

# 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	XWBBCA
Catalog page	Page 60 (C-7-2019)
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
Application	AC charging controller for private and commercial applications (EU/CN)
Operating mode	Stand-Alone Client
Charging mode	Mode 3, Case B + C

### Insulation characteristics

Overvoltage category	II
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### System properties

#### Charging controllers

Number of charging points	1
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### Electrical properties

Type of charging current	AC
Current consumption	< 3 W (No-load)
Power consumption	< 10 W
Locking release in the event of mains failure	Integrated release function of the locking actuator for disconnection of Infrastructure Plug and Infrastructure Socket Outlet

### Measuring current transducer

Connection method	Connector
Diameter of measuring coil	15 mm

### 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

### Supply

Supply voltage	230 V
Supply voltage range	100 V AC ... 240 V AC (nominal voltage range)
Nominal power consumption	< 3 W (No-load)
Power consumption	< 10 W (maximum)

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Frequency range	50 Hz ... 60 Hz
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## 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

Output name	Relay output $C_{1,2}$
Minimum switching capacity	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 connection

Connection method	Screw connection
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 connection

Connection method	Screw connection
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

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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

## Signaling

Status display	5x LEDs
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
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)

## Approvals

### Conformity/Approvals

Conformance	CE-compliant
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## EMC data

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
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Housing	DIN 43880
Noise emission	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

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

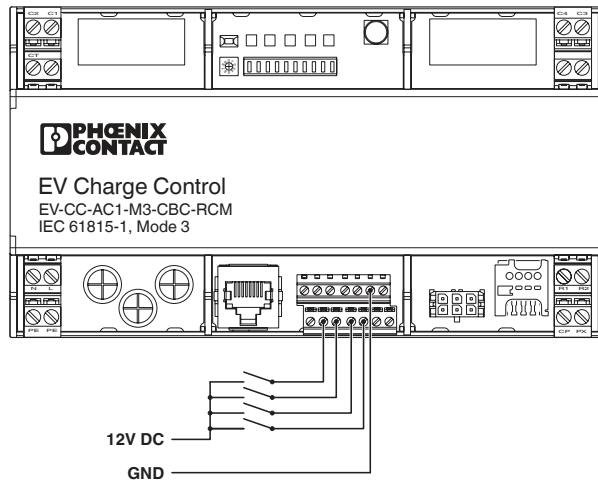


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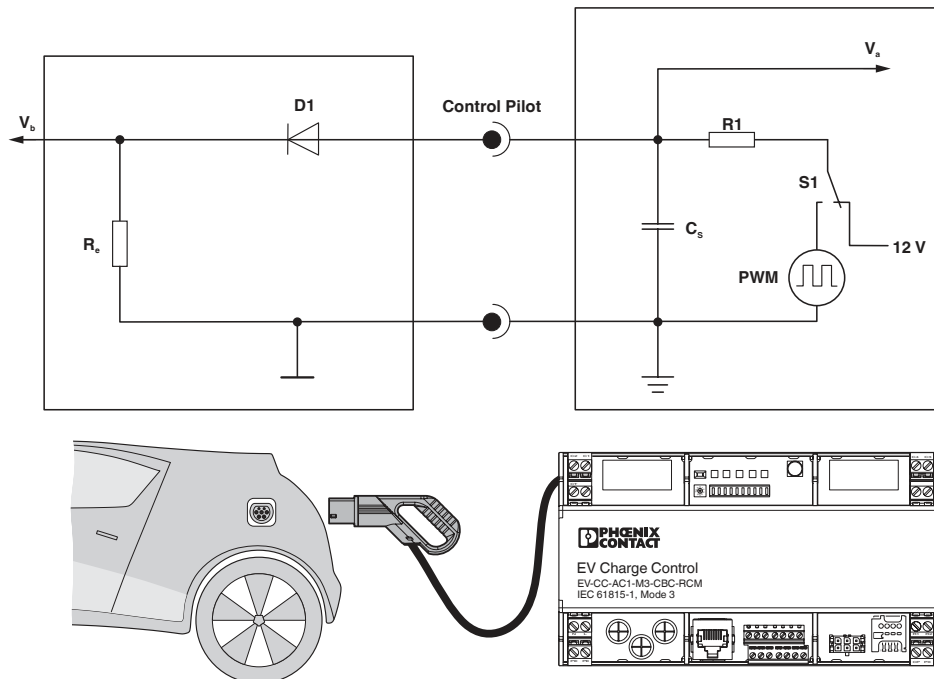
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## Drawings

