Smart Charger

EC2A7W Series

User Manual

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Welcome

Thank you for choosing CHINT.
This EV charger supports smart charging with a RFID Card for plug and charge.

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither CHINT nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.
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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.
When devices are used for applications with technical safety requirements, the relevant instructions must be followed.
Failure to use software or approved software with our hardware products may result in injury, harm, or improper operating results.

Content

1. Safety Information

Before using or maintaining this product, it is important to read the following safety instructions. Failure to follow and implement all the specified instructions and procedures will invalidate the warranty and as such, CHINT will not be liable for any claims.

DANGER

- Do not open the charger.
- Do not use the charger if it is damaged.
- Do not use an extension lead on the charging cable.
- Do not touch or insert foreign objects into the plugs.
- Do not install the charger near flammable, explosive, or combustible materials.

WARNING

- Only qualified personnel who have read and fully understood all safety information and requirements contained in this manual is allowed to install and operate the charger.
- The charger must be out of reach from children.
- EV charger must be connected to a protective earth conductor.
- The electrical installation must comply with all local applicable safety requirements, standards and guidelines.
- No modifications must be made to the EV charger.
- Components should not be changed or replaced by the end-user or unqualified personnel.

2. Product Overview

2.1 Product Introduction

Functions

CHINT charger developed by CHINT Convergy Technology Co., Ltd, creates smart, stable and reliable charging experience for electric vehicles owners.

Model

This document describe the EC2A series EV charger, the model description is as follow:

No.	Description	Value
1	Factory Code	NTW: CHINT Convergy
2	Product Type	EC：EV Charger
3	Standard	● 1: GB； ● 2: CE ● 3: SAE ● 4: Japan
4	Output Power type	● A: AC ● D: DC
5	Power Class	● 7: Rated output power of 7kW ● 11: Rated output power of 11kW ● 22: Rated output power of 22kW
6	Type	● W: wall-mounted ● U: integrated ● S: Distribution
7	Number of Output	● 1: 1 output connector ● 2: 2 output connectors
8	Display Type	● L: 3.8-inch LCD ● T: 7-inch touch screen
9	Connector Type	● A: Plug fixed on vehicle ● B: connect Case B ● C: Connect case C
10	Communication	● 0：No communication ● B：Bluetooth ● E：Ethernet ● W：Wi-Fi ● C：4G
11	Interaction mode	● 0：Plug and play

		● R：RFID card ● S：QR code

2.2 Appearance

Appearance

(1) 3.8-inch LCD
(2) 7-in touch screen
(3) RFID Swiping area
(4) Plug holder
(5) Emergency button

Description

LED indicator	● Steady blue: Standby ● Blinking green: Charging ● Steady red: System error
LCD/Touch screen	Display the status and parameters of the charger
Emergency button	Press to stop charger in emergency
RFID	Use the RFID card to start/stop charging
Plug holder	Place the plug when charger is not in use

3. Storage and Transportation

Ensure the charger is within storage temperature when moving, transporting, or storing.
Do not place other objects on the top of the charger.
The environmental specifications for storage and transportation shall not go beyond those specified in the Technical Specifications.

4. Installation

4.1 Checking Before Installation

Outer Packing Materials

Before unpacking the charger, check the outer packing materials for damage, such as holes and cracks, and check the charger model. If any damage is found or the charger model is not what you requested, do not unpack the package and contact your supplier as soon as possible.

Packing List

		
EV Charger*1	User Manual*1	Product Certificate*1
		
Mounting Plate*1	Wire Clamp plate*1	Anchor bolt*3
		
Flat head screw M4*20mm*3	Round head screw M3*8.0mm*2	Pan head screw M4*10mm*3

Preparing Tools

Personal protective equipment	Safety helmet	Protective gloves	Insulated shoes
Tools	Insulated torque screwdriver	Insulated security torx torque screwdriver	Hammer drill and drill bit
	Marker	Rubber mallet	
Cable tools	Wire striper	Crimping tool	Scissors
Measurement tools	Clamp meter	Steel measuring tape	Level instrument
Auxiliary materials	Insulation tape	Heat=shrink tubing	Cord end terminal

