



User Manual

Saturn AC EVSE



Star Charge



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The technical specifications indicated here do not constitute a contractual obligation.

In case of any doubt regarding a subject described or if you discover an error in this manual, please contact us.

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1 Introduction

1.1 Function of this document

Star charge equipment is intended exclusively for charging Electric Vehicles (EV) in both indoor and outdoor areas. To ensure proper usage of the charging station (hereinafter can be referred to as Electric Vehicle Supply Equipment/EVSE or the Charger), the instructions in this manual must always be complied with. Installation, commissioning, and maintenance of this equipment shall only be performed by qualified personnel (Star charge certified partner).

1.2 Target user

This manual is for:

- **EVSE owners:** These are people who own and operate the EVSE for commercial or business purposes, or who may allow others to use it. EVSE owners are legally responsible for protecting users, other employees, and third parties while the EVSE is in operation.
- **Qualified engineers:** These are people who are fully familiar with the EVSE and are responsible for installing, operating, commissioning, and maintaining it. Qualified engineers should have knowledge of electrical safety, understand the principles and performance of chargers, and follow all local rules and instructions in this manual.

1.3 Version and revision history

The version of this document is V1.0.0 and the revision history is as follows.

Version	Date	Description
V 1.0.0	29th March 2024	Initial version.

Table 1-1 Version of the user manual

1.4 Disclaimer

- This document has been subject to rigorous technical review before being published. It will subsequently be revised at regular intervals.
- The information in this manual is for informational purposes only.
- This manual, related manuals, and warnings do not replace your responsibility to use common sense when working with the EVSE.
- Although Star Charge has put its best efforts to keep the document as precise and up-to-date, Star Charge shall not assume any liability for defects and damage that may come from using the information.
- In no event will Star Charge be liable for direct, indirect, special, or consequential damages (including loss of profits) resulting from any errors or omissions in this manual. All of Star Charge's obligations are stated in the relevant contracts. Star Charge reserves the right to revise this document from time to time.
- Any changes to the EVSE, including but not limited to user-specific modifications to the EVSE (such as placing stickers, SIM cards, or using different colors), hereinafter referred to as "Customization", may affect the final product's user experience, appearance, quality, and/or lifespan.
- Star Charge is not responsible for any damage to or caused by the product "Customization" and is not responsible for any damages, losses, costs, or expenses resulting from the improper handling of the product.

1.5 Copyright

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1.6 Supplier

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Homepage: www.starcharge.com

2 Safety and usage instructions

2.1 General safety

Before charging your EV, please read the safety rules and usage instructions in this chapter as failure to do so may result in safety hazards or device failure.

During the installation and connection of the Charger, it is imperative to comply with the legal acts or regulations set forth by the respective country.

- Only qualified electricians (Star Charge certified partners) should install, operate, commission, and maintain the EVSE.
- All installation and wiring must be done when the AC cables are not energized. This means that the EVSE cannot be turned on during this process. This helps to prevent electrical accidents, short circuits, and electric shock hazards. It makes sure that the system is not turned on during risky procedures, which reduces the chance of fires during installation or maintenance.
- Do not use the EVSE:
 - Near explosives or flammable substances.
 - In or near water.
 - If it is visibly damaged.
- Do not clean the EVSE with running water or a pressure washer.
- Do not change or modify the EVSE unless Star Charge has approved it.
- Do not wrap the cables around the EVSE while charging.
- Do not put the connector on the ground. Put it in its holder after charging.
- Only do things that are described in this manual or the related manual, and that you are qualified to do.
- Follow the safety rules and accident prevention rules for the EVSE and the area where it is used.
- Make sure the EVSE is used in the environmental conditions that are specified for it. For more information about environmental conditions, refer to section 3.3.6.
- When handling electrical connections, always follow safety protocols, wear the necessary personal protective equipment (PPE), and use insulated tools.
- Follow the local rules and the instructions in this manual. If any requirements in this manual are not the same as the local rules, follow the local rules or the stricter of the two, as allowed by law.

