

# EV-CC-AC1-M3-CBC-RCM-ETH - AC charging controller



1018701

<https://www.phoenixcontact.com/us/products/1018701>

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AC charging controller in accordance with IEC 61851-1, client or stand-alone, Modbus/TCP via Ethernet, connection for RFID reader and energy meter via RS-485, DC residual current monitoring, connector release in the event of power failure



## Product description

Mode 3 controller for charging electric vehicles in accordance with IEC 61851-1 for charging case B and C with integrated DC residual current monitoring and Ethernet communication interface.

## Commercial data

Item number	1018701
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	EM01
Product key	XWBRCA
GTIN	4055626503691
Weight per piece (including packing)	538.3 g
Weight per piece (excluding packing)	538.3 g
Customs tariff number	85371098
Country of origin	DE

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## Technical data

### Product properties

Product type	AC charging controller
Product family	CHARX control advanced plus
Charging mode	Mode 3, Case B + C
Operating mode	Stand-Alone Client
Modem for communication present	no
Number of charging points	1

### Electrical properties

Type of charging current	AC
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#### Measuring range: Residual current

Rated frequency $f_n$	$\leq 2000$ Hz
Nominal differential current	$\pm 300$ mA
Residual current $I_{\Delta n}$	30 mA (AC) 6 mA (DC)
Rated current $I_n$	32 A (Three-phase, 4x6 mm <sup>2</sup> ) 48 A (Single-phase)
Tripping time for $I_{\Delta n}$	$< 180$ ms
Response time for $2 \times I_{\Delta n}$	$< 70$ ms
Tripping time for $5 \times I_{\Delta n}$	$< 20$ ms

### Input data

#### Digital

Number of digital inputs	5
Description of the input	Digital input
Nominal current $I_N$	$\leq 4$ mA
Nominal input voltage $U_N$	12 V
Input voltage range	0 V ... 3 V (Off)
Input voltage range $U_2$	9 V ... 15 V (On)

### Output data

#### Digital

Output name	4 digital outputs
Connection technology	Screw connection
Maximum output voltage	30 V
Maximum output current	0.2 A (Total current for all outputs; internally supplied)
Maximum output current per channel	0.6 A (Per output; externally supplied)

#### Switching

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Output name	Relay output C <sub>1,2</sub>
Minimum switching power	4000 VA
Maximum switching voltage	250 V AC (External supply)
Max. switching current	16 A

## Switching

Output name	Motor switching output
Maximum switching voltage	12 V (Internal supply)
Max. switching current	1 A (maximum)

## Connection data

Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>
Conductor cross-section AWG	26 ... 16

## Interfaces

Interface	Ethernet (1x)
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## RS-485

Interface	RS-485 2-wire
Bus system	RS-485
Connection method	Screw connection
Number of interfaces	1 (for energy measurement device and RFID reader)
Number of supported devices	2
Transmission speed range	4.8 kbps ... 115.2 kbps (adjustable)
Protocols supported	Modbus/RTU (Master)

## Ethernet

Interface	Ethernet
Connection method	RJ45 jack
Number of interfaces	1
Serial transmission speed	10/100 Mbps
Transmission length	100 m
Protocols supported	Modbus/TCP

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	< 2000 m
Permissible humidity (operation)	30 % ... 95 % (non-condensing)

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## EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Noise immunity	EN 61000-6-2
Immunity to the discharge of static electricity	EN 61000-4-2: 8 kV air, 4 kV contact discharge
Immunity to electromagnetic fields	EN 61 000-4-3, 80---1000 MHz, 10 V/m
Immunity to conducted high frequency	EN 61 000-4-6, 0.15...80 MHz, 10 V
Immunity to fast transients (Burst)	EN 61 000-4-4: 2 kV AC mains input, 1 kV data cable
Housing	DIN 43880

## Noise emission

Standards/regulations	EN 61000-6-3
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## Standards and regulations

### Standards

Standards/regulations	IEC 61851-1
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any