Safety Checking

Before installation, please make sure that:

- Only professional installer is allowed to install the charger.
- The charger power is within the allowed range of the grid connection point.
- Cables and RCBOs must meet the installation and usage requriements
- Please consult professional installer if the AC input power cable exposed to the outdoor environment, and the length is over 2 meters.
- Please install a surge protective device (SPD) at the upstream of the RCBO. The SPD specifications should meet the requirement. The cable between SPD and charger must be within 2 meters.
- Please make sure the Ethernet cable is within 10 meters for connection with Charger and Router.
- Please make sure the Wi-Fi configured charger is covered by the router.

***Note**:*

RCBO: Uc=385Vac, In≥10kA, up≤2kV

SPD: Single phase/Three phase, 2P/4P RCBO, 40A, Type B (preferred) or Type A and in compliance with local regulations.

4.2 Installation instruction

Installation environment requirements

This series are suitable for outdoor application with its IP65 structure.

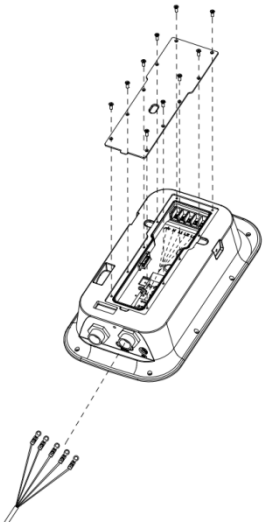
Please ensure that the ambient temperature is in the range of -25℃ to +50℃.

Do not mount the EV charger in areas containing highly flammable materials or gases.

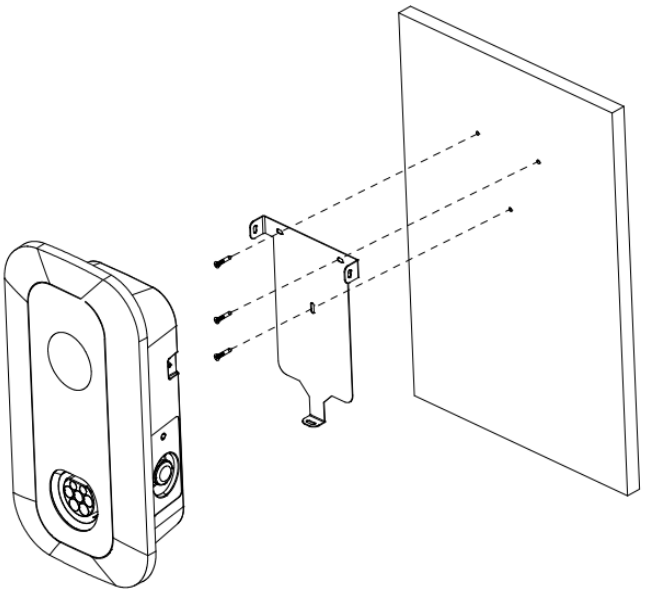
Do not mount the EV charger in potentially explosive atmospheres.

Wall mounting

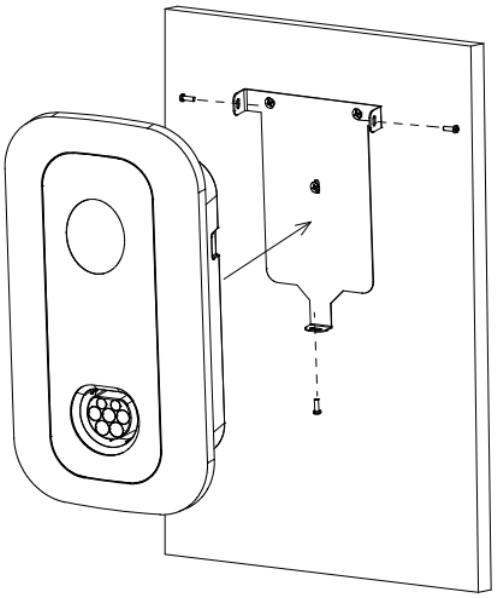
Step 1: Remove 10 x M3x8.0mm screws on the back cover; connect AC power supply cord to the corresponding terminals labeled L, N and PE.
Step 2: Tighten cable gland and assemble the back cover, tighten 10 x M3 x 8.0mm screws.



