

Sigen EV DC Charging Module

User Manual

SigenStor EVDC 12 (5S2, 7.5S2, 10S2)

SigenStor EVDC 25 (5S2, 7.5S2, 10S2)

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Revision History

Version	Date	Description
01	2024.06.20	First official release.

Overview

Introduction

This document mainly describes product information, networking, and system operation and maintenance of SigenStor EVDC 12 (5S2, 7.5S2, 10S2) and SigenStor EVDC 25 (5S2, 7.5S2, 10S2) (hereafter referred to as SigenStor EVDC).

Readers

This document is suitable for product users and professionals

Sign Definition

The following signs may be used in the document to indicate security precautions or key information. Before installation, operation, and maintenance of the equipment, familiarize yourself with signs and their definitions.

Signs	Definition
 Danger	Danger. Failure to comply will result in death or serious personal injury.
 Warning	Warning. Failure to comply will result in serious personal injury or property damage.
 Caution	Caution. Failure to comply will result in property damage.
Tips	Important or key information, and supplementary operation tips.

Chapter 1 Safety Precautions

Basic Information

Before installation, operation, and maintenance of the equipment, familiarize yourself with this document.

The "Danger ", "Warning", "Caution" items described in this manual are only supplementary to all precautions.

The Company shall not be liable for equipment damage or property loss caused by the following reasons:

- Failure to obtain approval from the national, regional power authority.
- The installation environment does not meet international, national, or regional standards.
- Failure to observe local laws, regulations and norms when operating and maintaining equipment.
- The installation area does not meet the requirements of the equipment.
- Failure to follow the instructions and precautions in this document.
- Failure to follow the warning labels on equipment or tools.
- Negligent, improper operation or intentional damage.
- Damage caused by your or a third party's replacement of our equipment.
- The equipment is damaged because the your or a third-party company fails to use the accessories supplied with the packing box or purchase and install accessories of the same specification.
- Equipment damage caused by improper operations such as disassembling, replacing, or modifying the software code without authorization.
- Equipment damage caused by force majeure (such as war, earthquake, fire, storm, lightning, flood, debris flow, etc.).
- Damage caused by the failure of the natural environment or external power parameters to meet the standard requirements of the equipment during actual operation (for example, the actual operating temperature of the equipment is too high or too low).
- The equipment was stolen.

- The equipment is damaged after the warranty period.

Safety Requirements

Danger

- Do not expose the equipment to high temperature or heat sources, such as ignition sources, heaters, etc.
- Do not clean or soak the equipment with water, alcohol, or oil to avoid power leakage or battery pack leakage.
- Do not leave liquid in the charging connector or socket.
- Do not knock or impact the equipment. In case of an accident, please stop using the equipment immediately and contact your sales agent, The equipment shall be inspected and evaluated by professional personnel before continuing to use.
- Do not use the equipment in bad weather, such as heavy rain or snowstorm, when installed outdoors.
- Do not extend sharp objects or fingers into the equipment.

Warning

- The heat sink is hot when the equipment is operating. Do not touch it.
- Do not drop the charging connector.
- Please put the charging connector and charging cable in the designated location and avoid contamination or moisture on the charging connector or damage to the charging connector cable due to crushing by heavy loads such as vehicles.


Caution

- Do not use the equipment with faults. If the equipment appears abnormal, contact your sales agent.
- Do not connect cables or adapters that are not required for installing this equipment.
- Do not use the equipment for any purposes other than vehicle charging.
- Do not use a private generator as the power source for the equipment.
- Do not forcibly bend or knock components on the equipment.
- Carbon dioxide fire extinguishers or ABC dry powder fire extinguishers are recommended at home.
- If the equipment cannot be charged, please contact your sales agent in time.
- The radio waves generated when using the equipment may affect the normal use of implantable medical devices or personal medical devices, such as pacemakers, implantable defibrillators, hearing AIDS, etc. Consult with your medical device manufacturer about the restrictions of using the equipment before use.

Do not use the equipment in the following situations:

- When connected to public infrastructure systems.
- When connected to emergency medical equipment.
- When connected to elevators and other control devices.
- Any other critical systems.