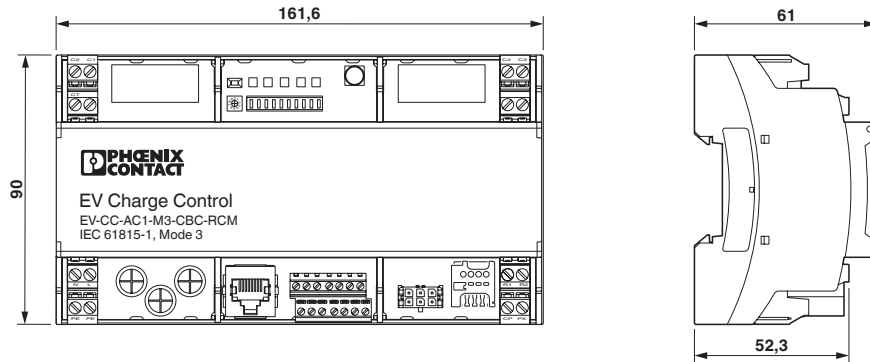
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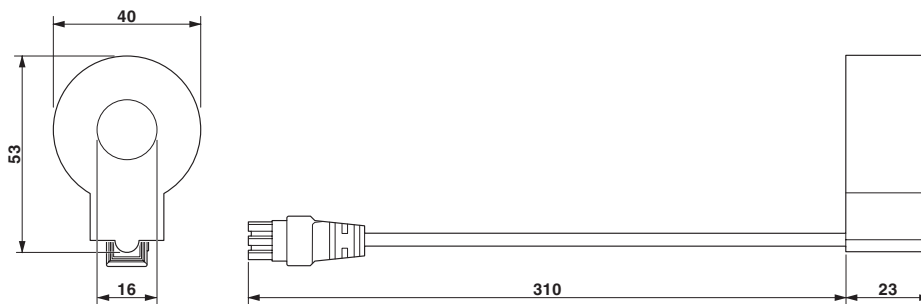
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## Drawings

