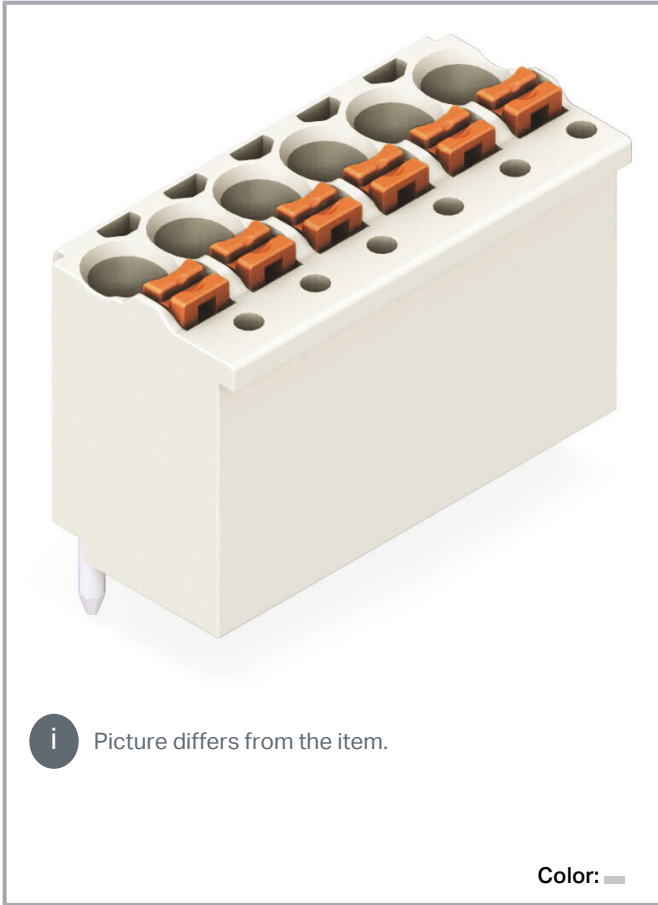


**Data sheet | Item number: 2091-1178**

1-conductor THT female connector straight; push-button; Push-in CAGE CLAMP®; 1.5 mm<sup>2</sup>; Pin spacing 3.5 mm; 8-pole; 1.0 mm Ø solder pin; 1,50 mm<sup>2</sup>; light gray



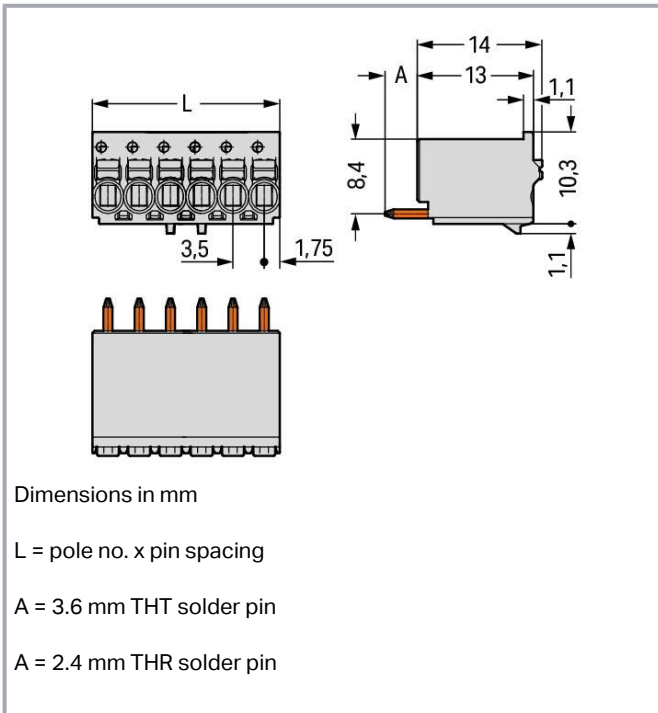
[www.wago.com/2091-1178](http://www.wago.com/2091-1178)



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

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## Item description

- Universal connection for all conductor types
- Simple, push-in termination of solid and ferruled conductors
- Easy-to-use design does not require special tools
- Ability to wire while mated or unmated
- Integrated test ports for testing parallel to conductor entry
- Custom-installed solder pins

## Data

### Notes

Safety information

The **picoMAX® Pluggable 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.

