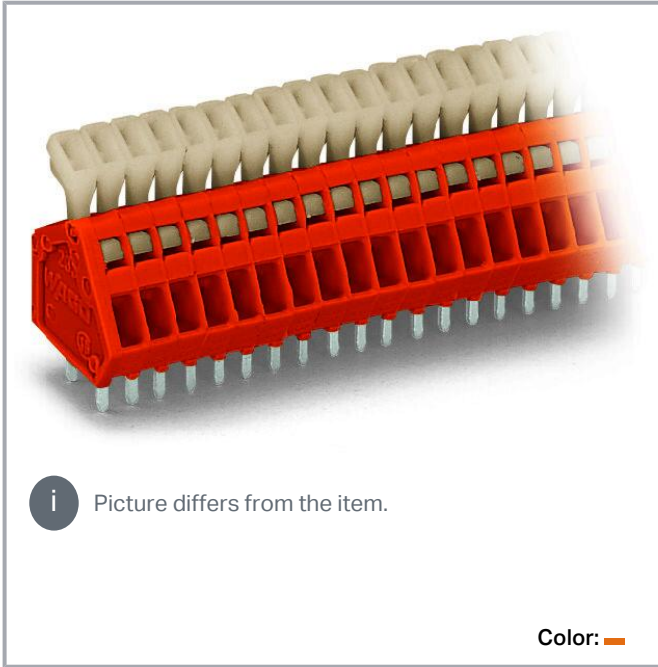


Data sheet | Item number: 233-509

PCB terminal block; push-button; 0.5 mm<sup>2</sup>; Pin spacing 2.54 mm; 9-pole;  
CAGE CLAMP®; 0,50 mm<sup>2</sup>; orange

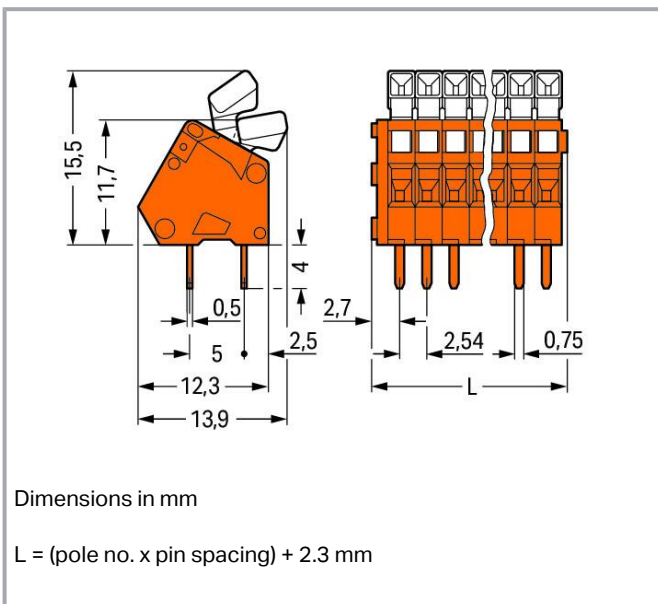
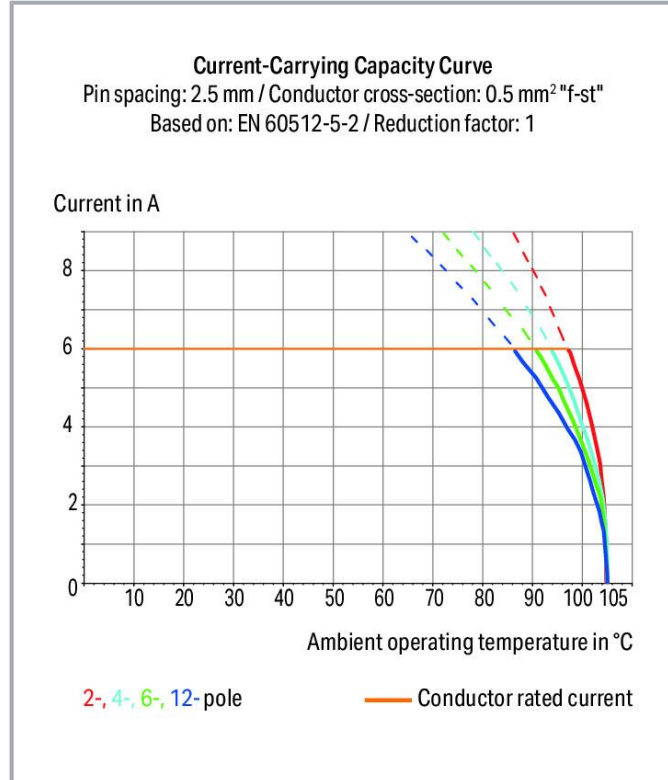


