1 Strain relief plate



**Item No.: 734-127**

Strain relief plate; for female and male connectors; 6 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 0,5mm<sup>2</sup>

## 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

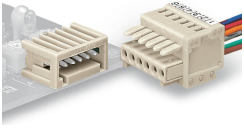


**Item No.: 233-332**

Operating tool; made of insulating material; white

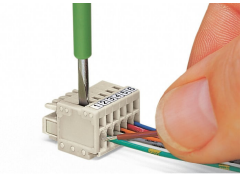
## Installation Notes

### Mismatching protection

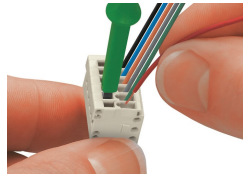


Male headers and female connectors are 100% protected against mismatching. Only mating halves with the same pole number can be connected.

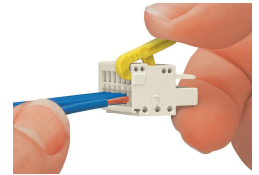
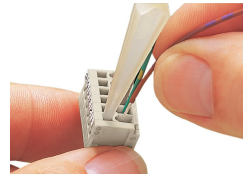
### Conductor termination



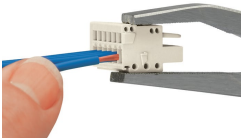
Inserting conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



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



Conductor termination via operating tool (733-191)



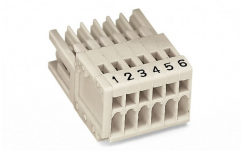
Conductor termination via operating tool (210-251)

### Coding

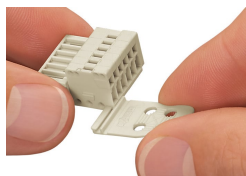


Coding a male header – fitting coding key(s).

### 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.