## Electrical data

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

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### Ratings per IEC/EN

Ratings per	IEC/EN 60664-1
Nominal voltage (III/3)	160 V
Rated impulse voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated impulse voltage (III/2)	2.5 kV
Nominal voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV
Rated current	10 A
Legend (ratings)	(III / 2) ≙ 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)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

### Connection data

Connection points	8
Total number of potentials	8
Number of connection types	1
Number of levels	1

### Connection 1

Connection technology	Push-in CAGE CLAMP®
Actuation type	Push-button
Actuation direction 1	Operation parallel to conductor entry
Solid conductor	0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG
Fine-stranded conductor	0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.75 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup>
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Conductor connection direction to PCB	90 °
Pole number	8

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



## Physical data

Pin spacing	3.5 mm / 0.138 inches
Width	28 mm / 1.102 inches
Height	14 mm / 0.551 inches
Depth	11.4 mm / 0.449 inches
Solder pin length	3.6 mm
Solder pin diameter	1 mm
Drilled hole diameter with tolerance	1.2 <sup>(+0.1)</sup> mm

## Mechanical Data

Variable coding	No
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	Yes
Mating direction to the PCB	90 °
Locking of plug-in connection	none

## PCB contact

PCB contact	THT
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## Material Data

Note (material data)	Information on material specifications can be found here
Color	light gray
Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Clamping spring material	Chrome-nickel spring steel (CrNi)
Contact material	Electrolytic copper (E <sub>Cu</sub> )
Contact plating	Tin
Fire load	0.012 MJ

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

Weight	4.3 g
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### Environmental requirements

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

### Commercial data




Product Group	26 (picoMAX Connectors)
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)	100 pcs
Packaging type	box
Country of origin	DE
GTIN	4050821162452
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-49736 /A1
	CSA DEKRA Certification B.V.	C22.2 No. 158	2362521
	CSA DEKRA Certification B.V.	C22.2	2362521
	KEMA/KEUR DEKRA Certification B.V.	EN 61984	71- 102260 REV.1

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


	UL Underwriters Laboratories Inc.	UL 1977	E45171
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	UR Underwriters Laboratories Inc.	UL 1059	E45172
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## Optional accessories


### Coding

#### Coding

	<b>Item no.: 2091-1610</b> Coding key carrier; suitable for 3.5 mm pin spacing; orange	<a href="http://www.wago.com/2091-1610">www.wago.com/2091-1610</a>
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### Tool

#### Operating tool

	<b>Item no.: 210-719</b> Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft	<a href="http://www.wago.com/210-719">www.wago.com/210-719</a>
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### Testing and measuring

#### Testing accessories

	<b>Item no.: 735-500</b> WAGO Test pin; 1 mm Ø; 30 V AC / 60 V DC; CAT0; 1 A; 6 mm uninsulated; Test lead for soldering up to 0,5mm <sup>2</sup>	<a href="http://www.wago.com/735-500">www.wago.com/735-500</a>
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## Downloads

### Documentation

#### Additional Information

Technical Section Technical explanations	2019 Apr 3	pdf 2.0 MB	Download
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### CAD/CAE-Data

#### CAD data

2D/3D Models 2091-1178	URL	Download
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#### PCB Design

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Symbol and Footprint 2091-1178

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
- Zuken CR-5000 and CR-8000

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

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**CAE data**

ZUKEN Portal 2091-1178

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**Environmental Product Compliance**

**Compliance Search**

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1-conductor THT female connector straight; push-button; Push-in CAGE CLAMP®; 1.5 mm<sup>2</sup>; Pin spacing 3.5 mm; 8-pole; 1.0 mm Ø solder pin; 1,50 mm<sup>2</sup>; light gray

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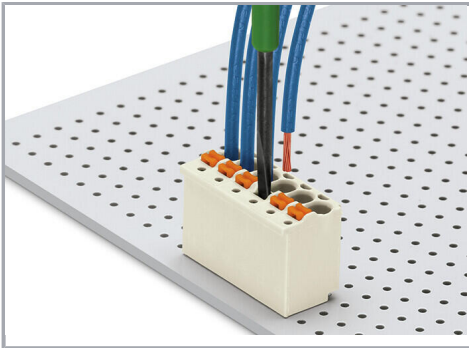
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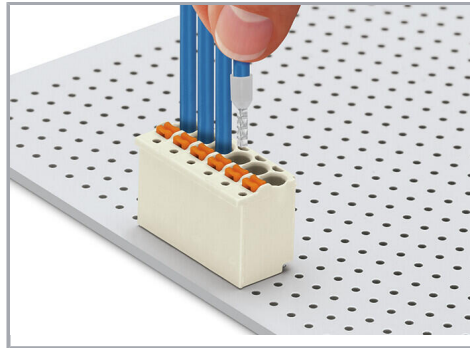
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## Installation Notes

### Conductor termination



Terminating fine-stranded conductors and removing all conductor types via push-buttons.



Solid and ferruled conductors are terminated by simply pushing them into unit.

### Marking



Pole marking via direct marking perpendicular to conductor entry.

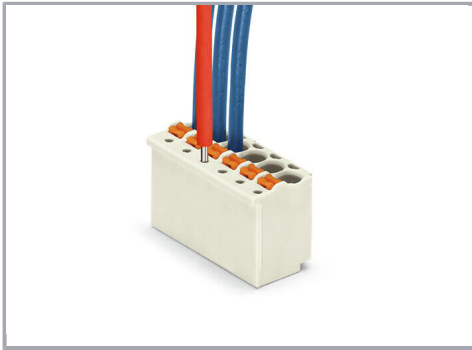


Pole marking via factory direct marking.

### Testing

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





Testing via 1 mm Ø test pin – touch contact.

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