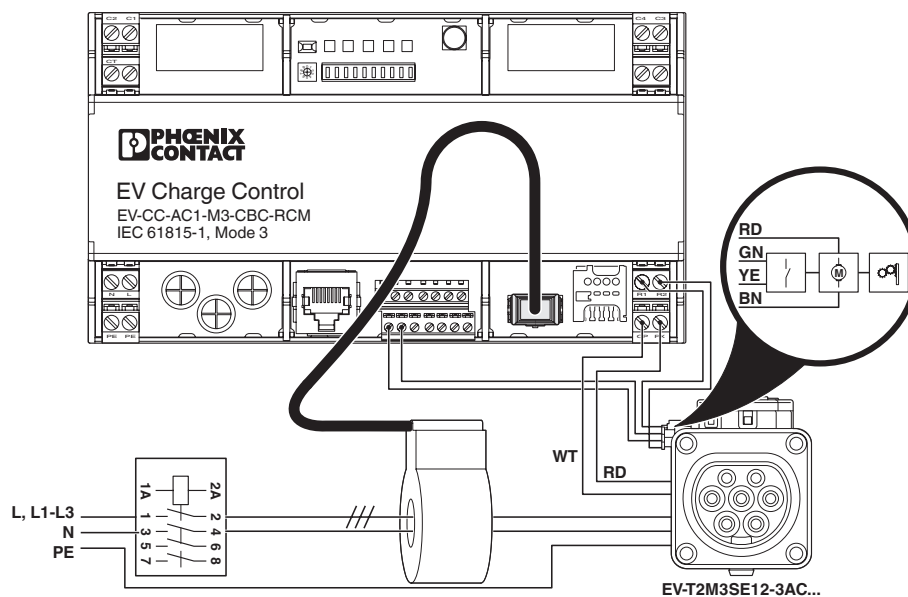
Dimensional drawing



Dimensional drawing



Connection diagram

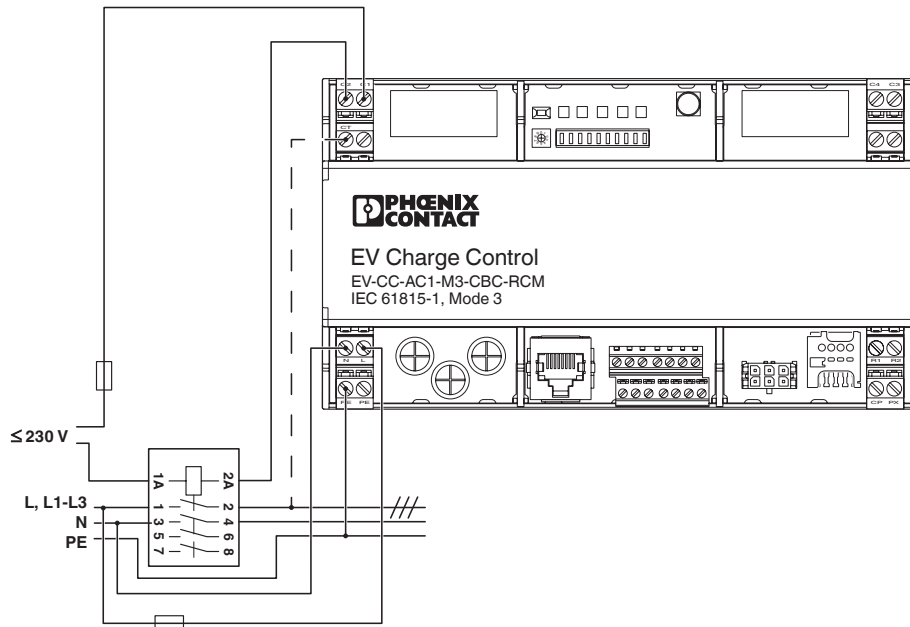


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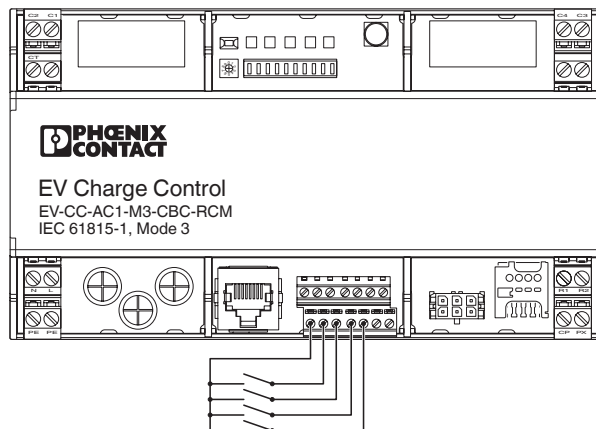
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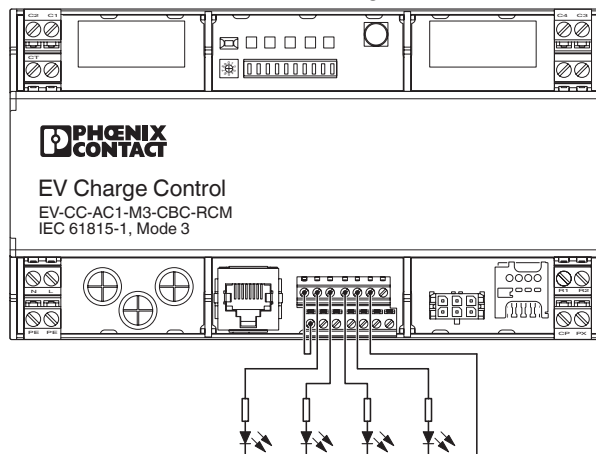
Connection diagram



Connection diagram



Connection diagram



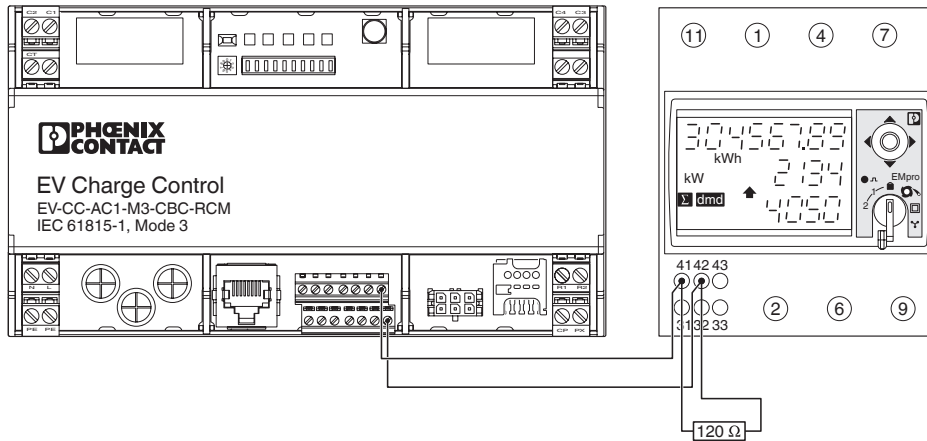
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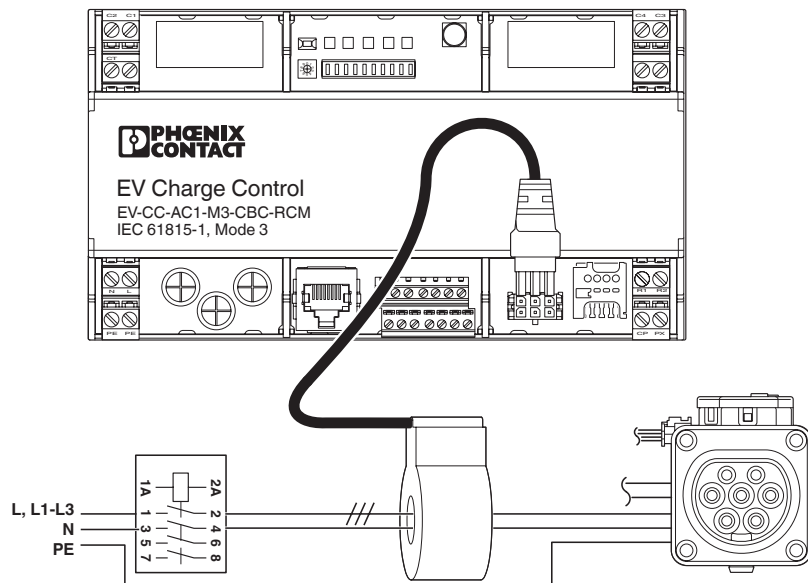
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Connection diagram



