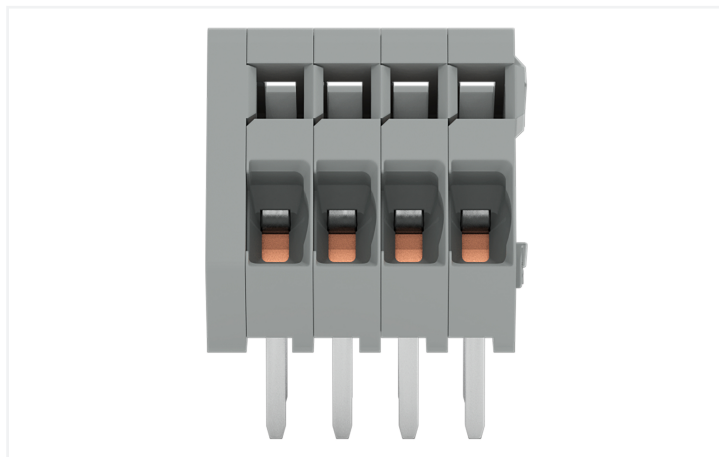


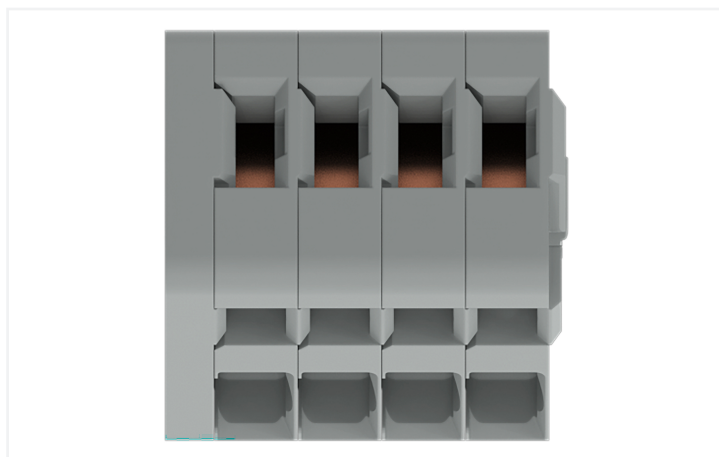
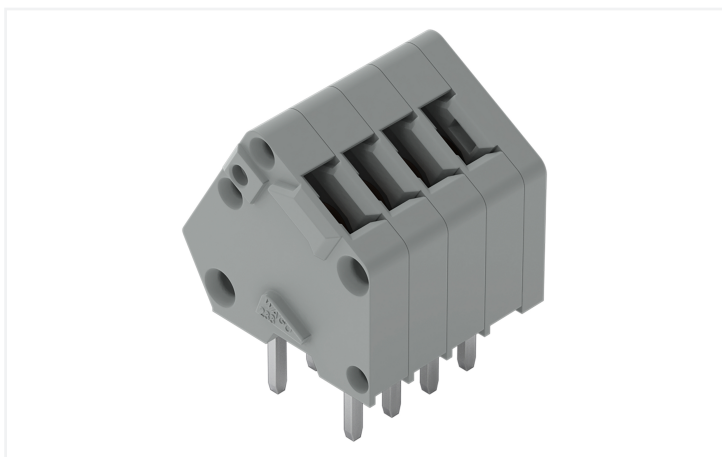
Data Sheet | Item Number: 233-104

