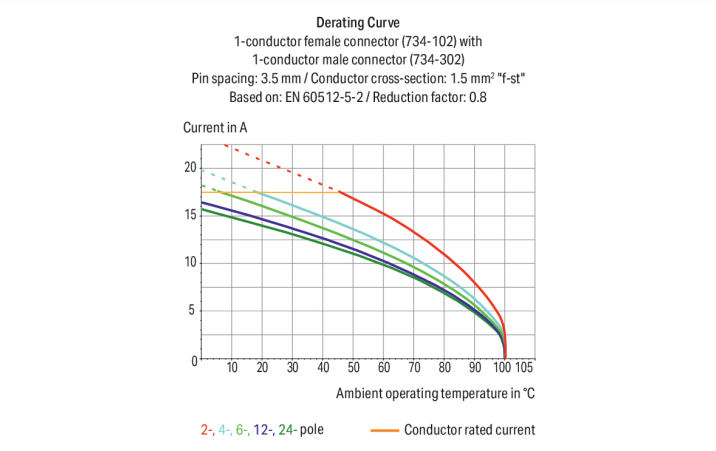
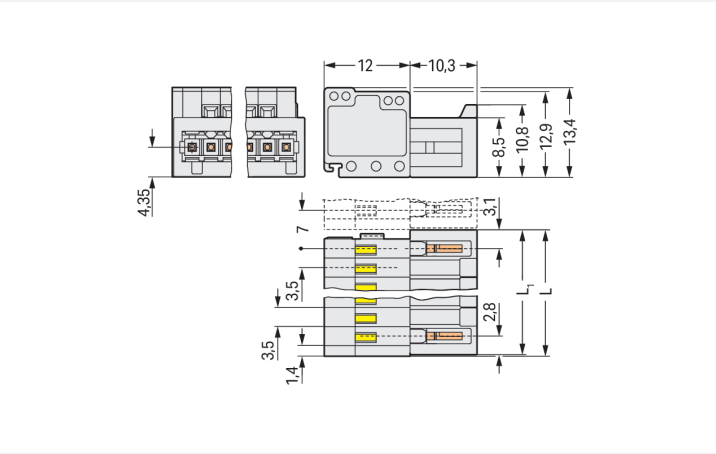
# Data Sheet | Item Number: 734-309

1-conductor male connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; light gray

https://www.wago.com/734-309




Color: light gray




Dimensions in mm
L = (pole no. – 1) x pin spacing + 5.9 mm + 0.45 mmL1 = L – 0.45 mm

Male connector, 734 Series, operating tool

This male connector (item number 734-309) provides hassle-free electrical installations. Ensure that the strip lengths are between 6 and 7 mm when connecting conductors to this male connector. This product features one conductor terminal and utilizes CAGE CLAMP®. Our CAGE CLAMP® connection offers a secure and maintenance-free way to connect all types of conductors. You do not need to prepare the conductor in any way, such as crimping ferrules. Dimensions: (33.9 x 13.4 x 22.3) mm (width x height x depth). Depending on the conductor type, this male connector is designed for conductor cross sections ranging from 0.08 mm² to 1.5 mm².

Tin is used for coating the contact surfaces.


Downloaded from Arrow.com.

## 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 https://configurator.wago.com/. |

## Electrical data

| Ratings per | IEC/EN 60664-1 | | |
|---|---|---|---|
| Overvoltage category | III | III | II |
| Pollution degree | 3 | 2 | 2 |
| Nominal voltage | 160 V | 160 V | 320 V |
| Rated impulse withstand voltage | 2.5 kV | 2.5 kV | 2.5 kV |
| Rated current | 10 A | 10 A | 10 A |

| Approvals per | UL 1059 | | |
|---|---|---|---|
| Use group | B | C | D |
| Rated voltage | 300 V | - | 300 V |
| Rated current | 10 A | - | 10 A |

| Approvals per | CSA | | |
|---|---|---|---|
| Use group | B | C | D |
| Rated voltage | 300 V | - | 300 V |
| Rated current | 10 A | - | 10 A |