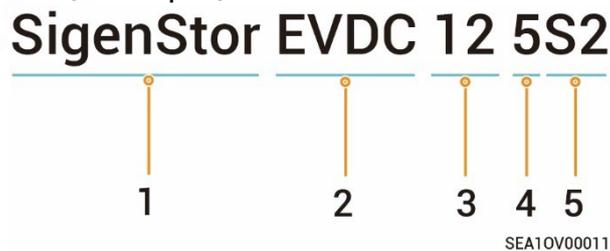
Chapter 2 Product Introduction

2.1 Model Designation

SigenStor EVDC includes the following models:

- SigenStor EVDC 12 5S2
- SigenStor EVDC 12 7.5S2
- SigenStor EVDC 12 10S2
- SigenStor EVDC 25 5S2
- SigenStor EVDC 25 7.5S2
- SigenStor EVDC 25 10S2

Fig.1-1 Model designation (example)

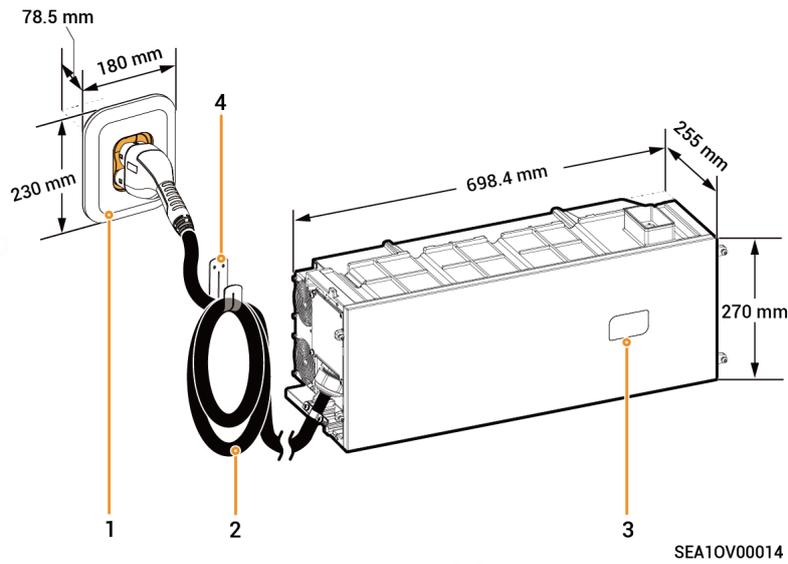


S/N	Definitions	Description
1	Product series	SigenStor 5-in-One system
2	Charger type	EVDC: DC charger
3	Rated output power	<ul style="list-style-type: none"> ● 12: 12.5 kW ● 25: 25 kW
4	Length of charging connector cable	<ul style="list-style-type: none"> ● 5: 5 m ● 7.5: 7.5 m ● 10: 10 m
5	Connector type	S2: CCS2, that is CCS Combo2, a European standard DC charging connector

2.2 Description

SigenStor EVDC is a bidirectional DC/DC charging & discharging system and can be used with our SigenStor EC, SigenStor AC, and Sigen Hybrid series, as well as battery pack SigenStor BAT to charge and discharge power batteries of electric vehicles.