2.2 Safety symbols

Symbols	Meanings
	Electric hazard: This symbol indicates that there is a danger of electric shock. Failure to pay attention to the procedures, practices or improper implementation may cause injuries or death. Only perform operations with this symbol if you fully understand and meet all of the requirements.
	Caution: This symbol indicates that there is a hazard that could damage the product. Only perform operations with this symbol if you fully understand and meet all of the requirements.
	Tips: This symbol indicates that the information is helpful or provides useful advice. It does not contain any information about danger or harm.
	Garbage disposal: This symbol indicates that the electrical and electronic equipment and their accessories should be disposed of separately from household waste. They can be reused, recycled, or disposed of in a safe and environmentally friendly way.
	Grounding: This symbol indicates ground protection. Once the ground fails or there is no grounding, the charger will report fault and stop charging.

Table 2-1 Safety symbols

2.3 Fire safety guidelines for construction sites

- **Flammable and explosive materials:**
 - Do not store flammable and explosive materials on the construction site.
 - Set up proper storage areas for these materials to prevent accidents.
- **Fire extinguishers:** The construction site must have at least two fire extinguishers, such as carbon dioxide fire extinguishers, to respond to any possible fire hazard.
- **Placement of fire extinguishers:**
 - Place fire extinguishers in a location that is easy to see and access.
 - Make sure they do not block any evacuation routes.
 - This ensures that they can be quickly and safely accessed in an emergency.

2.4 Fire emergency response plans

2.4.1 Initiation of the plan

If a fire happens, tell the emergency command leading group right away. Everyone must follow the orders of the emergency response team to help rescue people and clean up the damage.

2.4.2 Contingency procedures

- **If you see a fire accident:**
 - Stop charging immediately. If the fire is in the charging station, stop the charging process to prevent the fire from getting worse.
 - Turn off the power. Press the emergency stop button right away to prevent the fire from spreading.
 - Call the fire department. Call the fire department right away and tell them where the fire is.
 - Evacuate safely. Get away from the fire quickly and stay away from it.
 - Use a fire extinguisher (if possible). If the fire is small, you can use a fire extinguisher to put it out. But make sure you use the right type of fire extinguisher.
- **If there is a fire:**
 - Tell your supervisor right away.
 - If the fire is small and you can control it, use a fire extinguisher to put it out. While you are doing this, tell people at all levels about the fire.
 - Have at least two people fight the fire. Stand upwind, crosswind, or in a safe position.
 - If you cannot control the fire, have everyone in the area evacuate immediately.
 - If the fire gets bigger, the person in charge must evacuate everyone immediately.

- Tell employees in the affected area to go to the assembly point along the designated route. Follow the instructions of the person in charge of the company.
- The emergency response team (ERT) will organize rescue efforts according to the fire.
- If you cannot control the fire, report it to the government department in time for support. Cooperate with the fire brigade for rescue efforts.
- Collect information about what happened before the fire, what the monitoring system showed, and what witnesses saw. This will help you to understand what caused the accident. You will need to share this information with the owner and the site.
- Give the local fire department the information they need to investigate the cause of the fire.
- If the company did not cause the losses, the local branch will claim compensation from the relevant parties. The company's EHS and risk control center will provide support and cooperation.

2.4.3 Concluding fire emergency response

When the emergency crews have finished their work, the people in charge of emergencies will announce that the disaster is over and the emergency is lifted. Then, everyone can go back to their normal work.

