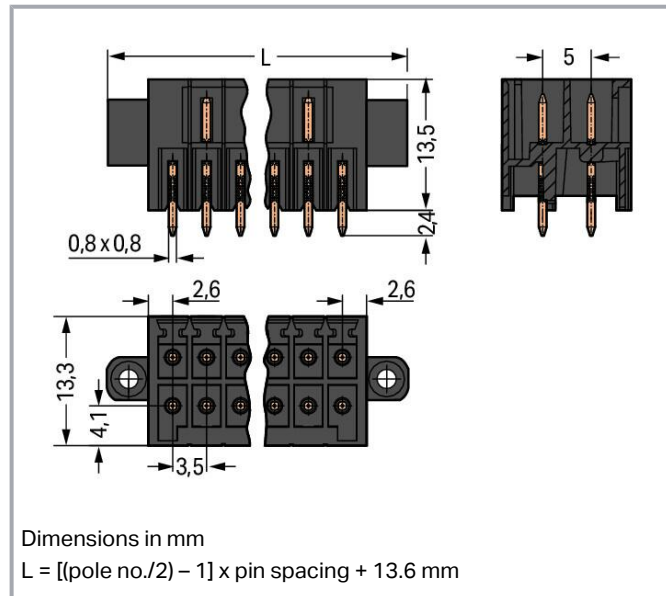
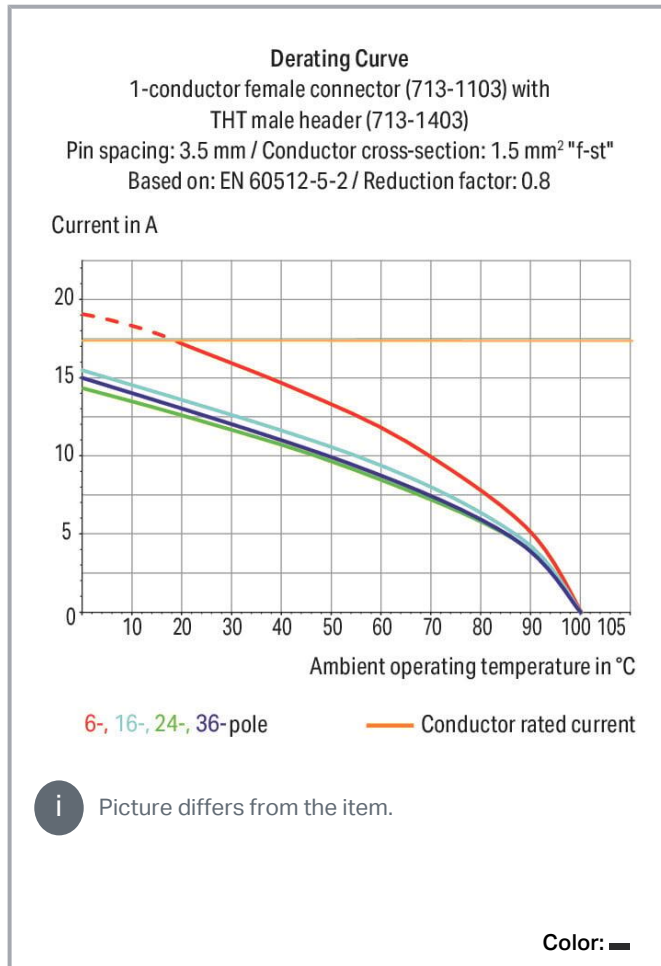


## Data sheet | Item number: 713-1411/117-000/997-408

THR male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 3.5 mm; 22-pole; black



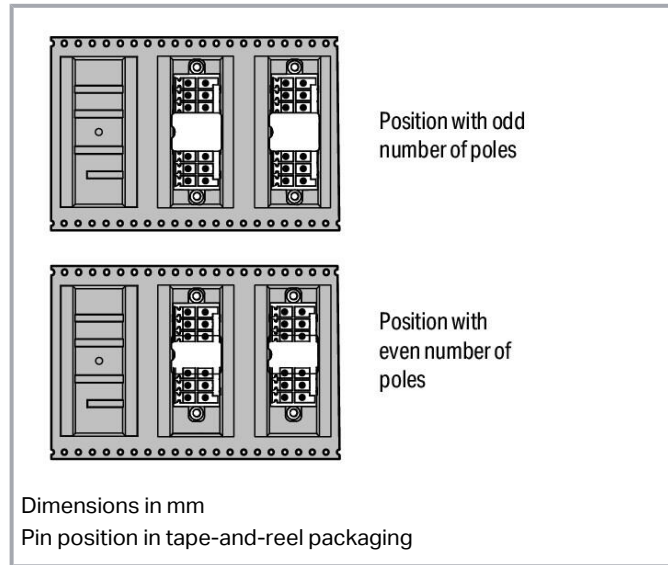
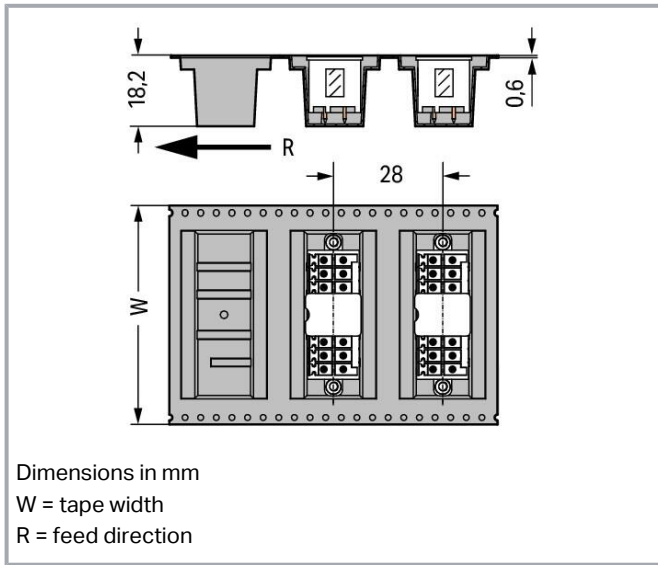
[www.wago.com/713-1411/117-000/997-408](http://www.wago.com/713-1411/117-000/997-408)