PCB terminal block; 0.5 mm²; Pin spacing 2.5 mm; 4-pole; CAGE CLAMP®; gray

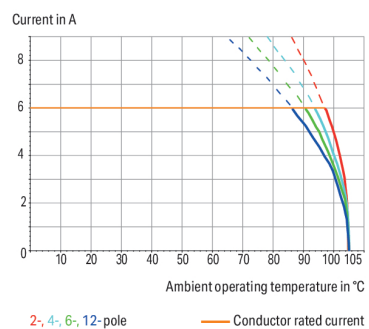
<https://www.wago.com/233-104>

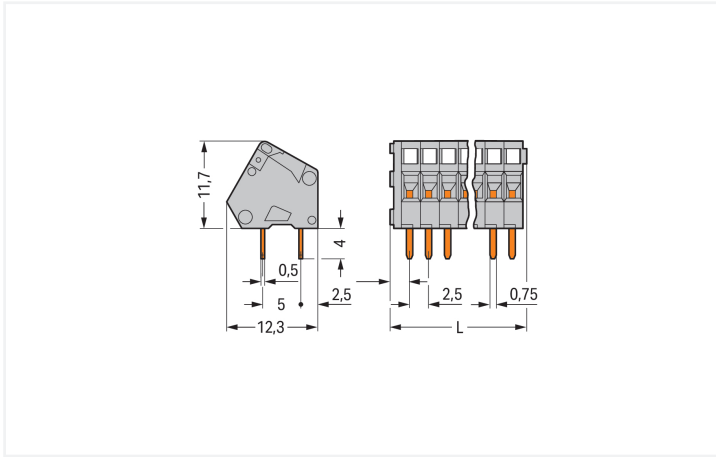


Color: ■ gray



Current-Carrying Capacity Curve
Pin spacing: 2.5 mm / Conductor cross-section: 0.5 mm²*f-st*
Based on: EN 60512-5-2 / Reduction factor: 1





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 233-104) is designed for seamless electrical installations. You can count on trusted safety with these PCB terminal blocks, perfect for a host of applications when designing your devices. Ensure that the strip lengths are between 5 and 6 mm when connecting conductors to this PCB terminal block. This product features one conductor terminal and utilizes CAGE CLAMP®. Our highly-rated and maintenance-free CAGE CLAMP® connection makes it easy to connect all conductor types without having to prepare the conductor. For example, you don't need to crimp ferrules. The item's dimensions are (12.3 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. Tin is used for coating the contact surfaces. This PCB terminal block is operated with an operating tool. THT is used to assemble the PCB terminal block. Insert the conductor 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			Approvals per	UL 1059		
Oversoltage category	III	III	II	Use group	B	C	D
Pollution degree	3	2	2	Rated voltage	150 V	-	-
Nominal voltage	63 V	160 V	320 V	Rated current	4 A	-	-
Rated impulse withstand voltage	2.5 kV	2.5 kV	2.5 kV				
Rated current	6 A	6 A	6 A				

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

Connection Data		Connection 1	
Clamping units	4	Connection technology	CAGE CLAMP®
Total number of potentials	4	Actuation type	Operating tool
Number of connection types	1	Solid conductor	0.08 ... 0.5 mm² / 28 ... 20 AWG
Number of levels	1	Fine-stranded conductor	0.08 ... 0.5 mm² / 28 ... 20 AWG
		Fine-stranded conductor; with insulated ferrule	0.25 mm²

Connection 1

Fine-stranded conductor; with insulated ferrule	0.25 mm ²
Note (conductor cross-section)	Terminating 0.75 mm ² /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	4

Physical data

Pin spacing	2.5 mm / 0.098 inches
Width	12.3 mm / 0.484 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
!	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

Material data

Note (material data)	Information on material specifications can be found here
Color	gray
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	0.02 MJ
Weight	1.5 g

Environmental requirements

Limit temperature range	-60 ... +105 °C
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Commercial data

Product Group	4 (Printed Circuit Connectors)
PU (SPU)	400 (100) pcs
Packaging type	Box
Country of origin	CH
GTIN	4045454049164
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
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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 Confor- mity WAGO GmbH & Co. KG	-	-
UK-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	24-0095975-PDA
DNV DNV GL SE	-	TAE000016Z
PRS Polski Rejestr Statków	-	TE/1095/880590/23

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 233-104



Documentation

Additional Information

Technical Section

03.04.2019

pdf

2027.26 KB



CAD/CAE-Data

CAD data

2D/3D Models 233-104



CAE data

EPLAN Data Portal 233-104



ZUKEN Portal 233-104



PCB Design

Symbol and Footprint via SamacSys 233-104



Symbol and Footprint via Ultra Librarian 233-104



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

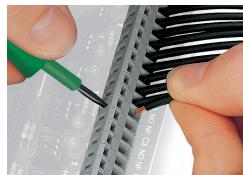
Operating tool; made of insulating material; white

Installation Notes

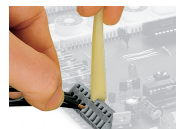
Conductor termination



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.

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