

EV Solutions

Electric Vehicle Charging Products & Services



Electric Vehicle Charging Dock

UN2 Series

User's & Installation Manual

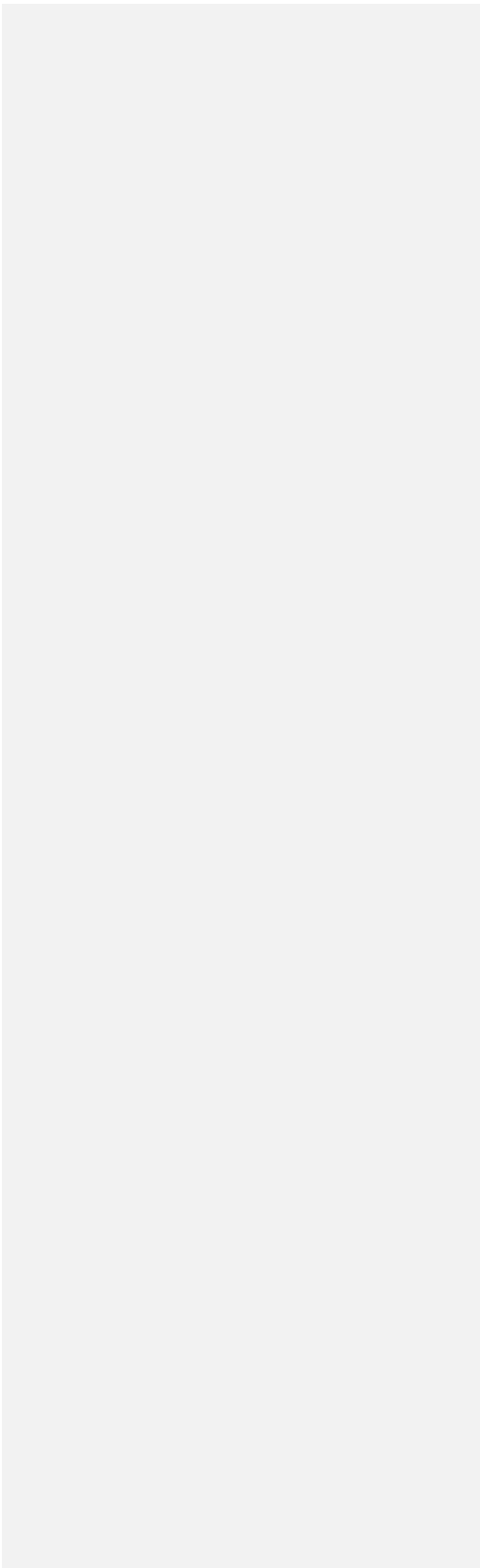


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1. Important Safety Instructions

1.1 Overall Warnings & Cautions

- WARNING:** To avoid fire, injury or death, carefully read and follow the instructions during installation, operation and maintenance.
 - DO NOT** put fingers into the electric vehicle connector.
 - DO NOT** use this product if the flexible power cord or EV cable is frayed, insulation-broken, or any other signs of damage.
 - DO NOT** use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
 - DO NOT** remove cover or attempt to open the enclosure because of risk of electric shock.
- WARNING:** This device should be supervised when used around children.
- WARNING:** This device must be grounded.
- WARNING:** To avoid a risk of fire or electric shock, do not use this device with an extension cord.
- WARNING:** To reduce the risk of fire, connect only to a circuit provided branch circuit over-current protection in accordance with the CSA C22.1–15 Canadian Electrical Code, Part 1 (Canada) or NOM-001-SEDE Electrical installations (utility) (Mexico) or ANSI / NFPA 70 National Electrical Code (USA).

Circuit Breaker Options Table					
Output Current (A)	16A	32A	40A	48A	80A
Circuit Breaker Options (A)	20A	40A	50A	60A	100A

- WARNING:** If using the 80A version device, must connect an air switch.

