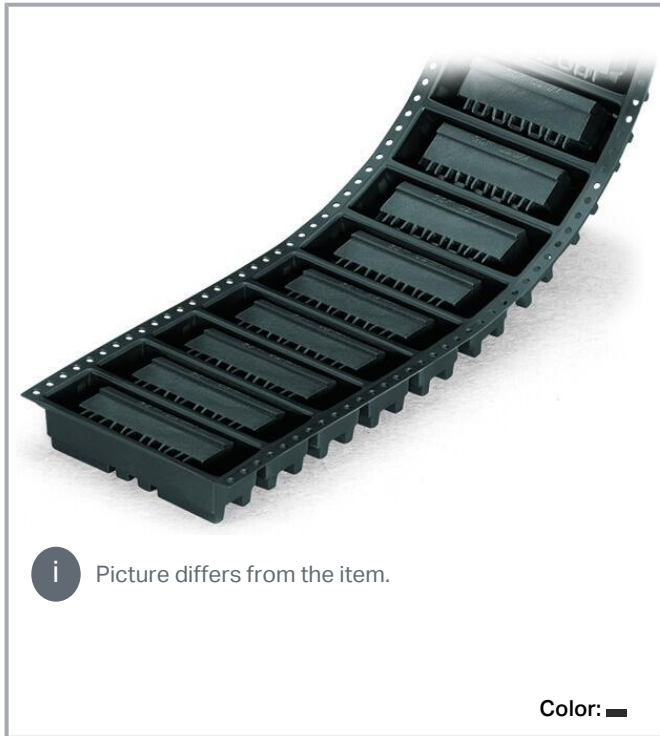


Data sheet | Item number: 231-463/001-000/105-604/997-405

THR male header; 1.2 x 1.2 mm solder pin; angled; in tape-and-reel packaging; Pin spacing 5 mm; 3-pole; black

www.wago.com/231-463/001-000/105-604/997-405

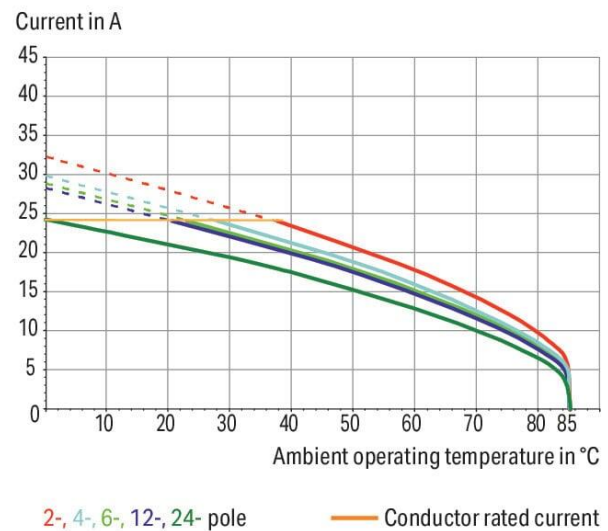


 Picture differs from the item.

Color: 

Derating Curve

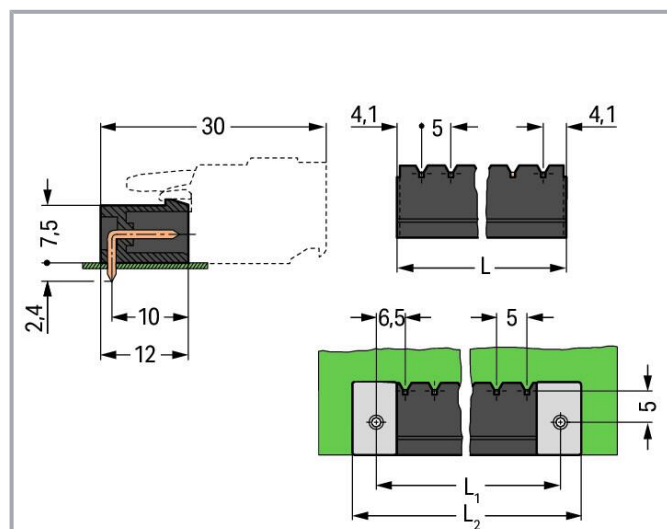
1-conductor female connector (231-102/026-000) with
THT male header (231-462/001-000)
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



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

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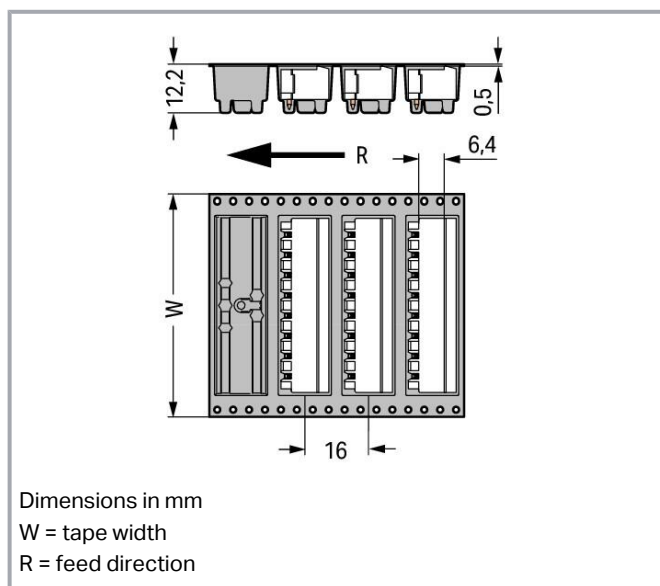