3 Product overview

3.1 Nameplate



Figure 3-1 Nameplates

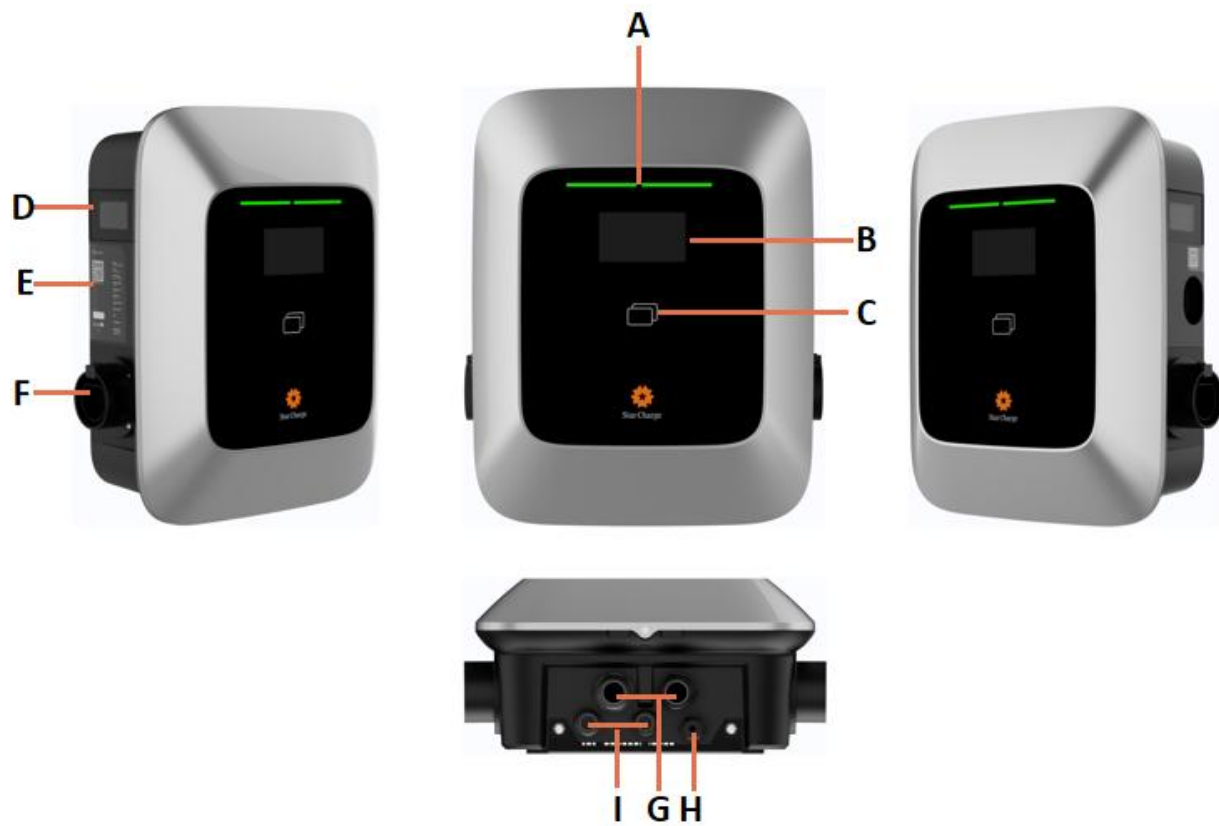
3.2 External view

3.2.1 Saturn MID charger (Case B)



- A LED indicator
- B 4.3-inch display screen
- C RFID card swiping area
- D Meter
- E Nameplate
- F Case B mode charging socket
- G Sealed casings at the power cable inlets
- H Network cable interface

3.2.2 Saturn MID charger (Case C)



- A LED indicator
- B 4.3-inch display screen
- C RFID card swiping area
- D Meter
- E Nameplate
- F Connector holder
- G Sealed casings at the power cable inlets
- H Network cable interface
- I Charging cable

3.3 Status of the LED indicator

Lighting type		Meaning
	Steady green	Charger in standby
	Steady blue	Charging connector inserted into the EV
	Blue flashing quickly	RFID card detected
	Blue flashing slowly	Charging process suspended
	Blue breathing	Charging
	Steady red	Fault
	Red flashing quickly	Authentication failure
	Red flashing slowly	Card swiping or QR code scanning timeout

Table 3-1 Status of the LED indicator

Note: Red indicator will change to previous normal status when LED error is addressed and the charging connector is available.