1.2 Installation Requirements

- WARNING:** Disconnect electrical power prior to installing the charging station.
- WARNING:** Be sure to preview the user manual and ensure local building and electrical codes are reviewed before installing the AC charger.
- WARNING:** The AC charger should be installed by a qualified technician according to the user manual and local safety regulations.
- CAUTION:** Use appropriate protection when connecting to the main power distribution cable.
- CAUTION:** Type B, C or D breaker with the rating current for table should be installed in the upstream AC distribution box.
- CAUTION:** Disconnect switch for each ungrounded conductor of AC input shall be provided by others in accordance with the National Electric Code, ANSI/NFPA70.
- CAUTION:** The device shall be mounted at height between 2 feet (600 mm) and 4 feet (1200 mm) from ground.
- CAUTION:** Please keep the charger in a clean area with low humidity. Not recommended to be installed in coastal environments with high humidity or high dust.

1.3 Daily Maintenance

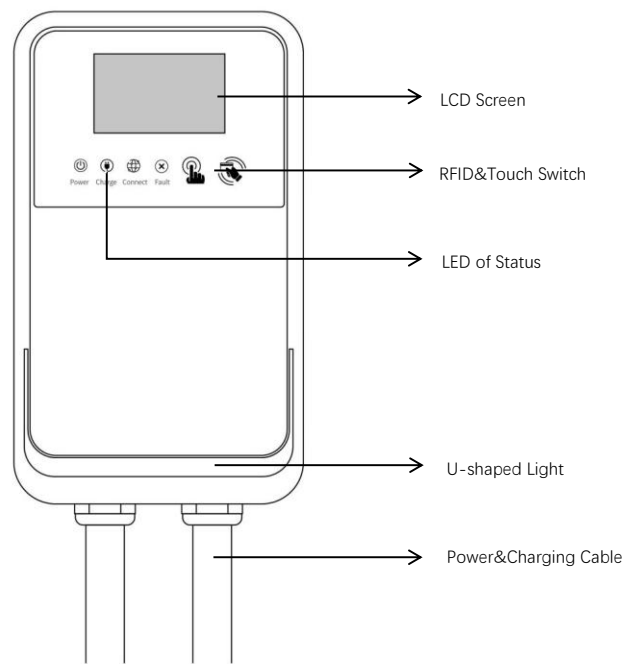
- CAUTION:** Avoid moisture or water in the charger. If there is water or moisture ingress in the charger, it is necessary to immediately power off to avoid immediate danger, and notify the professionals to carry out maintenance before next use.

- ⚠ **CAUTION:** Please use the charger properly. Do not hit or press hard on the enclosure. If it is damaged, please contact a professional technician.
- ⚠ **CAUTION:** Avoid placing the charger near hot objects and at high temperature locations and away from dangerous substances such as flammable gases and corrosive materials.
- ⚠ **CAUTION:** Do not put heavy objects on the charger to avoid danger.

