

SCC

Smart Charge Controller

Product Overview



The Smart Charge Controller is an electronic device which is used in conjunction with an EV charging station.

It measures the grid current and controls the charge current of the EV charging station based on the station's Dynamic Load Balancing function and a chosen charging mode.

It can control any EV charging station that supports Dynamic Load Balancing based on an Modbus RTU or Modbus TCP/IP current meter. The Smart Energy Controller can be used for both, single phase and multi phase installations.

Maximum 3 current transformers can be connected to the Smart Charge Controller to measure the grid current. Or as a device option, the P1 output of a connected grid Smart Meter can be used for grid measurements. Wi-Fi is available to commission the unit and to enable firmware updates when connected to the internet via the home router. The unit is powered by the mains voltage.

The user selects the charging mode via the user interface, which consists of an OLED display and 3 buttons.

Selecting the charging mode by a smartphone app is a roadmap feature.

There are charging modes:

- PV only
- PV + 6 A
- Capacity (4-22kW, in steps of 1 kW)

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Product Sheet | Version 1.1
CSP1+ Module

Specifications

Physical Characteristics

Housing DIN43880, 4 unit
Weight 142 gr
Dimensions 90 x 72 x 65 mm

Environmental conditions

Protection Class II
Overvoltage category Class II
Ambient Temperature -10°C ~ 55 °C
Storage Temperature -20°C ~ 80° C
Operating Humidity 10%-95%RH (Non-Condensing)
Storage Humidity 5%-95%RH (Non-Condensing)
Pollution Degree 2
Altitude < 2000m
Application area Residential, Indoors in suitable meter cabinet

Power interface

Connector Screw terminal connector for N, L1 © © and functional ground ©
Power rating 230V AC mains < 5W

Modbus RTU interface

Connector Screw terminal connector for A, B and Shield
Protocol Modbus RTU over RS485
Max cable length 100 meter
Cable location Indoor + outdoor

Modbus TCP/IP interface

Connector RJ-45 ©
Protocol Modbus TCP over Ethernet
Max cable length 100 meter
Cable location Indoor + outdoor

Metering Interface

Connector Screw terminal connectors for max 3 Current Transformers
Measuring principle Current measurement by Current Transformer
Measurement range 1A ... 80A (if CT ratio = 2000)
CT ratio Configurable (default = 2000)
Input impedance 20 Ohm
Accuracy Typically <5 % at 23 °C
Max Cable length 1 meter

P1 Interface (optional)

Connector RJ-11 ©
Protocol DSMR4 / DSMR5
Max cable length 3 meter
Cable location Indoor

GUI interface

LCD OLED ©
Buttons 3 push buttons ©
Wi-Fi WEP64/128, AES, WPA, WPA2, WAP 2.4GHz
AP, STA, AP&STA mode
Encryption modes IEEE 802.11 b/g/n

Standards and certifications RED (2014/53/EU)

Health & Safety EN 62311, EN 61010-1: 2010 + A1: 2019
EMC EN 301 489
Radio EN 300 328 - Wi-Fi 2.4 GHz



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