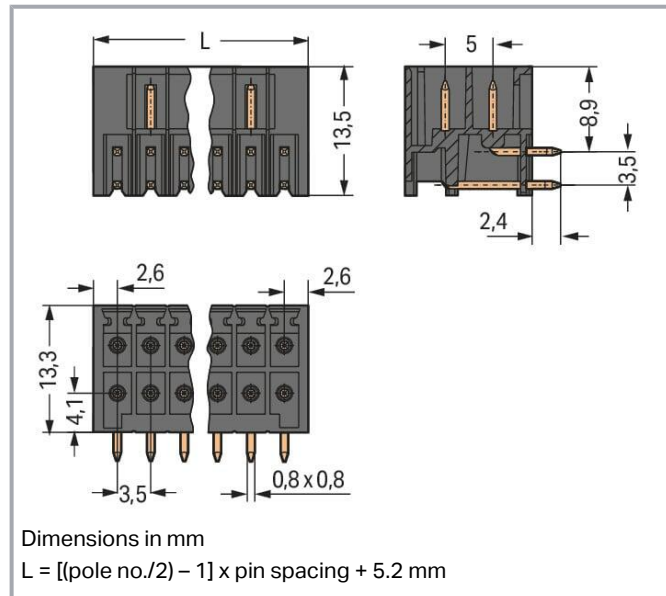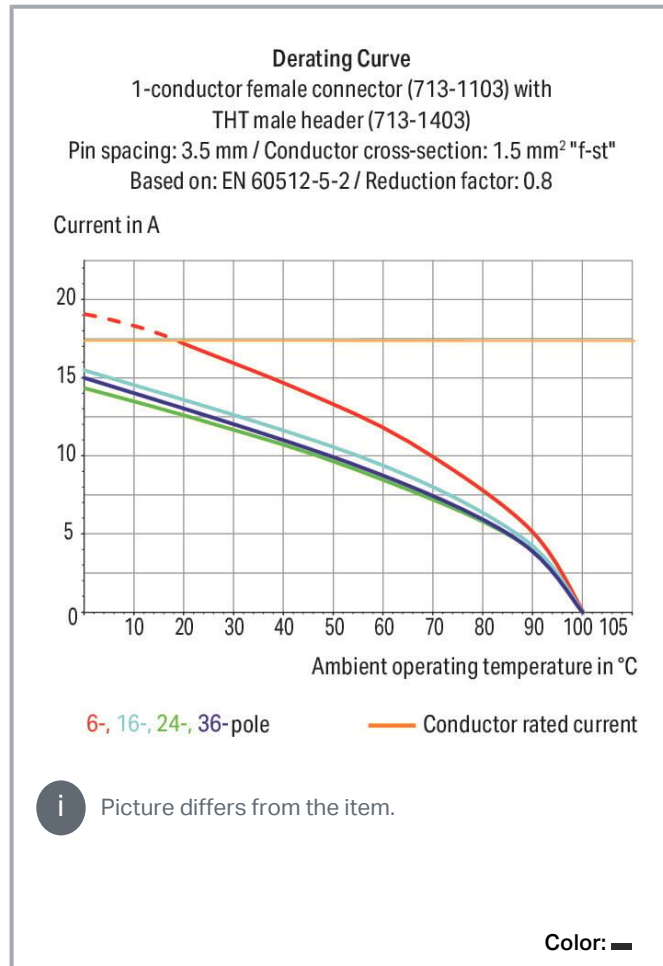# Data sheet | Item number: 713-1425/105-000/997-405

## THR male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismating; in tape-and-reel packaging; Pin spacing 3.5 mm; 10-pole; black
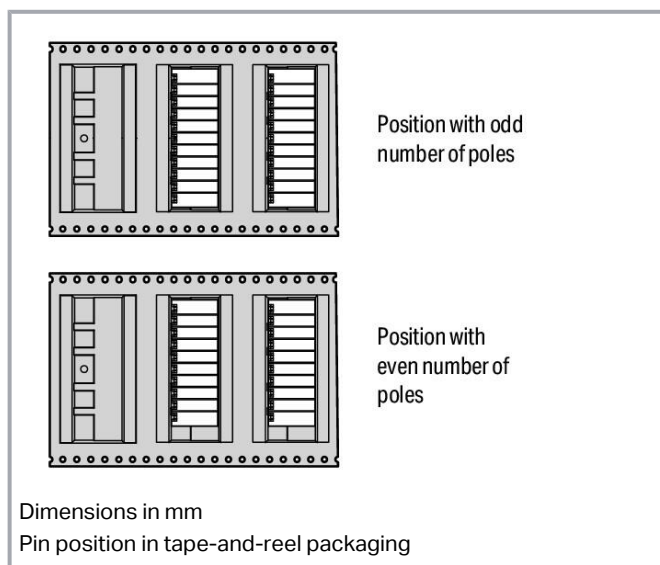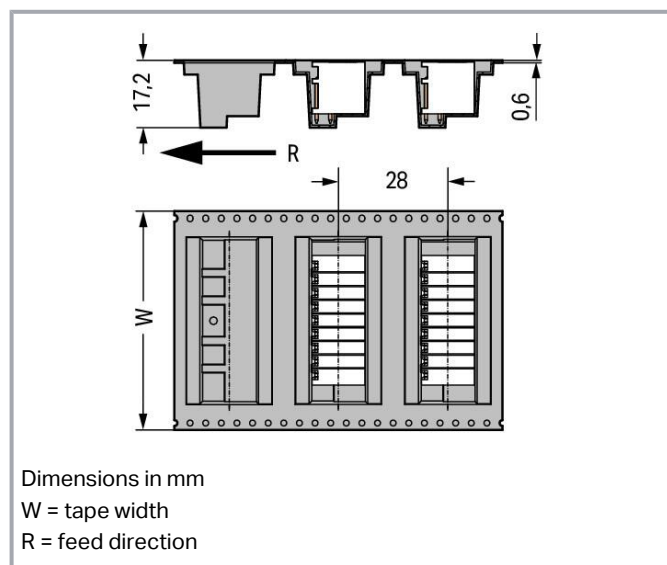
www.wago.com/713-1425/105-000/997-405