2.3 Product Appearance

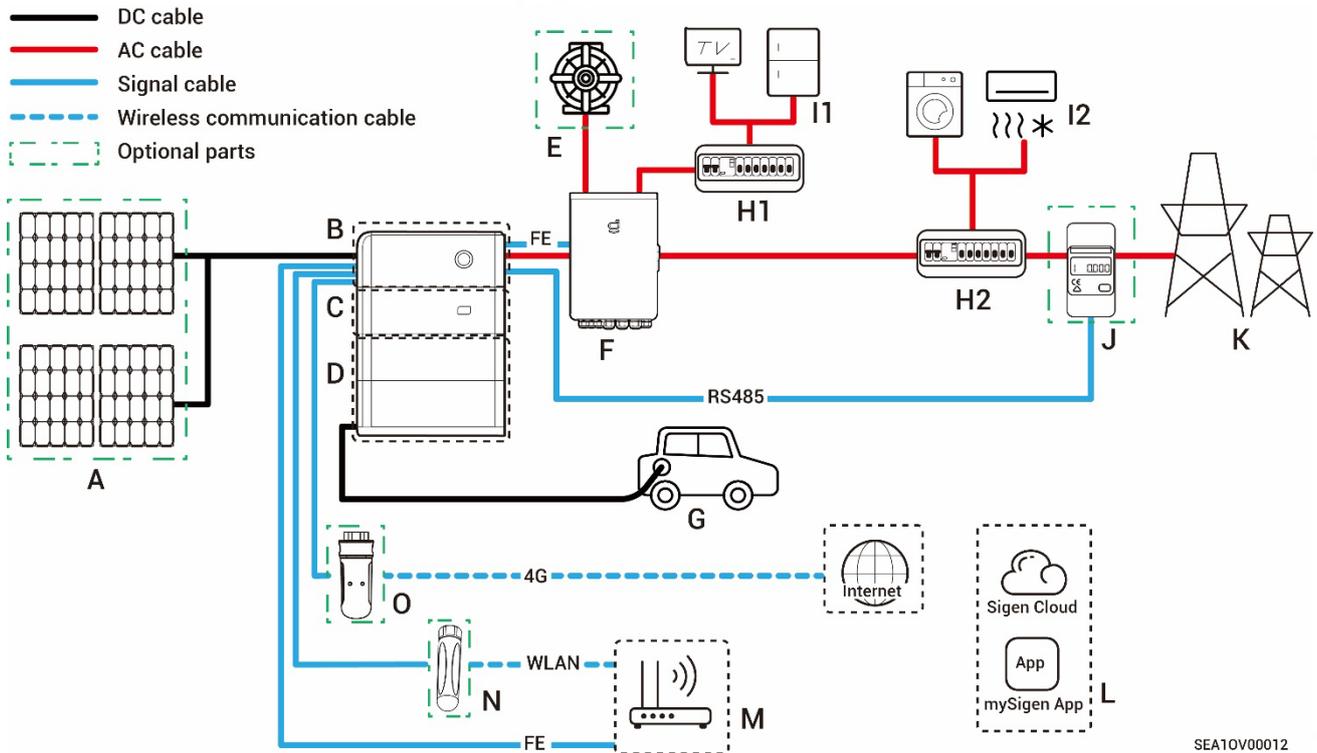


S/N	Description
1	Charging connector holder for placing the charging connector
2	Charging connector cable
3	RFID card reading area
4	Cable holder for storing the charging cable

2.4 Label Description

Symbol	Definitions
	<p>Danger! High Voltage</p> <p>High voltage exists inside the equipment when powered on. Do not open the casing when the equipment is running. Any maintenance or servicing operations must be performed by trained and skilled electrical engineers.</p>
	<p>Warning! Life at risk.</p> <p>The equipment has potential hazards after running. Take proper protection when operating the equipment.</p>
	<p>After the equipment is powered off, the discharge of internal components is delayed. Wait 5 minutes until the equipment is fully discharged according to the label time.</p>
	<p>Warning! Risk of burns.</p> <p>The surface of the heat dissipation area is hot when the equipment is running. Do not touch it to avoid burns.</p>
	<p>Please refer to the instructions to operate the equipment.</p>
	<p>Earthing mark</p>

