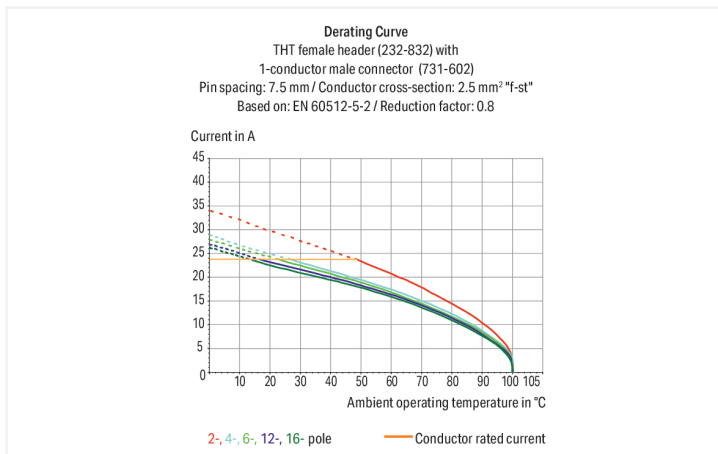


# Data Sheet | Item Number: 232-839

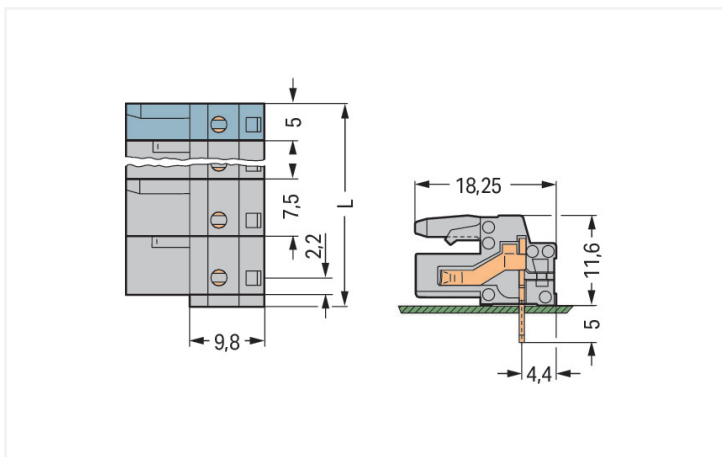
THT female header; angled; Pin spacing 7.5 mm; 9-pole; 0.6 x 1.0 mm solder pin; gray

<https://www.wago.com/232-839>



Color: ■ gray

Similar to illustration



Dimensions in mm

L = (pole no. - 1) x pin spacing + 5 mm + 1.5 mm Distance to first solder pin: 2.2 mm 2- to 3-pole female connectors - one latch only

Female connector, 232 Series, with 7.5 mm pin spacing

Convenient electrical installations are guaranteed with this female connector (item number 232-839). The dimensions are (66.5 x 16.6 x 18.25) mm (width x height x depth).

The contact surface is coated with tin. The pcb connector is designed for THT soldering.

## 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  
3.8 mm pin projection for male headers with straight solder pins  
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 |       |        |
|---------------------------------|----------------|-------|--------|
| Overtoltage category            | III            | III   | II     |
| Pollution degree                | 3              | 2     | 2      |
| Nominal voltage                 | 500 V          | 630 V | 1000 V |
| Rated impulse withstand voltage | 6 kV           | 6 kV  | 6 kV   |
| Rated current                   | 12 A           | 12 A  | 12 A   |

| Approvals per | UL 1059 |   |       |
|---------------|---------|---|-------|
| Use group     | B       | C | D     |
| Rated voltage | 300 V   | - | 300 V |
| Rated current | 15 A    | - | 10 A  |

| Approvals per | CSA   |   |       |
|---------------|-------|---|-------|
| Use group     | B     | C | D     |
| Rated voltage | 300 V | - | 300 V |
| Rated current | 15 A  | - | 10 A  |

## Connection Data

|                            |   |
|----------------------------|---|
| Clamping units             | 9 |
| Total number of potentials | 9 |
| Number of connection types | 1 |
| Number of levels           | 1 |

## Connection 1

|             |   |
|-------------|---|
| Pole number | 9 |
|-------------|---|

## Physical data

|                                      |                         |
|--------------------------------------|-------------------------|
| Pin spacing                          | 7.5 mm / 0.295 inches   |
| Width                                | 66.5 mm / 2.618 inches  |
| Height                               | 16.6 mm / 0.654 inches  |
| Height from the surface              | 11.6 mm / 0.457 inches  |
| Depth                                | 18.25 mm / 0.719 inches |
| Solder pin length                    | 5 mm                    |
| Solder pin dimensions                | 0.6 x 1 mm              |
| Drilled hole diameter with tolerance | 1.3 (+0.1) mm           |