## Connection Data

| | |
|---|---|
| Clamping units | 9 |
| Total number of potentials | 9 |
| 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 … 1.5 mm² / 28 … 14 AWG |
| Fine-stranded conductor | 0.08 … 1.5 mm² / 28 … 14 AWG |
| Fine-stranded conductor; with insulated ferrule | 0.25 … 1.5 mm² |
| Fine-stranded conductor; with uninsulated ferrule | 0.25 … 1.5 mm² |
| Note (conductor cross-section) | Terminating 1.5 mm² conductors is possible; however insulation diameter does not allow clamping units to be terminated in a row. |
| Strip length | 6 … 7 mm / 0.24 … 0.28 inches |
| Pole number | 9 |
| Conductor entry direction to mating direction | 0 ° |

## Physical data

| | |
|---|---|
| Pin spacing | 3.5 mm / 0.138 inches |
| Width | 33.9 mm / 1.335 inches |
| Height | 13.4 mm / 0.528 inches |
| Depth | 22.3 mm / 0.878 inches |


Downloaded from Arrow.com.

## 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 | 0.116 MJ |
| Weight | 7.4 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 |


Downloaded from Arrow.com.

## 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) | 50 pcs |
| Packaging type | Box |
| Country of origin | PL |
| GTIN | 4044918513647 |
| Customs tariff number | 85366930000 |

## 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<br>DEKRA Certification B.V. | EN 61984 | 2169534.02 |
| CCA<br>DEKRA Certification B.V. | EN 61984 | nl-54190 |
| CSA<br>DEKRA Certification B.V. | C22.2 | 1465035 |
| UL<br>Underwriters Laboratories Inc. | UL 1977 | E 45171 |

### Declarations of conformity and manufacturer's declarations

| Approval | Standard | Certificate Name |
|---|---|---|
| Railway<br>WAGO GmbH & Co. KG | - | Railway Ready |


Downloaded from Arrow.com.

## Approvals for marine applications

| Approval | Standard | Certificate Name |
|---|---|---|
| ABS<br>American Bureau of Shipping | - | 24-0095975-PDA |
| DNV<br>DNV GL SE | - | TAE000016Z |
| LR<br>Lloyds Register | IEC 61984 | 96/20035 (E5) |
| PRS<br>Polski Rejestr Statków | - | TE/1095/880590/23 |

## Downloads

### Environmental Product Compliance

**Compliance Search**

Environmental Product Compliance 734-309

## Documentation

**Additional Information**

| | | |
|---|---|---|
| Technical Section | 03.04.2019 | pdf<br>2027.26 KB |

## CAD/CAE-Data

**CAD data**

2D/3D Models 734-309

**CAE data**

EPLAN Data Portal 734-309

ZUKEN Portal 734-309

## 1 Compatible Products

### 1.1 System counterpart

#### 1.1.1 Distribution connector

Item No.: 734-369
2-conductor combi strip; 100% protected against mismating; 1.5 mm²; 9-pole; Pin spacing 3.5 mm; light gray

Item No.: 734-369/037-000
2-conductor combi strip; 100% protected against mismating; 1.5 mm²; Locking lever; 9-pole; Pin spacing 3.5 mm; light gray

Item No.: 734-369/008-000
2-conductor combi strip; 100% protected against mismating; Snap-in mounting feet; 1.5 mm²; 9-pole; Pin spacing 3.5 mm; light gray


Downloaded from Arrow.com.

### 1.1.2 Female connector/socket

Item No.: 734-109/037-000
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; Lateral locking levers; light gray



Item No.: 734-109/037-000/034-000
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; Lateral locking levers; Strain relief plate; 1,50 mm²; light gray



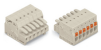
Item No.: 734-109
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; light gray



Item No.: 734-109/008-000
1-conductor female connector; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; Snap-in mounting feet; light gray

Item No.: 2734-109/031-000
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; clamping collar; light gray

Item No.: 2734-109/037-000
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; Lateral locking levers; light gray



Item No.: 2734-109
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; light gray