2.5 Typical Networking (PV) Storage and Charging Networking



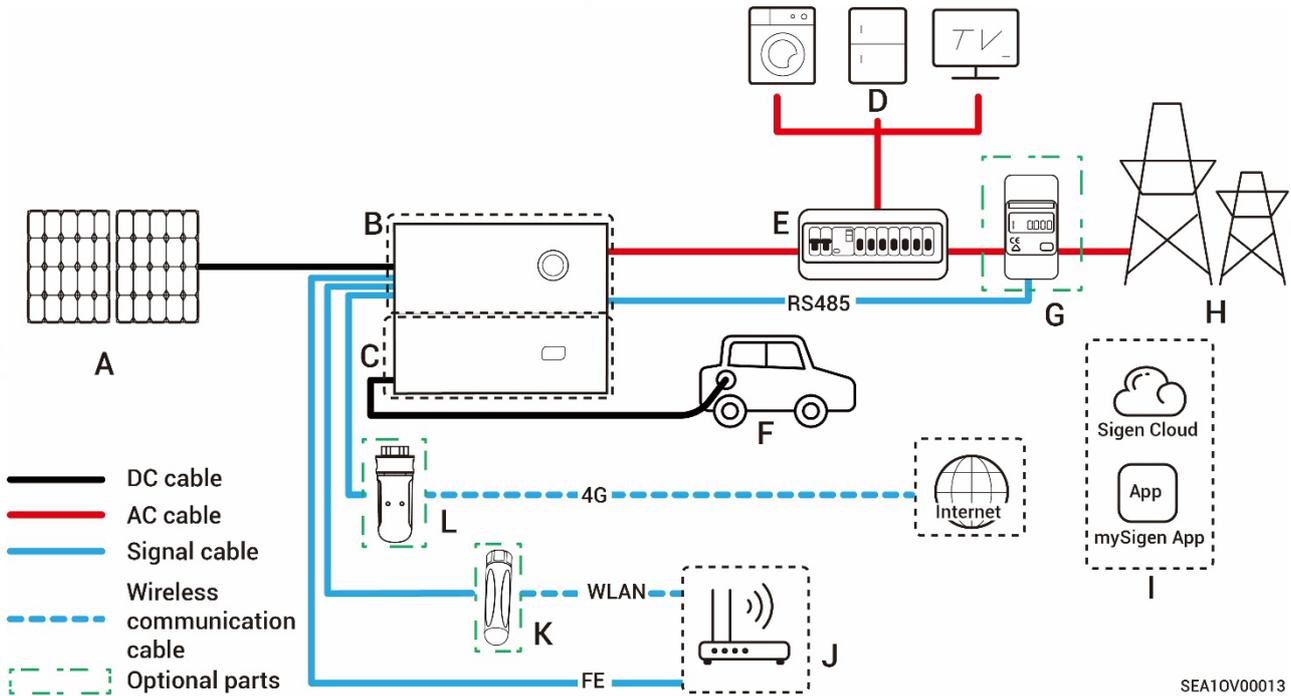
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- A.** Solar Panel
- B.** SigenStor EC/ SigenStor AC/Sigen Hybrid
- C.** SigenStor EVDC
- D.** SigenStor BAT
- E.** Diesel Generator
- F.** Gateway
- G.** Vehicle
- H1.** Backup Power Distribution Panel
- H2.** Non-backup Power Distribution Panel
- I1.** Backup Power Equipment
- I2.** Non-backup Power Equipment
- J.** Power Sensor
- K.** Power Grid
- L.** mySigen
- M.** Router
- N.** Antenna
- O.** CommMod

Tips

- When B is SigenStor AC, A is not configured.
- J features data collection from grid-connected points to realize zero power grid connection. For partial backup, J can be left un-configured. In the case of partial backup + zero-power grid connection control, J is configured.
- As a backup energy source for long-term off-grid applications, the diesel generator can work in tandem with the Gateway to provide a smooth transition between PV, energy storage, and diesel power generation.
- It is recommended to use FE and WLAN for communication methods. After creating new systems, users must top up their own 4G data plan for CommMod after two years.

PV and Charging Networking



SEA10V00013

- | | | |
|---------------------------|------------------------------|--------------------------|
| A. Solar Panel | B. Sigen Hybrid | C. SigenStor EVDC |
| D. Power Equipment | E. Distribution Panel | F. Vehicle |
| H. Power Grid | I. mySigen | J. Router |
| L. CommMod | | K. Antenna |

Tips

It is recommended to use FE and WLAN for communication methods. After creating new systems, users must top up their own 4G data plan for CommMod after two years.

Chapter 3 Location Requirements

Tips

The warranty applies when the equipment has been installed properly for its intended use and in accordance with the operating instructions.

Installation Environment Requirements

- Do not install the equipment in smoky, flammable, explosive, or corrosive environments.
- Avoid exposing the equipment to direct sunlight, rain, standing water, snow, or dust. Install the equipment in a sheltered place. Take preventive measures in operating areas prone to natural disasters such as floods, mudslides, earthquakes, and typhoons.
- Do not install the equipment in an environment with strong electromagnetic interference.
- Ensure that the temperature and humidity of the installation environment comply with the equipment's requirements.
- The equipment should be installed in an area that is at least 500 m away from corrosion sources that may result in salt damage or acid damage (corrosion sources include but are not limited to seaside, thermal power plants, chemical plants, smelters, coal plants, rubber plants, and electroplating plants).

