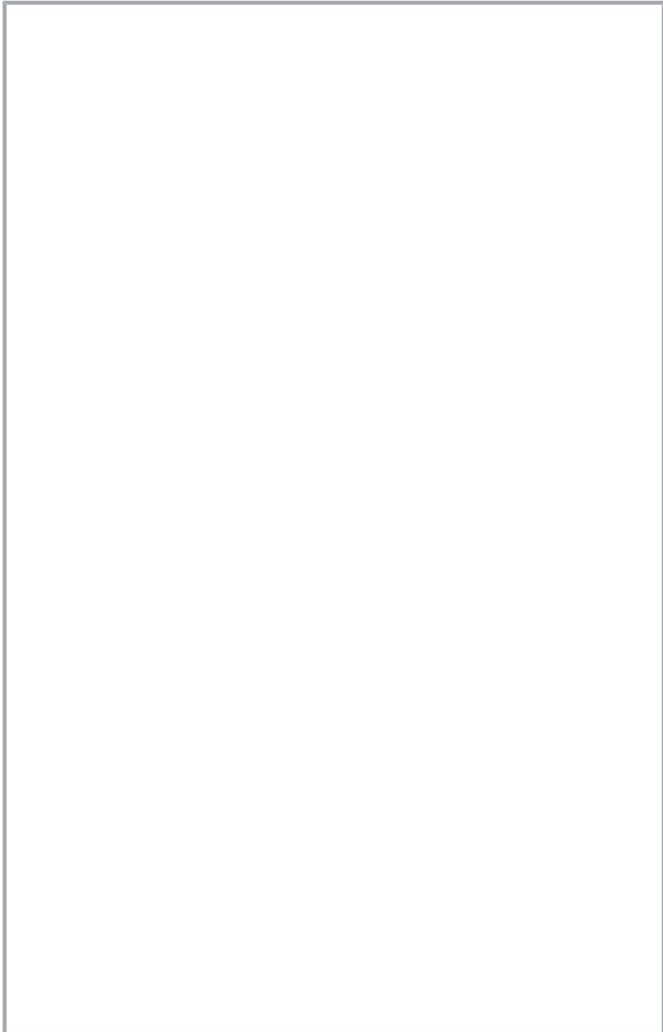
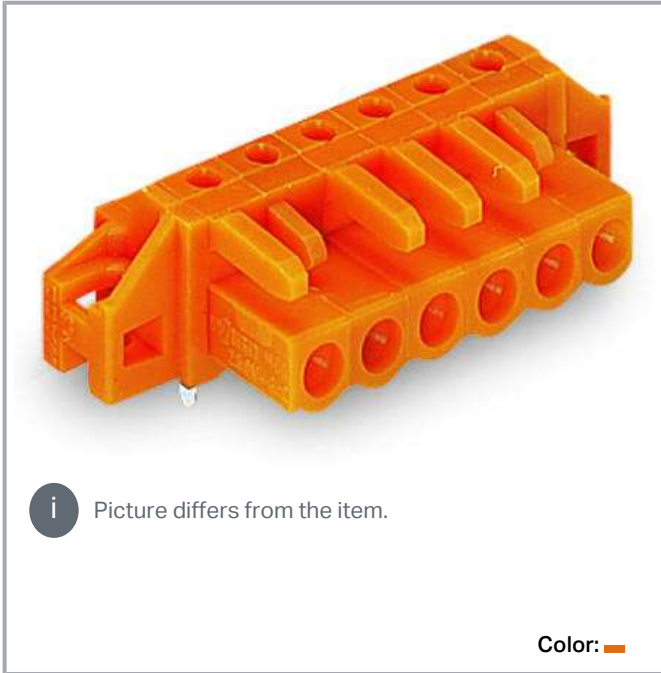


Data sheet | Item number: 232-281/031-000

THT female header; angled; Pin spacing 5.08 mm; 21-pole; clamping collar; 0.6 x 1.0 mm solder pin; orange



www.wago.com/232-281_031-000



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

WAGO Corporation
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Dimensions in mm