Connection diagram

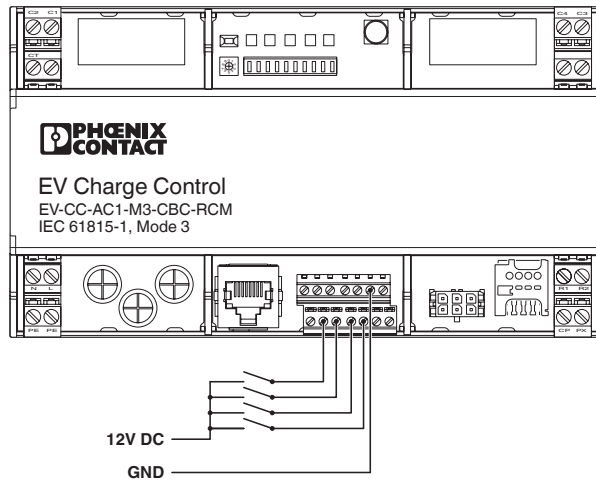


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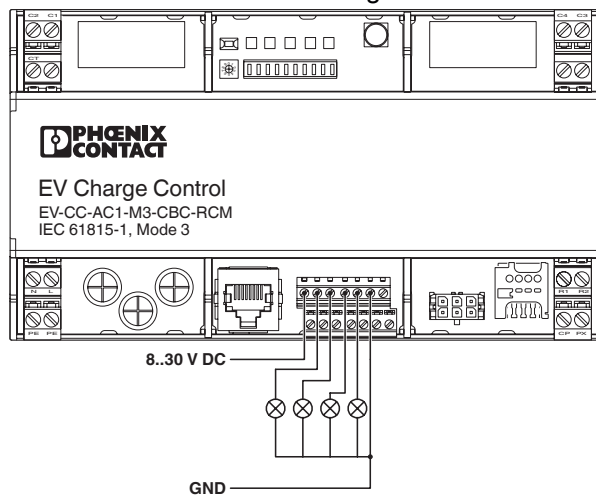
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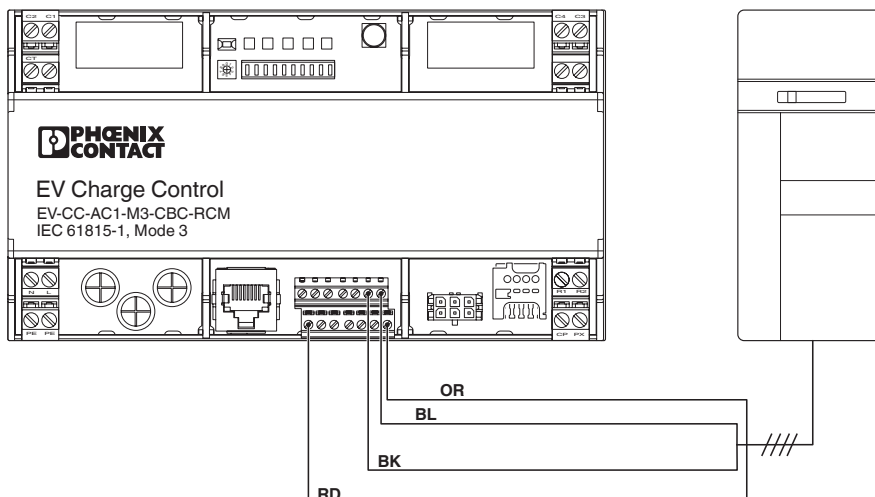
Connection diagram



