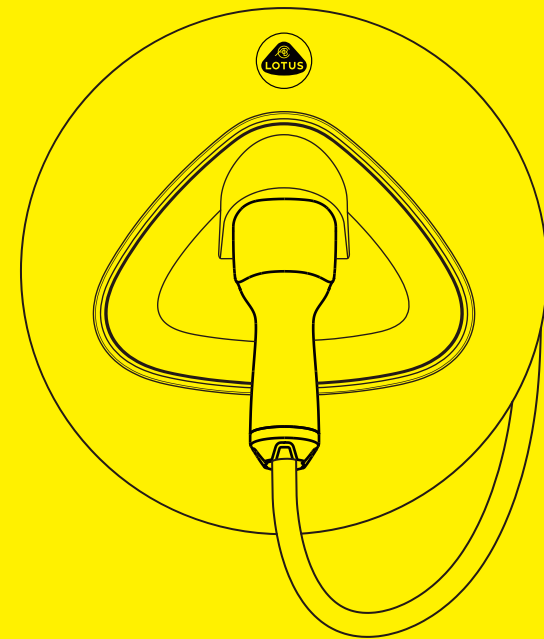


# LOTUS



## Smart AC Charger Product Manual

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## Notice

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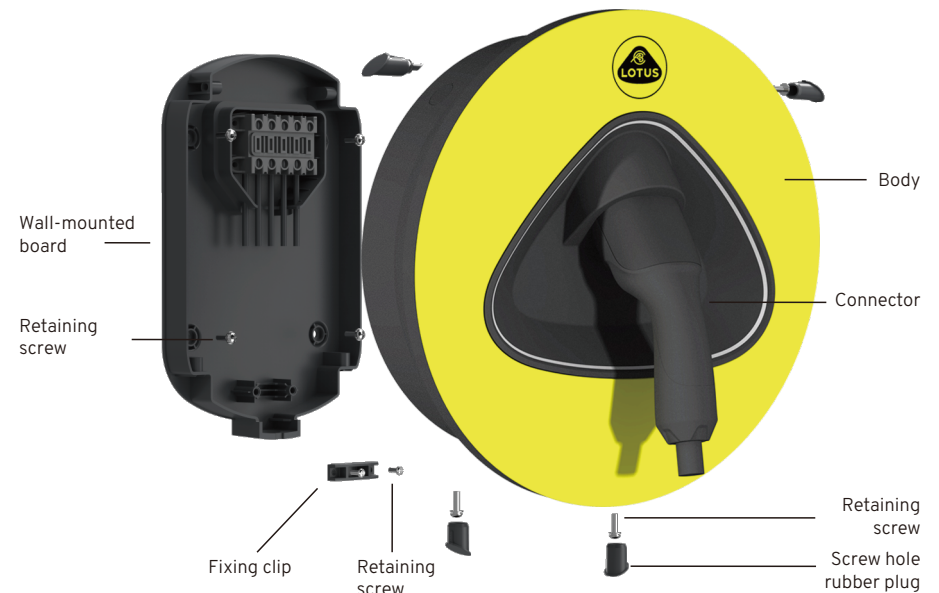
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## 1. Product Introduction

### 1.1 Product Introduction

- This product is a Smart AC Charger (hereinafter referred to as charger). The charger is composed of main body, wall-mounted board, etc. The charger has the functions of starting and stopping, charging protection, etc.
- The maximum output is 400V@32A. This charger is mainly used for charging electric vehicles indoors and outdoors, with a protection level of IP55.



## 1.2 Conditions of Use

- When installing, the charger shall be fixed stably to avoid direct sunlight, and the vertical inclination angle of installation shall not exceed 5°;
- There is no strong vibration and impact at the installation site, and the induction intensity of external magnetic field does not exceed 0.5mT;
- The installation point is free of explosive dangerous medium, conductive medium and harmful gas that can destroy insulation;
- Keep a clean working environment, free of mold, away from moisture, dust, flammable gas and flammable liquid, away from heat sources and corrosive environment;
- Keep the daily average relative humidity  $\leq 95\%RH$  and the monthly average relative humidity  $\leq 90\% RH$ ;
- Working environment temperature:  $-40^{\circ}C \sim 50^{\circ}C$ ;
- Altitude  $\leq 2000m$ ;
- Meet the IEC 61851 standard;
- Support Case C, mode 3.