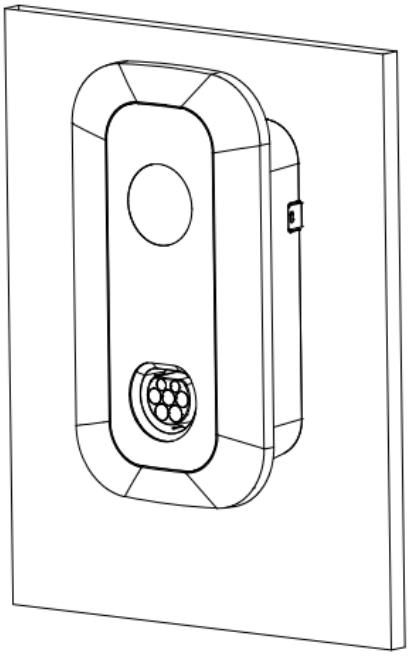
Step 3 Use the mounting plate as template to position the holes on the wall, drill three φ4 mm holes at depth of 29 mm.



Step 4 Fix the mounting plate on the wall with 3 x M4 x 20mm screws.



Step 5 Completion of the installing on the wall.



5. Operation of the charger

The charger can be operate through

RFID card;

Mobile APP;

Note:

Bluetooth with APP is also available, please scan the following QR code to get the APP user manual.

6. Charger User Guide

6.1 The LCD Displays ICONS Function.

ICON	Item	Description
	4G Signal	Indicates signal strength if 4G module is installed.
	Wi-Fi Signal	Indicates signal strength if Wi-Fi module is installed.
	Bluetooth	Light up if Bluetooth is connected.
	Charging duration	Light up when charging is in process.
	Schedule charging mode	Light up when the schedule charging is set
	Smart Charging mode	Light up when the smart charging is set.
	Error	System fault.
	Time	Display charging time or Error code
 V A KW ℃	Charging Parameter	Display charging voltage current, power and temperature of the charger
	Charging status	3 icons are always flashing during charging, 3 icons are steady when charger is not working.
	Connector status	Icon will flash when EV is not connected, Icon will be steady when EV is connected

6.2 Charging station operation

Step 1 Ensure the Emergency Stop Button is released.

Step 2 Power-on the charger, wait until the self-test is completed. The LED indicator turns blue when charger is standby.

Step 3 Unplug the plug from the holder and connect to EV socket (IEC Type 2).

Step 4 Charging session automatically starts (under default plug-and-charge setting), the LED indicator turns green (Blinking). When optional RFID module is activated, you may swipe RFID card to activate the charging session.

Step 5 When the charging is completed, wait until the LED indicate turns blue then disconnect the plug from EV and put it back to the plug holder on the charger. You may end the charging session from:

- EV (interface varies from different EV models);
- Or smart phone APP;
- Or RFID card (if configured)

Step 6 In case of abnormal situation during charging, press the emergency stop switch immediately, and call for service technician from your charger provider.

Attention:

Do not unplug the EV Charger before the charging is completed, there is risk of electric shock.

7. Main Technical Parameters

Model	EC2A7W1	EC2A11W1	EC2A22W1
Inputs and Outputs			
Charge Power	7kW	11kW	22kW
Nominal Voltage	230V±20%	400V±20%	
Nominal Current	32A (1-phase)	16A (3-phase)	32A (3-phase)
Nominal Frequency	50/60Hz±1%		
Output Type	Type 2 Plug (Socket optional)		
Cable Size	5 meter, 6 mm²		
User interface & Communications			
External Communication	RS 485		
OCPP	OCPP 1.6		
Communication	WiFi default, (Ethernet/4G optional)		
Display	3.8-inch LCD or 7-inch Touch Screen		
Authentication	APP/RFID/Plug&charge		
Working Mode	Normal charge/Schedule charge/PV charge (EMS required)		
Protection			
Residual Current Protection	Type A + DC 6mA detection		
Over Voltage Protection	Yes		
Under Voltage Protection	Yes		
Over Load Protection	Yes		
Short Circuit Protection	Yes		
Earth Leakage Protection	Yes		