[www.wago.com/233-509](http://www.wago.com/233-509)



**i** Picture differs from the item.

Color: ■



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

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## Item description

- PCB terminal strips with push-buttons and CAGE CLAMP® connection
- Double solder pins for high mechanical stability on PCB
- Ideal for in-the-field wiring thanks to simplified push-button actuation
- Convenient, tool-free operation

## Data

### Notes

Variants:

Other pole numbers

Other colors

Mixed-color PCB connector strips

Direct marking

Other versions (or variants) can be requested from WAGO Sales or configured at <https://configurator.wago.com/>.

## Electrical data

### Ratings per IEC/EN

Ratings per	IEC/EN 60664-1
Nominal voltage (III/3)	63 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	6 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)	150 V
Rated current UL (Use Group B)	4 A

### Ratings per CSA

Approvals per	CSA
---------------	-----

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Rated voltage CSA (Use Group B)	150 V
Rated current CSA (Use Group B)	4 A

### Connection data

Connection points	9
Total number of potentials	9
Number of connection types	1
Number of levels	1

### Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Push-button
Solid conductor	0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 mm <sup>2</sup>
Note (conductor cross-section)	Terminating 0.75 mm <sup>2</sup> /18 AWG conductors is possible; however insulation diameter allows only every other clamping unit to be terminated with this conductor size.
Strip length	5 ... 6 mm / 0.2 ... 0.24 inches
Conductor connection direction to PCB	30 °
Pole number	9

### Physical data

Pin spacing	2.54 mm / 0.1 inches
Width	25.16 mm / 0.991 inches
Height	19.5 mm / 0.768 inches
Height from the surface	15.5 mm / 0.61 inches
Depth	13.9 mm / 0.547 inches
Solder pin length	4 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter with tolerance	1.1 <sup>(+0.1)</sup> mm

### PCB contact

PCB contact	THT
Solder pin arrangement	over the entire terminal strip (in-line)

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



Number of solder pins per potential	2
-------------------------------------	---

## Material Data

Note (material data)

Information on material specifications can be found here

Color	orange
Material group	I
Insulation material	Polyamide (PA66)
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	0.085 MJ
Weight	3.7 g

## Environmental requirements

Limit temperature range	-60 ... +105 °C
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## Commercial data

Product Group	4 (Printed Circuit Connectors)
eCl@ss 10.0	27-44-04-01
eCl@ss 9.0	27-44-04-01
ETIM 8.0	EC002643
ETIM 7.0	EC002643
PU (SPU)	200 (50) pcs
Packaging type	box
Country of origin	CH
GTIN	4045454050399
Customs tariff number	85369010000

## Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
------------------------	-------------------------

## Approvals / Certificates

### General approvals



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Logo	Approval	Additional Approval Text	Certificate name
	CCA DEKRA Certification B.V.	EN 60998	NTR NL 6946
	CCA DEKRA Certification B.V.	EN 60998	2153951.01
	CCA DEKRA Certification B.V.	EN 60947-7-4	NTR NL 7786
	CSA DEKRA Certification B.V.	C22.2	1465035
	KEMA/KEUR DEKRA Certification B.V.	EN 60947-7-4	71-111040
	UL UL International Germany GmbH	UL 1059	E45172

## Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
	UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

## Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	19- HG1869876-

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**BV**  
Bureau Veritas S.A.

IEC 60998

11915/DO  
BV



**DNV GL**  
Det Norske Veritas, Germanischer Lloyd





-

TAE000016Z

## Optional accessories



### Ferrule

#### Ferrule

	<b>Item no.: 216-131</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated; silver-colored	<a href="http://www.wago.com/216-131">www.wago.com/216-131</a>
	<b>Item no.: 216-151</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated	<a href="http://www.wago.com/216-151">www.wago.com/216-151</a>
	<b>Item no.: 216-301</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow	<a href="http://www.wago.com/216-301">www.wago.com/216-301</a>
	<b>Item no.: 216-321</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow	<a href="http://www.wago.com/216-321">www.wago.com/216-321</a>