4 Using instructions

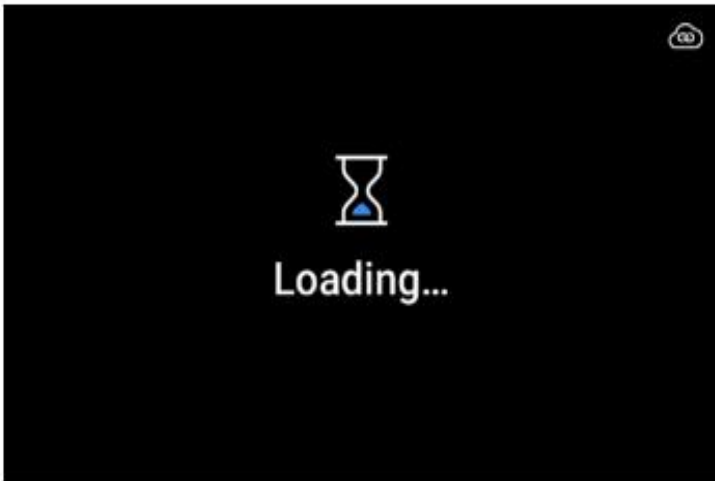
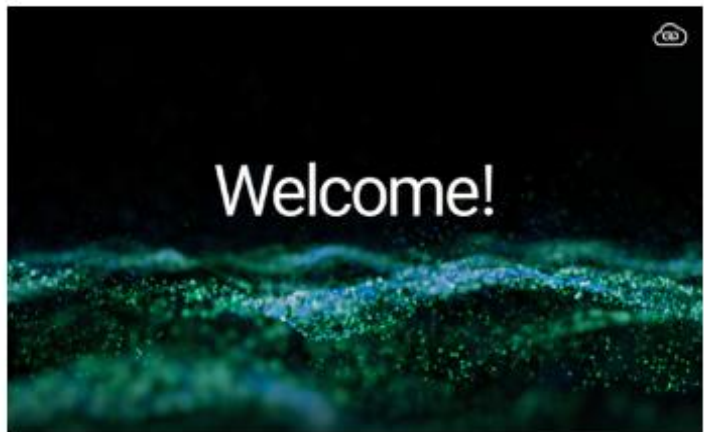
4.1 Prerequisites

Before starting, make sure you have the following ready:

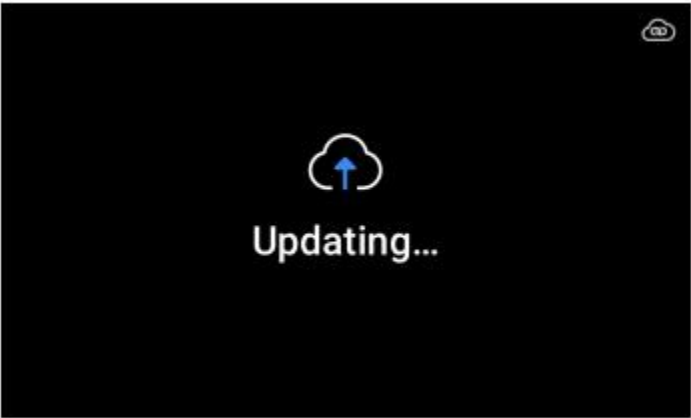
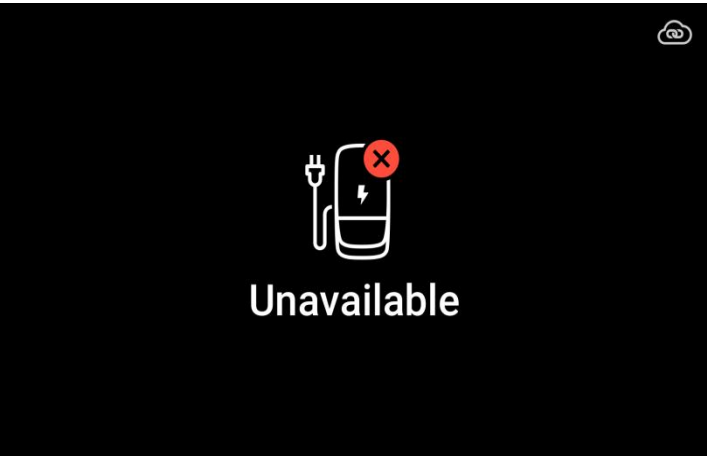
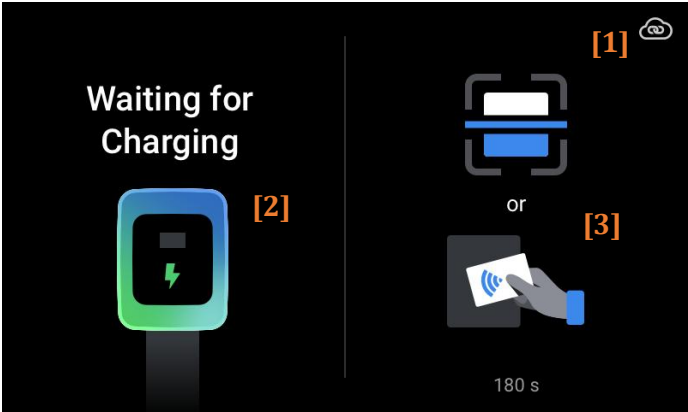
- Make sure you know all the safety and usage instructions in Chapter 2.
- Make sure the Saturn Charger is working properly.
- Make sure your EV is in good condition and can be charged.
- Make sure the EVSE is installed properly.
- Park your EV in the designated area and make sure the charging cable is long enough.