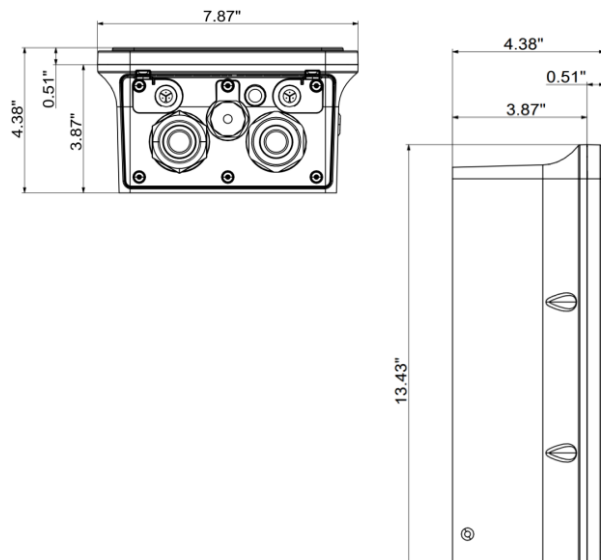
2. Product Introductions

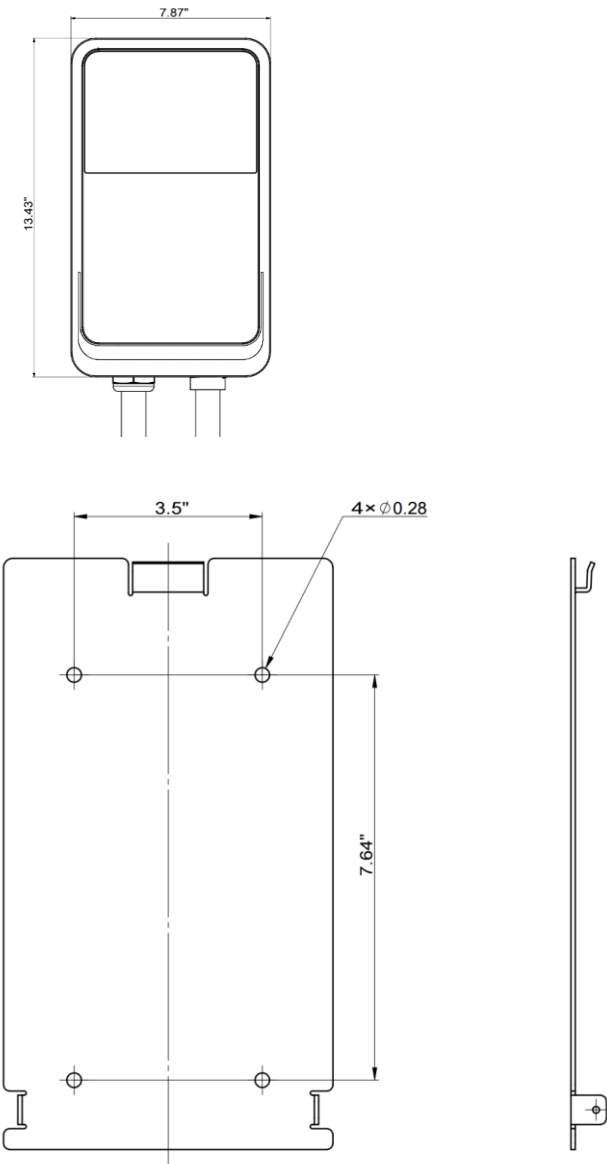
- ⚠ **CAUTION:** Avoid placing the charger near hot objects and at high temperature locations and keep it away from dangerous substances such as flammable gases and corrosive materials.

2.1 Basic Interface



2.2 Basic Dimension





2.3 Specifications

Product Model	UN2
Rated Input Voltage	208/240 VAC
Rated Output Current	32/40/48A/80A
AC Power Frequency	60 Hz
Input Protection	UVP, OVP, RCD, SPD, Ground Fault Protection
Output Protection	OCP, OTP, Control Pilot Fault Protection
Output Interface	SAE J1772 AC Charging Connector or SAE J3400 AC Charging Connector (NACS)
Cable Length	18ft
Storage Temperature	-40°F to 158°F
Operating Temperature	-22°F to 131°F (-22°F to 122°F for 80A version)
Relative Operation Humidity	95% RH Maximum
Relative Storage Humidity	95% RH Maximum
RFID Authentication	ISO14443 TypeA/B
RJ45 Cable Inlet ^{*1}	10M / 100M Base-T
Wi-Fi Function ^{*2}	802.11 b/g/n
Status Indication	Red, Green, Blue LED
Display	4.3" color LCD
Protection Level	Type 3
Installation Type	Wall-Mounted
Altitude	≤ 6561ft

2.4 Dial Switch Setup Instructions

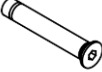
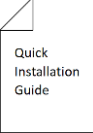
The maximum output current can be adjusted by dial switch

0:16A
1:32A
2:40A
3:48A
4:50A
5:64A
6:80A



3. Packing List

Upon receiving the product, please inspect the packaging to ensure you have received this installation guide and the following components.

