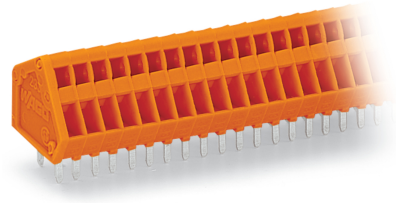
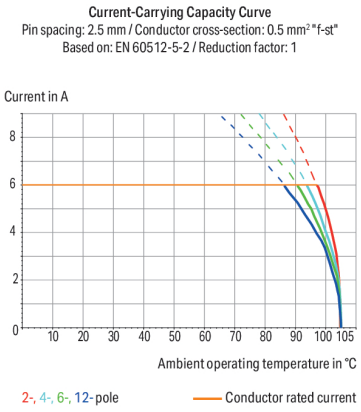
Data Sheet | Item Number: 233-410

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

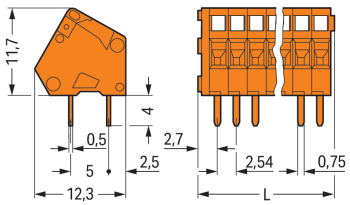
https://www.wago.com/233-410





Color: orange

Similar to illustration



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

PCB terminal block, 233 Series, with 2.54 mm pin spacing

Our PCB terminal block (item number 233-410) makes connecting wires quick and easy. It offers the flexibility needed for different mounting types. Strip lengths must be between 5 and 6 mm when connecting conductors to this PCB terminal block. This product features one conductor terminal and utilizes CAGE CLAMP®. Our CAGE CLAMP® connection provides a reliable and maintenance-free way to connect all types of conductors. You do not need to prepare the conductor in any way, such as crimping ferrules. The dimensions are (27.7 x 15.7 x 12.1) mm (width x height x depth). Depending on the type of conductor, this PCB terminal block is ideal for conductor cross sections ranging from 0.08 mm² to 0.5 mm².

Tin is used for coating the contact surfaces. An operating tool is used to operate this PCB terminal block. The PCB terminal block is designed for THT soldering. Insert the conductor into the board at an angle of 30°..

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 impulse withstand 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	10
Total number of potentials	10
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	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	1.1 $^{(+0.1)}$ mm

Continued on next page

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)	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	0.053 MJ
Weight	3.5 g

Environmental requirements

Limit temperature range	-60 … +105 °C

Commercial data

Product Group	4 (Printed Circuit Connectors)
PU (SPU)	180 (45) pcs
Packaging type	Box
Country of origin	CH
GTIN	4045454050047
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 10.0	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

General approvals

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

Continued on next page

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	-	-

Approvals for marine applications

Approval	Standard	Certificate Name
ABS American Bureau of Shipping	-	24-0095975-PDA
DNV DNV GL SE	-	TAE000016Z

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 233-410

Documentation

Additional Information

Technical Section	03.04.2019	pdf 2027.26 KB

CAD/CAE-Data

CAD data

2D/3D Models 233-410

CAE data

EPLAN Data Portal 233-410

ZUKEN Portal 233-410

PCB Design

Symbol and Footprint via SamacSys 233-410

Symbol and Footprint via Ultra Librarian 233-410

Continued on next page

1 Compatible Products

1.1 Optional Accessories

1.1.1 Ferrule

1.1.1.1 Ferrule



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; 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



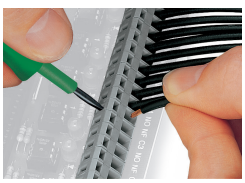
Item No.: 233-332
Operating tool; made of insulating material; white

Installation Notes

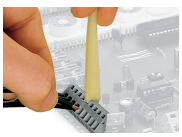
Conductor termination



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.

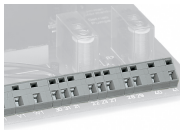
Continued on next page

Installation



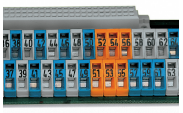
PCB Terminal Strips placed behind each other save space – staggering them by half the pin spacing simplifies subsequent wiring of the first row.

Installation



Combining PCB terminal blocks with different pin spacing.

Marking



Optional: Labeling via factory direct marking.



Optional: Labeling with self-adhesive marking strips possible