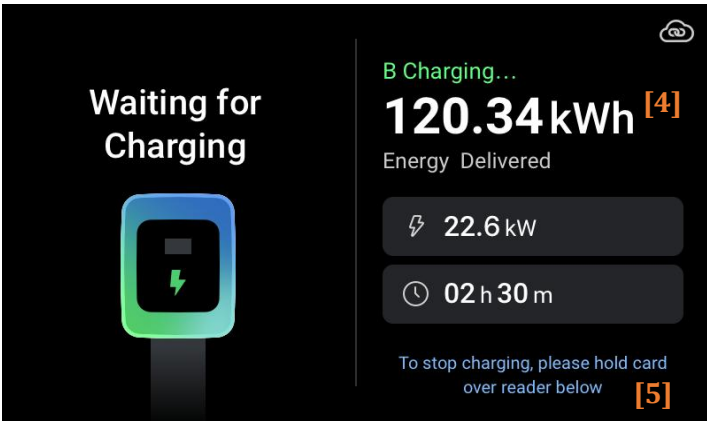
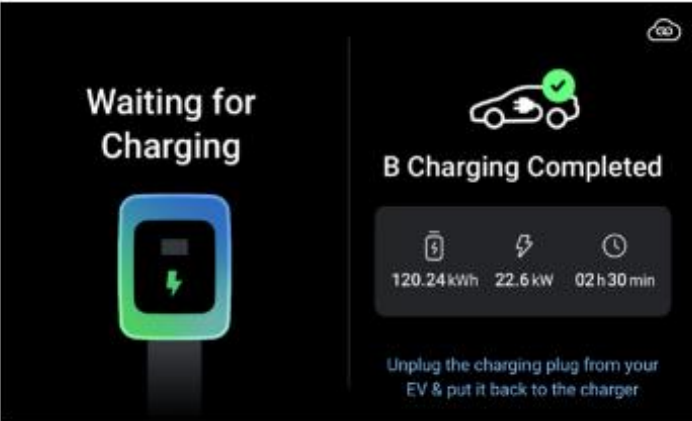
4.2 UI exploration