EV Charger 1PCS		Mounting Back Plate 1PCS	
Screw (M6 x 50) 4PCS		Screw (M4 x 16) 2PCS	
T25 Box Wrench 1PCS		M6 Allen Wrench 1PCS	
Screw(M4 x 25) 3PCS		Expansion Tube Bolt (M6 x 50) 3PCS	
EV Charger Holster 1PCS		User Manual 1PCS	
Auxiliary Sticker A 1PCS		RFID Card General Card X 2PCS PrivilegeCard X 1PCS	
Auxiliary Sticker B 1PCS		Quick Installation Guide	

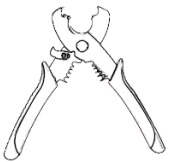
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4. Installation Tools

Installation of this wall-mounted charging station requires the following tools:

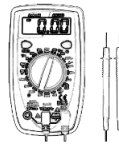
1. Wire stripper
 2. Adjustable wrench M6
 3. Voltmeter or digital multi-meter (for measuring AC voltage at the installation site)
 4. Level
 5. Pencil or marker
 6. Drill
7. The input cable should meet the best waterproof performance. It is recommended to use cables that comply with NEC 625 standards to pull the cables out from the distribution box.



①



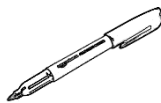
②



③



④



⑤



⑥

Note: The above tools are very important, please gather them all.

5. Plan The Mounting



WARNING: In areas with frequent thunderstorms, add surge protection at the service panel for all circuits. Ensure all power and ground connections, especially those at the breaker and bus bar, are clean and tight.



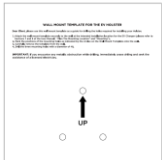
CAUTION: An equipment-grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the product. not recommended to be installed in coastal environments with high humidity or high dust.

STEP 1

Select the appropriate mounting location with electrical capacity:

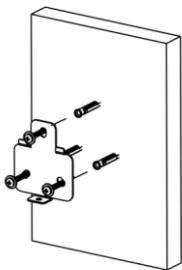
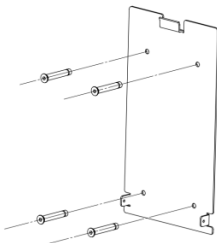
- I. Ensure the owner has chosen a mounting location that allows the charging cable to reach the car’ s charging port while still providing slack.
- II. The device must be anchored into mounting such as a 2" x 4" pedestalar a solid wall.
- III. The device shall be mounted at height between 2 feet (600 mm) and 4 feet (1200 mm) from ground.

STEP 2



Use **Auxiliary sticker A** to mark the drilling points of the EV charger, and use **Auxiliary sticker B** to mark the drilling points of the Holster.

STEP 3

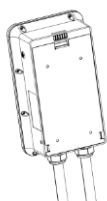


For EV Charger,Drill four screw holes with a diameter of 8mm and a depth of 60mm at the positions just marked. Drill screw holes on the board in the direction shown in the diagram. After the screw holes are drilled, fix the bracket with screws (M6 x 50).

For Holster, Drill three screw holes with a diameter of 6mm and a depth of 30mm at the positions just marked. Drill screw holes on the board(The fig on the lest are for reference only). After the screw holes are drilled, fix the bracket with screws (M4 x 25).

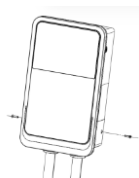
6. Installation of Charging Station

STEP 1



Align the rear notch of charger with the wall-mounted bracket and fit the screw holes of the right and left side.

STEP 2



Tighten two M4 anti-theft screws to complete the installation.

7. Wire The Circuit



WARNING: This device must be grounded. Disconnect electrical power prior to installing the charging station.



