

Data Sheet | Item Number: 733-110

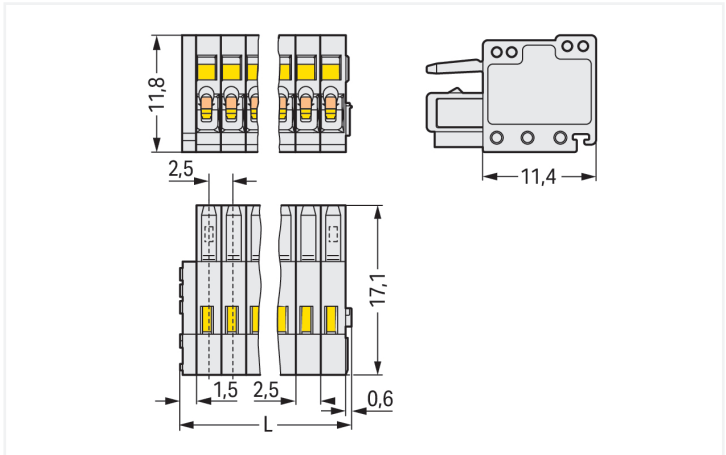
1-conductor female connector; CAGE CLAMP®; 0.5 mm²; Pin spacing 2.5 mm; 10-pole; 100% protected against mismatching; 0,50 mm²; light gray

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



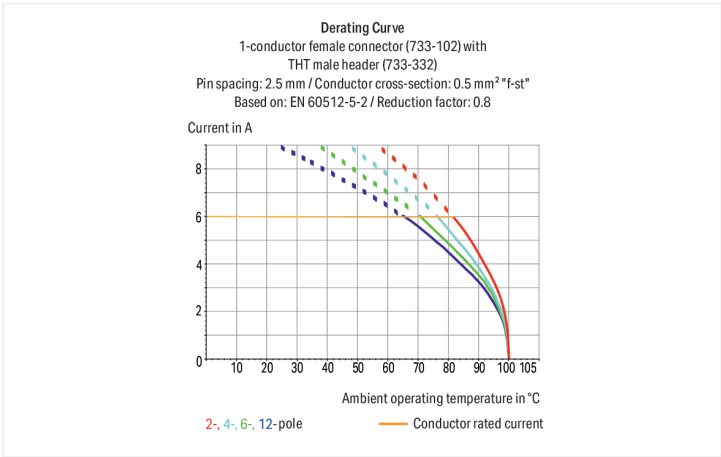
Color: ■ light gray

Similar to illustration



Dimensions in mm

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



Federleiste/Buchse Serie 733 mit Rastermaß 2,5 mm

Die Federleiste/Buchse hat die Artikelnummer 733-110 und ermöglicht eine reibungslose Elektroinstallation. Mit unseren Leiterplatten-Steckverbindern bekommen Sie ein universelles Steckverbindersystem, das vielseitig verwendet werden kann: als Leiterplatten-Steckverbinder, als Durchführungssteckverbinder, als fliegende Steckverbindung für verschiedene Montagearten oder als Steckverbinder auf Reihenklemmen. Für den Leiteranschluss werden bei dieser Federleiste/Buchse Absolierlängen von 5 bis 6 mm benötigt. Dieses Produkt basiert auf der CAGE CLAMP®-Technologie. Der zuverlässige und wartungsfreie CAGE CLAMP® Universalanschluss ermöglicht den Anschluss aller Leiterarten mit einer Käfigzugfeder. Eine Vorbehandlung der Leiter, z.B. durch das Aufcrimpen von Aderendhülsen, ist nicht erforderlich. Die Abmessungen sind in Breite x Höhe x Tiefe (27,1 x 11,8 x 17,1) mm. Diese Federleiste/Buchse ist in Abhängigkeit von der Leiterart für Leiterquerschnitte von 0,08 mm² bis 0,5 mm² geeignet. Die Oberfläche der Kontakte besteht aus Zinn. Diese Federleiste/Buchse wird durch ein Betätigungswerkzeug betätigt. Das "Multi Connection System" – MCS von WAGO ist das vielfältige Steckverbindersystem mit überzeugenden Lösungen für Ihre Anwendungen.

