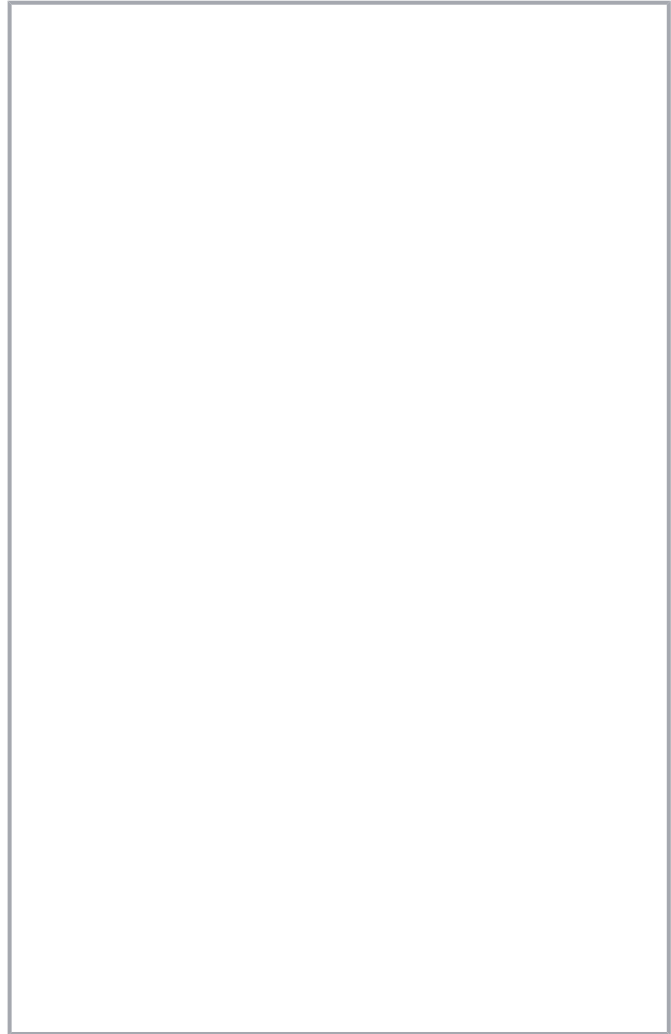
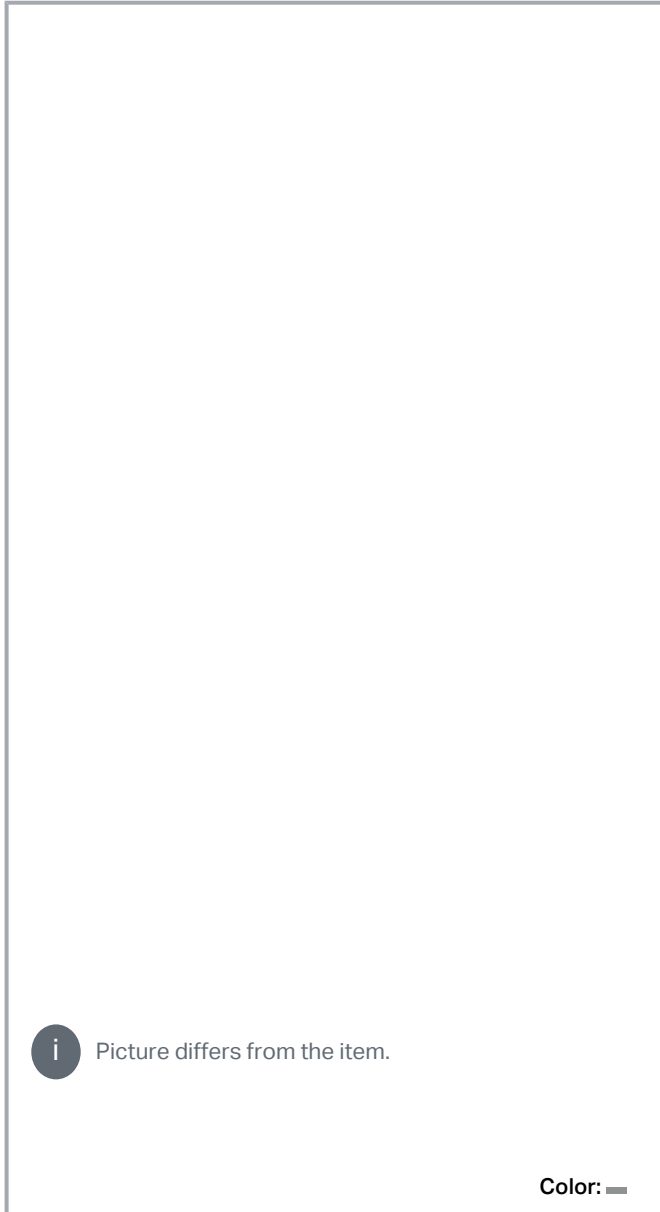


Data sheet | Item number: 231-146/001-000

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5 mm; 16-pole; gray

www.wago.com/231-146_001-000



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

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Dimensions in mm

$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$

Item description

- Horizontal or vertical PCB mounting via straight or angled solder pins
- Pin cross-section: 1 x 1 mm
- With coding fingers

