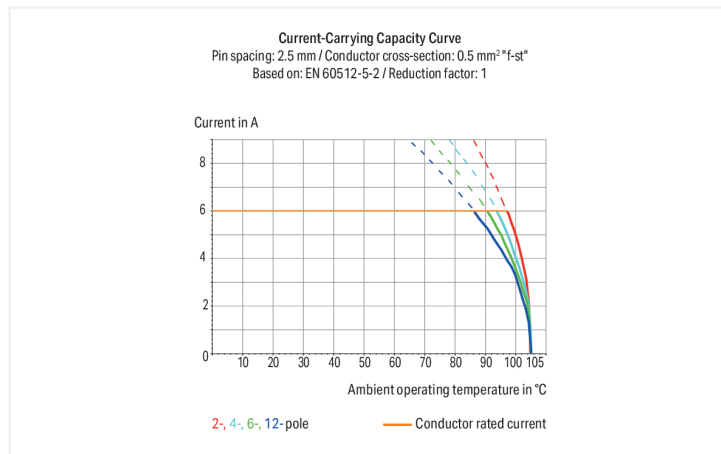


## Data Sheet | Item Number: 233-509

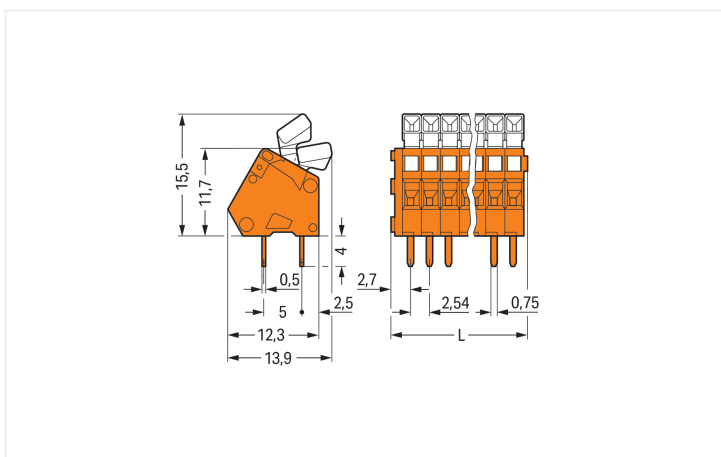
PCB terminal block; push-button; 0.5 mm<sup>2</sup>; Pin spacing 2.54 mm; 9-pole; CAGE CLAMP®; orange

<https://www.wago.com/233-509>



Color: ■ orange

Similar to illustration



Dimensions in mm

$L = (\text{pole no.} \times \text{pin spacing}) + 2.3 \text{ mm}$

PCB terminal block, 233 Series, orange

Our PCB terminal block (item number 233-509) makes connections quick and easy. You can rely on tried and tested safety with these PCB terminal blocks, perfect for a wide variety 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 incorporates one conductor terminal and utilizes CAGE CLAMP®. Our highly-rated 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 item's dimensions are (25.16 x 19.5 x 13.9) mm (width x height x depth). This PCB terminal block is suitable for conductor cross sections ranging from 0.08 mm<sup>2</sup> to 0.5 mm<sup>2</sup>. Tin is used for coating the contact surfaces. This PCB terminal block is operated with a push-button. The PCB terminal block is designed for THT soldering. The conductor is designed to be inserted at a 30° angle..

## 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 60664-1			Approvals per	UL 1059		
Overvoltage 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

Clamping units	9	<b>Connection 1</b>	
Total number of potentials	9	Connection technology	CAGE CLAMP®
Number of connection types	1	Actuation type	Push-button
Number of levels	1	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 un-insulated 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	9

## Physical data

Pin spacing	2.54 mm / 0.1 inches
Width	25.16 mm / 0.991 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 (+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)	<a href="#">Information on material specifications can be found here</a>
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 <sub>cu</sub> )
Contact Plating	Tin
Fire load	0.057 MJ
Weight	3.7 g

### Environmental requirements

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

Product Group	4 (Printed Circuit Connectors)
PU (SPU)	200 (50) pcs
Packaging type	Box
Country of origin	CH
GTIN	4045454050399
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

#### 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

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
BV Bureau Veritas S.A.	IEC 60998	11915/E0 BV
DNV DNV GL SE	-	TAE000016Z

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 233-509

Documentation

Additional Information			
Technical Section	03.04.2019	pdf 2027.26 KB	

CAD/CAE-Data

CAD data
2D/3D Models 233-509

CAE data
EPLAN Data Portal 233-509
ZUKEN Portal 233-509

PCB Design

Symbol and Footprint via SamacSys 233-509
Symbol and Footprint via Ultra Librarian 233-509

## 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 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow

**Item No.: 216-151**

Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated

#### 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**

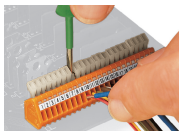
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

**Item No.: 210-648**

Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; angled; short

## 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.