| 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<br>Gold-plated or partially gold-plated contact surfaces<br>Other versions (or variants) can be requested from WAGO Sales or configured at <a href="https://configurator.wago.com/">https://configurator.wago.com/</a> . |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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       | 27.1 mm / 1.067 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)               | <a href="#">Information on material specifications can be found here</a> |
| 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                          | 0.076 MJ                                                                 |
| Weight                             | 4.4 g                                                                    |

| Environmental requirements                                                                         |                                                                                                                                             |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Limit temperature range                                                                            | -60 ... +100 °C                                                                                                                             |
| Processing temperature                                                                             | -35 ... +60 °C                                                                                                                              |
| Environmental Testing (Environmental Conditions)                                                   |                                                                                                                                             |
| Test specification<br>Railway applications –<br>Rolling stock –<br>Electronic equipment            | DIN EN 50155 (VDE 0115-200):2022-06                                                                                                         |
| Test procedure<br>Railway applications –<br>Rolling stock equipment –<br>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<br>f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 Hz                                        |
| Acceleration                                                                                       | 0.101g (highest test level used for all axes)<br>0.572g (highest test level used for all axes)<br>5g (highest test level used for all axes) |
| Test duration per axis                                                                             | 10 min.<br>5 h                                                                                                                              |
| Test directions                                                                                    | X, Y and Z axes<br>X, Y and Z axes<br>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<br>Passed                                                                                                                            |
| Extended test scope: Voltage drop measurement before and after each axis                           | Passed<br>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) |  |
| 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 8.0               | EC002638             |  |
| ECCN                   | NO US CLASSIFICATION |  |

| 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<br>DEKRA Certification B.V.                                                                                                                                                                                                                                                                                                                | EN 61984  | 2169534.01       | Railway<br>WAGO GmbH & Co. KG                                                       | -        | Railway Ready    |
| CCA<br>DEKRA Certification B.V.                                                                                                                                                                                                                                                                                                                | IEC 61984 | NL-31141         |                                                                                     |          |                  |
| CSA<br>DEKRA Certification B.V.                                                                                                                                                                                                                                                                                                                | C22.2     | 1465035          |                                                                                     |          |                  |
| UL<br>UL International Germany GmbH                                                                                                                                                                                                                                                                                                            | UL 1977   | E45171           |                                                                                     |          |                  |
| UL<br>Underwriters Laboratories Inc.                                                                                                                                                                                                                                                                                                           | UL 1059   | E45172           |                                                                                     |          |                  |

Approvals for marine applications

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



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 mismatching; 0,50 mm²; 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 mismatching; 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 mismatching; 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 mismatching; 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 mismatching; 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 mismatching; 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 mismatching; 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 mismatching; Pin spacing 2.5 mm; 10-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.: 734-129**  
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



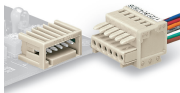
**Item No.: 733-191**  
Operating tool; made of insulating material; 1-way; loose; yellow



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

Installation Notes

Mismating protection

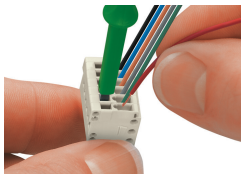


Male headers and female connectors are 100% protected against mismating. Only mating halves with the same pole number can be connected.

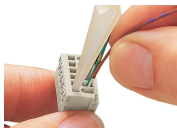
Conductor termination



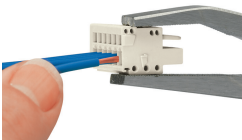
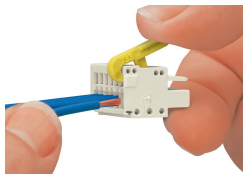
Inserting conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



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



Conductor termination via operating tool (733-191)



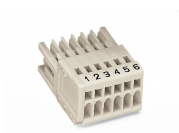
Conductor termination via operating tool (210-251)

Coding

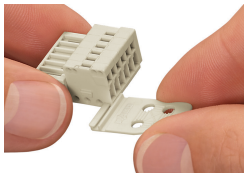


Coding a female connector – removing coding finger(s).

## 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.