Connection diagram



Schematic diagram

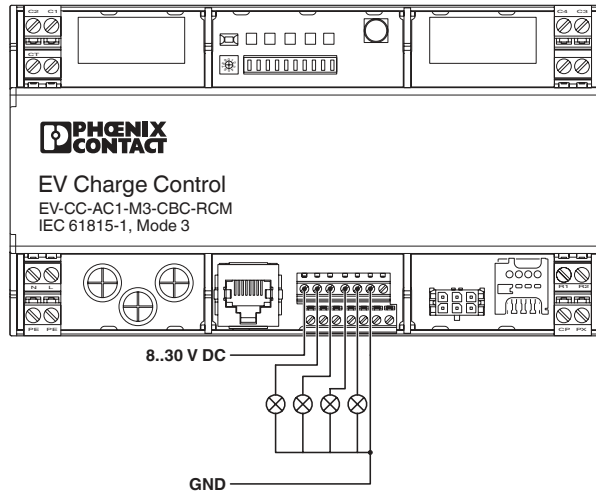


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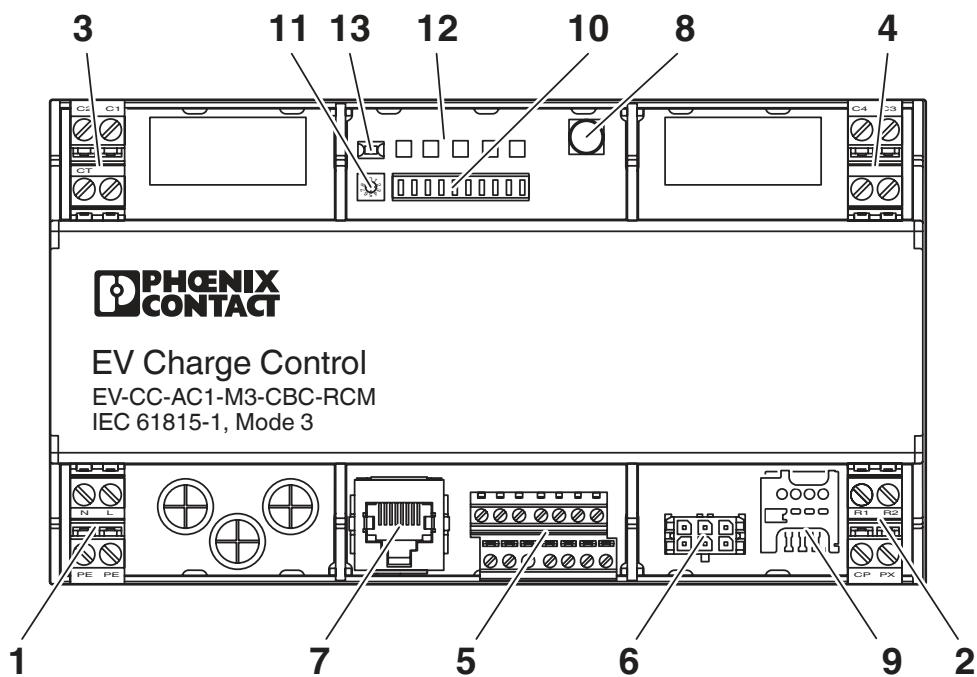
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Connection diagram