## 1.3 Key Features

- The charger has rich and intelligent indicator light interaction methods;
- Hardware termination, leakage, overcurrent, overvoltage and other protection functions are complete, with high safety factor;
- Adopt high-strength engineering plastic shell, which has good strength and impact resistance;
- It is fashionable and generous, with high recognition and good visual image.

## 1.4 Product Model

Model	Name
WB-AC400-22	Smart AC Charger

## 1.5 Technical Parameter

Name	Parameter
Voltage Range	400V $\pm$ 20%(3 $\phi$ )
	230V $\pm$ 20%(1 $\phi$ )
Rated Current	32A
Efficiency	> 99%
Start Mode	RFID card, Plug&Charge, App
Connectivity	4G, WIFI
Protection	Over/under-voltage Protection, Over-current Protection, Leakage Protection, Over-temperature Protection and PE Disconnection Protection
Connector	Meet IEC 62196 Standard
Cable	5m (out of the shell)
Protection Degree	IP55
Dimensions	383.3mm*383.3mm*160.9mm (H*W*D)
Weight	$\leq 10kg$
Installation	Wall-mounted and Pedestal

## 1.6 Shipping List

Name	Details	Quantity
Smart AC Charger	Smart AC Charger	1 set
	Product manual	1 piece
	Certificate of approval & Warranty card	1 set
	Fixed wall-mounted expansion tube kit ( $\phi 10 \times 80$ expansion tube+M6 $\times 80$ tapping screw)	4 sets
	Charger and wall-mounted board fixing kit (M5 $\times$ 16 combination screw+rubber plug)	4 sets
	RFID card	2 pieces
	Wall-mounted board	1 set
	Positioning paperboard	1 piece



## 1.7 Transport and Storage

- The storage location of the charger should be equipped with rat-proof settings, dust-proof and moisture-proof to maintain a safe and suitable storage environment;
- Transport vehicles should be kept clean, and the chargers should be protected during handling to prevent loss or damage, and the outer packaging should not be damaged to avoid falling, impact and bumping;
- Storage temperature: -40 ° C to +85 ° C, humidity: <95% RH.

## 2. Installation Instructions

### 2.1 Installation Conditions

- The place where the charger is used should ensure sufficient power access load capacity, and the voltage drop and power quality meet local standards;
- The grounding resistance of the charger is  $\leq 0.1 \Omega$ ;
- The site selection, installation and construction of charging facilities should comply with local laws, regulations and relevant standards, and professional construction units and personnel should be selected for installation;
- The installation environment of charging facilities should match the protection level of charger shell, and avoid moisture, stagnant water, dust, explosive environment, heat source and corrosive environment.

### 2.2 Installation Risk Notification

- The installation location should be kept away from low-lying places where water is easy to accumulate, and a safe distance should be kept from the surrounding explosive facilities and underground pipelines where there is a risk of fire. The installation location should be far away from open flames, high temperature, dust and corrosive environment, and the protection level of the selected product shell should be suitable for the installation environment;

- Cables, terminals and other components selected for installation shall meet the current requirements. Before and after installation, ensure that all wiring related to the charger is fastened, well insulated and correctly wired, and there is no risk of abrasion and extrusion damage, otherwise there is a risk of fire and electric shock;
- The design strength of installation location must meet the strength requirements of concrete grade in local regulations;
- Please carry out the construction in accordance with relevant local construction safety regulations and standards to avoid safety accidents;
- The incoming line of power supply must be fixed to ensure firmness and reliability, so as to prevent pulling off and avoid potential safety hazards; After wiring, ensure that all holes entering the charger are well blocked, otherwise there is a risk of cable ignition delay;
- After installation, ensure that all electrical components, protective shells, insulating sleeves and other devices are not lost, otherwise there will be a risk of electric shock;
- Before charging, please make sure that the equipment is well grounded to avoid electric shock;
- If the charger is found to be damaged, please stop the installation and use immediately;
- The faulty charger is in danger of electric shock. In case of abnormal situation, please immediately disconnect the input circuit breaker outside the pile and contact professionals as soon as possible. Do not operate it without authorization. Non-professionals are forbidden to disassemble the charger;
- The output of the charger is high voltage. Please pay attention to personal safety when using it. Children are forbidden to touch the charger;
- For the UK market, the PEN system needs to be external.

