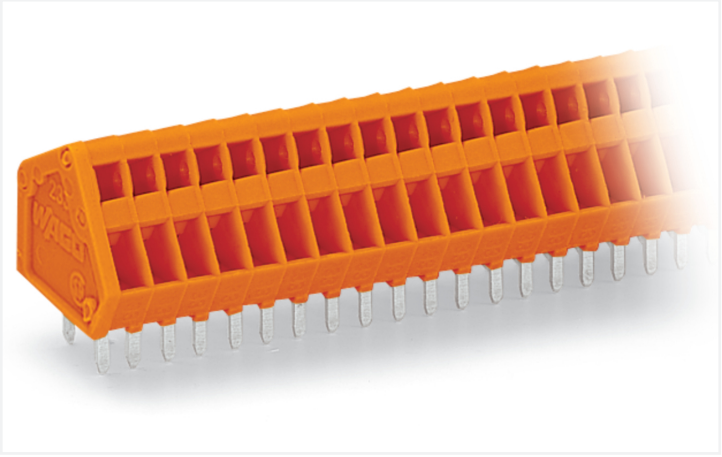
Data Sheet | Item Number: 233-408

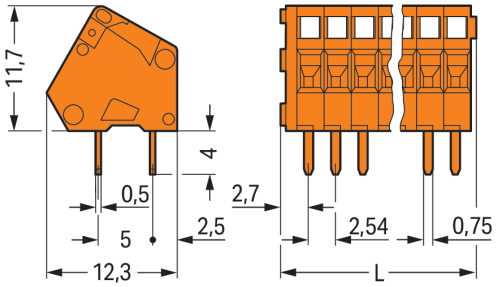
PCB terminal block; 0.5 mm²; Pin spacing 2.54 mm; 8-pole; CAGE CLAMP®; orange

https://www.wago.com/233-408



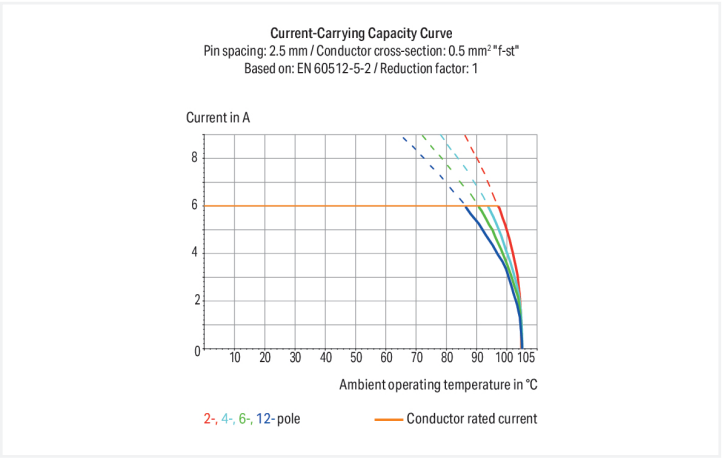
Color: orange

Similar to illustration



Dimensions in mm

L = (pole no. x pin spacing) + 2.3 mm



PCB terminal block, 233 Series, CAGE CLAMP®

Our PCB terminal block (item number 233-408) makes connections quick and easy. It is a universal connector that can be used practically anywhere, e. g., as a pluggable PCB connector, panel feedthrough header, connector for rail-mount terminal blocks, or a floating connector for different mounting methods. This PCB terminal block has a rated voltage of 160 V and can handle currents up to 6 A. Strip lengths must be between 5 mm and 6 mm when connecting conductors to this PCB terminal block. Featuring one conductor terminal along with CAGE CLAMP®, this product delivers reliable performance. Our reliable and maintenance-free CAGE CLAMP® connection makes it easy to connect all types of conductors without having to prepare the conductor. For example, you don't need to crimp ferrules. The dimensions are 22.62 x 15.7 x 12.1 mm (width x height x depth). This PCB terminal block is suitable for conductor cross sections ranging from 0.08 mm² to 0.5 mm². It features one level and eight clamping points that you can use to connect eight potentials / 8 poles. The clamping spring is made of chrome-nickel spring steel (CrNi), the orange housing is made of polyamide (PA66) for insulation, and the contacts are made of electrolytic copper (ECu). Tin is used for coating the contact surfaces. This PCB terminal block is operated with an operating tool. The PCB terminal block is designed for THT soldering. The conductor is designed to be inserted at a 30° angle.. The solder pins, which are 0.5 x 0.75 mm in cross-section and 4 mm long, are set out over the entire terminal strip (in-line). There are two solder pins per potential.