Schematic diagram

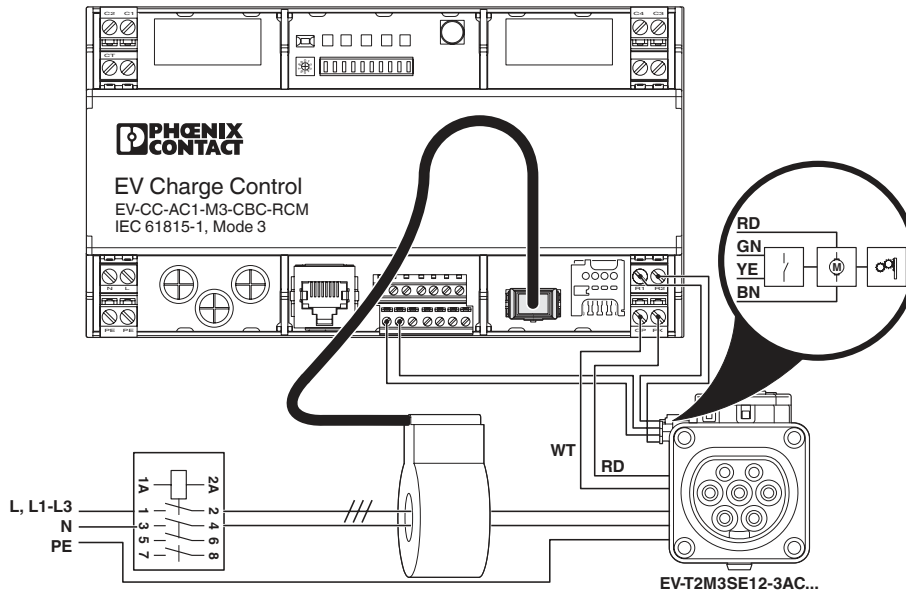


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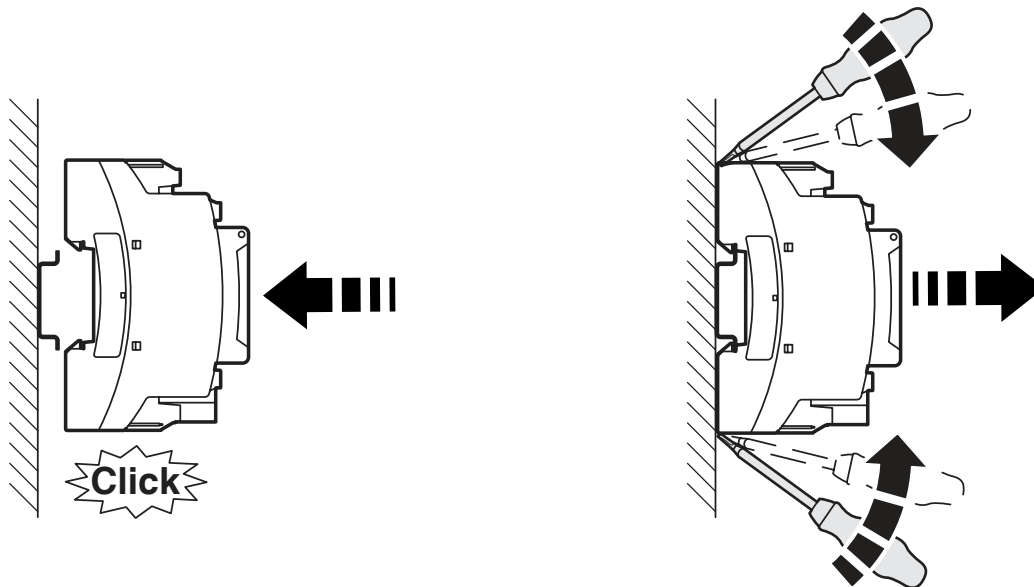
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Connection diagram



