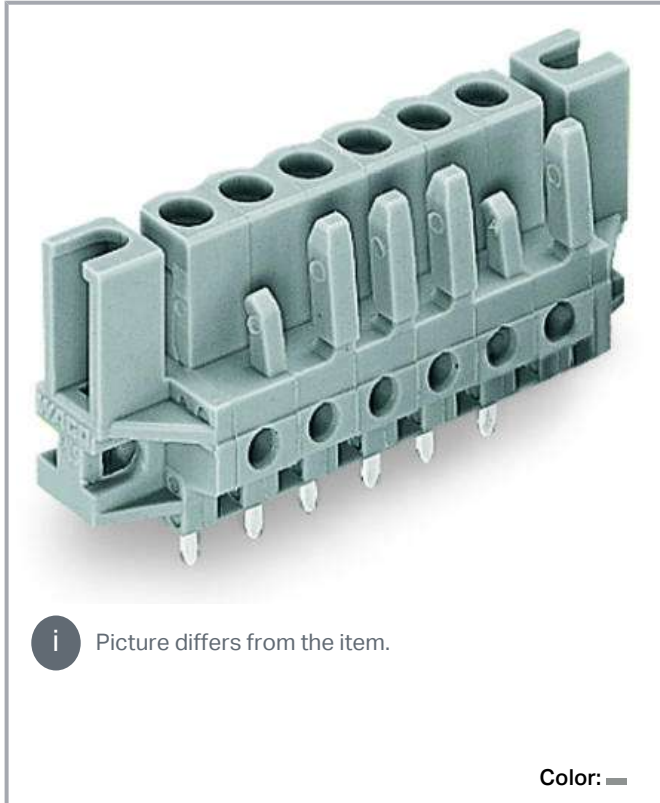


**Data sheet | Item number: 232-148/047-000**

THT female header; straight; Pin spacing 5 mm; 18-pole; Spacer flange; 0.6 x 1.0 mm solder pin; gray



[www.wago.com/232-148\\_047-000](http://www.wago.com/232-148_047-000)



**i** Picture differs from the item.

Color: —



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

WAGO Corporation  
Germantown, WI 53022  
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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

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

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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	18
Number of connection types	1
Number of levels	1

### Connection 1

Number of poles	18
-----------------	----

### Physical data

Pin spacing	5 mm / 0.197 inch
Width	104.8 mm / 4.126 inch
Height	23.25 mm / 0.915 inch
Height from the surface	18.25 mm / 0.719 inch
Depth	11.6 mm / 0.457 inch
Solder pin length	5 mm
Solder pin dimensions	0.6 x 1 mm
Drilled hole diameter with tolerance	1.3 <sup>(+0.1)</sup> mm

### Mechanical data

Mounting type	Mounting flange
Mounting type	Flush 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	90°

## 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	gray
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Contact material	Copper alloy
Contact plating	tin-plated
Fire load	0.318 MJ
Weight	17.5 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	4050821637745
Customs tariff number	85366990990

## Approvals / Certificates

### Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
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Subject to changes. Please also observe the further product documentation!

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CSA  
DEKRA Certification B.V.



C22.2

1466354

### Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b> American Bureau of Shipping	-	19- HG15869876- PDA
	<b>BV</b> Bureau Veritas S.A.	IEC 60998	11915/D0 BV

### UL-Approvals

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

### Counterpart



Item no.231-618  
Male connector; 18-pole; Pin spacing 5 mm; gray

[www.wago.com/231-618](http://www.wago.com/231-618)

### Optional accessories

#### Testing accessories

Testing accessories



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

[www.wago.com/231-661](http://www.wago.com/231-661)

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

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## Downloads

### Documentation

#### Additional Information

Technical explanations	2019 Apr 3	pdf 2.0 MB	Download
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### CAD files

#### CAD data

2D/3D Models 232-148/047-000	URL	Download
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#### PCB Design

Symbol and Footprint 232-148/047-000	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
- Quadcept
- Zuken CadStar 3 and 4

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

- Zuken CR-5000 and CR-8000

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

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#### CAE data

ZUKEN Portal 232-148/047-000	<a href="#">URL</a>	<a href="#">Download</a>
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## Environmental Product Compliance

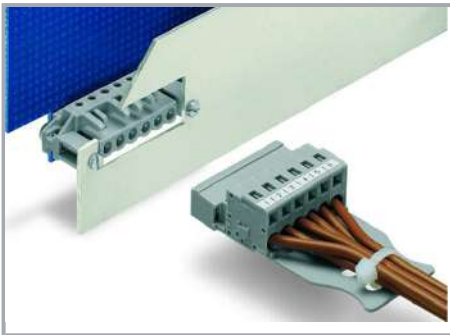
### Compliance Search

Environmental Product Compliance 232-148/047-000 THT female header; straight; Pin spacing 5 mm; 18-pole; Spacer flange; 0.6 x 1.0 mm solder pin; gray	<a href="#">URL</a>	<a href="#">Download</a>
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## 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

**MCS MIDI Classic**  
[Show all products from the family](#)

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

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