Connection diagram



Connection diagram



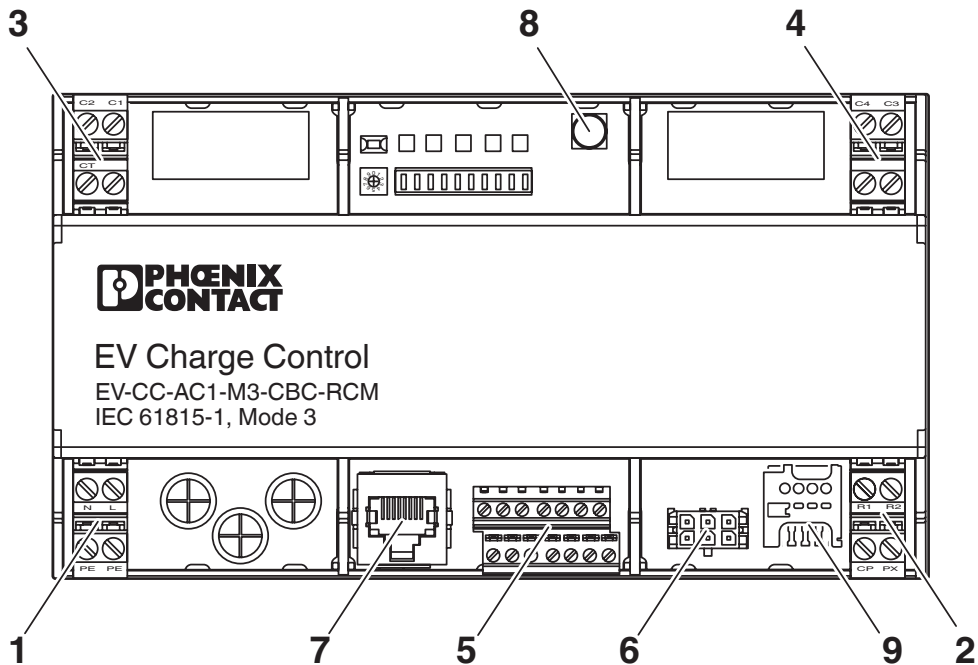
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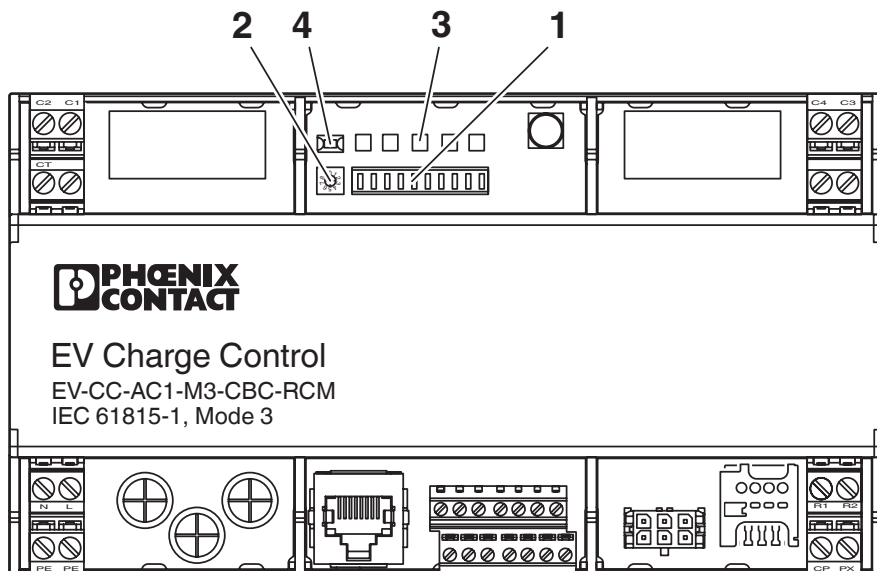
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Schematic diagram