Schematic diagram





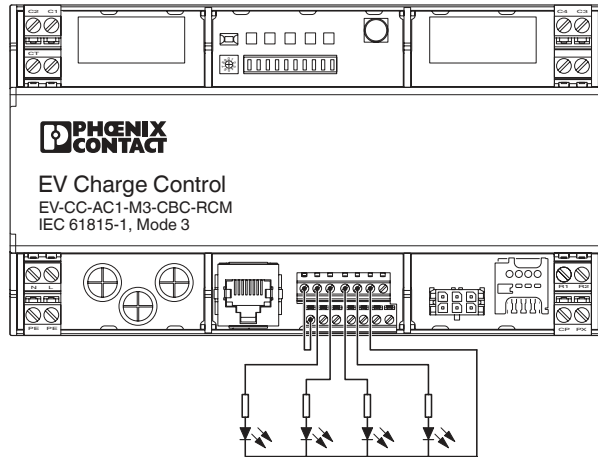
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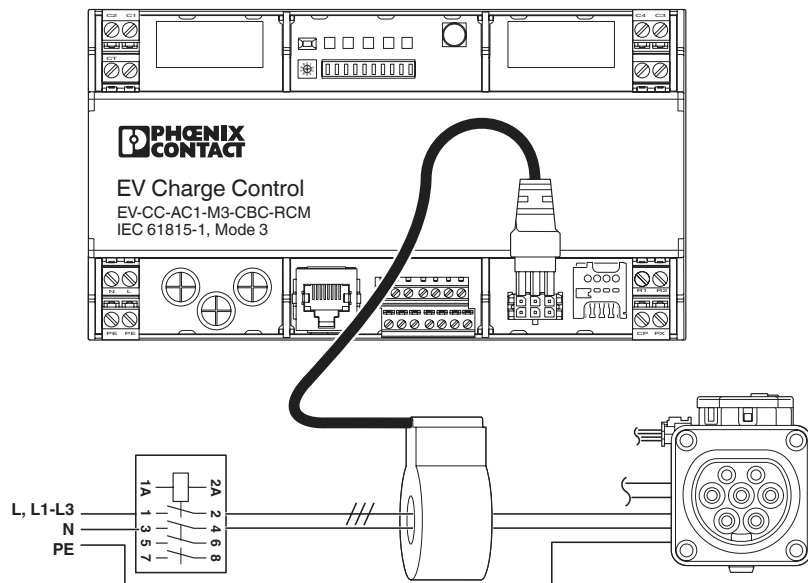
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Connection diagram



Connection diagram



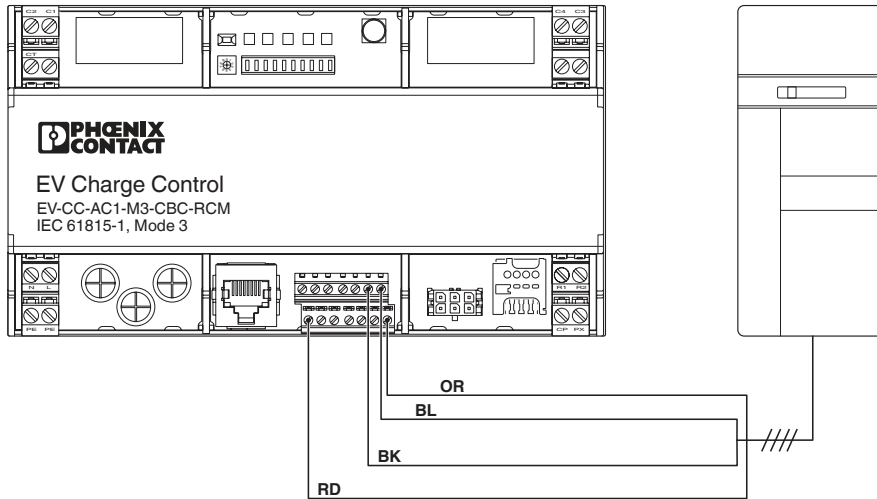
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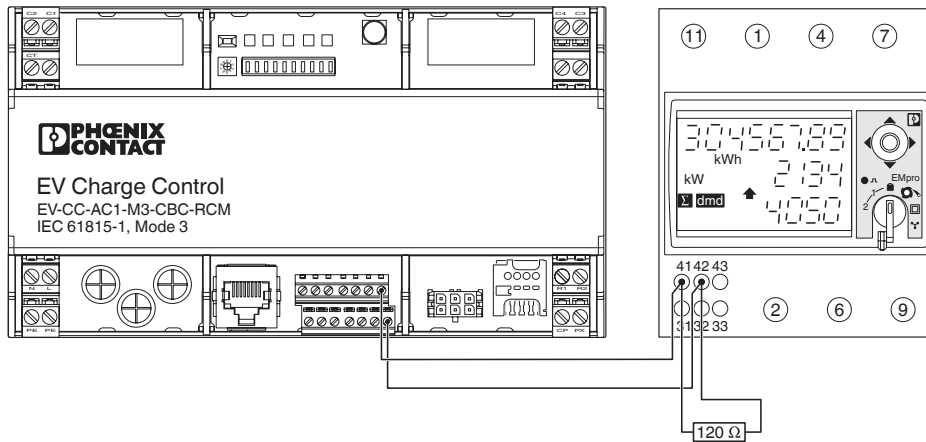
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Connection diagram