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 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	63 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Rated current	6 A	6 A	6 A

Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	150 V	-	-
Rated current	4 A	-	-

Approvals per	CSA		
Use group	B	C	D
Rated voltage	150 V	-	-
Rated current	4 A	-	-

Connection data

Clamping units	8
Total number of potentials	8
Number of connection types	1
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	8

Physical data

Pin spacing	2.54 mm / 0.1 inches
Width	22.62 mm / 0.891 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

PCB contact

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

Continued on next page

Material data

Note (material data)	Information on material specifications can be found here
Color	orange
Material group	I
Insulation material (main housing)	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	0.044 MJ
Weight	2.8 g

Environmental requirements

Limit temperature range	-60 … +105 °C

Commercial data

Product Group	4 (Printed Circuit Connectors)
PU (SPU)	220 (55) pcs
Packaging type	Box
Country of origin	CH
GTIN	4045454049997
Customs tariff number	85369010000

Product classification

UNSPSC	39121409
eCl@ss 10.0	27-44-04-01
eCl@ss 9.0	27-44-04-01
ETIM 9.0	EC002643
ETIM 8.0	EC002643
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

RoHS Compliance Status	Compliant,No Exemption

Approvals / Certificates

General approvals

Approval	Standard	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

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

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Approvals for marine applications

Approval	Standard	Certificate Name
ABS American Bureau of Shipping	-	19-HG1869876-PDA
DNV DNV GL SE	-	TAE000016Z

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 233-408

Documentation

Additional Information

Technical Section	03.04.2019	pdf 2027.26 KB

CAD/CAE-Data

CAD data

2D/3D Models 233-408

CAE data

EPLAN Data Portal 233-408

ZUKEN Portal 233-408

PCB Design

Symbol and Footprint via SamacSys 233-408

Symbol and Footprint via Ultra Librarian 233-408

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1 Compatible Products

1.1 Optional Accessories

1.1.1 Ferrule

1.1.1.1 Ferrule

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

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

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

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

1.1.2 Marking

1.1.2.1 Marking strip

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

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

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

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

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

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

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

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

1.1.3 Tool

1.1.3.1 Operating tool

Item No.: 210-719
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

Item No.: 210-648
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; angled; short

Item No.: 210-647
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; multicoloured

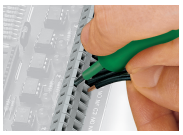
Item No.: 233-335
Operating tool; green

Item No.: 233-331
Operating tool; insulated; yellow

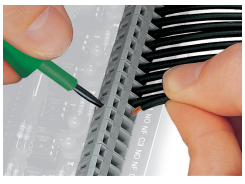
Item No.: 233-332
Operating tool; made of insulating material; white

Installation Notes

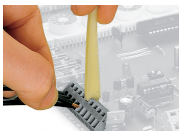
Conductor termination



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



Inserting a conductor via operating tool.

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

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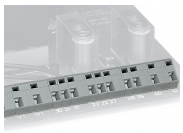
Installation

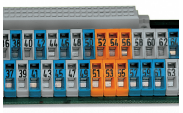
PCB Terminal Strips placed behind each other save space – staggering them by half the pin spacing simplifies subsequent wiring of the first row.

Installation



Combining PCB terminal blocks with different pin spacing.

Marking



Optional: Labeling via factory direct marking.

Optional: Labeling with self-adhesive marking strips possible