

**Data sheet | Item number: 233-110**

PCB terminal block; 0.5 mm<sup>2</sup>; Pin spacing 2.5 mm; 10-pole; CAGE CLAMP®;  
0,50 mm<sup>2</sup>; gray

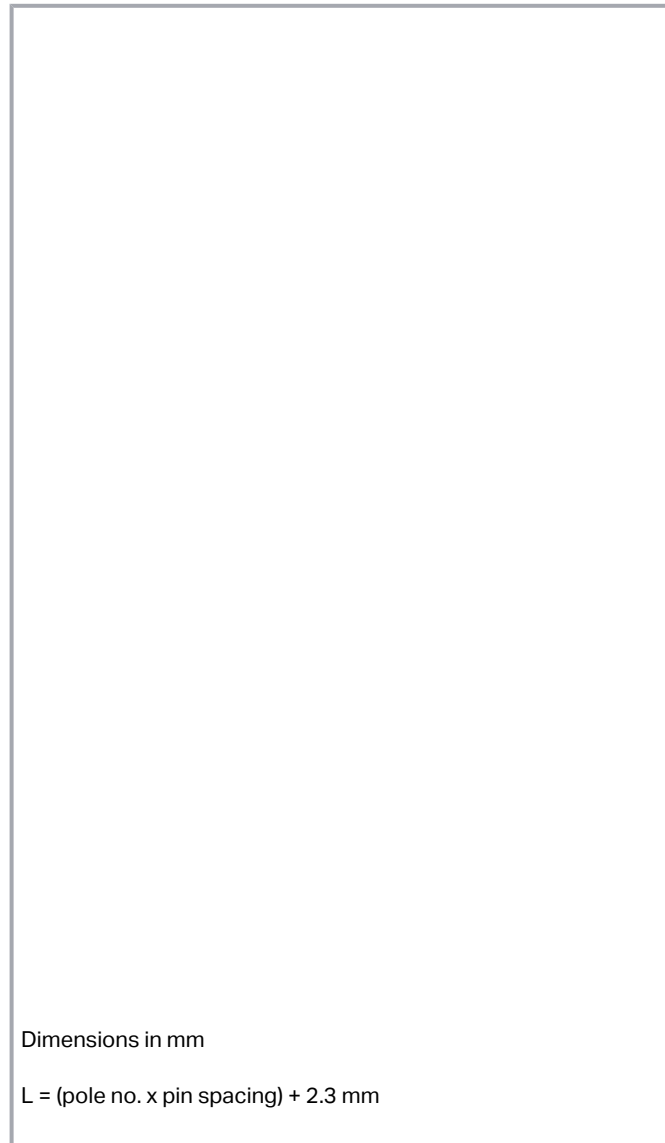
[www.wago.com/233-110](http://www.wago.com/233-110)



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

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## Item description

- Compact terminal strips with CAGE CLAMP<sup>®</sup> connection and screwdriver actuation parallel or perpendicular to conductor entry
- Double solder pins for high mechanical stability
- Custom color combinations

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

**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 <a href="https://configurator.wago.com/">https://configurator.wago.com/</a> .
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**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) $\hat{=}$ Overvoltage category III / Pollution degree 2

**Ratings per UL**

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

**Connection data**

Connection points	10
Total number of potentials	10
Number of connection types	1

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



Number of levels	1
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### Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
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	10

### Physical data

Pin spacing	2.5 mm / 0.098 inches
Width	27.3 mm / 1.075 inches
Height	15.7 mm / 0.618 inches
Height from the surface	11.7 mm / 0.461 inches
Depth	12.1 mm / 0.476 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

### Plug-in connection

Plugging without loss of pin spacing

### PCB contact

PCB contact	THT
Solder pin arrangement	over the entire terminal strip (in-line)
Number of solder pins per potential	2

### Material Data

Note (material data)

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



Information on material specifications can be found here

Color	gray
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	0.044 MJ
Weight	3.5 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)	180 (45) pcs
Packaging type	box
Country of origin	CH
GTIN	4045454049249
Customs tariff number	85369010000

### Environmental Product Compliance

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

#### General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCA DEKRA Certification B.V.	EN 60998	2153951.01
	CCA	EN 60998	NTR NL

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DEKRA Certification B.V.		6946
<b>CCA</b> DEKRA Certification B.V.	EN 60947-7-4	NTR NL 7786
<b>CSA</b> DEKRA Certification B.V.	C22.2	1465035
<b>KEMA/KEUR</b> DEKRA Certification B.V.	EN 60947-7-4	71-111040
<b>UL</b> UL International Germany GmbH	UL 1059	E45172