WARNING: Improper connection of the equipment-grounding conductor would result in a risk of electric shock. Check with a qualified electrician or serviceman if you are not sure whether the product is properly grounded. Do not modify the plug provided with the product – if it doesn't fit the outlet, have a proper outlet installed by a qualified electrician

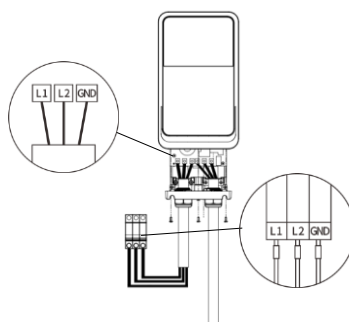


CAUTION: Use appropriate protection when connecting to the main power distribution cable.

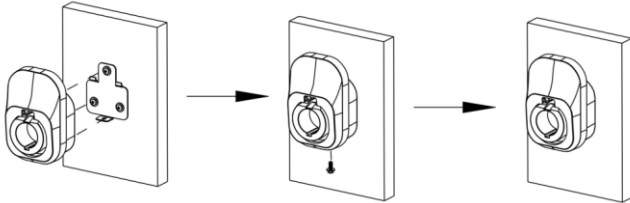
For safe use of electricity, please set up a circuit breaker protection in the input part of EV Charger.

The wiring is not complicated, just need to follow the instructions below:

Connect the L1 lead to the grid L1, connect the L2 lead to the grid L2, connect the GND lead to the grid GND.



8. Installation of Holster



Align the holster with the bracket and stick it on. Slide it down to secure it. Then, tighten the screws on the bottom to complete the installation.

9. Operate Your Device



WARNING: This device should be supervised when used around children.



CAUTION: Please use the charger properly. Do not hit or press hard on the enclosure. If the case is damaged, please contact a professional technician.



CAUTION: Do not put heavy objects on the charger to avoid danger.

10. Operating Steps with Plug and Charge

STEP 1

Standby Mode:

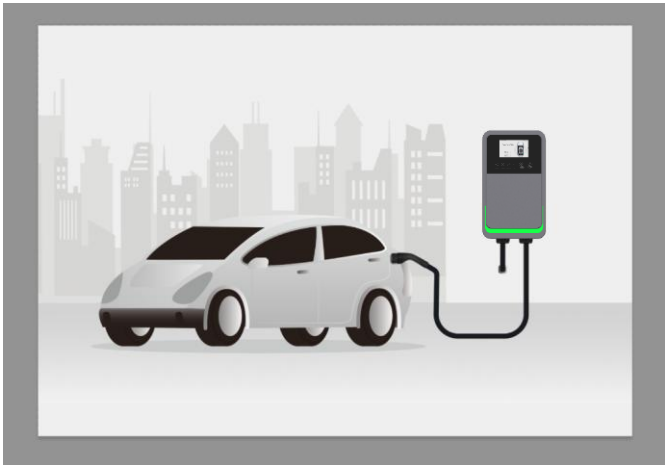
After the product enters the standby mode, the "Power" indicator and the "Charge" indicator will be green and stay on.



STEP 2

Plug the Charging Connector:

Please plug the charging connector into the vehicle charging inlet.



STEP 3

Charging:

- The charging state indicator is blue and stays on, and charging is in progress.
- If the red light (Fault) is on, please try unplugging and re-plugging the charging plug to resolve the issue
 - If red light is still on, please refer to section 11.3 of the "Troubleshooting Table" below for further assistance.



STEP 4

Charging finished:

When the charging is finished, the green light (Charge) is constantly on, please press the button on connector and pull out the charging connector.



STEP 5

Re-plug the charging connector:
when you finish the charging process, please re-plug the charging connector back to the holster, you will hear a “click” sound.



11. Operating Steps with RFID



CAUTION: Please keep your RFID card properly to avoid unnecessary loss.

STEP 1

Standby Mode:
After the product enters the standby mode, both the “Power” light and the “Charge” light will be green and stay on.



STEP 2

Swipe the RFID Card:

Insert the EV charger into the Vehicle charging port. Next, swipe the RFID card.
When "Authentication Success"appears on the screen, it means the cards wiping is successful.



