

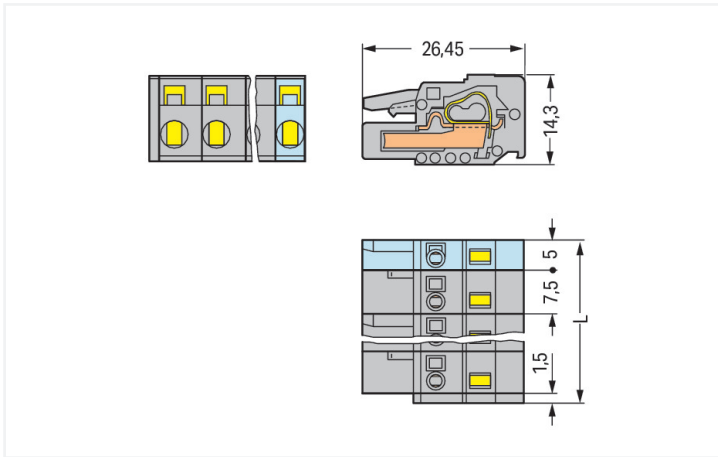
Data Sheet | Item Number: 231-203/026-000

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 3-pole; gray

<https://www.wago.com/231-203/026-000>



Color: ■ gray



Dimensions in mm

$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$ 2- to 3-pole female connectors – one latch only

Female connector, 231 Series, CAGE CLAMP®

This female connector (item number 231-203/026-000) simplifies electrical installations. Strip lengths must be between 8 and 9 mm when connecting conductors to this female connector. This product incorporates one conductor terminal and utilizes CAGE CLAMP®. Our trusted universal connection known as CAGE CLAMP® is industry-leading when it comes to connection technology and electrical interconnections. The item's dimensions are (21.5 x 14.3 x 26.45) mm (width x height x depth). This female connector is suitable for conductor cross sections ranging from 0.08 mm² to 2.5 mm². The contact surface is coated with tin.

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:

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 | 500 V | 630 V | 1000 V |
| Rated impulse withstand voltage | 6 kV | 6 kV | 6 kV |
| Rated current | 16 A | 16 A | 16 A |

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

| Approvals per | UL 1977 |
|---------------|---------|
| Rated voltage | 600 V |
| Rated current | 15 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 | 3 |
| Total number of potentials | 3 |
| 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 ... 2.5 mm ² / 28 ... 12 AWG |
| Fine-stranded conductor | 0.08 ... 2.5 mm ² / 28 ... 12 AWG |
| Fine-stranded conductor; with insulated ferrule | 0.25 ... 1.5 mm ² |
| Fine-stranded conductor; with uninsulated ferrule | 0.25 ... 2.5 mm ² |
| Strip length | 8 ... 9 mm / 0.31 ... 0.35 inches |
| Pole number | 3 |
| Conductor entry direction to mating direction | 0° |

Physical data

| | |
|-------------|-------------------------|
| Pin spacing | 7.5 mm / 0.295 inches |
| Width | 21.5 mm / 0.846 inches |
| Height | 14.3 mm / 0.563 inches |
| Depth | 26.45 mm / 1.041 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 | No |

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 |
| Clamping spring material | Chrome-nickel spring steel (CrNi) |
| Contact material | Copper alloy |
| Contact Plating | Tin |
| Fire load | 0.1 MJ |
| Weight | 6.1 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 |
| Acceleration | 5g (highest test level used for all axes) |

| Environmental Testing | |
|---|-------------------|
| 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) | 100 pcs |
| Packaging type | Box |
| Country of origin | DE |
| GTIN | 4044918343954 |
| 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 10.0 | EC002638 |
| ECCN | NO US CLASSIFICATION |

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

Approvals / Certificates

General approvals



| Approval | Standard | Certificate Name |
|---------------------------------------|-----------|------------------|
| CB DEKRA Certification B.V. | IEC 61984 | NL-113351 |
| CSA DEKRA Certification B.V. | C22.2 | 1466354 |
| KEMA/KEUR DEKRA Certification B.V. | EN 61984 | 71-130478 REV.1 |
| UR Underwriters Laboratories Inc. | UL 1977 | E 45171 |
| UR 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 | - | 24-0095975-PDA |
| BV Bureau Veritas S.A. | IEC 60998 | 11915/E0 BV |
| DNV DNV GL SE | - | TAE000016Z |
| PRS Polski Rejestr Statków | - | TE/1095/880590/23 |

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product
Compliance
231-203/026-000



Documentation

Additional Information

Technical Section

03.04.2019

pdf

2027.26 KB



CAD/CAE-Data

CAD data

2D/3D Models
231-203/026-000



CAE data

EPLAN Data Portal
231-203/026-000



ZUKEN Portal
231-203/026-000



1 Compatible Products

1.1 System counterpart

1.1.1 Male connector/plug



Item No.: 731-603

1-conductor male connector; CAGE
CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 3-
pole; 2,50 mm²; gray



Item No.: 731-603/019-000

1-conductor male connector; CAGE
CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 3-
pole; clamping collar; 2,50 mm²; gray



Item No.: 731-603/018-000

1-conductor male connector; CAGE
CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 3-
pole; DIN-35 rail/panel mounting; Snap-in
mounting feet; 2,50 mm²; gray



Item No.: 731-603/114-000

1-conductor male connector; CAGE
CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 3-
pole; Snap-in flange; 2,50 mm²; gray



Item No.: 232-563/007-000

Double pin header; DIN-35 rail mounting;
3-pole; Pin spacing 7.5 mm; gray



Item No.:

231-833/001-000/105-604/997-407
THR male header; 1.0 x 1.0 mm solder pin;
angled; in tape-and-reel packaging; Pin
spacing 7.5 mm; 3-pole; black



