

**Data sheet | Item number: 233-224**

PCB terminal block; push-button; 0.5 mm<sup>2</sup>; Pin spacing 2.5 mm; 24-pole;  
CAGE CLAMP®; 0,50 mm<sup>2</sup>; gray

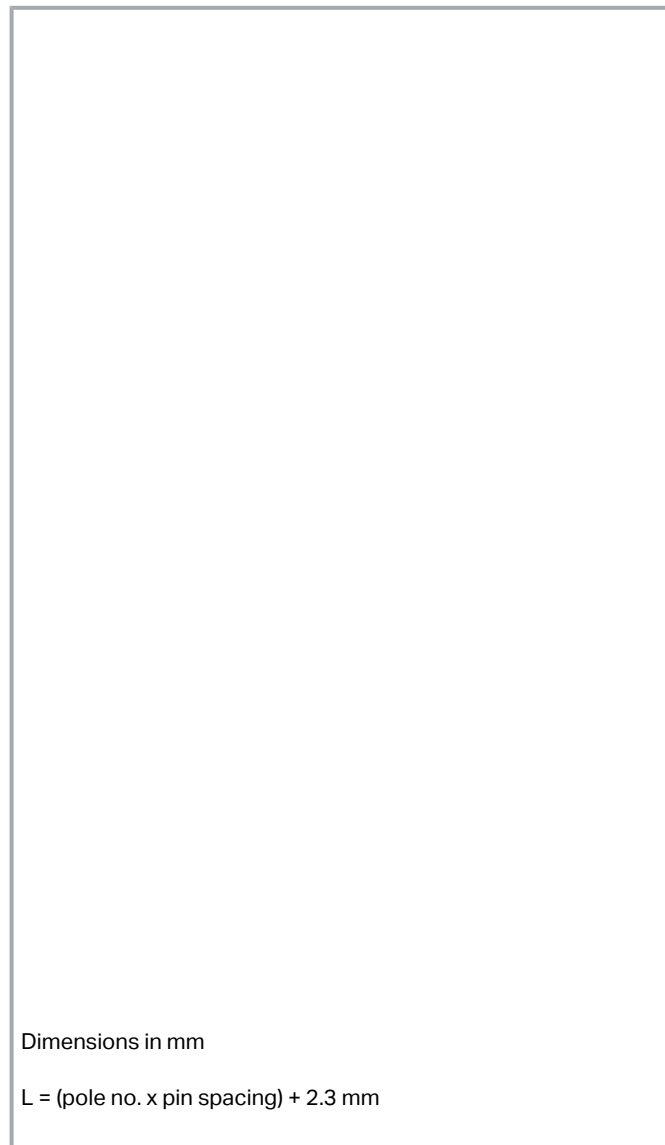
[www.wago.com/233-224](http://www.wago.com/233-224)



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

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Do you have any questions about our products?  
We are always happy to take your call at +49 (571) 887-44222.



### 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

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	24
Total number of potentials	24
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	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	24

### Physical data

Pin spacing	2.5 mm / 0.098 inches
Width	62.3 mm / 2.453 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

### 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	0.22 MJ
Weight	9.5 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)	80 (20) pcs
Packaging type	box
Country of origin	CH
GTIN	4045454049690
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	NTR NL 6946
	CCA	EN 60998	2153951.01

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DEKRA Certification B.V.			
<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>BV</b> Bureau Veritas S.A.	IEC 60998	11915/DO BV
	<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.: 210-719</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>

##### 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>

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**Item no.: 216-151**Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated[www.wago.com/216-151](http://www.wago.com/216-151)**Item no.: 216-301**Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow[www.wago.com/216-301](http://www.wago.com/216-301)**Item no.: 216-321**Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow[www.wago.com/216-321](http://www.wago.com/216-321)**Marking accessories**

## Marking strip

**Item no.: 210-331/250-207**

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

[www.wago.com/210-331/250-207](http://www.wago.com/210-331/250-207)**Item no.: 210-331/250-202**

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

[www.wago.com/210-331/250-202](http://www.wago.com/210-331/250-202)**Item no.: 210-331/254-204**

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

[www.wago.com/210-331/254-204](http://www.wago.com/210-331/254-204)**Item no.: 210-331/250-204**

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

[www.wago.com/210-331/250-204](http://www.wago.com/210-331/250-204)**Item no.: 210-331/254-206**

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

[www.wago.com/210-331/254-206](http://www.wago.com/210-331/254-206)**Item no.: 210-331/250-206**

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

[www.wago.com/210-331/250-206](http://www.wago.com/210-331/250-206)**Item no.: 210-331/254-202**

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

[www.wago.com/210-331/254-202](http://www.wago.com/210-331/254-202)**Item no.: 210-331/254-207**

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

[www.wago.com/210-331/254-207](http://www.wago.com/210-331/254-207)**Downloads****Documentation****Additional Information**

2019 年4月3日

pdf  
2.0 MB

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## CAD/CAE-Data

### CAD data

2D/3D Models 233-224	<a href="#">URL</a>	<a href="#">Download</a>
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### PCB Design

Symbol and Footprint 233-224	<a href="#">URL</a>	<a href="#">Download</a>
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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
- 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

### CAE data

ZUKEN Portal 233-224	<a href="#">URL</a>	<a href="#">Download</a>
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EPLAN Data Portal 233-224

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## Environmental Product Compliance

### Compliance Search

Environmental Product Compliance 233-224

[URL](#)

[Download](#)

PCB terminal block; push-button; 0.5 mm<sup>2</sup>; Pin spacing 2.5 mm; 24-pole; CAGE CLAMP®; 0,50 mm<sup>2</sup>; gray

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## Installation Notes

### Conductor termination

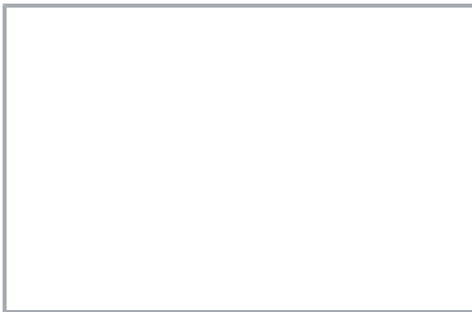


Inserting/removing a conductor.



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!