## 2.3 Installation Location

- For Eletre, we recommend installing the charger on the side or rear right according to your parking habits, as shown in the figure.



- 1 Recommended position
- 2 Alternative position

- For Emeya, we recommend installing the charger on the side or rear left according to your parking habits, as shown in the figure.



- 1 Recommended position
- 2 Alternative position

- This simulation is based only on the cable length(5m) and Lotus brand vehicles. The actual installation location is determined according to the parking environment. If you are unable to determine the installation location, please contact the official installer.

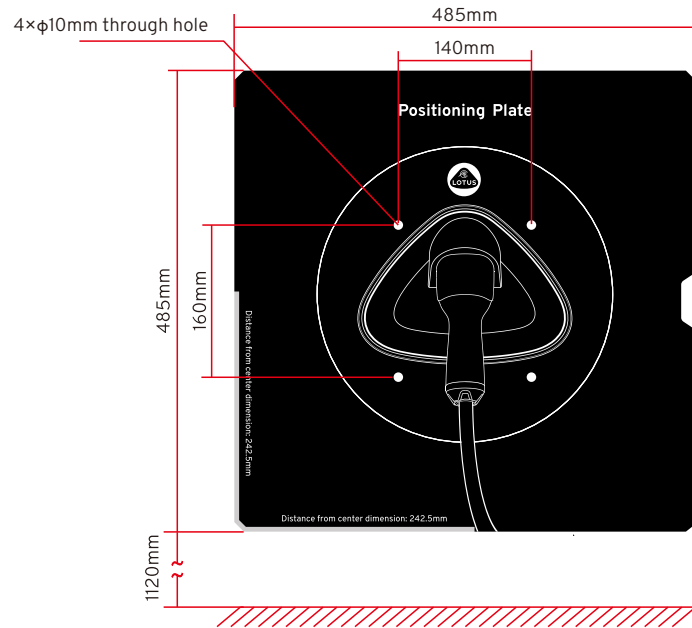
## 2.4 Wall-mounted Board Installation

### 2.4.1 Notice

- Please confirm the installation position of the charger with positioning plate before installation. It is suggested that the height of the lower edge of the positioning plate is 1120 mm from the ground;
- If the main body of the charger is close to the wall edge, it is suggested to reserve a gap of  $\geq 400\text{mm}$  between the edge of the positioning plate and the side close to the wall;
- Ensure that the wall in the area where the charger is installed is flat, otherwise the wall-mounted board will be deformed and the charger cannot be installed.

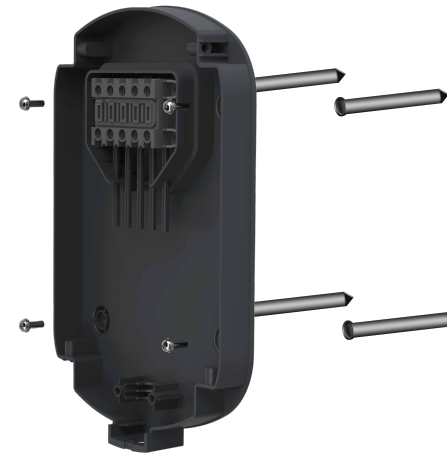
### 2.4.2 Mounting Hole Punching

- Drill four holes with a diameter of 10mm and a depth greater than 80mm on the wall according to the hole positions shown on the positioning plate.