Item No.: 734-539
THT female header; angled; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; 0.9 x 0.9 mm solder pin; light gray

Item No.: 734-539/037-000
THT female header; angled; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; Locking lever; 0.9 x 0.9 mm solder pin; light gray

Item No.: 734-469
THT female header; straight; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; 0.9 x 0.9 mm solder pin; light gray

Item No.: 734-469/037-000
THT female header; straight; Pin spacing 3.5 mm; 9-pole; 100% protected against mismating; Locking lever; 0.9 x 0.9 mm solder pin; light gray

## 1.2 Optional Accessories

### 1.2.1 Cover

#### 1.2.1.1 Cover



Item No.: 734-420
Cover for male connectors; for 734 Series; IP20 protection; black

### 1.2.2 Ferrule

#### 1.2.2.1 Ferrule

Item No.: 216-321
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow



Item No.: 216-131
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.: 216-132
Ferrule; Sleeve for 0.34 mm² / 22 AWG; uninsulated; electro-tin plated



Item No.: 216-221
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white

Item No.: 216-121
Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored



Item No.: 216-222
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray

Item No.: 216-122
Ferrule; Sleeve for 0.75 mm² / 18 AWG; uninsulated; electro-tin plated; silver-colored



Item No.: 216-223
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red

Item No.: 216-123
Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; silver-colored

Item No.: 216-224
Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black

Item No.: 216-124
Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated


Downloaded from Arrow.com.

## 1.2.3 Marking

### 1.2.3.1 Marking strip

Item No.: 210-332/350-202
Marking strips; as a DIN A4 sheet; MARKED; 1-16 (240x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

Item No.: 210-332/350-204
Marking strips; as a DIN A4 sheet; MARKED; 17-32 (240x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

Item No.: 210-332/350-206
Marking strips; as a DIN A4 sheet; MARKED; 33-48 (240x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

## 1.2.4 Strain relief

### 1.2.4.1 Strain relief housing

Item No.: 734-609
Strain relief housing; for female and male connectors; 2 parts; Pin spacing 3.5 mm; 9-pole; light gray

### 1.2.4.2 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

## 1.2.5 Test and measurement

### 1.2.5.1 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

## 1.2.6 Tool

### 1.2.6.1 Operating tool

Item No.: 734-190
Combination operating tool; natural

Item No.: 210-719
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

Item No.: 210-647
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; multicoloured

Item No.: 210-251
Operating tool; for MCS MICRO and MINI with CAGE CLAMP® connection; yellow

Item No.: 210-250
Operating tool; for MCS MINI and MIDI with CAGE CLAMP® connection; red

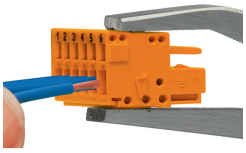


Item No.: 734-191
Operating tool; made of insulating material; 1-way; loose; black


Downloaded from Arrow.com.

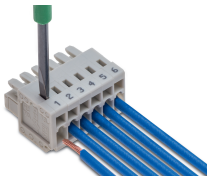
## Installation Notes

### Conductor termination

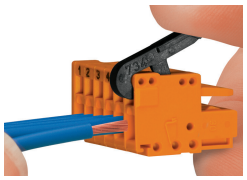


Inserting a conductor into CAGE CLAMP® unit via operating tool (210-251 or 210-250).

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

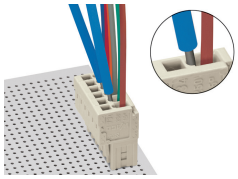


Inserting a conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



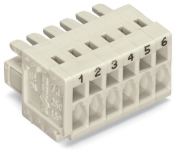
Inserting a conductor into CAGE CLAMP® unit via operating tool (734-191).

### Testing



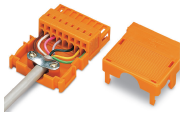
Testing via 1 mm Ø test pin (735-500) – CAGE CLAMP® connection – touch contact.

### Marking



Labeling via direct marking or self-adhesive strips.

### Installation



Strain relief housing for 734 Series Male and Female Connectors with CAGE CLAMP® connection



Downloaded from Arrow.com.