

# EM-CP-PP-ETH - AC charging controller



2902802

<https://www.phoenixcontact.com/us/products/2902802>

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EV charge control is used to charge electrical vehicles on the 3-phase AC mains power supply according to IEC 61851-1 Mode 3. All necessary control functions are integrated. Additional functions are available for various charging applications.

## Commercial data

Item number	2902802
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	EM01
Product key	XWBBBA
Catalog page	Page 61 (C-7-2019)
GTIN	4046356681032
Weight per piece (including packing)	322.8 g
Weight per piece (excluding packing)	260 g
Customs tariff number	85371098
Country of origin	DE

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## Technical data

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Product properties

Product type	AC charging controller
Product family	CHARX control advanced
Application	AC charging controller for commercial applications (EU)
Operating mode	Stand-Alone
	Client
Charging standard	Type 2
Charging mode	Mode 3, Case B + C

### System properties

#### Charging controllers

Number of charging points	1
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### Electrical properties

Type of charging current	AC 3-phase
Current consumption	< 1 W
Locking release in the event of mains failure	With EM-EV-CLR-12V locking release module (Item No. 2903246) as an option

#### Supply

Supply voltage	230 V
Supply voltage range	110 V AC ... 240 V AC (nominal voltage range)
	95 V AC ... 264 V AC
Max. current consumption	40 mA
Nominal power consumption	< 1 W (No-load)
Frequency range	45 Hz ... 65 Hz

### Input data

#### Digital

Number of digital inputs	4
Frequency range	50 Hz ... 60 Hz
Nominal current $I_N$	≤ 8 mA
Nominal input voltage $U_N$	24 V
Input voltage range U1	-3 V ... 5 V (Off)
Input voltage range U2	15 V ... 30 V (On)

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## 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)

### Digital

Output name	Relay output V <sub>1,2</sub>
Maximum switching voltage	250 V AC
Max. switching current	2 A

### Switching

Output name	Relay output C <sub>1,2</sub>
Minimum switching capacity	1500 VA
Maximum switching voltage	250 V AC (External supply)
Max. switching current	2 A

### Switching

Output name	Relay output R <sub>1,3</sub> and R <sub>2,4</sub>
Minimum switching capacity	180 VA
Maximum switching voltage	30 V AC/DC (External supply)
Max. switching current	2 A

## 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

## 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
Number of supported devices	1
Transmission speed	9.6 kbps (Standard)
Transmission speed range	2.4 kbps ... 19.2 kbps (adjustable)
Data flow control/protocols	Modbus/RTU (slave)

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## Ethernet

Interface	Ethernet
Bus system	RJ45
Connection method	RJ45 jack
Number of interfaces	1
Serial transmission speed	10/100 Mbps
Transmission length	max. 100 m (with shielded, twisted-pair data cable)
Protocols supported	Modbus/TCP

## 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
Permissible humidity (operation)	30 % ... 95 % (non-condensing)

## Approvals

### Conformity/Approvals

Conformance	CE-compliant
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## EMC data

Low Voltage Directive	Conformance with LV directive 2006/95/EC
Noise immunity	EN 61000-6-2
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Housing	DIN 43880
Noise emission	EN 61000-6-3

## 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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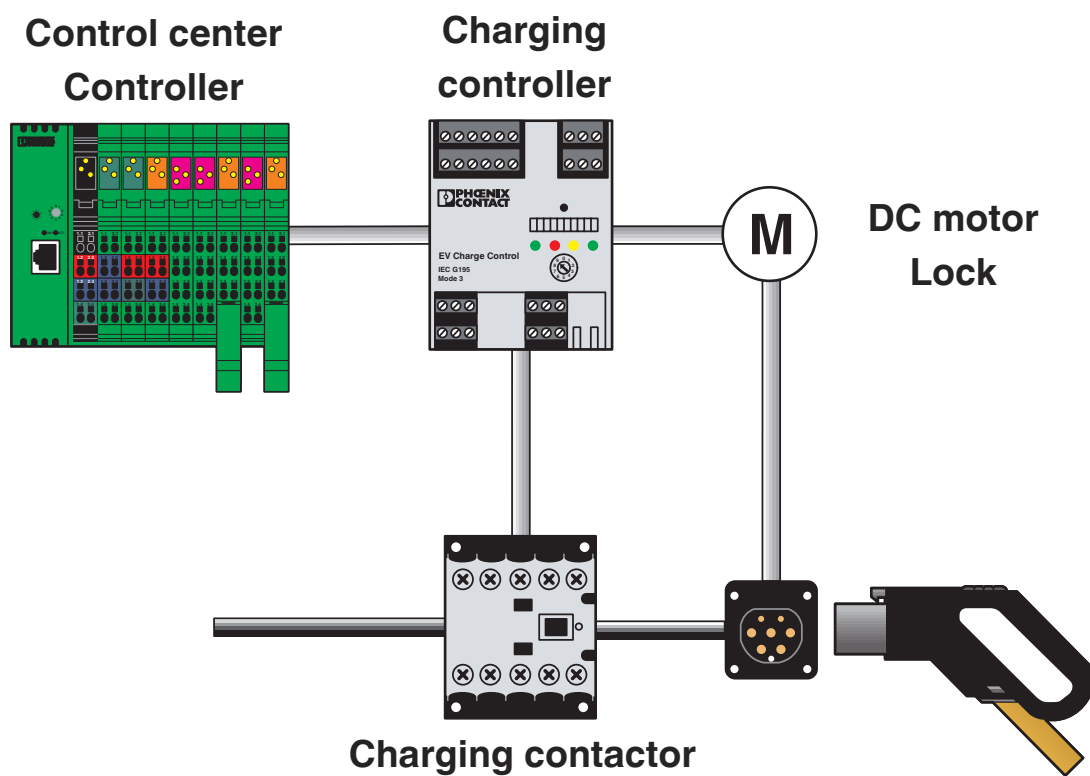
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## Drawings