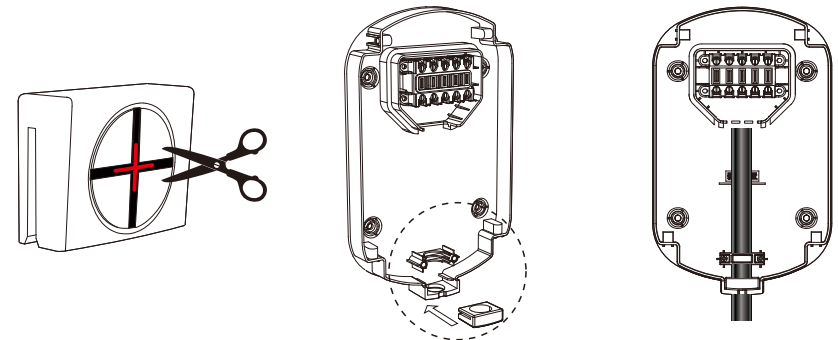


### 2.4.3 Wall-mounted Board Installation

- Install the expansion pipe kit, and put the  $\phi 10 \times 80$  expansion pipe in the attachment into the punched hole and plug it tightly, flush with the wall;
- Install the wall-mounted board, as shown in the figure below, align the hole position of the wall-mounted board with the punched hole, and fasten the M6x80 tapping screw in the expansion pipe kit with the  $\phi 10 \times 80$  expansion pipe through the wall-mounted board;



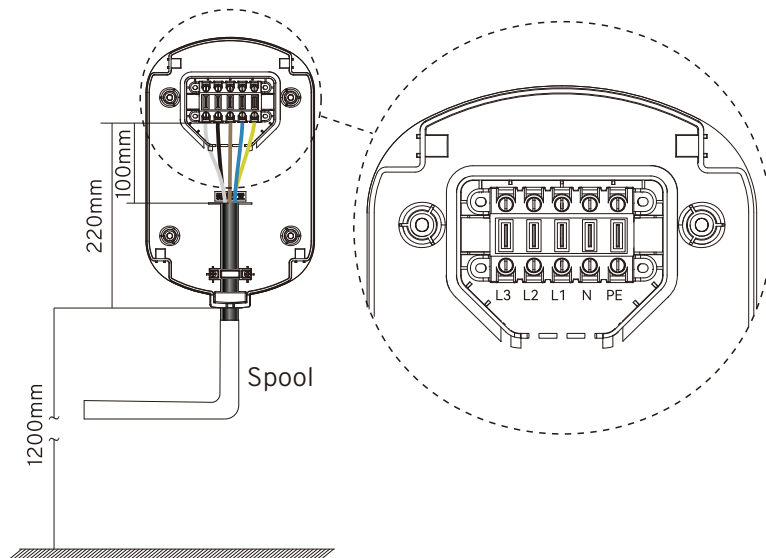
- Use the cutting tool to thread the sealing silica gel at the bottom of the wall-mounted board and make a cross opening in the middle, which is convenient for wiring installation and waterproofing, as shown in the following figure.



## 2.5 Power Line Wiring

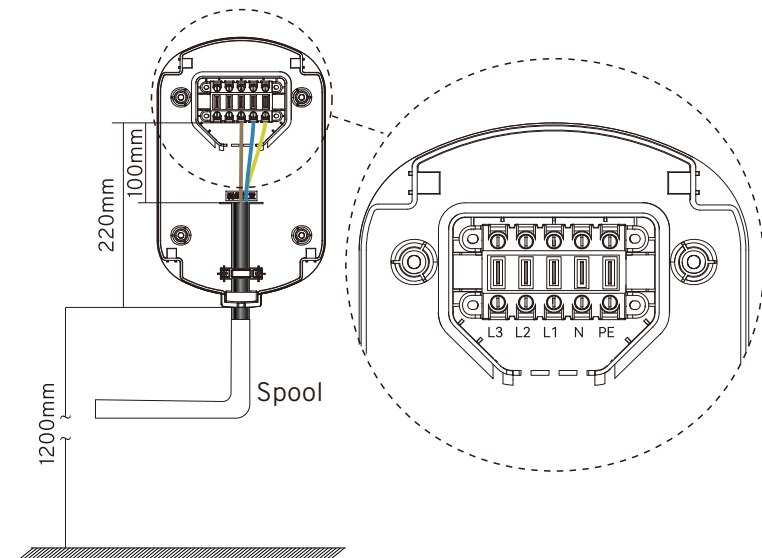
### 2.5.1 Power Line Wiring -400V (Three-Phase)