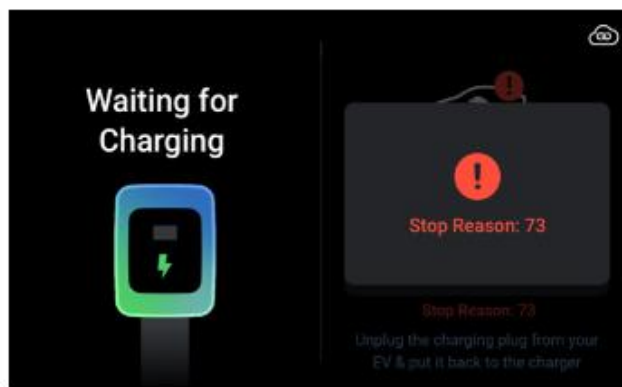
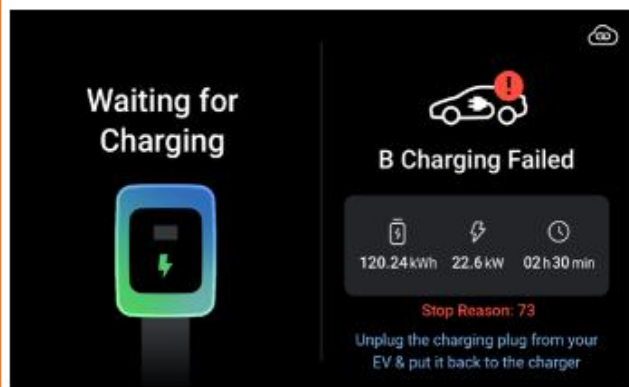
The Charger is equipped with a color display screen.

	The Charger is in loading status when started.
	The Charger is in standby status when no connector is connected.

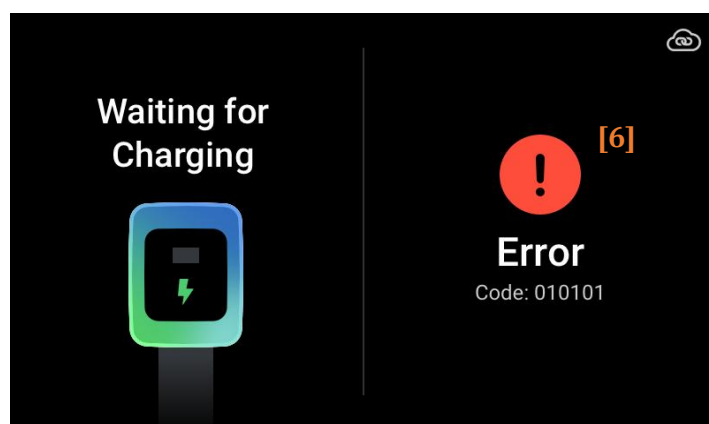
The updating and unavailable status of the charger is displayed below. Please use the charger normally after it enters standby status.

	The Charger is in updating status.
	The Charger is in unavailable status.
	Waiting for authentication. [1] Online/offline   [2] Status display area of charging connector A [3] Status display area of charging connector B

 Waiting for Charging Please unplug the charging plug and reconnect	If the user's authentication fails within 3 minutes after the charging connector B has connected with the charger and the EV, please disconnect and then reconnect the charging connector.
 Waiting for Charging B Charging... 120.34 kWh [4] Energy Delivered ⚡ 22.6 kW 🕒 02 h 30 m To stop charging, please hold card over reader below [5]	The EV connecting with the charging connector B is being charged. [4] Charging information (charging power&charging time) [5] A supplementary instruction for the use by users
 Waiting for Charging B Charging Completed 🔋 120.24 kWh ⚡ 22.6 kW 🕒 02 h 30 min Unplug the charging plug from your EV & put it back to the charger	The EV connecting with the charging connector B is fully charged.



The vehicle connecting with the charging connector B failed to charge, and the stop reason is shown.



A failure has occurred in the charging area B, please eliminate the failure before use.

[6] Failure notice with failure code

4.3 Charging process

(1) Activation

- **RFID card**

Please find the RFID card in the package of charger.

- **Charging App**

- ① Please download the charging App from the location provided by your dealer or service provider.
- ② Please register and log into your account in the charging App. For detailed information, please contact your dealer or service provider.

