

# EV charging Controller

## AC-EV-CC-AC1-M3-CBC-RCM-ETH - 1018701

Control Module 3 for charging electric vehicles according to IEC 61851-1 for B and C charging with integrated DC fault current monitoring and Ethernet communication interface.

### Product definition

- Product Type: AC Charge Controller for Private and Industrial Applications (EU / CN)
- Standards / Regulations: IEC 61851-1
- Charging mode: Mode 3, Case B + C
- Number of supported charging points: 1
- Enable blocking when a network failure: Integrated blocker actuator release function to disconnect the infrastructure charging connector and infrastructure charging socket
- Conformity: CE

### Dimensions

- Height: 90 mm
- Width: 162 mm
- Depth: 61.00 mm

### Device power supply

- Supply voltage: 230 V
- Supply voltage range: 100 - 240 V AC (rated voltage range)
- Power consumption: <3 watts (idle)
- Power consumption: <10 W (maximum)
- Frequency range: 50 - 60 Hz

### Range of differential current measurement

- Rated frequency  $f_n$ :  $\leq 2000$  Hz
- Rated differential current:  $\pm 300$  mA
- Charge current  $I_{\Delta n}$ : 30 mA (AC), 6 mA (DC)
- Start time at  $I_{\Delta n}$ : <180 ms
- Rated current  $I_n$ : 32 A (three-phase, 4 x 6 mm<sup>2</sup>), 48 A (single phase)
- Response time at 2 x  $I_{\Delta n}$ : <70 ms
- Starting time at 5x $I_{\Delta n}$ : <20 ms

### Switching outputs

- Charging contactor control: Relay output C1.2
- Switching power minimum: 4000 VA
- Switching voltage max.: 250 V AC (External power supply)
- Maximum switching current: 16 A
- Locking Actuator Control: Motor Switch Output
- Switching voltage max.: 12 V (Internal power supply)
- Maximum switching current: 1 A (maximum)

## Digital outputs

- Control of other functions: 4 digital outputs
- Connection technique: Screw connection
- Maximum output voltage: 30 V
- Maximum output current: 0.2 A (Total current for all outputs, internal power supply)
- Maximum output current per channel: 0.6 A (one output, external power supply)

## Inputs

- Number of digital inputs: 5
- Input description: Digital input
- Rated current IN:  $\leq 4$  mA
- Input nominal voltage UN: 12 V
- Input Voltage Range U1: 0 - 3 V (Off)
- Input voltage range U2: 9 - 15 V (On)

## Data interfaces RS-485

- Number of interfaces: 1 (for meter and RFID reader)
- Bus system: RS-485
- Connection type: Screw connection
- Number of supported participants: 2
- Transfer rate: 4.8 - 115.2 kBit / s (setting option)
- Supported Protocols: Modbus / RTU (Master)

## Ethernet data interfaces

- Number of interfaces: 1
- Connection type: RJ45 socket
- Transfer rate: 10/100 MBit / s
- Transfer length: 100 m
- Supported protocols: Modbus / TCP

## Ambient conditions

- Ambient temperature (operation):  $-25^{\circ}\text{C} + 60^{\circ}\text{C}$
- Ambient temperature (storage / transport):  $-40^{\circ}\text{C} + 85^{\circ}\text{C}$
- Max. altitude:  $<2000$  m
- Permissible air humidity (operation): 30% - 95% (no condensation)
- Degree of protection: IP20
- Pollution degree: 2 IEC 60664-1
- Overvoltage category: II

## Connection data

- Connection type: Screw connection
- Conductor cross section: 0.2 - 2.5 mm<sup>2</sup>
- Conductor cross section solid: 0.2 - 4 mm<sup>2</sup>
- AWG line cross section: 24 - 12
- Connection type: Screw connection
- Conductor cross section: 0.2 - 1 mm<sup>2</sup>
- Conductor cross section solid: 0.14 - 1.5 mm<sup>2</sup>
- AWG line cross section: 26 - 16

## Electromagnetic Compatibility Data

- Electromagnetic Compatibility: Compliance with the 2014/30 / EU Electromagnetic Compatibility Directive

- Spurious radiation: EN 61000-6-3
- Interference immunity: EN 61000-6-2
- Low Voltage Directive: Compliance with NSR 2014/35 / EU
- Case: DIN 43880