

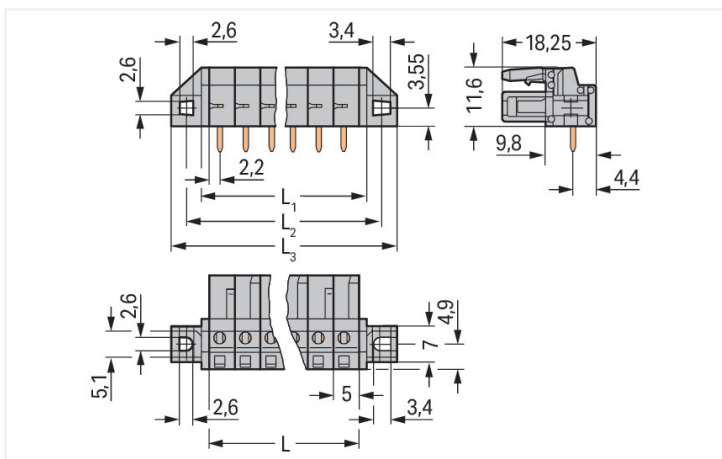
Data Sheet | Item Number: 232-240/031-000

THT female header; angled; Pin spacing 5 mm; 10-pole; clamping collar; 0.6 x 1.0 mm solder pin; gray

<https://www.wago.com/232-240/031-000>



Color: ■ gray



Dimensions in mm

L = pole no. x pin spacing
L1 = L + 3 mm
L2 = L + 8.8 mm
L3 = L + 14.8 mm
2- to 3-pole female connectors – one latch only

Female connector, 232 Series, gray

Our female connector (item number 232-240/031-000) ensures effortless electrical installations. The item's dimensions are (64.8 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 | | |
|---------------------------------|----------------|-------|-------|
| | III | III | II |
| Overtoltage category | III | III | II |
| Pollution degree | 3 | 2 | 2 |
| Nominal voltage | 320 V | 320 V | 630 V |
| Rated impulse withstand voltage | 4 kV | 4 kV | 4 kV |
| Rated current | 12 A | 12 A | 12 A |

| Approvals per | UL 1059 | | |
|---------------|---------|---|-------|
| | B | C | D |
| Use group | B | C | D |
| Rated voltage | 300 V | - | 300 V |
| Rated current | 16 A | - | 10 A |

| Ratings | |
|---------------|---------|
| Approvals per | UL 1977 |
| Rated voltage | 600 V |
| Rated current | 15 A |

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

Connection Data

| | |
|----------------------------|----|
| Clamping units | 10 |
| Total number of potentials | 10 |
| Number of connection types | 1 |
| Number of levels | 1 |

| Connection 1 | |
|--------------|----|
| Pole number | 10 |

Physical data

| | |
|--------------------------------------|--------------------------|
| Pin spacing | 5 mm / 0.197 inches |
| Width | 64.8 mm / 2.551 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 |
| Mounting type | Mounting flange |
| Mounting type | Feed-through mounting Panel mounting |
| Anti-rotation protection | Yes |
| Suitable for through-panel applications | 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) | Information on material specifications can be found here |
| 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 | 0.173 MJ |
| Weight | 9.8 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 | $f_1 = 5 \text{ Hz}$ 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 | 4044918624961 |
| 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 |
|--------------------------------------|----------|------------------|
| CSA CSA Group | C22.2 | 1466354 |
| UR Underwriters Laboratories Inc. | UL 1977 | E45171 |

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 Shipping | - | 24-0095975-PDA |
| BV Bureau Veritas S.A. | IEC 60998 | 11915/E0 BV |

Approvals for marine applications

| | | |
|------------------|---|------------|
| DNV DNV GL SE | - | TAE000016Z |
|------------------|---|------------|

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance
232-240/031-000



Documentation

Additional Information

Technical Section

03.04.2019

pdf

2027.26 KB



CAD/CAE-Data

CAD data

2D/3D Models
232-240/031-000



CAE data

EPLAN Data Portal
232-240/031-000



ZUKEN Portal
232-240/031-000



PCB Design

Symbol and Footprint
via SamacSys
232-240/031-000



Symbol and Footprint
via Ultra Librarian
232-240/031-000



1 Compatible Products

1.1 System counterpart

1.1.1 Male connector/plug



Item No.: [231-610](#)

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 10-pole; gray

1.2 Optional Accessories

1.2.1 Installation

1.2.1.1 Mounting accessories



Item No.: 231-295
Screw with nut



Item No.: 231-195
Screw with nut; M2x12; for fixing element



Item No.: 231-194
Self-tapping screw; B 2.2x13, fixing hole 1.8 mm Ø

1.2.2 Test and measurement

1.2.2.1 Testing accessories



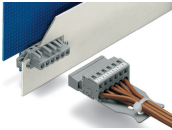
Item No.: 210-136
Test plug; 2 mm Ø; with 500 mm cable; red



Item No.: 231-661
Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light gray

Installation Notes

Application



The innovative flange design provides standard panel mounting options or various through-panel mounting configurations. Depending on the type of application and flange, female headers can be used either for through-panel or flush mounted applications.