Connection diagram



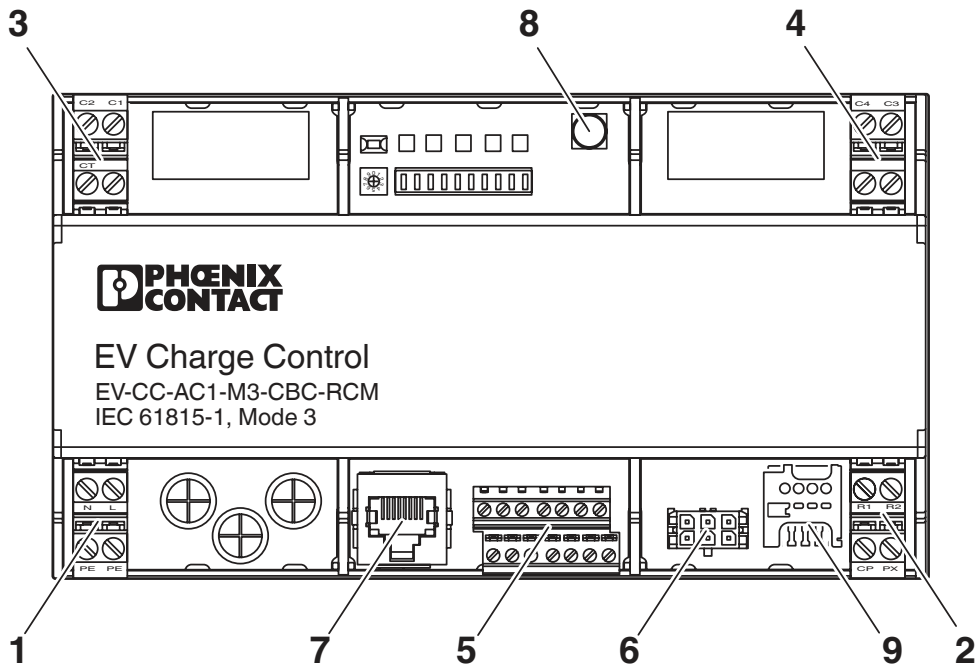
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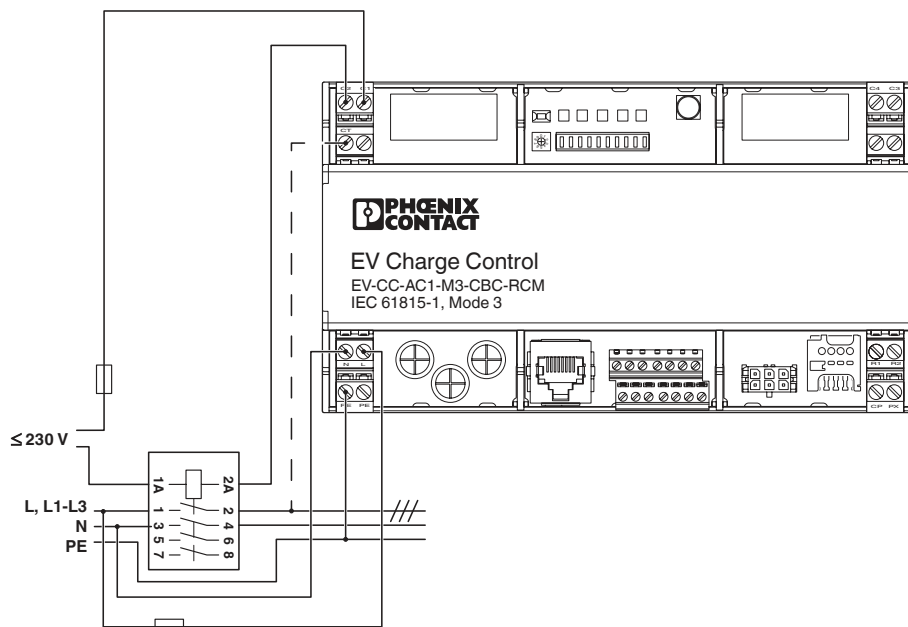
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Schematic diagram