STEP 3

Charging:

The blue light (Charge) turnsto flash automatically, charging is in process.

- If the red light (Fault) is on, please try unplugging and re-plugging the charging plug to resolve the issue.
- If red light is still on, please refer to section 11.3 of the "Troubleshooting Table" below for further assistance.



STEP 4

Charging finished:

When the charging is finished, the green light (Charge) is constantly on, please press the button on connector and pull out the charging connector.



STEP 5

Re-plug the charging connector:

when you finish the charging process, please re-plug the charging connector back to the holster, you will hear a “click” sound.



12. Light Codes

12.1 After Start UP

Standby, waiting to plug in	 Power Charge Connect Fault
Waiting to charge, communicating with vehicle	 Power Charge Connect Fault
Charging in progress	 Power Charge Connect Fault
Charging finished	 Power Charge Connect Fault
Fault	 Power Charge Connect Fault

12.2 Error and Warning Messages

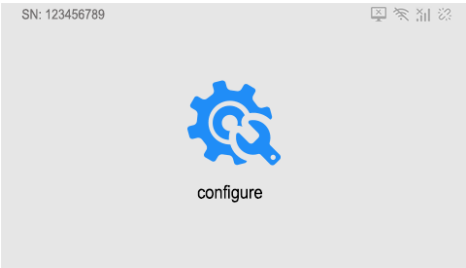
Status	Fault Code	Fault Indicator State	Charge
Ground Fault	E01	4 flashing cycles of the red light	Red light continuously flashing
RCD Abnormal Stop Charging	E03	9 flashing cycles of the red light	Red and stays on
Fault of Relay 1	E04	8 flashing cycles of the red light	Red and stays on
Fault of Relay 2	E05	8 flashing cycles of the red light	Red and stays on
RCD Self-Test Fault	E07	10 flashing cycles of the red light	Red and stays on
Metering Fault	E08	7 flashing cycles of the red light	Red and stays on
CP Fault	F00	5 flashing cycles of the red light	Red light continuously flashing
Over-current Fault	F02	3 flashing cycles of the red light	Red light continuously flashing
Over-voltage Fault	F03	2 flashing cycles of the red light	Red light continuously flashing
Under-voltage Fault	F04	1 flashing cycles of the red light	Red light continuously flashing
Over-temperature Fault	F05	6 flashing cycles of the red light	Red light continuously flashing
Emergency stop Fault	L00	Red and stays on	Red and stays on
Down State	L02	Red and stays on	Red and stays on

12.3 Troubleshooting Table

Status	Fault Code	Possible Solution
Ground Fault	E01	If grounding is not done properly, install a protective ground conductor.
RCD Abnormal Stop Charging	E03	Pull out the charging connector to reset.
Fault of Relay N	E04	Please contact the after-sales department.
Fault of Relay L	E05	Please contact the after-sales department.
RCD Self-Test Fault	E07	Please contact the after-sales department.
Metering Fault	E08	Please contact the after-sales department.
CP Fault	F00	Please contact the after-sales department.
Over-current Fault	F02	Pull out the charging connector to reset.
Over-voltage Fault	F03	The input voltage is too high. Please adjust the input voltage or configure it in the web interface.
Under-voltage Fault	F04	The input voltage is too low. Please adjust the input voltage or configure it in the web interface.
Over-temperature Fault	F05	The internal temperature is too high. Wait for the temperature to decrease.
Emergency stop Fault	L00	Please contact the after-sales department.
Down State	L02	OTA is upgrading. Wait until upgrading is completed.

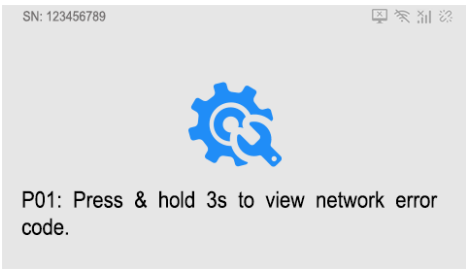
13. Button Features

- 13.1 When the screen is in sleep mode: tap the button once to activate the screen.
- 13.2 Enter the configuration mode: swipe the privilege card to enter the configuration mode.



