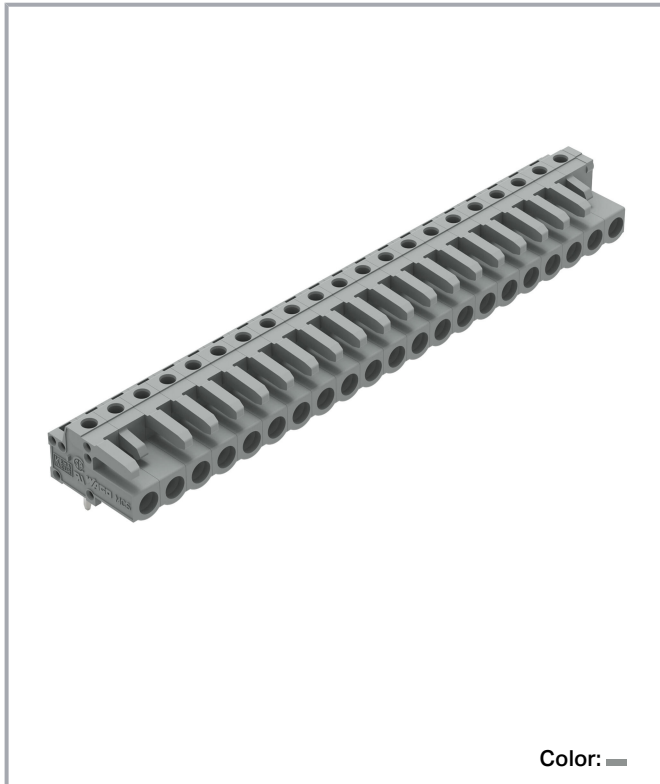


## Data sheet | Item number: 232-251

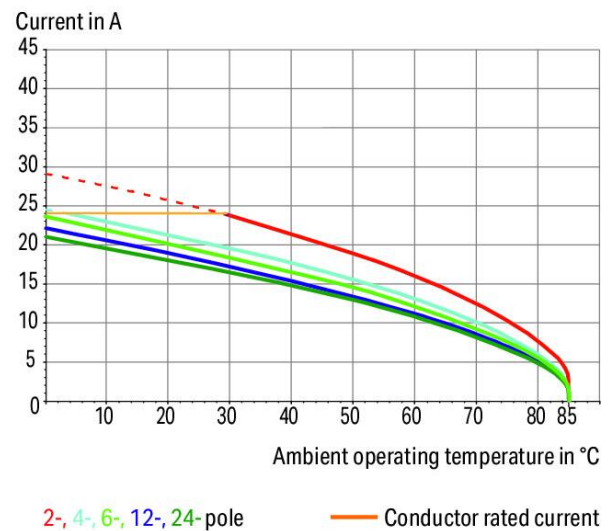
THT female header; angled; Pin spacing 5 mm; 21-pole; 0.6 x 1.0 mm solder pin; gray

[www.wago.com/232-251](http://www.wago.com/232-251)



Color:

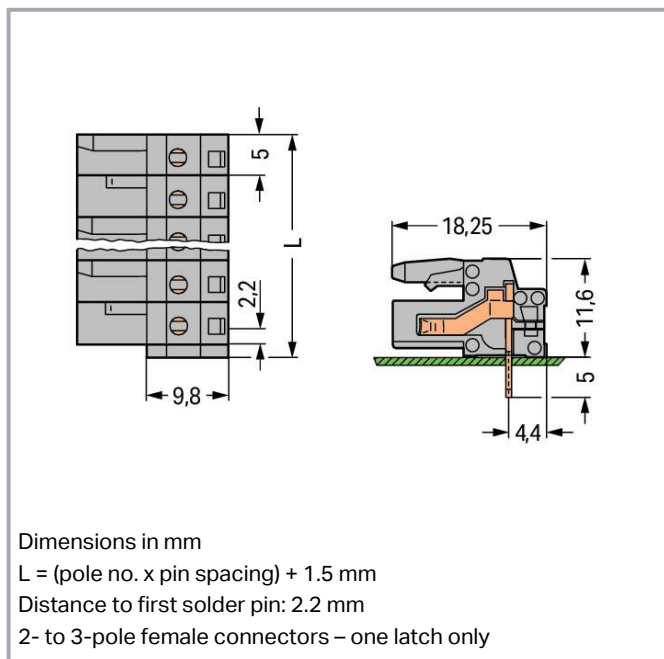
**Derating Curve**  
THT female header (232-232) with  
1-conductor male connector (231-602)  
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm<sup>2</sup> "f-st"  
Based on: EN 60512-5-2 / Reduction factor: 0.8



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

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## 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) $\triangleq$ 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)	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	21
Number of connection types	1
Number of levels	1

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



## Connection 1

Pole number	21
-------------	----

## Physical data

Pin spacing	5 mm / 0.197 inches
Width	106.5 mm / 4.193 inches
Height	16.6 mm / 0.654 inches
Height from the surface	11.6 mm / 0.457 inches
Depth	18.25 mm / 0.719 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	0 °
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
Color	gray
Material group	I

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



Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Contact material	Copper alloy
Contact plating	Tin
Fire load	0.448 MJ
Weight	19.4 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
ECCN	NO DATA
PU (SPU)	10 pcs
Packaging type	box
Country of origin	DE
GTIN	4044918579391
Customs tariff number	85366990990

## Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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## Counterpart



### Item no.231-621

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 21-pole; 2,50 mm²; gray

[www.wago.com/231-621](http://www.wago.com/231-621)



### Item no.231-621/019-000

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 21-pole; clamping collar; 2,50 mm²; gray

[www.wago.com/231-621/019-000](http://www.wago.com/231-621/019-000)

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## 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 mm<sup>2</sup>; light gray[www.wago.com/231-661](http://www.wago.com/231-661)

## Downloads

### Documentation

#### Additional Information

Technical Section	2019 年4月3日	pdf	Download
Technical explanations		2.1 MB	

## CAD/CAE-Data

### CAD data

2D/3D Models 232-251	URL	Download
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### CAE data

EPLAN Data Portal 232-251	URL	Download
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ZUKEN Portal 232-251	URL	Download
----------------------	-----	----------

### PCB Design

Symbol and Footprint via Ultra Librarian 232-251	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

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- 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
- Zuken eCADSTAR 2020 and 2021Zuken CR-5000 and CR-8000

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

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Symbol and Footprint via SamacSys 232-251

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

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

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- Easy-PC
- EasyEDA
- eCADSTAR
- KiCad
- OrCAD\_Allegro16
- PADS
- Proteus
- Pulsonix
- Quadcept
- SOLIDWORKS PCB
- TARGET 3001!
- xDX Designer
- Xpedition

PCB Component Libraries (EDA), PCB CAD Library SamacSys Electronic Component Search Engine

Asset Administration Shell

Asset Administration Shell 232-251	URL	Download
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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 232-251	URL	Download
THT female header; angled; Pin spacing 5 mm; 21-pole; 0.6 x 1.0 mm solder pin; gray		

Installation Notes

Product family

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

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