## Mechanical data

|                          |     |
|--------------------------|-----|
| Variable coding          | Yes |
| Anti-rotation protection | Yes |

### Plug-in connection

|                                    |                         |
|------------------------------------|-------------------------|
| Contact type (pluggable connector) | Female connector/socket |
| Connector (connection type)        | for PCB                 |
| Mismating protection               | No                      |
| Mating direction to the PCB        | 0°                      |

### PCB contact

|                                     |  |
|-------------------------------------|--|
| PCB contact                         | THT  |
| Solder pin arrangement              | over the entire female connector (in-line) |
| Number of solder pins per potential | 1  |

### Material data

|                                    |  |
|------------------------------------|--|
| Note (material data)               | <a href="#">Information on material specifications can be found here</a> |
| Color                              | gray   |
| Material group                     | I  |
| Insulation material (main housing) | Polyamide (PA66)   |
| Flammability class per UL94        | V0   |
| Contact material                   | Copper alloy   |
| Contact Plating                    | Tin  |
| Fire load                          | 0.169 MJ   |
| Weight                             | 9.9 g  |

### Environmental requirements

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

### Environmental Testing

|   |   |
|---|---|
| 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>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   | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| 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   | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| 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   |

**Environmental Testing**

|   |   |
|---|---|
| Acceleration  | 5g (highest test level used for all axes) |
| Shock duration  | 30 ms                                     |
| 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)              | 25 pcs                 |
| Packaging type        | Box                    |
| Country of origin     | DE                     |
| GTIN                  | 4044918580144          |
| Customs tariff number | 85366990990            |

**Product Classification**

|             |                      |
|-------------|----------------------|
| UNSPSC      | 39121409             |
| eCl@ss 10.0 | 27-44-04-02          |
| eCl@ss 9.0  | 27-44-04-02          |
| ETIM 9.0    | EC002637             |
| ETIM 10.0   | EC002637             |
| ECCN        | NO US CLASSIFICATION |

**Environmental Product Compliance**

|                        |                         |
|------------------------|-------------------------|
| RoHS Compliance Status | Compliant, No Exemption |
|------------------------|-------------------------|

**Approvals / Certificates**

**General approvals**



| Approval                              | Standard  | Certificate Name |
|---------------------------------------|-----------|------------------|
| CB<br>DEKRA Certification B.V.        | IEC 61984 | NL-113351        |
| KEMA/KEUR<br>DEKRA Certification B.V. | EN 61984  | 71-130478 REV.1  |
| UR<br>Underwriters Laboratories Inc.  | UL 1977   | E 45171          |
| UR<br>Underwriters Laboratories Inc.  | UL 1059   | E45172           |

**Declarations of conformity and manufacturer's declarations**



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

Approvals for marine applications



| Approval                                | Standard  | Certificate Name |
|---|-----------|------------------|
| ABS<br>American Bureau of Ship-<br>ping | -         | 24-0095975-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 232-839 <a href="#">↓</a> |

Documentation

| Additional Information |            |                   |                   |
|------------------------|------------|-------------------|-------------------|
| Technical Section      | 03.04.2019 | pdf<br>2027.26 KB | <a href="#">↓</a> |

CAD/CAE-Data

| CAD data                               |
|--|
| 2D/3D Models 232-839 <a href="#">↓</a> |

| CAE data                                    |
|---|
| EPLAN Data Portal 232-839 <a href="#">↓</a> |
| ZUKEN Portal 232-839 <a href="#">↓</a>      |

PCB Design

|  |
|--|
| Symbol and Footprint via SamacSys 232-839 <a href="#">↓</a>        |
| Symbol and Footprint via Ultra Librarian 232-839 <a href="#">↓</a> |

## 1 Compatible Products

### 1.1 System counterpart

#### 1.1.1 Male connector/plug



**Item No.: 731-609**

1-conductor male connector; CAGE CLAMP®; 2.5 mm<sup>2</sup>; Pin spacing 7.5 mm; 9-pole; 2,50 mm<sup>2</sup>; gray

**Item No.: 731-609/019-000**

1-conductor male connector; CAGE CLAMP®; 2.5 mm<sup>2</sup>; Pin spacing 7.5 mm; 9-pole; clamping collar; 2,50 mm<sup>2</sup>; gray

## 1.2 Optional Accessories

### 1.2.1 Test and measurement

#### 1.2.1.1 Testing accessories



**Item No.: 210-136**

Test plug; 2 mm Ø; with 500 mm cable; red

**Item No.: 231-662**

Test plugs for female connectors; for 7.5 mm and 7.62 mm pin spacing; 2,50 mm<sup>2</sup>; light gray