Schematic diagram

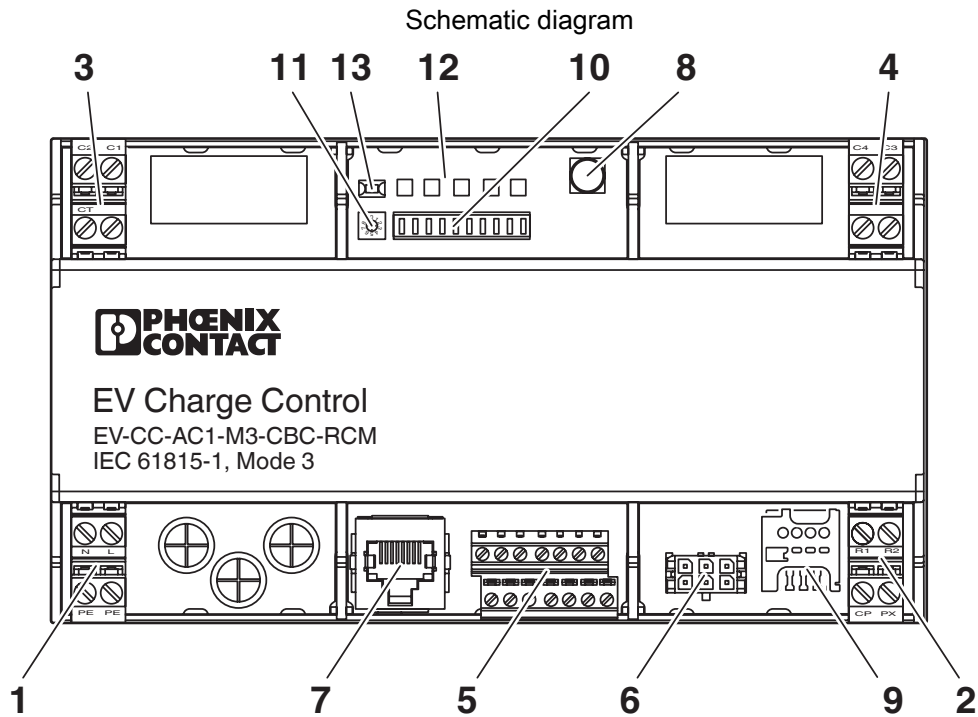


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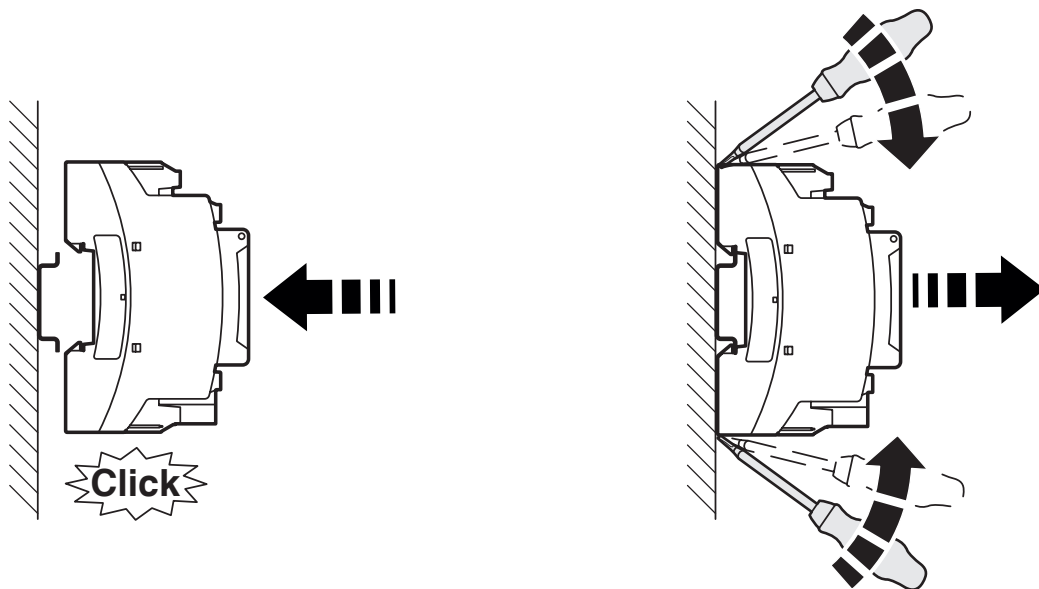