Dimensions in mm

$L = (\text{pole no.} \times \text{pin spacing}) + 3.2 \text{ mm}$

$L_1 = L + 4.8 \text{ mm}$

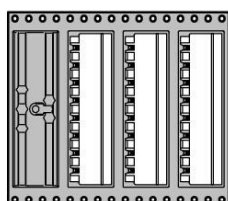
$L_2 = L_1 + 7.2 \text{ mm}$



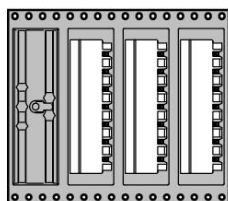
Dimensions in mm

W = tape width

R = feed direction



Position with even number of poles



Position with odd 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
- 1.2 x 1.2 mm solder pins allow nominal current up to 16 A, enhancing stability of shorter headers

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

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- Also available in bulk packaging for manual placement
- Male headers may be mounted horizontally or vertically
- With coding fingers

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
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

Ratings per	IEC/EN 60664-1
Nominal voltage (III/3)	250 V
Rated impulse voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated impulse voltage (III/2)	4 kV
Nominal voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
Rated current	16 A
Legend (ratings)	(III / 2) ≙ Overvoltage category III / Pollution degree 2

Ratings per UL

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

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

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Ratings per UL 1977

Rated voltage (UL 1977)	600 V
Rated current UL 1977	15 A

Ratings per CSA

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection data

Total number of potentials	3
Number of connection types	1
Number of levels	1

Connection 1

Pole number	3
-------------	---

Physical data

Pin spacing	5 mm / 0.197 inches
Width	18.2 mm / 0.717 inches
Height	10.8 mm / 0.425 inches
Height from the surface	8.4 mm / 0.331 inches
Depth	12 mm / 0.472 inches
Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 1.2 mm
Plated through-hole diameter (THR)	1.7 ^(+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

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

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Plug-in connection

Contact type (pluggable connector)	Male connector/plug
Connector (connection type)	for PCB
Mismating protection	No
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	1.4 g
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
ECCN	NO DATA

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PU (SPU)	170 pcs
Packaging type	bag
Country of origin	DE
GTIN	4050821042778
Customs tariff number	85366930000

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CSA DEKRA Certification B.V.	C22.2	1466354

Counterpart

**Item no. 231-103/026-000**

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 3-pole; 2,50 mm²; gray

www.wago.com/231-103/026-000

Optional accessories

Coding

Intermediate plate

**Item no.: 231-500**

Spacer; for formation of groups; light gray

www.wago.com/231-500

Coding

**Item no.: 231-129**

Coding key; snap-on type; light gray

www.wago.com/231-129

Downloads

Documentation

Additional Information

Technical Section

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Technical explanations	2019 年4月3日	pdf 2.1 MB	Download
THR Soldering Process		pdf 548.2 kB	Download

CAD/CAE-Data

CAD data

2D/3D Models 231-463/001-000/105-604/997-405	URL	Download
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Asset Administration Shell

Asset Administration Shell 231-463/001-000/105-604/997-405	URL	Download
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PCB Design

Symbol and Footprint via Ultra Librarian 231-463/001-000/105-604/997-405	URL	Download
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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

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- 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

Symbol and Footprint via SamacSys 231-463/001-000/105-604/997-405

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
- Pulsonix
- Quadcept
- SOLIDWORKS PCB

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



- 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 231-463/001-000/105-604/997-405

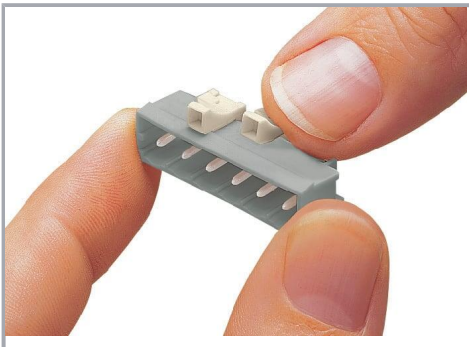
URL

Download

THR male header; 1.2 x 1.2 mm solder pin; angled; in tape-and-reel packaging; Pin spacing 5 mm; 3-pole; black

Installation Notes

Coding



Coding a male header – fitting coding key(s).

Product family

MCS MIDI Classic

[Show all products from the family](#)

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