13.3 After entering the configuration mode, click to select options.

P01: Select the appropriate option to view the network error code.



Press and hold for 3 seconds to enter the network error code display interface shown as follows:



WIFI Fault:

- 101: startup failure
- 102: Failure to acquire the version information
- 103: Failure to create a hotspot
- 104: No Mac address
- 105: Connection failure
- 106: Disconnected

4G Fault:

- 201: startup failure
- 202: IMEI query failure
- 203: SIM card detection failure
- 204: Failure to obtain IMSI
- 205: Failure to obtain ICCID
- 206: Weak signal intensity
- 207: Failure to obtain the IP address
- 208: Connection failure

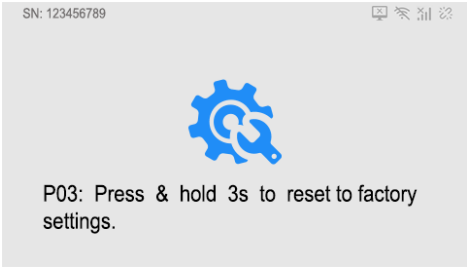
Platform Fault (PLTF):

- 301: Socket connection failure
- 302: Handshake failure
- 303: The boot notification sent for the first
- 304: Heartbeat timeout
- 305: Web socket disconnected

P02: Press and hold for 3 seconds to restart the charging station.



P03: Press and hold for 3 seconds to restore factory defaults.



13.4 Exit the configuration mode: If there is no operation in the configuration mode within 5 seconds, the product will exit the configuration mode.

14. FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference

to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

MPE Requirements

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.

15. Design Standards



IEC61851-1: Electric vehicle conductive charging system - Part 1: General requirements

UL 2594: Electric Vehicle Supply Equipment

UL 2231-1: Personnel Protection Systems for Electric Vehicle(EV)Supply Circuits:

General Requirements

UL 2231-2: Personnel Protection Systems for Electric Vehicle (EV)Supply Circuits:

Particular Requirements for Protection Devices for Use in Charging Systems

UL 2251: Plugs, Receptacles, and Couplers for Electric Vehicles

UL 62: Flexible Cords and Cables

UL 991: Tests for Safety-Related Controls Employing Solid-State Devices

UL 1998: Software in Programmable Components

NFPA 70 Article 625: National Electrical Code, Electric Vehicle Charging System

UL 840 : Insulation Coordination Including Clearances and Creepage Distances

for Electrical Equipment

16. Warranty and Maintenance

- The warranty period for this charger is three years.
- During the warranty period for any malfunction under normal use according to the User Manual and Service Instructions (to be determined by certified maintenance technicians of sellers), the product shall be repaired free of charge. Except for the following situations, the charger shall be subject to the above warranty terms:
 1. The warranty certificate cannot be provided or the contents of the warranty certificate are modified or inconsistent with the label indication of the repaired product.
 2. Those who are unable to provide valid proof of purchase.
 3. Those who exceed the manufacturer's specified warranty period.
 4. Those who damage the product due to not following the product service instruction for use, maintenance and storage.
 5. Damage or malfunction caused by external object entering.
 6. Unauthorized repair, disassembly or modification.
 7. Damage caused by force majeure (such as lightning, excessive voltage, earthquake, fire, flood, etc.).
 8. Malfunction and damage caused by other unavoidable external factors. Malfunction and damage caused by improper use of equipment, such as water or other solutions entering into the equipment.
 9. Malfunction and damage caused by the grid power supply and voltage which is not specified for use with the charger equipment.

The above guarantees shall be made solely, and no other express or implied warranties shall be made (including the implied warranties of merchant ability, particular and applicable reasonableness and adaptability, etc.) whether in the contract, civil negligence, or other aspects, the Company shall not be responsible for any special, incidental or consequential damages.