**Derating Curve**
1-conductor female connector (713-1103) with
THT male header (713-1403)
Pin spacing: 3.5 mm / Conductor cross-section: 1.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8

Current in A

Ambient operating temperature in °C

6-, 16-, 24-, 36-pole ——— Conductor rated current

ℹ Picture differs from the item.

Color: ▬



Dimensions in mm
L = [(pole no./2) – 1] x pin spacing + 5.2 mm

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Subject to changes. Please also observe the further product documentation!

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.

**WAGO**

Dimensions in mm

W = tape width

R = feed direction

Position with odd
number of poles

Position with
even number of
poles

Dimensions in mm

Pin position in tape-and-reel packaging

## Item description

- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- Separated pin slots prevent damage and make the headers touch-proof when unplugged
- 100% protected against mismating
- Coding option available

## Data
## 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>Other solder pin lengths<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

Subject to changes. Please also observe the further product documentation!

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## Ratings per IEC/EN

| | |
|---|---|
| Ratings per | IEC/EN 60664-1 |
| Nominal voltage (III/3) | 80 V |
| Rated impulse voltage (III/3) | 2.5 kV |
| Rated voltage (III/2) | 160 V |
| Rated impulse voltage (III/2) | 2.5 kV |
| Nominal voltage (II/2) | 250 V |
| Rated surge voltage (II/2) | 2.5 kV |
| Rated current | 10 A |
| Legend (ratings) | (III / 2) ≙ Overvoltage category III / Pollution degree 2 |

## Ratings per UL

| | |
|---|---|
| Approvals per | UL 1059 |
| Rated voltage UL (Use Group B) | 150 V |
| Rated current UL (Use Group B) | 10 A |
| Rated voltage UL (Use Group C) | 50 V |
| Rated current UL (Use Group C) | 10 A |

## Ratings per CSA

| | |
|---|---|
| Approvals per | CSA |
| Rated voltage CSA (Use Group B) | 150 V |
| Rated current CSA (Use Group B) | 12 A |

## Connection data

| | |
|---|---|
| Total number of potentials | 10 |
| Number of connection types | 1 |
| Number of levels | 2 |

## Connection 1

| | |
|---|---|
| Pole number | 10 |

## Physical data

| | |
|---|---|
| Pin spacing | 3.5 mm / 0.138 inches |
| Width | 19 mm / 0.748 inches |
| Height | 15.7 mm / 0.618 inches |
| Height from the surface | 13.3 mm / 0.524 inches |

Subject to changes. Please also observe the further product documentation!

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| | |
|---|---|
| Depth | 13.5 mm / 0.531 inches |
| Solder pin length | 2.4 mm |
| Solder pin dimensions | 0.8 x 0.8 mm |
| Plated through-hole diameter (THR) | 1.3 $^{(+0.1)}$ mm |
| Reel diameter of tape-and-reel packaging | 330 mm |
| Tape width | 32 mm |

## Mechanical Data

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

## Plug-in connection

| | |
|---|---|
| Contact type (pluggable connector) | Male connector/plug |
| Connector (connection type) | for PCB |
| Mismating protection | Yes |
| Plugging without loss of pin spacing | No |
| Mating direction to the PCB | 0 ° |
| Locking of plug-in connection | none |

## PCB contact

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

## Material data

| | |
|---|---|
| Note (material data) | |
| | Information on material specifications can be found here |

| | |
|---|---|
| Color | black |
| Material group | I |
| Insulation material | Polyphthalamide (PPA GF) |
| Flammability class per UL94 | V0 |
| Contact material | Electrolytic copper ($E_{Cu}$) |
| Contact plating | Tin |
| Weight | 3.1 g |
| MSL per J-STD 020D | 1 |

Subject to changes. Please also observe the further product documentation!

