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SMART CHARGE CONTROL

AC Charge Control – Smart Charge Control LTE

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Product Description

Mode 3 electric vehicle Charge Control for charging case B and C with integrated DC current fault detection, Ethernet communication interface and **LTE mobile modem**.

Device Features

- Server load balancing for up to 10 clients
- **OCPP 1.6J** via **LTE modem** and Ethernet
- Modbus TCP via Ethernet,
- Connection of RFID reader and energy meter via RS-485
- DC current fault monitoring
- Plug unlocks in case of power failure

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Technical Data

Product Characteristics

Product type	AC Charge Control
Application	AC-Charge Control for residential and commercial applications (EU/CN)
Operating mode	Stand-Alone, Client, Server
Charging mode	Mode 3, Case B + C

Electrical Characteristics

Type of charging current	AC
Internal consumption	< 3 W (Idle)
Power consumption	< 10 W
Lock release in case of power failure	Integrated release function of the locking actuator for disconnecting the infrastructure charging plug and infrastructure charging socket

Current Transformer

Connection type	Connector
Measuring coil diameter	15 mm

Measuring Range: Differential Current

Rated frequency f_n	≤ 2000 Hz
Rated differential current	± 300 mA
Differential current $I_{\Delta n}$	30 mA (AC) 6 mA (DC)
Rated current I_n	32 A (three-phase, 4x6mm²) 48 A (single-phase)
Trip time at $I_{\Delta n}$	< 180 ms
Response time at 2 x $I_{\Delta n}$	< 70 ms
Trip time at 5x$I_{\Delta n}$	< 20 ms

Supply

Supply voltage	230 V
Supply voltage range	100 V AC ... 240 V AC (Rated voltage range)
Rated power consumption	< 3 W (Idle)
Power consumption	< 10 W (maximum)
Frequency range	50 Hz ... 60 Hz

Input Data (digital)

Number of digital inputs	5
Description of the input	Digital input
Rated current I_N	≤ 4 mA
Rated input voltage U_N	12 V
Input voltage range	0 V ... 3 V (Off)
Input voltage range U2	9 V ... 15 V (On)

Output Data (digital)

Naming output	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)

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Switch

Naming output	Relay output $C_{1,2}$
Minimum switching capacity	4000 VA
Maximum switching capacity	250 V AC (External supply)
Maximum switching current	16 A

Switch

Naming output	Motor switching output
Maximum switching capacity	12 V (Internal supply)
Maximum switching current	1 A (maximum)

Connection Data

Conductor Connection

Connection type	Screw connection
Conductor cross-section - rigid	0,2 mm² ... 4 mm²
Conductor cross-section - flexible	0,2 mm² ... 2,5 mm²
Conductor cross-section - AWG	24 ... 12

Conductor Connection

Connection type	Screw connection
Conductor cross-section - rigid	0,14 mm² ... 1,5 mm²
Conductor cross-section - flexible	0,2 mm² ... 1 mm²
Conductor cross-section - AWG	26 ... 16

Interfaces

Interfaces	Ethernet (1x)
	LTE Cat M1/Cat NB2

Wireless

Description of the interface	LTE Cat M1 / Cat NB2 / EGPRS module with ultra-low power consumption Communication with higher-level management systems via the communication protocol OCPP 1.6J
Frequency	850/900/1800/1900MHz (GSM/EDGE)
Transmission power	Power Class 5 21dBm @ LTE Bands
Quantity	1
Connection type	SMA (male)
Impedance	50 Ω
SIM Interface	Micro-SIM (3FF)
Supported protocols	OCPP 1.6J

RS-485

Interface	RS-485-2-Wire
Bus system	RS-485
Connection type	Screw connection
Number of interfaces	1 (for energy measuring device and RFID reader)
Number of supported users	2
Transmission rate range	4,8 kBit/s ... 115,2 kBit/s (adjustable)
Supported protocols	Modbus/RTU (Master)

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Ethernet

Interface	Ethernet
Connection type	RJ45 Jack
Number of interfaces	1
Serial transmission rate	100 m
Transmission length	2
Supported protocols	Modbus/TCP OCPP 1.6J

System Properties

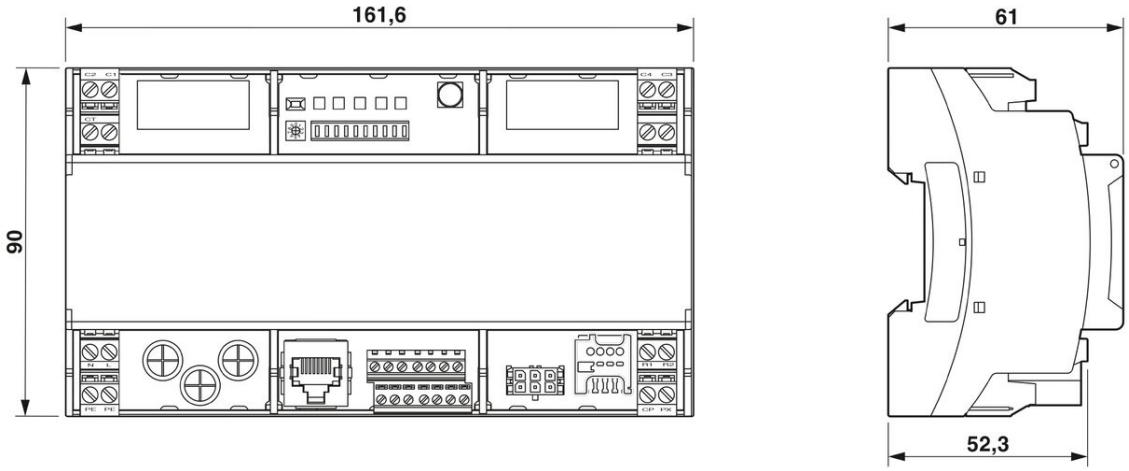
Charging controls	
Number of charging points	1

LED Signaling

Status display	5x LEDs

Dimensions

Length	162 mm
Height	90 mm
Width	61 mm



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Environmental and Lifetime Conditions

Environmental Conditions

Protection class	IP20
Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	< 2000 m
Permisssible humidity (operation)	30 % ... 95 % (non-condensing)

Approval Data

Conformity/ Approvals

Conformity	CE Conform

EMC Data

Low Voltage Directive	Conformity with NSR Directive 2014/35/EU
Electromagnetic compatibility	Conformity to the EMC Directive 2014/30/EU
Housing	DIN 43880
Interference radiation	EN 61000-6-3
Noise immunity	EN 61000-6-2
Immunity to static electricity discharge	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
Noise immunity against 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 pos. u. neg., 5 kHz

Assembly

Mounting type	Mounting rail assembly
Installation information	Mounting rail assembly
Installation position	Any

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