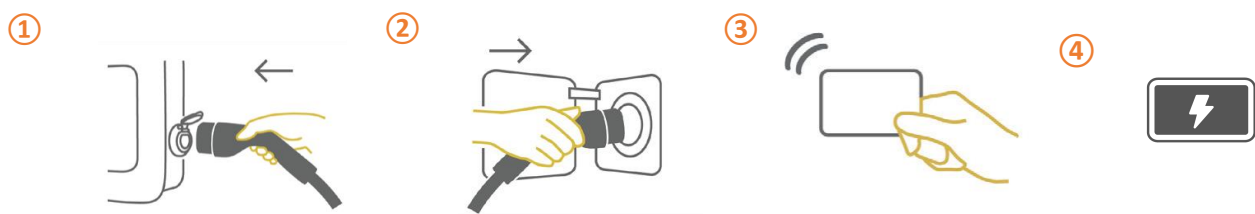
(2) Charging

- **Preconditions**

- ① The charging connector is plugged into the vehicle.
- ② The charger is ready (the LED indicator is steady green).

4.3.1 Charging with RFID card

- **Start charging**



Skip this step in Case C mode

- (1) Plug one charging connector in the socket.
- (2) Connect the charging connector to the EV correctly and confirm the connection. The steady blue indicates that the charger is properly connected.
- (3) To initiate the charging process, simply place the card in front of the swiping area until the blue flashes quickly.
- (4) The EVSE will start charging process when the blue is breathing.

Note: In the event of failure to start charging process due to network connection, please swipe the card again after at least 30 seconds.

- **End charging**

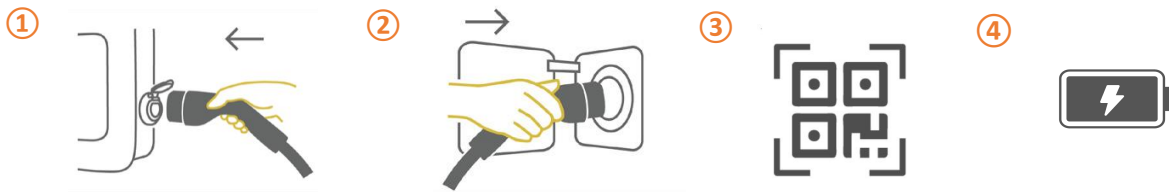


- (1) To stop charging the EV, simply place the RFID card until the blue flashes slowly (if the electric vehicle has been fully charged, the charger will automatically stop, no need to swipe the card).
- (2) Unplug the charging connector out of the socket.
- (3) Press the unlock button and unplug the charging connector. Wrap the connector cable around the hook and plug the connector head into the charging connector holder.

Note: Do not violently pull a mechanically-locked connector plugged into the vehicle out of the socket.

4.3.2 Charging with QR code

- **Start charging**



Skip this step in Case C mode

- (1) Plug one charging connector in the socket.
- (2) Connect the charging connector to the EV correctly and confirm the connection. If steady blue indicates that the charger is properly connected.
- (3) To start the charging process, open the charging application (referred to as APP), scan QR code and click Start Charging.
- (4) The blue breathing indicates that the charging process has commenced.

- **End charging**

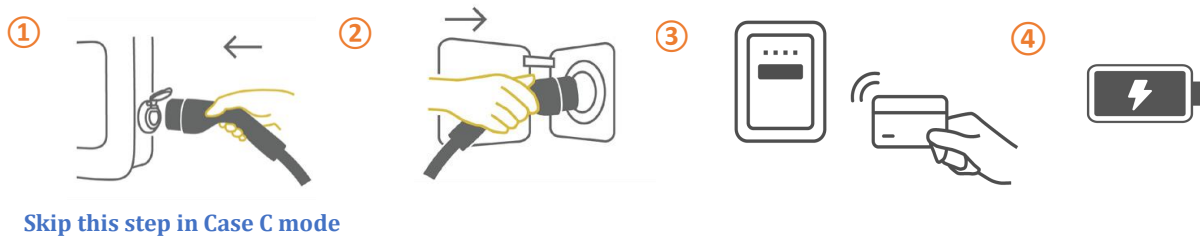


- (1) To stop charging the EV, open the APP and click Stop Charging until the blue flashes slowly (if the electric vehicle has been fully charged, the charger will stop automatically, with no need to open the App).
- (2) Unplug the charging connector out of the socket.
- (3) Press the unlock button and unplug the charging connector. Wrap the connector cable around the hook and plug the connector head into the charging connector holder.