Connection diagram



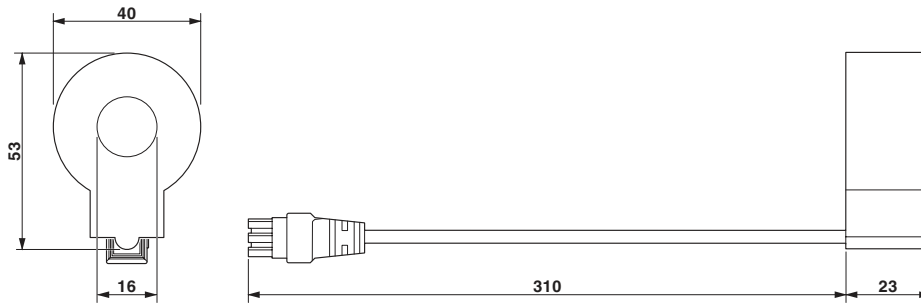
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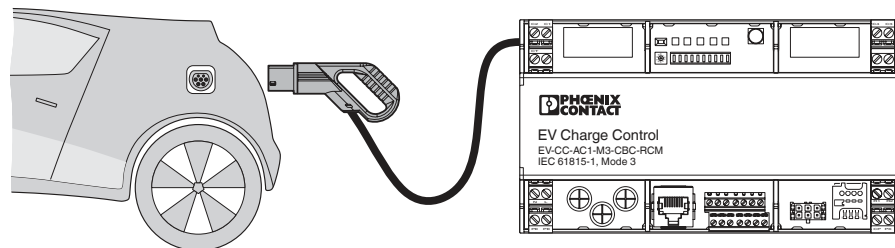
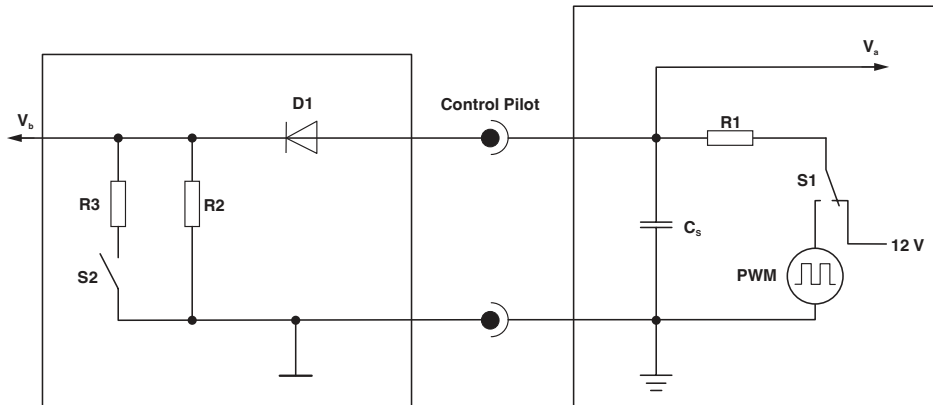
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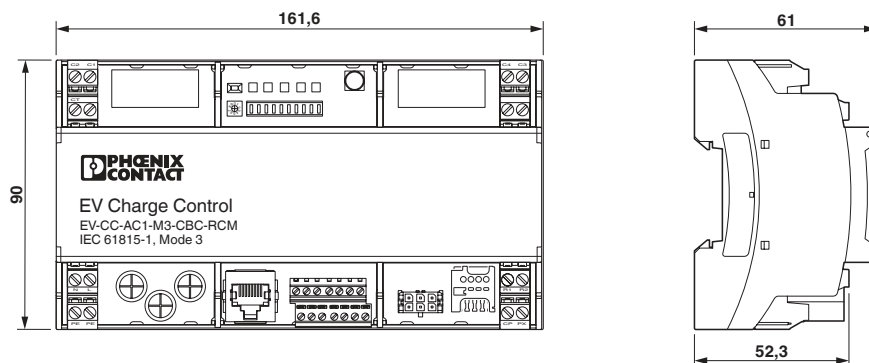
### Dimensional drawing