Application drawing



EV Charge Control interacting with a central controller

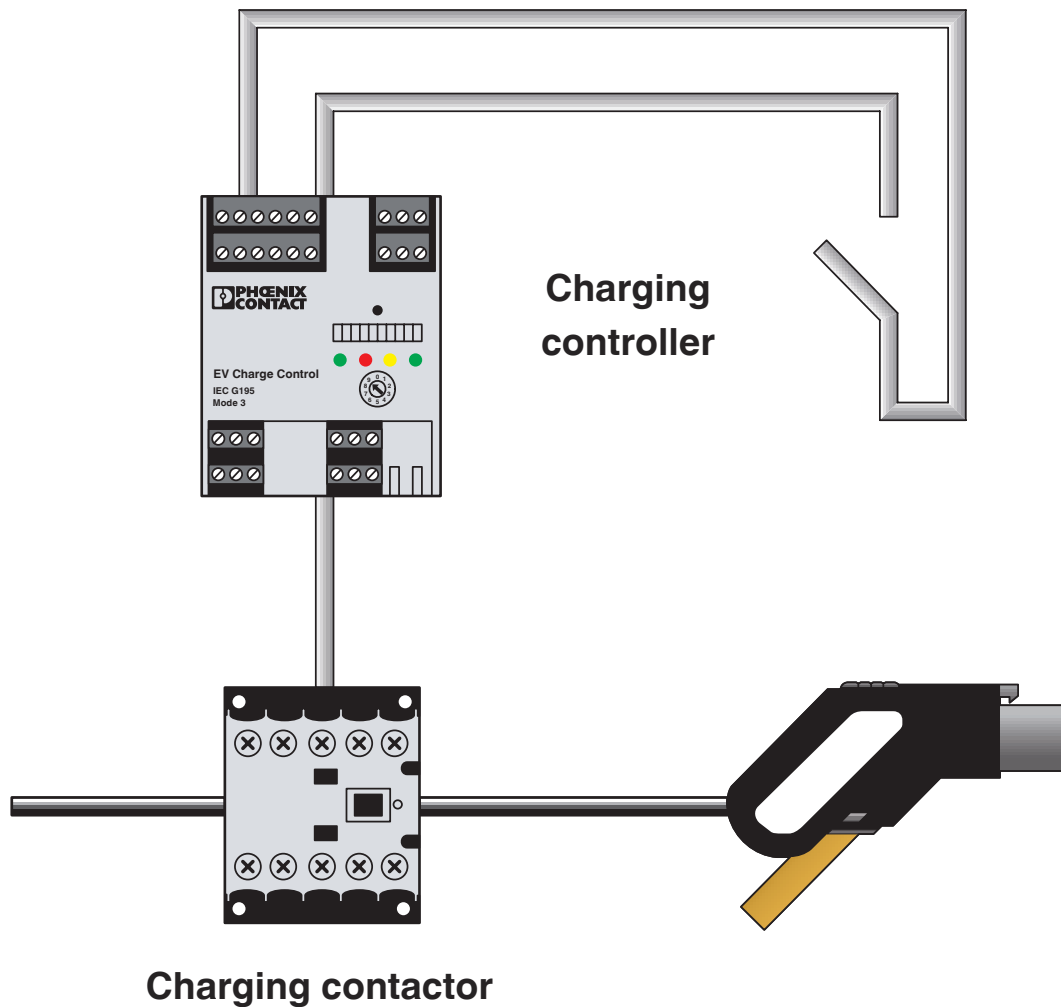
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Application drawing



Simple charging point with permanently connected cable

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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

### EM-EV-CLR-12V - Voltage monitoring device

2903246

<https://www.phoenixcontact.com/us/products/2903246>



The EV Charge Lock Release monitors the 12 V operating voltage of the electrically driven plug locking actuator, routes locking and unlocking signals, and sends an unlocking pulse to the actuator when the operating voltage fails.

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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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## EV-RCM-C1-AC30-DC6 - Differential current monitoring

1622450

<https://www.phoenixcontact.com/us/products/1622450>



The residual current module is used for AC and DC residual current detection in AC charging points. The higher-level safety equipment (e.g., residual current circuit breaker) is protected against potential DC residual currents. A 1 or 2-channel product version is available.

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## EV-RCM-C2-AC30-DC6 - Differential current monitoring

1622451

<https://www.phoenixcontact.com/us/products/1622451>



The residual current module is used for AC and DC residual current detection in AC charging points. The higher-level safety equipment (e.g., residual current circuit breaker) is protected against potential DC residual currents. A 1 or 2-channel product version is available.

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## EV-T2G3C-3AC32A-5,0M6,0ESBK01 - AC charging cable

1627355

<https://www.phoenixcontact.com/us/products/1627355>



CHARX connect comfort, AC charging cable, with vehicle charging connector and open cable end, for charging electric vehicles (EV) with alternating current (AC) via type 2 vehicle charging inlets, with protective cap, Type 2, IEC 62196-2, 32 A / 480 V (AC), housing: black, gray, PHOENIX CONTACT logo, cable: 5 m, black, straight

## SD-FLASH-2GB-EV-EMOB - Program / configuration memory

1624092

<https://www.phoenixcontact.com/us/products/1624092>



Program and configuration memory for storing the application program and other files in the file system of the PLC, plug-in, 2 GB with license key for the function block libraries for E-Mobility

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