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Schematic diagram



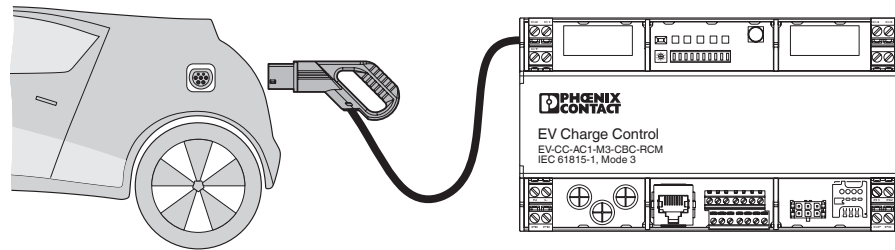
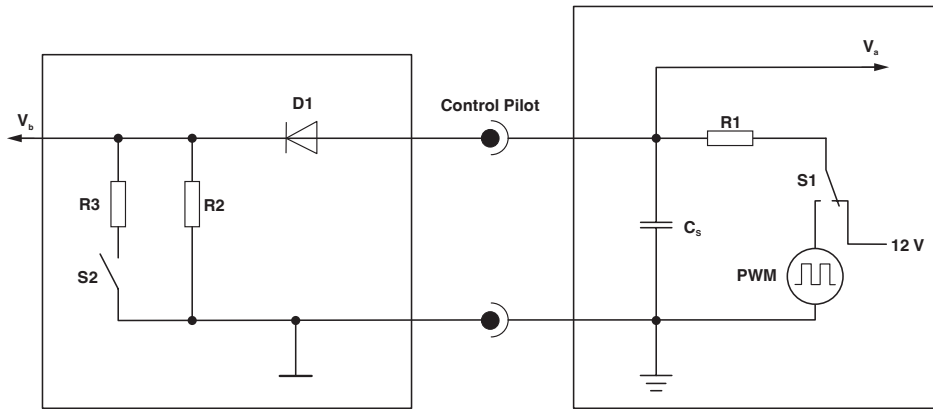
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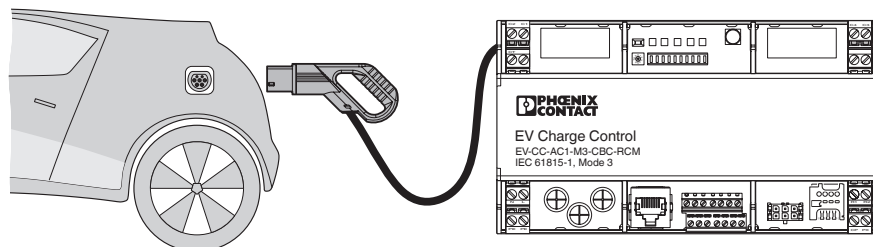
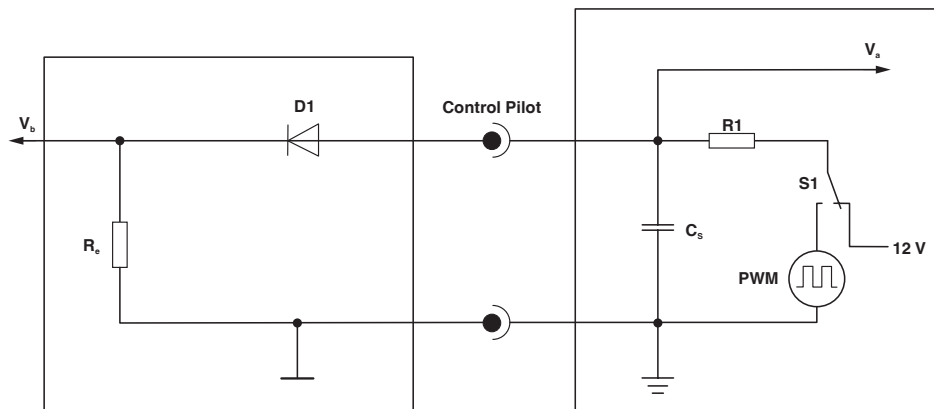
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Schematic diagram



Schematic diagram



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## Classifications

### ECLASS

ECLASS-13.0	27144703
ECLASS-15.0	27144703

### ETIM

ETIM 10.0	EC002889
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### UNSPSC

UNSPSC 21.0	39121800
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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