- See the figure below for the wiring position of power input power line;
- When wiring the power line, it is necessary to provide a sleeve to protect the cable, such as PVC pipe made of plastic, corrugated pipe or metal pipe;
- The length of wiring cable is reserved in the wall-mounted board for 220mm, and the stripping length of the front end is about 100mm;
- The rated current of the charger is 32A. It is recommended to use ZR-YJV-5×10mm<sup>2</sup> cable, and the previous stage needs to choose 40A/4P circuit breaker (with short-circuit protection function. Recommended model: iC65N-C40A/4P+Vigi iC65 ELE (Schneider), compliant with standards EN/IEC 61009);
- Confirm that the AC inputs L3, L2, L1, N and PE of the charger have no short circuit;
- Confirm that the AC inputs L3, L2, L1, N and PE of the charger are in correct phase sequence.

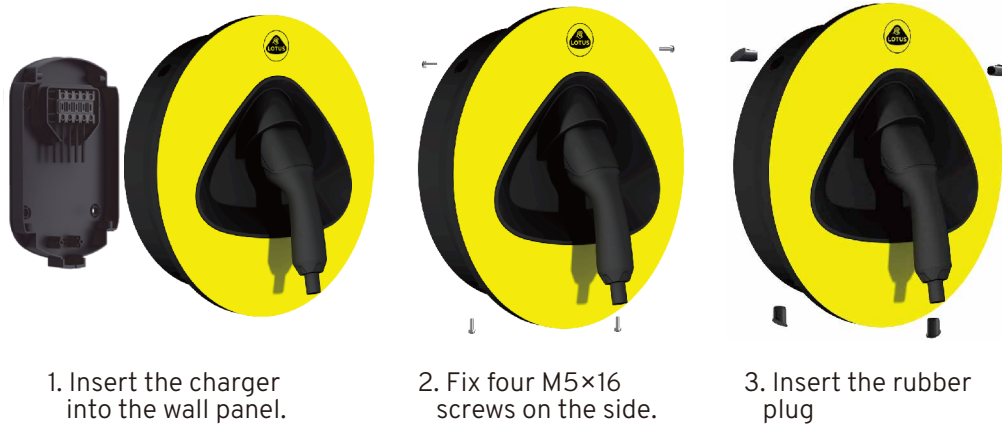


### 2.5.2 Power Line Wiring -230V (Single-Phase)

- See the figure below for the wiring position of power input power line;
- When wiring the power line, it is necessary to provide a sleeve for protecting the cable, such as PVC pipe made of plastic, corrugated pipe or metal pipe;
- The length of wiring cable is reserved in the wall-hung board for 220mm, and the stripping length of the front end is about 100mm;
- The rated current of the charger is 32A. It is recommended to use ZR-YJV-3×10mm<sup>2</sup> cable, and the previous stage needs to choose 40A/2P circuit breaker (with short-circuit protection function, Recommended model: iC65N-C40A/2P+Vigi iC65 ELE (Schneider), compliant with standards EN/IEC 61009);
- Confirm that the AC inputs L1, N and PE of the charger have no short circuit;
- Confirm that the AC inputs L1, N and PE of the charger are in correct phase sequence.



## 2.6 Charger Installation



## 3. Charging Instructions

### 3.1 Power-On Inspection

- Check whether the type selection of the pre-stage input circuit breaker of the charger is reasonable (the rated voltage needs to be 400VAC, 40A, and the breaking capacity is 6 kA);
- Close the preceding input circuit breaker;
- Observe the status of the indicator light. When the charger is powered on normally, the top Logo light is always on;
- The self-inspection of the charger is completed within 40s, and the indicator light is white breathing during the self-inspection.

