

# CHARX SEC-3100 - AC charging controller



1139012

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CHARX control modular, AC charging controller, with Embedded Linux system, IEC 61851-1, operating mode: Stand-Alone, Client, Server, interface: Ethernet (2x), Cellular communication (4G/2G), CHARX control modular system bus, MICRO-USB type C, communication protocol: OCPP 1.6J, Modbus/TCP, MQTT, Connectable peripheral devices: Energy meter, RFID, DC residual current detection, DIN rail mounting

## Commercial data

Item number	1139012
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	EM01
Product key	XWBRDA
GTIN	4063151080181
Weight per piece (including packing)	264 g
Weight per piece (excluding packing)	255 g
Customs tariff number	85371091
Country of origin	PL

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## Technical data

### Product properties

Product type	AC charging controller
Product family	CHARX control modular
Design	with Embedded Linux system
Charging mode	Mode 3, Case B + C
Operating mode	Stand-Alone
	Client
	Server
Modem for communication present	yes
Connectable peripheral devices	Energy meter
	RFID
	DC residual current detection

### System properties

Processor	Arm® Cortex®-A7, 528 MHz i.MX6 UL
RAM	512 Mbyte (RAM)
Data storage system	8 GByte (eMMC)
Operating system	Linux
Management	Web-based management

### Electrical properties

#### Supply

Supply voltage	12 V DC $\pm$ 5 %
Supply voltage range	11.4 V DC ... 12.6 V DC
Current consumption	max. 2 A (Stand-alone operation)
	< 200 mA (No load, without external loads)

#### Insulation characteristics

Pollution degree	2 (in acc. with IEC 60664-1)
Overvoltage category	III

### Input data

#### Digital

Number of digital inputs	4
Description of the input	Digital input
Nominal input voltage $U_N$	12 V
Input voltage range U1	0 V ... 3 V (Off)
Input voltage range U2	9 V ... 15 V (On)

### Output data

#### Digital

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Output name	Digital output
Number outputs	4
Maximum output voltage	≤ 12 V (Low-side operation)
Maximum output current	max. 600 mA

## Connection data

### Push-in Technology

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> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 16
Cable cross-section range	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (with ferrules)
Stripping length of the individual wire	8 mm
	10 mm (for contactor control)

## Interfaces

Interface	Ethernet (2x)
	Cellular communication (4G/2G)
	CHARX control modular system bus
	USB-C

### Wireless

Interface description	GSM / GPRS / EDGE / LTE (FDD)
Note	You will find a suitable antenna in the accessories are for this item
Frequency	700 MHz (LTE B28, hardware revision 1.4 or later)
	800 MHz (LTE B20)
	900 MHz (LTE B8)
	1800 MHz (LTE B3)
	2100 MHz (LTE B1, hardware revision 1.4 or later)
	2600 MHz (LTE B7, hardware revision 1.4 or later)
	900 MHz (GSM/GPRS/EDGE )
	1800 MHz (GSM/GPRS/EDGE )
Antenna	50 Ω impedance SMA antenna socket
SIM Interface	Micro SIM (3FF)
LTE	CAT1
Protocols supported	OCPP 1.6J

### Interface for Ethernet

Interface	Ethernet
Connection method	RJ45 jack
Number of interfaces	2
Number of supported devices	2
Serial transmission speed	10/100 Mbps
Transmission length	100 m
Operating mode	WAN/LAN

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Protocols supported	LAN/LAN
	OCPP 1.6J
	Modbus/TCP
	MQTT
	HTTP
	HTTPS

## Interface for configuration and diagnostics

Interface	Configuration and diagnostics
Connection method	USB type C
Number of interfaces	1
Protocols supported	RNDIS

## Interface for energy meter

Interface	Energy meter
Bus system	RS-485
Transmission speed range	9.6 kbps ... 115.2 kbps (Automatic setting in accordance with the selected energy meter)

## Interface for RFID reader

Interface	RFID readers
Bus system	RS-485
Transmission speed range	9.6 kbps ... 115.2 kbps (Automatic setting in accordance with the selected RFID reader)

## Interface for CHARX control modular system bus

Interface	CHARX control modular system bus
Connection method	DIN rail bus connector
Number of interfaces	1

## Interface for vehicle

Interface	Vehicle interface
Communication protocol	IEC 61851-1
	GB/T 18487
Proximity	IEC 61851-1
	GB/T 18487
Control voltage	± 12 V (Locking actuator)
Locking release in the event of mains failure	Integrated release function of the locking actuator for disconnection of Infrastructure Plug and Infrastructure Socket Outlet
Rated current	2 A

## Interface for residual current detection

Interface	Residual current detection
Sensor supply voltage	12 V DC
Signal level	12 V (Different terminal points)
	12 V

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## Interface for temperature monitoring

Interface	Temperature monitoring
Sensor type	Pt 1000
	PTC chain
Tripping characteristic	configurable

## Interface for contactor control

Interface	Contactor control
Interface description	Floating switch contact
Switching voltage	max. 250 V AC
	max. 30 V DC
Rated current	2 A
Interrupting rating	max. 1500 VA

## Dimensions

### Charging controller

Width	37.6 mm
Height	121 mm
Depth	85 mm

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above mean sea level)
Air pressure (storage/transport)	58 kPa ... 106 kPa (up to 4500 m above mean sea level)

## Standards and regulations

### Standards

Standards/regulations	IEC 61851-1
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## Mounting

Mounting type	DIN rail mounting
Assembly note	DIN rail mounting
Mounting position	any

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## Drawings

### Schematic diagram



Connections and status indicators

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## Classifications

### ECLASS

ECLASS-13.0	27144703
ECLASS-15.0	27144703

### ETIM

ETIM 10.0	EC002889
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### UNSPSC

UNSPSC 21.0	39121800
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	29cc0dbf-63f3-4588-8ae5-6fa84c1a3237

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