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

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

#### Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b> American Bureau of Shipping	-	19- HG1869876- PDA
	<b>DNV GL</b> Det Norske Veritas, Germanischer Lloyd	-	TAE000016Z

#### Optional accessories

##### Tool

Operating tool	
<b>Item no.: 210-648</b> Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; angled; short	<a href="http://www.wago.com/210-648">www.wago.com/210-648</a>
<b>Item no.: 210-647</b> Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; multicoloured	<a href="http://www.wago.com/210-647">www.wago.com/210-647</a>
<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>
<b>Item no.: 233-332</b> Operating tool; made of insulating material; white	<a href="http://www.wago.com/233-332">www.wago.com/233-332</a>
<b>Item no.: 233-331</b> Operating tool; insulated; yellow	<a href="http://www.wago.com/233-331">www.wago.com/233-331</a>

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**Item no.: 233-335**  
Operating tool; green

[www.wago.com/233-335](http://www.wago.com/233-335)

#### 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>
<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	<a href="http://www.wago.com/210-331/254-206">www.wago.com/210-331/254-206</a>
<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	<a href="http://www.wago.com/210-331/250-206">www.wago.com/210-331/250-206</a>
<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	<a href="http://www.wago.com/210-331/254-202">www.wago.com/210-331/254-202</a>
<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	<a href="http://www.wago.com/210-331/254-207">www.wago.com/210-331/254-207</a>

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**Downloads****Documentation****Additional Information**

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2.0 MB[Download](#)**CAD/CAE-Data****CAE data**

EPLAN Data Portal 233-110

[URL](#)[Download](#)

ZUKEN Portal 233-110

[URL](#)[Download](#)**PCB Design**

Symbol and Footprint 233-110

[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:**

- 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

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- 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 233-110	URL	Download
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### Environmental Product Compliance

#### Compliance Search

Environmental Product Compliance 233-110	URL	Download
PCB terminal block; 0.5 mm <sup>2</sup> ; Pin spacing 2.5 mm; 10-pole; CAGE CLAMP®; 0,50 mm <sup>2</sup> ; gray		

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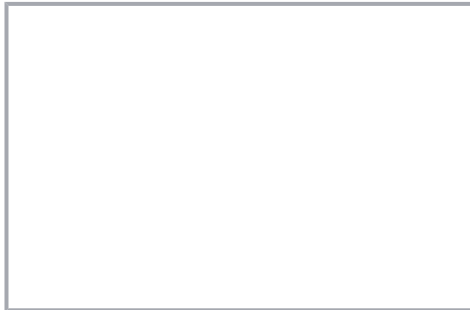
### Installation Notes

#### Conductor termination



Inserting a conductor via 3.5 mm screwdriver.

Screwdriver actuation parallel to conductor entry



Inserting a conductor via 3.5 mm screwdriver.

Screwdriver actuation perpendicular to conductor entry

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

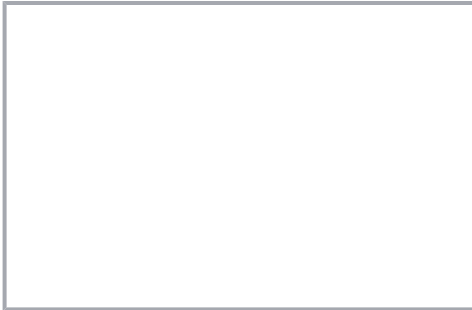


Inserting a conductor via operating tool.



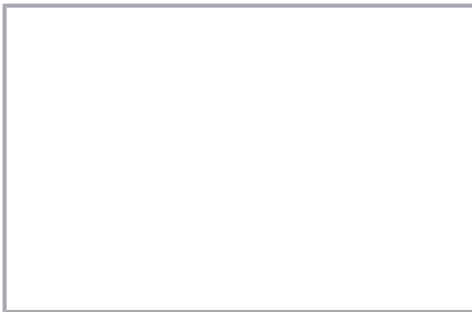
Compared to standard screwdrivers, these operating tools are far more convenient for wiring PCB terminal strips at factory.

### Installation



PCB Terminal Strips placed behind each other save space – staggering them by half the pin spacing simplifies subsequent wiring of the first row.

### Installation



Combining PCB terminal blocks with different pin spacing.

### Marking

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



Optional: Labeling via factory direct marking.



Optional: Labeling with self-adhesive marking strips possible

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