Ground Protection	Yes	
Over-temp Protection	Yes	
Surge Protection	Yes	
General		
Operating Temperature Range	-20℃~50℃	
Storage Temperature Range	-40℃~75℃	
Relative Humidity	Up to 95% non-condensing	
Altitude	⩽2000m	
Cooling Method	Natural Cooling	
Dimensions	590*380*170mm	
Weight	5.35kg	6.55kg
Installation	Wall-mounted/Pedestal	
IP Rating	IP 65	
Standby self-consumption	＜ 6W	
Certificates & Standards		
Standards	EN/IEC 61851	
Certificates	CE	

Note:
Insulation resistance: the insulation resistance between input loop and ground, output loop and input to output of charging station is ≥ 10MΩ.

8. Error code

error code	Fault description
E01	Grounding fault
E02	leakage current protection
E03	Input over voltage
E04	Input under voltage
E05	Over current protection
E06	Charging coupler CP abnormal.
E07	Emergency Stop Button is pressed down
E08	Coupler locking mechanism abnormal
E09	Line-Neutral polarity reverse connection
E10	Temperature sensor 1 fault
E11	Temperature sensor 2 fault
E12	Temperature sensor 3 failed.
E13	Charging station temperature is too high
E14	Leakage protector calibration failed
E20	Relay open circuit
E21	Relay adhesion
E22	Relay overtemperature

E30	EEPROM
E31	MCB communication failure

9. Warranty

Your EC2A series IEC type 2 charger has the benefit of our guarantee, which covers the cost of repairs for 12 months from the date of installation or 15 months from the date of shipment, depending on which comes first. This gives you the reassurance that if, within that time, your charger is proven to be defective because of workmanship or material defect we will, at our discretion, either repair or replace the charger at no cost to you.

Warranty Limitations:

The Warranty is valid only for products purchased either directly from CHINT or from an authorized reseller of CHINT.

1) Any defect or damage which is a result of repair, alteration, or modification performed without the written permission of CHINT;
2) The use of parts not manufactured, sold or approved by CHINT in any replacement or repair;
3) Cases where the CHINT Product is operated on an electrical supply which is not in accordance with the ratings specified in writing by CHINT;
4) The CHINT Product is damaged as a result of incorrect installation or being used for a purpose for which it is not designed, sold or otherwise not in accordance with any written specified instructions for use or CHINT Product installation performed by third party CHINT not approved by CUSTOMER or CHINT;
5) If changes occur in the condition or operational quality of the CHINT Product due to incorrect storage, transportation, mounting, climate or any other influence outside the control of CHINT;
6) The CHINT Product is further damaged as a result of operating the product when it was known to be defective;
7) CHINT Product parts requiring replacement due to normal wear and tear including the replacement of the following parts: cables, couplers, and user interface;
8) When CHINT Product damage is caused directly or indirectly by utility supply problems, insect or animal attacks, lack of user care, vandalism, incorrect power supply, electrical storm damage, flooding or any other weather phenomena.
9) Unauthorized operation or modification of the CHINT Product or any disregard of the instructions contained in the User manual;
10) Any loss, damage, or destruction to the CHINT Product due to an event of force majeure that is an act of nature; and/or.
11) Any loss, damage or destruction to the CHINT Product arising from, or caused or contributed to by, the Customer’s or End-User’s negligence or the negligence of the Customer’s agents or servants.
12) The firmware changes due to the modifications asked by the customer or changes in standards.

10. Recycling and disposal

1) This device is used to charge electric vehicles and is subject to the EU directive 2012/19 / EU on waste electrical and electronic equipment (WEEE).
2) Disposal must be according to national and regional Regulations for electrical and electronic equipment respectively.
3) Old devices and batteries must not be disposed of with household waste or bulky waste. Before the device being disposed of should it be rendered inoperable.
4) Dispose of the packaging material in the region's usual collection container for cardboard, paper, and plastics.