L = pole no. x pin spacing

$L_1 = L + 3 \text{ mm}$

$L_2 = L + 8.8 \text{ mm}$

$L_3 = L + 14.8 \text{ mm}$

2- to 3-pole female connectors – one latch only

Item description

- Horizontal or vertical PCB mounting via straight or angled solder pins

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



- For board-to-board and board-to-wire connections
- Touch-proof PCB outputs
- Easy-to-identify PCB inputs and outputs
- With coding fingers

Data

Notes

Safety information 1

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. 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/>

Electrical data

IEC Approvals

Ratings per	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge 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) ≙ Overvoltage category III / Pollution degree 2

UL Approvals

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

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Ratings per UL

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

CSA Approvals

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection data

Total number of potentials	21
Number of connection types	1
Number of levels	1

Connection 1

Number of poles	21
-----------------	----

Physical data

Pin spacing	5.08 mm / 0.2 inch
Width	121.48 mm / 4.783 inch
Height	16.6 mm / 0.654 inch
Height from the surface	11.6 mm / 0.457 inch
Depth	18.25 mm / 0.719 inch
Solder pin length	5 mm
Solder pin dimensions	0.6 x 1 mm
Drilled hole diameter with tolerance	1.3 ^(+0.1) mm

Mechanical data

Mounting type	Mounting flange
Mounting type	Feed-through mounting Panel mounting

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



Plug-in connection

Contact type (pluggable connector)	Female header
Connector (connection type)	for PCB
Mismatching protection	No
Mating direction to the PCB	0°
Locking of plug-in connection	Without

PCB contact

PCB Contact	THT
Solder pin arrangement	over the entire female connector (in-line)
Number of solder pins per potential	1

Material data

Color	orange
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Contact material	Copper alloy
Contact plating	tin-plated
Weight	18.8 g

Environmental requirements

Limit temperature range	-60 ... +85 °C
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Commercial data

PU (SPU)	10 Stück
Packaging type	box
Country of origin	DE
GTIN	4055143577243
Customs tariff number	85366990990

Approvals / Certificates



Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
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	ABS American Bureau of Shipping	-	19- HG15869876- PDA
	BV Bureau Veritas S.A.	IEC 60998	11915/D0 BV
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE 000016Z

UL-Approvals

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

Counterpart



Item no.231-651
Male connector; 21-pole; Pin spacing 5.08 mm ; orange

www.wago.com/231-651

Optional accessories

Testing accessories

Testing accessories



Item no.: 210-136
Test plug; 2 mm Ø; with 500 mm cable

www.wago.com/210-136



Item no.: 231-661
Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light gray

www.wago.com/231-661

Mounting

Mounting accessories



Item no.: 231-194
Self-tapping screw; B 2.2x13, fixing hole 1.8 mm Ø

www.wago.com/231-194

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



Item no.: 231-195
Screw with nut; M2x12; for fixing element

www.wago.com/231-195



Item no.: 231-295
Screw with nut

www.wago.com/231-295

Downloads

Documentation

Additional Information

Technical explanations	2019 Apr 3	pdf 2.0 MB	Download
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CAD files

PCB Design

Symbol and Footprint 232-281/031-000	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
- STL
- 3D STEP
- TARGET 3001!
- View Logic ViewDraw

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- Quadcept
- Zuken CadStar 3 and 4
- Zuken CR-5000 and CR-8000

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

CAD data

2D/3D Models 232-281/031-000	URL	Download
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CAE data

ZUKEN Portal 232-281/031-000	URL	Download
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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 232-281/031-000	URL	Download
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THT female header; angled; Pin spacing 5.08 mm; 21-pole; clamping collar; 0.6 x 1.0 mm solder pin; orange

Installation Notes

Application



The innovative flange design provides standard panel mounting options or various through-panel mounting configurations. Depending on the type of application and flange, female headers can be used either for through-panel or flush mounted applications.

Product family

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MCS MIDI Classic

[Show all products from the family](#)

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