### Marking accessories







#### Marking strip

	<b>Item no.: 210-331/250-207</b> Marking strips; as a DIN A4 sheet; MARKED; 1-48 (100x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white	<a href="http://www.wago.com/210-331/250-207">www.wago.com/210-331/250-207</a>
	<b>Item no.: 210-331/250-202</b> Marking strips; as a DIN A4 sheet; MARKED; 1-16 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white	<a href="http://www.wago.com/210-331/250-202">www.wago.com/210-331/250-202</a>
	<b>Item no.: 210-331/254-204</b> Marking strips; as a DIN A4 sheet; MARKED; 17-32 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white	<a href="http://www.wago.com/210-331/254-204">www.wago.com/210-331/254-204</a>
	<b>Item no.: 210-331/250-204</b> Marking strips; as a DIN A4 sheet; MARKED; 17-32 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white	<a href="http://www.wago.com/210-331/250-204">www.wago.com/210-331/250-204</a>

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	<p><b>Item no.: 210-331/254-206</b>                  Marking strips; as a DIN A4 sheet; MARKED; 33-48 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>	<a href="http://www.wago.com/210-331/254-206">www.wago.com/210-331/254-206</a>
	<p><b>Item no.: 210-331/250-206</b>                  Marking strips; as a DIN A4 sheet; MARKED; 33-48 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>	<a href="http://www.wago.com/210-331/250-206">www.wago.com/210-331/250-206</a>
	<p><b>Item no.: 210-331/254-202</b>                  Marking strips; as a DIN A4 sheet; MARKED; 1-16 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>	<a href="http://www.wago.com/210-331/254-202">www.wago.com/210-331/254-202</a>
	<p><b>Item no.: 210-331/254-207</b>                  Marking strips; as a DIN A4 sheet; MARKED; 1-48 (100x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white</p>	<a href="http://www.wago.com/210-331/254-207">www.wago.com/210-331/254-207</a>
<b>Tool</b>		
Operating tool		
	<p><b>Item no.: 210-648</b>                  Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; angled; short</p>	<a href="http://www.wago.com/210-648">www.wago.com/210-648</a>
	<p><b>Item no.: 210-719</b>                  Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft</p>	<a href="http://www.wago.com/210-719">www.wago.com/210-719</a>

## Downloads

### Documentation

#### Additional Information

Technical Section	2019 Apr 3	pdf	Download
Technical explanations		2.0 MB	

## CAD/CAE-Data

### CAE data

EPLAN Data Portal 233-509	URL	Download
ZUKEN Portal 233-509	URL	Download

### PCB Design

Symbol and Footprint 233-509	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.

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



**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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**CAD data**

2D/3D Models 233-509	<a href="#">URL</a>	<a href="#">Download</a>
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**Environmental Product Compliance**

**Compliance Search**

Environmental Product Compliance 233-509 PCB terminal block; push-button; 0.5 mm <sup>2</sup> ; Pin spacing 2.54 mm; 9-pole; CAGE CLAMP®; 0,50 mm <sup>2</sup> ; orange	<a href="#">URL</a>	<a href="#">Download</a>
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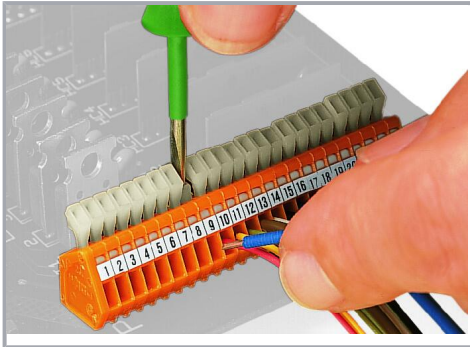
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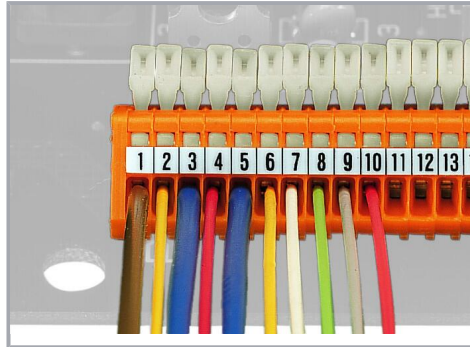


## Installation Notes

### Conductor termination



Inserting/removing a conductor.



Nominal cross-section: 0.5 mm<sup>2</sup> (20 AWG),  
0.75 mm<sup>2</sup> (18 AWG) only in every other position

### Marking



Labeling via self-adhesive marking strips or  
factory direct marking.

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