

## Data sheet | Item number: 2091-1162

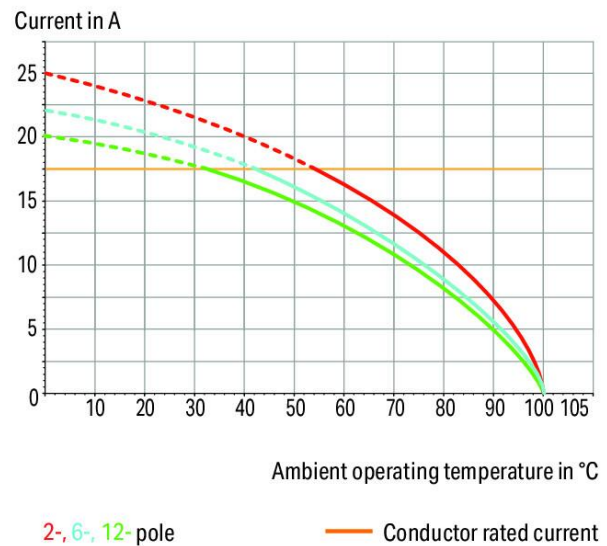
1-conductor THT female connector straight; push-button; Push-in CAGE CLAMP®; 1.5 mm²; Pin spacing 3.5 mm; 12-pole; 1.0 mm Ø solder pin; Gripping plate; 1,50 mm²; light gray

[www.wago.com/2091-1162](http://www.wago.com/2091-1162)



### Derating Curve

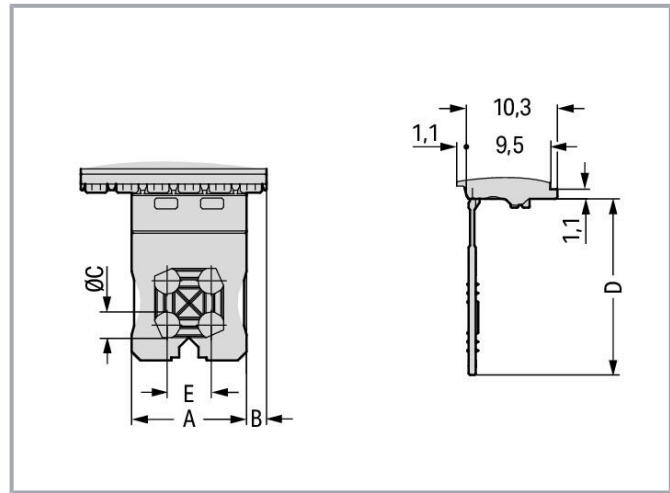
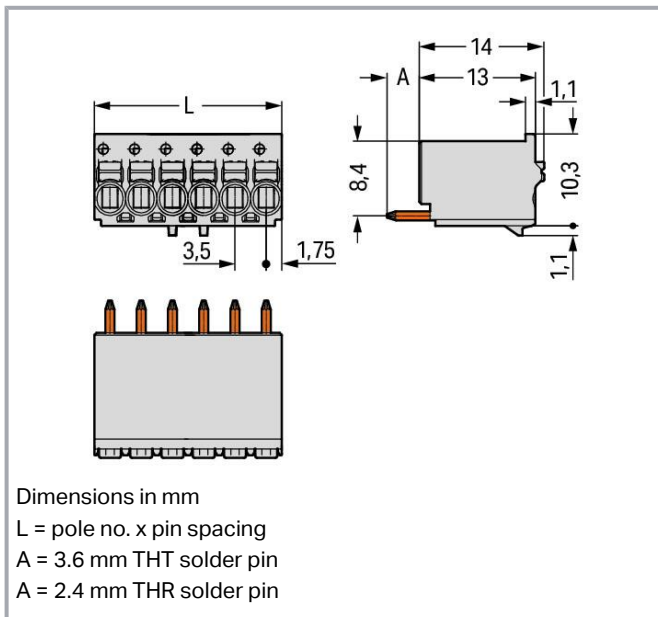
1-conductor female connector eCOM (2091-1172)  
Pin spacing: 3.5 mm / Conductor cross-section: 1.5 mm² "f-st"  
Based on: EN 60512-5-2 / Reduction factor: 0.8



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

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## Item description

- 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

### Ratings per IEC/EN

Ratings per

IEC/EN 60664-1

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

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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) $\triangleq$ 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)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

### Connection data

Connection points	12
Total number of potentials	12
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	12

### Physical data

Pin spacing	3.5 mm / 0.138 inches
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Subject to changes. Please also observe the further product documentation!