## 3.2 Indicator Status Description

Power on	Self-inspection	Welcome	Standby	Connecting-uncharged
White light streaming	White light breathing	White light streaming	No light	Blue light on
State dependent	Charging	Charging complete	Fault or Notice	OTA upgrade
Dark purple light on	Green light breathing	Green light on	Red light on	White light on

- The red indicator light indicates that the charging station has malfunctioned, and the specific fault messages are as follows.

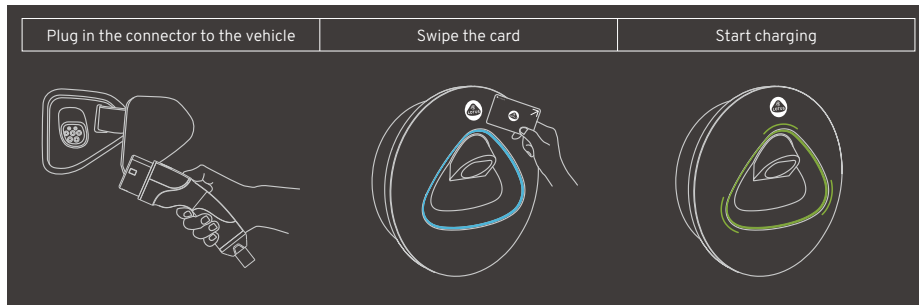
Fault	Red Light
CP error	1 flash
Ground loss	2 flashes
Leakage	3 flashes
Abnormal charging circuit	4 flashes
Meter fault	5 flashes
Undervoltage	6 flashes
Overvoltage	7 flashes

- Please see the appendix for trouble shooting

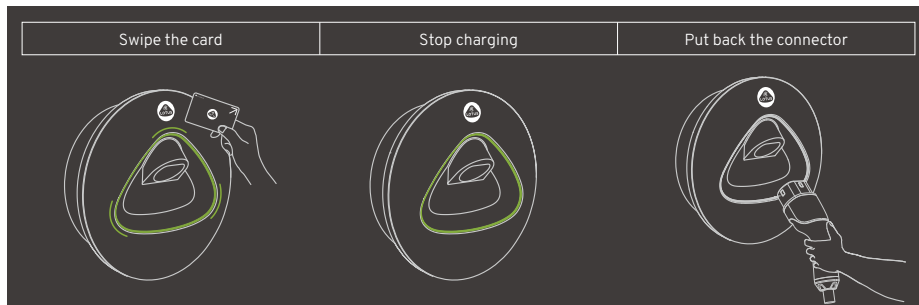
### 3.3 Charging Operation

#### 3.3.1 RFID Card Mode

- Start charging:

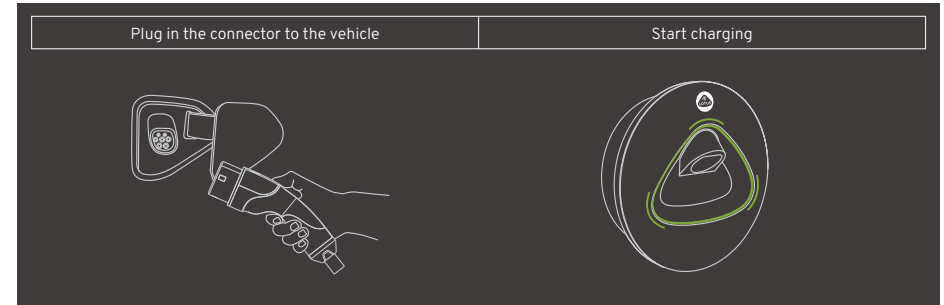


- Stop charging:

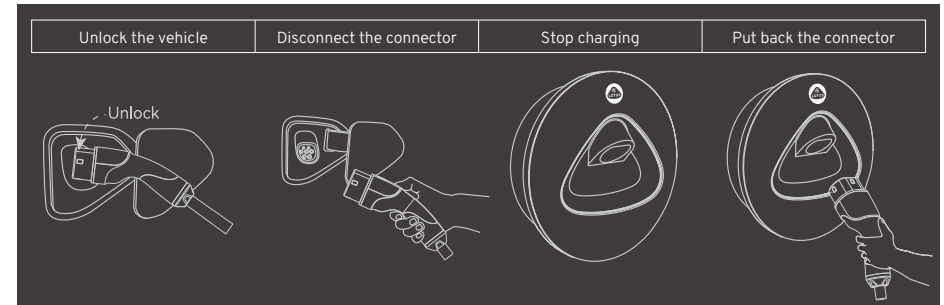


#### 3.3.2 Plug&Charge (For setting instructions, refer to the information card.)

- Start charging:



