

**Data sheet | Item number: 232-140**

THT female header; straight; Pin spacing 5 mm; 10-pole; 0.6 x 1.0 mm solder pin; gray



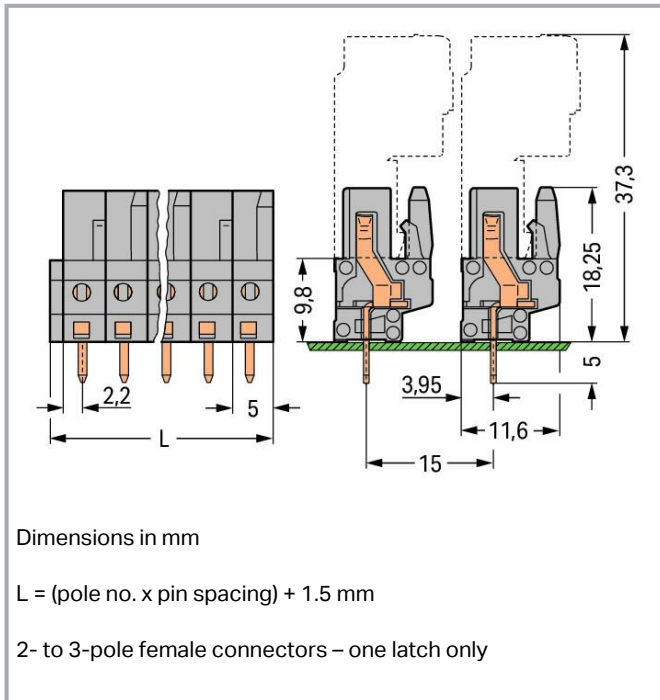
[www.wago.com/232-140](http://www.wago.com/232-140)



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

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Do you have any questions about our products?  
We are always happy to take your call at +49 (571) 887-44222.



## Item description

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

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

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) $\hat{=}$ Overvoltage category III / Pollution degree 2

### Ratings per UL 1059

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

### 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)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

### Connection data

Total number of potentials	10
Number of connection types	1
Number of levels	1

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

## Connection 1

Pole number	10
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## Physical data

Pin spacing	5 mm / 0.197 inches
Width	51.5 mm / 2.028 inches
Height	23.25 mm / 0.915 inches
Height from the surface	18.25 mm / 0.719 inches
Depth	11.6 mm / 0.457 inches
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

Variable coding	Yes
Anti-rotation protection	Yes

## Plug-in connection

Contact type (pluggable connector)	Female connector/socket
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

## PCB contact

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

## Material Data

Note (material data)	Information on material specifications can be found here
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Color	gray
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Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Contact material	Copper alloy
Contact plating	Tin
Fire load	0.217 MJ
Weight	9.2 g

### Environmental requirements

Limit temperature range	-60 ... +85 °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
ETIM 8.0	EC002637
ETIM 7.0	EC002637
PU (SPU)	50 pcs
Packaging type	box
Country of origin	DE
GTIN	4044918578479
Customs tariff number	85366990990

### Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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### Approvals / Certificates

#### General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CB DEKRA Certification B.V.	IEC 61984	NL-39756 /A1
	CSA DEKRA Certification B.V.	C22.2	1466354
	KEMA/KEUR	EN 61984	71-

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DEKRA Certification B.V.

121453



**UL**  
Underwriters Laboratories Inc.

UL 1059

E45172



**UR**  
Underwriters Laboratories Inc.

UL 1977




E45171



#### Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	<b>Railway</b> WAGO GmbH & Co. KG	-	Railway Ready

#### Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b> American Bureau of Shipping	-	19- HG15869876- PDA
	<b>DNV GL</b> Det Norske Veritas, Germanischer Lloyd	-	TAE 000016Z
	<b>LR</b> Lloyds Register	IEC 61984	96/20035 (E5)

#### Counterpart



Item no.231-610

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 10-pole; 2,50 mm²; gray

[www.wago.com/231-610](http://www.wago.com/231-610)

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**Item no.231-610/019-000/035-000**

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 10-pole; clamping collar; Strain relief plate; 2,50 mm²; gray

[www.wago.com/231-610/019-000/035-000](http://www.wago.com/231-610/019-000/035-000)



**Item no.231-610/019-000**

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 10-pole; clamping collar; 2,50 mm²; gray

[www.wago.com/231-610/019-000](http://www.wago.com/231-610/019-000)

**Optional accessories**

**Testing and measuring**

Testing accessories



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

**Downloads**

**Documentation**

**Additional Information**

Technical Section	2019 Apr 3	pdf	Download
Technical explanations		2.0 MB	

**CAD/CAE-Data**

**CAD data**

2D/3D Models 232-140	URL	Download
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**CAE data**

EPLAN Data Portal 232-140	URL	Download
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ZUKEN Portal 232-140	URL	Download
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**PCB Design**

Symbol and Footprint 232-140	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:**

—  
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- 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
- Zuken CR-5000 and CR-8000

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

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## Environmental Product Compliance

### Compliance Search

Environmental Product Compliance 232-140	URL	Download
THT female header; straight; Pin spacing 5 mm; 10-pole; 0.6 x 1.0 mm solder pin; gray		

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## Installation Notes

### Product family

**MCS MIDI Classic**

[Show all products from the family](#)

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