Width	42 mm / 1.654 inches
Height	38 mm / 1.496 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
Design	With gripping plate
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	0.033 MJ
Weight	7.1 g

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

## 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
ECCN	NO DATA
PU (SPU)	50 pcs
Packaging type	box
Country of origin	DE
GTIN	4050821162391
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
	<b>CB</b> DEKRA Certification B.V.	IEC 61984	NL-49736 /A1
	<b>CSA</b> DEKRA Certification B.V.	C22.2 No. 158	2362521
	<b>CSA</b> DEKRA Certification B.V.	C22.2	2362521
	<b>KEMA/KEUR</b> 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



UR  
Underwriters Laboratories Inc.

UL 1059

E45172

## Optional accessories

### Testing and measuring

#### Testing accessories



Item no.: 735-500

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> [www.wago.com/735-500](http://www.wago.com/735-500)

### Coding

#### Coding



Item no.: 2091-1610

Coding key carrier; suitable for 3.5 mm pin spacing; orange

[www.wago.com/2091-1610](http://www.wago.com/2091-1610)

### Tool

#### Operating tool



Item no.: 210-719

Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

[www.wago.com/210-719](http://www.wago.com/210-719)

## Downloads

### Documentation

#### Additional Information

Technical Section

2019 年4月3日

pdf

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Technical explanations

2.1 MB

## CAD/CAE-Data

### CAD data

2D/3D Models 2091-1162

URL

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### PCB Design

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Symbol and Footprint via Ultra Librarian 2091-1162

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
- 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

Symbol and Footprint via SamacSys 2091-1162

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Supported formats:

- 3D (stp)
- Altium
- CADSTAR
- Capture
- CircuitStudio
- CR-5000
- CR-8000
- DEHDL
- DesignSpark PCB
- DesignSpark PCB PRO
- DipTrace
- EAGLE
- 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

CAE data

ZUKEN Portal 2091-1162	URL	Download
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Asset Administration Shell

Asset Administration Shell 2091-1162	URL	Download
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## Environmental Product Compliance

### Compliance Search

Environmental Product Compliance 2091-1162

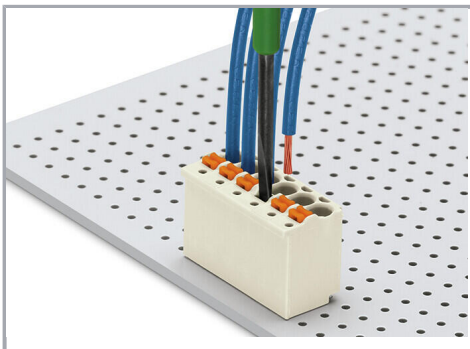
URL

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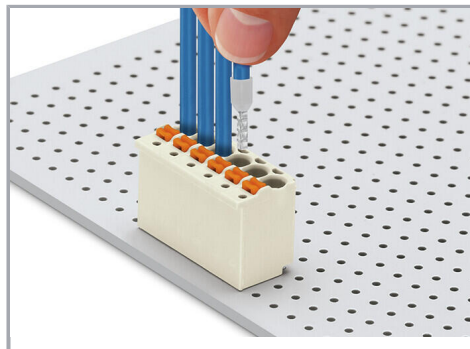
1-conductor THT female connector straight; push-button; Push-in CAGE CLAMP®;  
1.5 mm<sup>2</sup>; Pin spacing 3.5 mm; 12-pole; 1.0 mm Ø solder pin; Gripping plate; 1,50 mm<sup>2</sup>;  
light gray

## 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



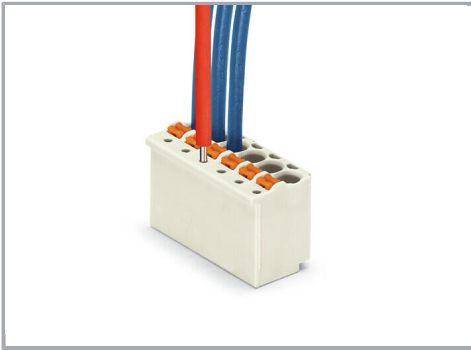
Pole marking via direct marking perpendicular to conductor entry.



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.

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