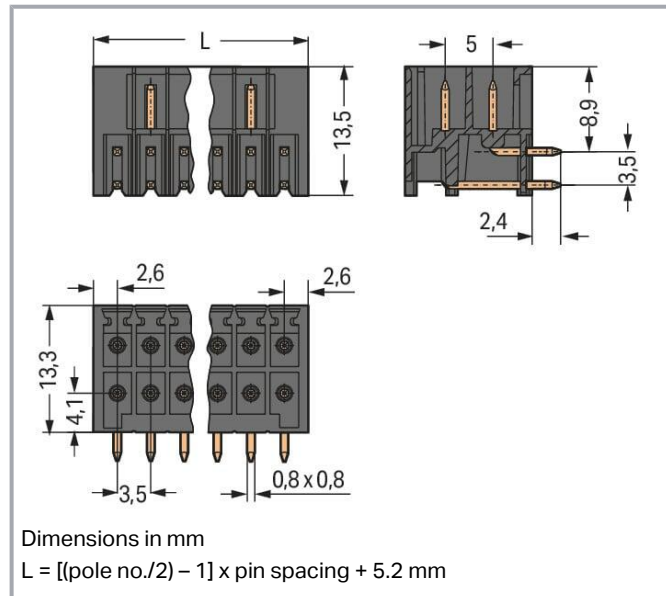


## Data sheet | Item number: 713-1430/105-000/997-407

THR male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 3.5 mm; 20-pole; black

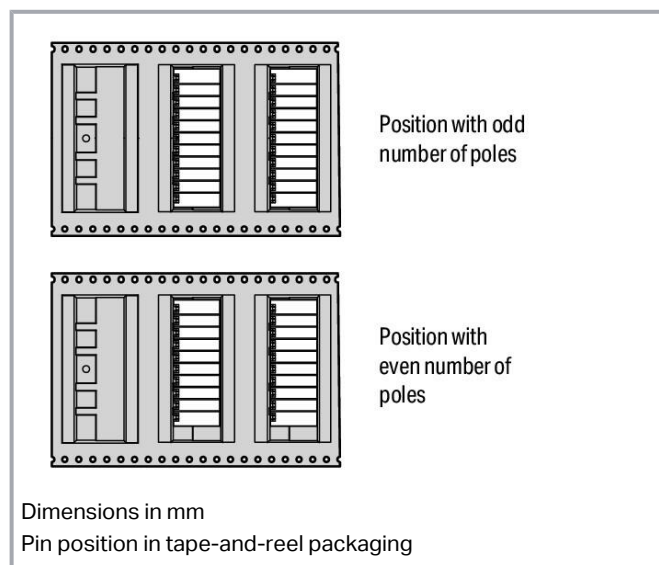
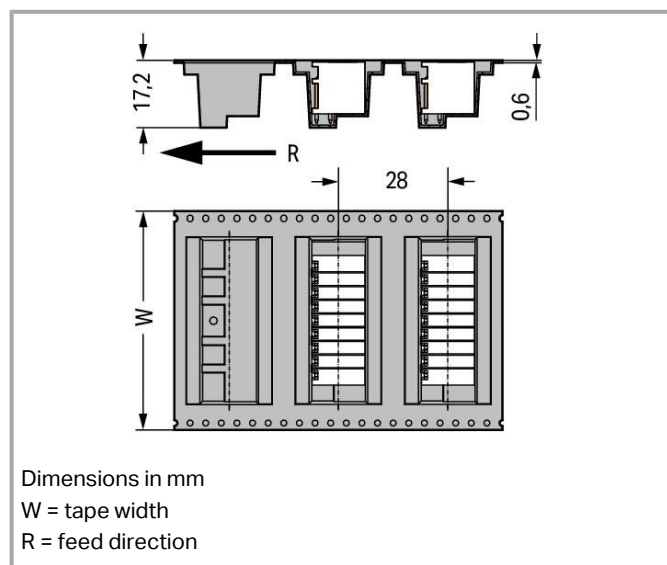
[www.wago.com/713-1430/105-000/997-407](http://www.wago.com/713-1430/105-000/997-407)



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

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## 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 mismatching
- 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  
Other solder pin lengths  
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

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



## 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 | 20 |
| Number of connection types | 1  |
| Number of levels           | 2  |

## Connection 1

|             |    |
|-------------|----|
| Pole number | 20 |
|-------------|----|

## Physical data

|                         |                        |
|-------------------------|------------------------|
| Pin spacing             | 3.5 mm / 0.138 inches  |
| Width                   | 36.5 mm / 1.437 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!



|                                          |                          |
|------------------------------------------|--------------------------|
| 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 <sup>(+0.1)</sup> mm |
| Reel diameter of tape-and-reel packaging | 330 mm                   |
| Tape width                               | 56 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 <sub>Cu</sub> )                   |
| Contact plating             | Tin                                                      |
| Fire load                   | 12.96 MJ                                                 |
| Weight                      | 6 g                                                      |

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

MSL per J-STD 020D

1

## 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                  | 4050821309536 |
| 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. 713-1110

1-conductor female connector, 2-row; CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 20-pole; 100% protected against mismatching; 1,50 mm²; black

[www.wago.com/713-1110](http://www.wago.com/713-1110)

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



## Optional accessories

### Coding

#### Coding



Item no.: 714-101  
Coding key; orange

[www.wago.com/714-101](http://www.wago.com/714-101)

## 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 713-1430/105-000/997-407 | URL | Download |
|---------------------------------------|-----|----------|

### Asset Administration Shell

|                                                     |     |          |
|-----------------------------------------------------|-----|----------|
| Asset Administration Shell 713-1430/105-000/997-407 | URL | Download |
|-----------------------------------------------------|-----|----------|

### PCB Design

|                                                            |     |          |
|------------------------------------------------------------|-----|----------|
| Symbol and Footprint via SamacSys 713-1430/105-000/997-407 | 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

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- DesignSpark PCB
- DesignSpark PCB PRO
- DipTrace
- EAGLE
- Easy-PC
- EasyEDA
- eCADSTAR
- KiCad
- OrCAD\_Allegro16
- PADS
- Proteus
- Pulsonix
- Quadcept
- SOLIDWORKS PCB
- TARGET 3001!
- xDX Designer
- Xpedition

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

Symbol and Footprint via Ultra Librarian 713-1430/105-000/997-407

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

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- Expedition 99 and 2000
- OrCAD 9.X PCB and Capture
- PADS PowerPCB 3, 3.5, 4.X, and 5.X
- 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

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

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## Environmental Product Compliance

### Compliance Search

Environmental Product Compliance 713-1430/105-000/997-407

URL

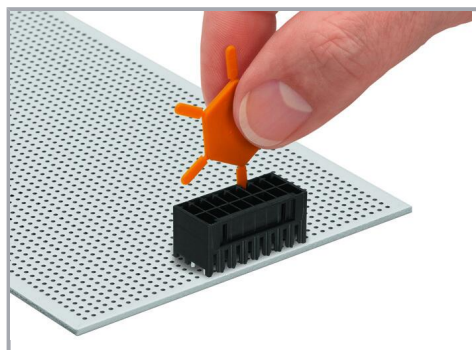
Download

THR male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 3.5 mm; 20-pole; black

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## Installation Notes

### Coding



Coding a male header by inserting a coding pin.

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## Product family

MCS MINI HD

[Show all products from the family](#)

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