## Environmental requirements

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

## Commercial data

| | |
|---|---|
| eCl@ss 10.0 | 27-44-04-02 |
| eCl@ss 9.0 | 27-44-04-02 |
| ETIM 8.0 | EC002637 |
| ETIM 7.0 | EC002637 |
| PU (SPU) | 120 pcs |
| Packaging type | bag |
| Country of origin | DE |
| GTIN | 4055143778305 |
| Customs tariff number | 85366930000 |

## Environmental Product Compliance

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

## Approvals / Certificates

### General approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|---|---|---|---|
| | **CSA**<br>CSA Group | C22.2 | 2315087 |
| | **UR**<br>Underwriters Laboratories Inc. | UL 1059 | E45172 |

## Counterpart

**Item no.713-1105**
1-conductor female connector, 2-row; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 10-pole; 100% protected against mismating; 1,50 mm²; black

www.wago.com /713-1105

Subject to changes. Please also observe the further product documentation!

## Downloads
### Documentation

**Additional Information**

|  |  |  |  |
|---|---|---|---|
|  | 2019 Apr 3 | pdf<br>2.1 MB | Download |
| THR Soldering Process |  | pdf<br>548.2 kB | Download |

## CAD/CAE-Data

**CAD data**

|  |  |  |
|---|---|---|
| 2D/3D Models 713-1425/105-000/997-405 | URL | Download |

**Asset Administration Shell**

|  |  |  |
|---|---|---|
| Asset Administration Shell 713-1425/105-000/997-405 | URL | Download |

**PCB Design**

|  |  |  |
|---|---|---|
| Symbol and Footprint via Ultra Librarian 713-1425/105-000/997-405 | URL | Download |

CAx data for your PCB design, consisting of "schematic symbols and PCB footprints",
allow easy integration of the WAGO component into your development environment.

Supported formats:

- Accel EDA 14 & 15
- Altair
- Altium 6 to current version
- Autodesk Fusion 360
- Cadence Allegro
- DesignSpark
- Eagle Libraries
- KiCad
- Mentor Graphics
- BoardStation
- Mentor Graphics Design Architect
- Mentor Graphics Design
- Expedition 99 and 2000
- OrCAD 9.X PCB and Capture
- PADS PowerPCB 3, 3.5, 4.X, and 5.X

Subject to changes. Please also observe the further product documentation!

- PADS PowerPCB and PowerLogic 3.0
- PCAD 2000, 2001, 2002, 2004, and 2006
- Pulsonix 8.5 or newer
- STL
- 3D STEP
- TARGET 3001!
- View Logic ViewDraw
- Quadcept
- Zuken CadStar 3 and 4
- Zuken CR-5000 and CR-8000
- Zuken eCADSTAR 2020 and 2021Zuken CR-5000 and CR-8000

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PCB Component Libraries (EDA), PCB CAD Library Ultra Librarian

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Symbol and Footprint via SamacSys 713-1425/105-000/997-405          URL          Download

CAx data for your PCB design, consisting of "schematic symbols and PCB footprints",
allow easy integration of the WAGO component into your development environment.

Supported formats:

- 3D (stp)
- Altium
- CADSTAR
- Capture
- CircuitStudio
- CR-5000
- CR-8000
- DEHDL
- DesignSpark PCB
- DesignSpark PCB PRO
- DipTrace
- EAGLE
- Easy-PC
- EasyEDA
- eCADSTAR
- KiCad
- OrCAD_Allegro16
- PADS
- Proteus

Subject to changes. Please also observe the further product documentation!

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- Pulsonix
- Quadcept
- SOLIDWORKS PCB
- TARGET 3001!
- xDX Designer
- Xpedition

PCB Component Libraries (EDA), PCB CAD Library SamacSys Electronic Component Search Engine

## Environmental Product Compliance

**Compliance Search**

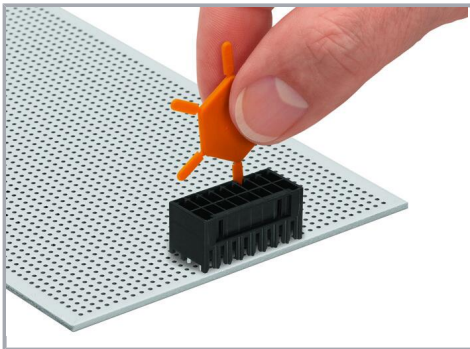| | | |
|---|---|---|
| Environmental Product Compliance 713-1425/105-000/997-405 THR male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismating; in tape-and-reel packaging; Pin spacing 3.5 mm; 10-pole; black | URL | Download |

## Installation Notes

**Coding**



Coding a male header by inserting a coding pin.

## Product family

**MCS MINI HD**
Show all products from the family

Subject to changes. Please also observe the further product documentation!