Note: Do not violently pull a mechanically-locked connector plugged into the vehicle out of the socket.

4.3.3 Charging with RFID card on payment terminal (optional)

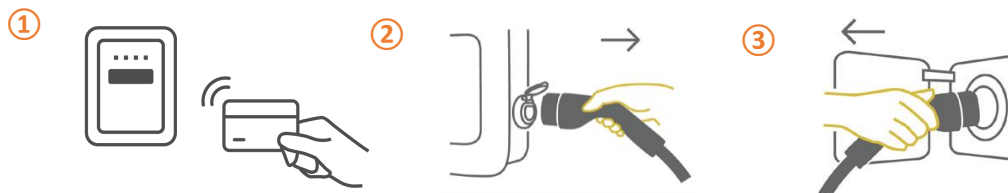
- **Start charging**



- (1) Plug one charging connector in the socket.
- (2) Connect the charging connector to the EV correctly and confirm the connection. If steady blue indicates that the charger is properly connected.
- (3) Swipe your payment card in the swiping area for Payment terminal.
- (4) The EVSE will start charging process when the blue is breathing.

Note: In the event of failure to start charging process due to network connection, please swipe the card again after at least 30 seconds.

- **End charging**



Skip this step in Case C mode

- (1) To stop charging the EV, simply swipe the same card for Payment terminal (if the electric vehicle has been fully charged, the charger will automatically stop, no need to swipe the card).
- (2) Unplug the charging connector out of the socket.
- (3) Press the unlock button and unplug the charging connector. Wrap the connector cable around the hook and plug the connector head into the charging connector holder.

Note: Do not violently pull a mechanically-locked connector plugged into the vehicle out of the socket.

4.4 Error information

Follow the instructions bellow to tackle the problems.

Code	Description	Solution
100206	Ground fault	• Check if PE is correctly connected. • Check the voltage value of L1-PE/L2-PE/L3-PE/N-PE.
200206	Over voltage	• Cut off the power and use a multimeter to check the voltage value of the switchboard. • Contact the local grid for help.
200208	Under voltage	• Use a multimeter to check the voltage value after starting the EVSE. • Check if L/N is installed correctly.
100213	Over current fault	Contact the service department.
100102	Over temperature	• After starting the EVSE, check whether the fan is running normally. • Check whether the ambient temperature exceeds 45 degrees. • Contact the service department.
10020F	Meter communication fault	• Try to restart the EVSE power supply. • Check whether the RS 485 meter communication normal.
100005	Card reader communication fault	• Try to restart EVSE power supply . • Check whether the 232 card reader communication normal.

100215	Electric leakage protection	● Press the RCCB test button to confirm whether it is working properly. ● Contact the service department.
100208	Relay fault	● Try to restart the EVSE power supply. ● Contact the service department.
100210	Communication fault with bottom plate	● Try to restart the EVSE power supply. ● Contact the service department.
100009	TF card exception	Contact the service department.
100205	Electronic lock fault	● Check whether the electronic lock voltage is normal. ● Contact the service department.
100217	CP detection fault	Check whether the CP-PE voltage of the socket/connector meets DC12V.
100218	Connected cable is not supported.	Contact the service department.
100007	LED status light does not light up	● Try to restart the EVSE power supply. ● Contact the service department.
100008	The screen does not light up	● Try to restart the EVSE power supply. ● Contact the service department.
10020C	Door open	Please close the operation cover

Table 4-1 Error information

For the newest version of the document, please feel free to check www.starcharge.com

Many thanks for your attention.



Customer service

Preparation:

If you have any questions or problems, please contact the company responsible for performing the electrical installation.

Before contacting Customer Service:

Check the troubleshooting measures in the Error information and Stop information sections.



Star Charge