Item No.: 231-833/001-000/105-604

THR male header; 1.0 x 1.0 mm solder pin;
angled; Pin spacing 7.5 mm; 3-pole; black



Item No.:

231-233/001-000/105-604/997-407
THR male header; 1.0 x 1.0 mm solder pin;
straight; in tape-and-reel packaging; Pin
spacing 7.5 mm; 3-pole; black

1.1.1 Male connector/plug



Item No.: [231-233/001-000/105-604](#)
THR male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 7.5 mm; 3-pole; black



Item No.: [231-863/001-000/105-604/997-407](#)
THR male header; 1.2 x 1.2 mm solder pin; angled; in tape-and-reel packaging; Pin spacing 7.5 mm; 3-pole; black



Item No.: [231-863/001-000/105-604](#)
THR male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 7.5 mm; 3-pole; black



Item No.: [231-263/001-000/105-604/997-407](#)
THR male header; 1.2 x 1.2 mm solder pin; straight; in tape-and-reel packaging; Pin spacing 7.5 mm; 3-pole; black



Item No.: [231-263/001-000/105-604](#)
THR male header; 1.2 x 1.2 mm solder pin; straight; Pin spacing 7.5 mm; 3-pole; black



Item No.: [231-833/001-000](#)
THT male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 7.5 mm; 3-pole; gray



Item No.: [231-233/001-000](#)
THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 7.5 mm; 3-pole; gray



Item No.: [231-863/001-000](#)
THT male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 7.5 mm; 3-pole; gray



Item No.: [231-263/001-000](#)
THT male header; 1.2 x 1.2 mm solder pin; straight; Pin spacing 7.5 mm; 3-pole; gray

1.2 Optional Accessories

1.2.1 Cover

1.2.1.1 Cover



Item No.: [231-668](#)
Lockout caps; for covering unused clamping units; gray

1.2.2 Ferrule

1.2.2.1 Ferrule



Item No.: [216-301](#)
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow



Item No.: [216-302](#)
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise



Item No.: [216-201](#)
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white



Item No.: [216-241](#)
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white



Item No.: [216-141](#)
Ferrule; Sleeve for 0.5 mm² / 20 AWG; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



Item No.: [216-101](#)
Ferrule; Sleeve for 0.5 mm² / AWG 22; un-insulated; electro-tin plated; silver-colored



Item No.: [216-242](#)
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray



Item No.: [216-262](#)
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray



Item No.: [216-202](#)
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray



Item No.: [216-142](#)
Ferrule; Sleeve for 0.75 mm² / 18 AWG; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



Item No.: [216-102](#)
Ferrule; Sleeve for 0.75 mm² / AWG 20; un-insulated; electro-tin plated; silver-colored



Item No.: [216-243](#)
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red



Item No.: [216-263](#)
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red



Item No.: [216-203](#)
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red



Item No.: [216-103](#)
Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated



Item No.: [216-143](#)
Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92

1.2.2.1 Ferrule



Item No.: 216-204
 Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black

Item No.: 216-244
 Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black

Item No.: 216-264
 Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black

Item No.: 216-284
 Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black



Item No.: 216-144
 Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; silver-colored

Item No.: 216-104
 Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; silver-colored

Item No.: 216-106
 Ferrule; Sleeve for 2.5 mm² / AWG 14; un-insulated; electro-tin plated; silver-colored

1.2.3 Insulation stop

1.2.3.1 Insulation stop



Item No.: 231-673
 Insulation stop; 0.08-0.2 mm² / 0.2 mm² "s"; white

Item No.: 231-674
 Insulation stop; 0.25 - 0.5 mm²; light gray

Item No.: 231-675
 Insulation stop; 0.75 - 1 mm²; dark gray

1.2.4 Marking

1.2.4.1 Marking strip



Item No.: 210-331/750-202
 Marking strips; as a DIN A4 sheet; MARKED; 1-16 (100x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white

Item No.: 210-332/750-020
 Marking strips; as a DIN A4 sheet; MARKED; 1-20 (80x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

1.2.5 Strain relief

1.2.5.1 Strain relief housing



Item No.: 232-663
 Strain relief housing; for female and male connectors; 2 parts; Pin spacing 7.5 mm; 3-pole; gray

1.2.6 Test and measurement

1.2.6.1 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 mm²; light gray

1.2.7 Tool

1.2.7.1 Operating tool



Item No.: 210-720

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured



Item No.: 210-657

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured



Item No.: 231-291

Operating tool; made of insulating material; 1-way; loose; red

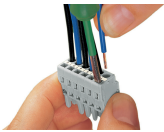


Item No.: 231-131

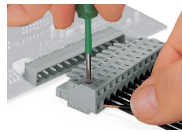
Operating tool; made of insulating material; 1-way; loose; white

Installation Notes

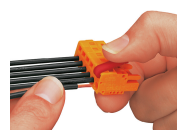
Conductor termination



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



Inserting a conductor into CAGE CLAMP® unit via operating tool (231-291).



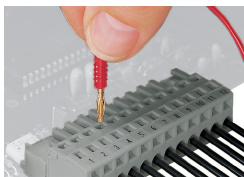
Inserting a conductor via operating tool.

Coding



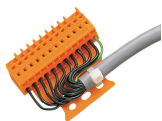
Coding a female connector by removing coding finger(s).

Testing



Testing – female connector with CAGE CLAMP®
Integrated test ports for testing perpendicular to conductor entry via 2 or 2.3 mm Ø test plug

Installation



Male connector with strain relief plate



Strain relief housing shown with a male connector equipped with CAGE CLAMP®

Marking



Labeling via direct marking or self-adhesive strips.