### Schematic diagram



### Dimensional drawing



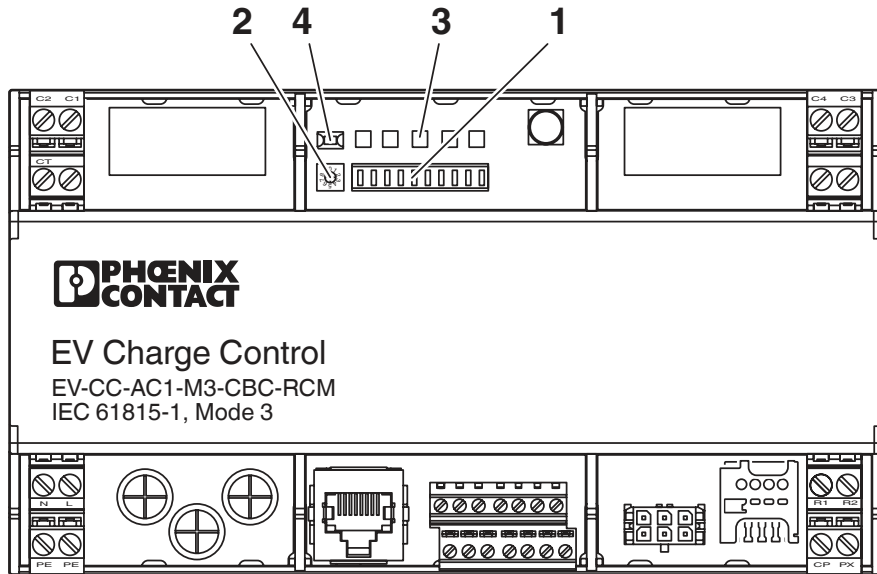
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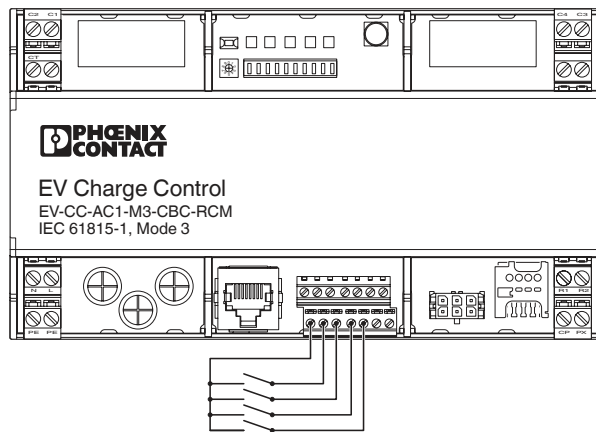
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Schematic diagram



Connection diagram



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## Classifications

### ECLASS

ECLASS-11.0	27144703
ECLASS-12.0	27144703
ECLASS-13.0	27144703

### ETIM

ETIM 8.0	EC002889
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### UNSPSC

UNSPSC 21.0	39121800
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## Environmental product compliance

China RoHS	Environmentally Friendly Use Period = 50 years For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"
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## Accessories

### EV-T2SC - Protective cover

1405217

<https://www.phoenixcontact.com/us/products/1405217>



CHARX connect basic, Protective cover, square, Accessories, with self-locking mechanism, for attaching to infrastructure charging sockets, Type 2, IEC 62196-2, Front mounting, M5 thread, housing: black, Embossed PHOENIX CONTACT logo

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### EEM-EM357 - Measuring instrument

2908588

<https://www.phoenixcontact.com/us/products/2908588>



Three-phase power meter for active power measurement with direct measurement in networks of up to 500 V / 80 A, with S0 output, with digital input and RS-485 interface, certified in accordance with the MID directive

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