

Data sheet | Item number: 233-410

PCB terminal block; 0.5 mm²; Pin spacing 2.54 mm; 10-pole; CAGE CLAMP®;
0,50 mm²; orange

www.wago.com/233-410



Picture differs from the item.

Color:

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

WAGO GmbH & Co. KG
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Phone: +49 571 887-0 | Fax: +49 571 887-169

Email: info.de@wago.com | Web: www.wago.com

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



Item description

- Compact terminal strips with CAGE CLAMP[®] 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 <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 (II/2)	160 V
Rated impulse voltage (II/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) \triangleq 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

Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Solid conductor	0.08 ... 0.5 mm² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm² / 28 ... 20 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm²
Fine-stranded conductor; with uninsulated ferrule	0.25 mm²
Note (conductor cross-section)	Terminating 0.75 mm²/18 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	2.54 mm / 0.1 inches
Width	27.7 mm / 1.091 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 ^(±0.1) 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	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_{Cu})
Contact plating	Tin
Fire load	0.054 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	4045454050047
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

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

DEKRA Certification B.V.

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

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- PDA
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE000016Z

Optional accessories

Tool

Operating tool		
Item no.: 210-648 Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; angled; short		www.wago.com/210-648
Item no.: 210-647 Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; multicoloured		www.wago.com/210-647
Item no.: 210-719 Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft		www.wago.com/210-719
Item no.: 233-332 Operating tool; made of insulating material; white		www.wago.com/233-332
Item no.: 233-331 Operating tool; insulated; yellow		www.wago.com/233-331

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Item no.: 233-335
Operating tool; green

www.wago.com/233-335

Ferrule

Ferrule

Item no.: 216-131
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated; silver-colored

www.wago.com/216-131

Item no.: 216-151
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated

www.wago.com/216-151

Item no.: 216-301
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow

www.wago.com/216-301

Item no.: 216-321
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow

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

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

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

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

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

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

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

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

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

Downloads

Documentation

Additional Information

2019 年4月3日

pdf
2.0 MB

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CAD/CAE-Data

CAE data

EPLAN Data Portal 233-410

URL Download

ZUKEN Portal 233-410

URL Download

PCB Design

Symbol and Footprint 233-410

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

CAD data

2D/3D Models 233-410

URL

Download

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 233-410

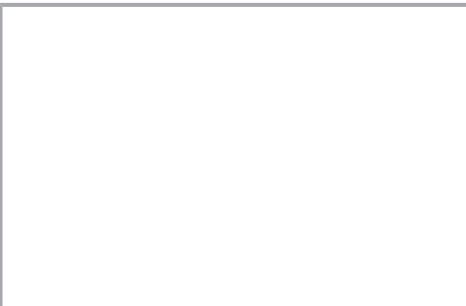
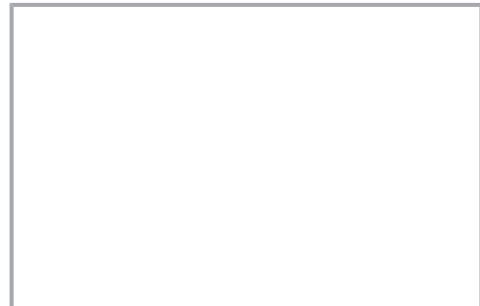
URL

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Installation Notes

Conductor termination



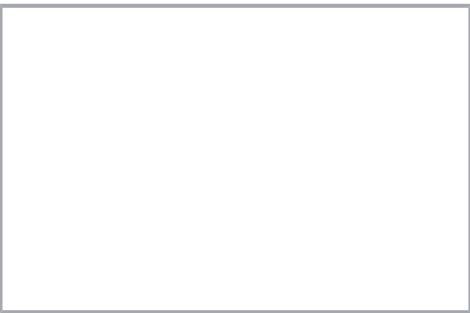
Inserting a conductor via 3.5 mm screwdriver.

Inserting a conductor via 3.5 mm screwdriver.

Screwdriver actuation parallel to conductor entry

Screwdriver actuation perpendicular to conductor entry

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



Inserting a conductor via operating tool.

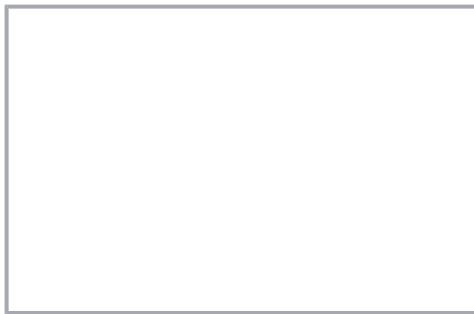
Compared to standard screwdrivers, these operating tools are far more convenient for wiring PCB terminal strips at factory.

Installation



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

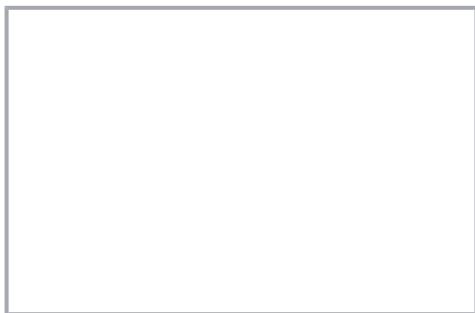
Installation



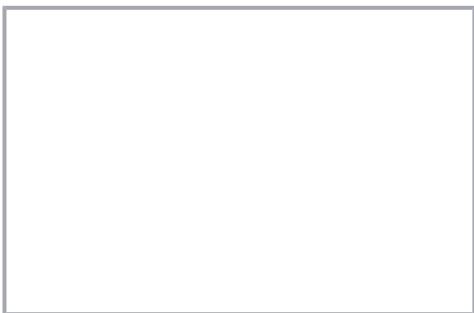
Combining PCB terminal blocks with different pin spacing.

Marking

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!

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