Data

Notes

Safety information 1

The *MCS – MULTI CONNECTION SYSTEM* includes connectors

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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 3.8 mm pin projection for male headers with straight solder pins 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/ .
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Electrical data

Ratings per IEC/EN

Ratings per	IEC/EN 60664-1
Nominal voltage (III/3)	320 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	12 A
Legend (ratings)	(III / 2) $\triangleq$ 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

Ratings per UL

Rated voltage (UL 1977)	600 V
Rated current UL 1977	10 A

Ratings per CSA

Approvals per	CSA
---------------	-----

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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	16
Number of connection types	1
Number of levels	1

Connection 1

Pole number	16
-------------	----

Physical data

Pin spacing	5 mm / 0.197 inches
Width	83.2 mm / 3.276 inches
Height	17 mm / 0.669 inches
Height from the surface	12 mm / 0.472 inches
Depth	8.4 mm / 0.331 inches
Solder pin length	5 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter with tolerance	1.4 ^(+0.1) 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	No
Plugging without loss of pin spacing	No
Mating direction to the PCB	90 °
Locking of plug-in connection	none

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PCB contact

PCB contact	THT
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 data can be found here
Color	gray
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Contact material	Electrolytic copper (E _{Cu})
Contact plating	Tin
Fire load	0.091 MJ
Weight	5.1 g

Environmental requirements

Limit temperature range	-60 ... +100 °C
Processing temperature	-35 ... +60 °C

Commercial data

Product Group	3 (Multi Conn. System)
eCl@ss 10.0	27-44-04-02
eCl@ss 9.0	27-44-04-02
PU (SPU)	50 Stück
Packaging type	box
Country of origin VKOrg Germany	PL
GTIN	4044918863872
Customs tariff number VKOrg Germany	85366990990

Approvals / Certificates

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	CB	IEC 61984	NL-39756

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	DEKRA Certification B.V.		/A1
	CSA DEKRA Certification B.V.	C22.2	LR 18677-25
	KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-121453

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	19-HG1869876-PDA
	BV Bureau Veritas S.A.	IEC 60998	11915/D0 BV
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE000016Z

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL Underwriters Laboratories Inc.	UL 1059	E45172
	UR Underwriters Laboratories Inc.	UL 1977	E45171

Counterpart

Item no.231-116/026-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; 2,50 mm²; gray	www.wago.com/231-116/026-000
Item no.231-2116/026-000 2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; with integrated end plate; 2,50 mm²; gray	www.wago.com/231-2116/026-000
Item no.231-2116/037-000	

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2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; Lateral locking levers; 2,50 mm²; gray	www.wago.com/231-2116/037-000
Item no.2231-116/026-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; 2,50 mm²; gray	www.wago.com/2231-116/026-000
Item no.231-116/027-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; clamping collar; 2,50 mm²; gray	www.wago.com/231-116/027-000
Item no.231-116/037-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; Lateral locking levers; 2,50 mm²; gray	www.wago.com/231-116/037-000
Item no.231-116/102-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; with integrated end plate; 2,50 mm²; gray	www.wago.com/231-116/102-000
Item no.231-116/031-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; clamping collar; 2,50 mm²; gray	www.wago.com/231-116/031-000
Item no.2231-116/037-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; Lateral locking levers; 2,50 mm²; gray	www.wago.com/2231-116/037-000
Item no.2231-116/031-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; clamping collar; 2,50 mm²; gray	www.wago.com/2231-116/031-000
Item no.2231-116/102-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; with integrated end plate; 2,50 mm²; gray	www.wago.com/2231-116/102-000
Item no.232-116/026-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; 2,50 mm²; gray	www.wago.com/232-116/026-000
Item no.232-216/026-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 16-pole; 2,50 mm²; gray	www.wago.com/232-216/026-000

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

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Additional Information

Technical Section	2019 Apr 3	pdf	Download
Technical explanations		2.0 MB	

CAD/CAE-Data

CAD data

2D/3D Models 231-146/001-000	URL	Download
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CAE data

EPLAN Data Portal 231-146/001-000	URL	Download
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ZUKEN Portal 231-146/001-000	URL	Download
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EPLAN Data Portal 231-146/001-000	URL	Download
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PCB Design

Symbol and Footprint 231-146/001-000	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
- Altium 6 to current version
- 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

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

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 231-146/001-000

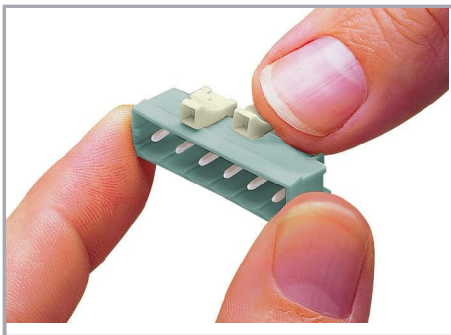
URL

Download

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5 mm; 16-pole; gray

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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