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) $\hat{=}$ 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	22
Number of connection types	1
Number of levels	2

### Connection 1

Pole number	22
-------------	----

### Physical data

Pin spacing	3.5 mm / 0.138 inches
Width	48.6 mm / 1.913 inches
Height	15.9 mm / 0.626 inches
Height from the surface	13.5 mm / 0.531 inches

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



Depth	13.3 mm / 0.524 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	72 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	90 °
Locking of plug-in connection	Threaded flange

### 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
Weight	6.2 g
MSL per J-STD 020D	1

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## 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
ECCN	NO DATA
PU (SPU)	120 pcs
Packaging type	bag
Country of origin	DE
GTIN	4050821308898
Customs tariff number	85366930000

## Environmental Product Compliance

CAS-No.	7439-92-1
REACH Candidate List Substance	Lead
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c)
SCIP notification number (Austria)	351f157c-8fa2-426b-aeda-62cbde8ada8c
SCIP notification number (Belgium)	877d1f05-d4e4-4a66-84d7-03c6d1aed4f0
SCIP notification number (Bulgaria)	e408cb38-165d-4179-970e-e33dc2f5e54a
SCIP notification number (Czech Republic)	f4dcc820-0184-4b66-b8a6-8f51a3d03186
SCIP notification number (Denmark)	89a90172-d7eb-48b9-9f09-f893a93aea6a
SCIP notification number (Finland)	77c30bca-2534-43b0-b83c-599e9f76f85b
SCIP notification number (France)	7787ad03-939b-40e8-9902-835496eadb48
SCIP notification number (Germany)	abeed885-e377-4330-b6cf-2169a9cccb39
SCIP notification number (Hungary)	48ce664e-5f95-497e-a3e9-0bcf2f5a603c
SCIP notification number (Italy)	45ac4db9-00a9-49ef-8ec9-9670d4179f93
SCIP notification number (Netherlands)	2aefca7c-6ae5-4467-a248-7b9ce7d9ddd2
SCIP notification number (Poland)	44d8907c-5008-4329-ab73-fcd6573618ed
SCIP notification number (Romania)	40980dbd-6d0c-4fa6-89fe-406c3ee380a0
SCIP notification number (Sweden)	887d07cb-10a7-4555-bd47-4c94eba8a333




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## Approvals / Certificates

### General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CSA CSA Group	C22.2	2315087
	KEMA/KEUR DEKRA Certification B.V.	EN 61984	71- 126089
	UR Underwriters Laboratories Inc.	UL 1059	E45172

### Counterpart



Item no. 713-1111/107-000

1-conductor female connector, 2-row; CAGE CLAMP®; 1.5 mm<sup>2</sup>; Pin spacing 3.5 mm; 22-pole; 100% protected against mismatching; Screw flange; 1,50 mm<sup>2</sup>; black

[www.wago.com/713-1111/107-000](http://www.wago.com/713-1111/107-000)

### 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

Technical Section	2019 Apr 3	pdf	Download
Technical explanations		2.1 MB	
THR Soldering Process		pdf	Download
		548.2 kB	

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



## CAD/CAE-Data

### CAD data

2D/3D Models 713-1411/117-000/997-408	<a href="#">URL</a>	<a href="#">Download</a>
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### Asset Administration Shell

Asset Administration Shell 713-1411/117-000/997-408	<a href="#">URL</a>	<a href="#">Download</a>
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### PCB Design

Symbol and Footprint via Ultra Librarian 713-1411/117-000/997-408	<a href="#">URL</a>	<a href="#">Download</a>
-------------------------------------------------------------------	---------------------	--------------------------

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
- 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

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- 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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Symbol and Footprint via SamacSys 713-1411/117-000/997-408

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

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## Environmental Product Compliance

### Compliance Search

Environmental Product Compliance 713-1411/117-000/997-408

[URL](#)

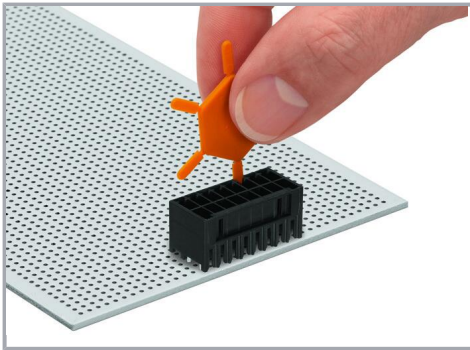
[Download](#)

THR male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 3.5 mm; 22-pole; black

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## Installation Notes

### Coding



Coding a male header by inserting a coding pin.

## Product family

**MCS MINI HD**

[Show all products from the family](#)

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