- Stop charging:



## 4. Maintenance Instructions

### 4.1 Product Overhaul

- In order to ensure the normal service life of the charger and reduce the risks in the use process, users should pay attention to the fact that the charger is in good appearance and no damage to the protective components such as the shell, cable and connector. The charger should be installed firmly, and there is no shaking that affects the safety.

### 4.2 Warranty Statement

- Chargers have undergone strict quality inspection before leaving the factory. During the warranty period, if there are quality problems under normal use, the company will guarantee the quality;
- The charger is damaged and cannot be used normally due to improper handling, installation, incorrect use and maintenance by unauthorized personnel, negligence or force majeure, which is not covered by the warranty;
- If the user modifies the charger privately, and moves the installation position of the installed charger privately, the charger product will be automatically out of warranty.

## 5. Safety Notification

### 5.1 Risk of Maintenance

- Do not disassemble or modify the charger and wiring without permission, otherwise it may cause fire and electric shock accidents;
- In case of power failure, it must be repaired by professional operation and maintenance personnel, otherwise there may be electric shock danger;
- Do not carry out charger equipment maintenance when the front-end power supply is not cut off, as there is a risk of electric shock;
- There must be no combustible materials around the charger. If there are, they should be cleaned in time, otherwise there is a fire hazard.

### 5.2 Risk of Use

- Please operate in strict accordance with the operating instructions and tips on the charger, otherwise there is a risk of electric shock and fire;
- In case of fire, flooding of chargers and other accidents, it is forbidden to get close to chargers. Please inform professionals in time for emergency treatment;
- When children move around the charger, the guardian should take good care to avoid accidents such as electric shock.

### 5.3 Disclaimer

- In order to protect the legitimate rights and interests of users, please read this product manual carefully before using this charger. The company reserves the right to update the above documents. Please be sure to operate this charger according to the operating rules and safety instructions;
- Once you start to use this charger, it is deemed that you have read, understood, recognized and accepted all the terms and contents of the product manual. The user promises to be responsible for his own actions and all the consequences arising therefrom. The user promises to use this charger only for proper purposes, and agrees to this clause and any relevant policies or guidelines that may be formulated by the company;
- In the process of using this charger, please strictly observe and implement the requirements including but not limited to operation specifications, safety notices, installation conditions and use conditions. All personal injuries, accidents, property losses, legal disputes, and all other events that cause conflicts of interest caused by violations of the use behavior suggested in the product manual or irresistible factors shall be borne by the users themselves.

## Appendix: Problem-Solving

This appendix provides the possible causes and solutions to the errors. If you are not able to handle it, please contact the after-sales.

Light	Fault	Possible causes	Possible solutions
No light on	No power	Cable damage / Installation error	a) Check if the cable is damaged b) Contact after-sales
Purple light on	State dependent (Dep)	Connection error	a) Unplug the charging connector from the car b) Check if there is an external object on socket or plug c) Insert the charging connector to the car again d) If not recover, contact after-sales
Red light 1 flash	CP error		
Red light 2 flashes	PE error / Ground loss	Abnormal voltage between N and PE wires	a) Put back the connector and wait for the voltage recovery b) If the light goes green, start your charging again c) If not recover, contact after-sales
Red light 3 flashes	Current leakage	Internal error	a) Power off the charger, then power on b) If not recover, contact after-sales
Red light 4 flashes	Abnormal charging circuit / Relay error		
Red light 5 flashes	Meter fault		
Red light 6 flashes	Undervoltage	Abnormal input voltage	a) Wait for the voltage recovery b) If the light goes green, start your charging again c) If not recover, contact after-sales
Red light 7 flashes	Overvoltage		
Red light on	Other errors	Internal error	Contact after-sales