Installation Position Requirements

- Do not tilt or overturn the equipment to ensure that it is installed horizontally.
- Do not install the equipment in a place easily touched by children.
- Do not install the equipment in places with fire or damp.
- Please keep away from the daily work and living places.
- Do not install the equipment in a sealed, poorly ventilated location without fire protection measures and difficult access for firefighters.
- The equipment is hot when it is running. If the equipment is installed indoors, please ensure good indoor ventilation and avoid significant indoor

temperature rise by 3°C while the equipment is running. Otherwise, the equipment will be derated.

- Do not install the equipment in mobile scenarios such as RVS, cruise ships, and trains.
- You are advised to install the equipment in a position that is easy to operate, maintain, and view indicator status.
- When installing the equipment in the garage, do not install the equipment in the position where the vehicle passes through to avoid collision.
- Install the equipment near the parking space. Refer to the figure for the installation distance.

Mounting surface

- Do not install the equipment on a flammable carrier.
- The installation carrier must meet load-bearing requirements. Solid brick-concrete structure, concrete walls are recommended.
- The surface of the installation carrier must be smooth and the installation area must meet the installation space requirements.
- No water or electricity is routed inside the carrier to prevent drilling hazards during equipment installation.

SigenStor EVDC can only be installed underneath the inverter.

Relative humidity: 5% to 95%RH

Ambient temperature: -30°C to 60°C

Heat source (60°C) distance: ≥ 2m

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Model	R (m)
SigenStor EVDC 12 5S2, SigenStor EVDC 25 5S2	4.85
SigenStor EVDC 12 7.5S2, SigenStor EVDC 25 7.5S2	7.35
SigenStor EVDC 12 10S2, SigenStor EVDC 25 10S2	9.85

Model	R (m)
SigenStor EVDC 12 5S2, SigenStor EVDC 25 5S2	=5 - N×0.292
SigenStor EVDC 12 7.5S2, SigenStor EVDC 25 7.5S2	=7.5 - N×0.292
SigenStor EVDC 12 10S2, SigenStor EVDC 25 10S2	=10 - N×0.292

Tips

There will be errors in the actual distance under different installation

environments, and the figure is for reference only.

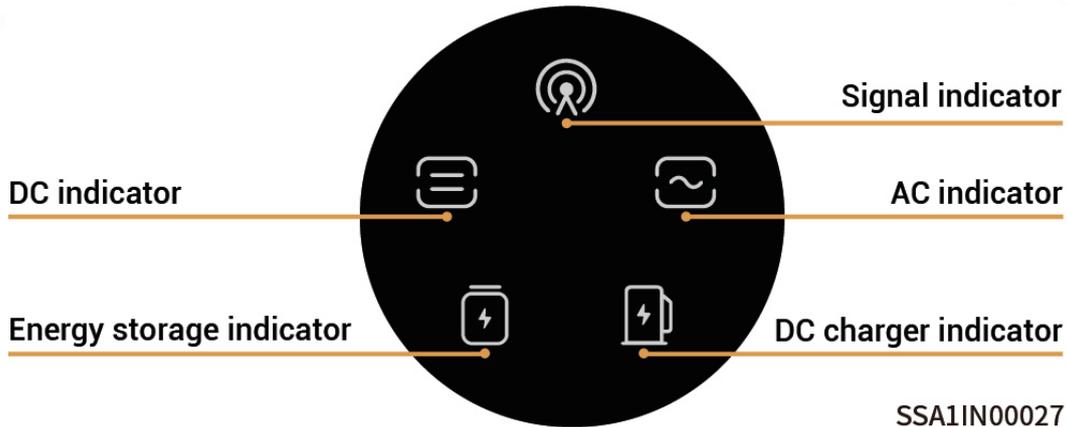
Chapter 4 Equipment Installation and Connection

Equipment installation and connection must only be completed by the installer certified by the Company. For more information, refer to *Sigen EV DC Charging Module Installation Guide*.

Chapter 5 How to Use

5.1 LED Indicator Status

The status of SigenStor EVDC is indicated by the DC charger indicator on the front of the inverter.

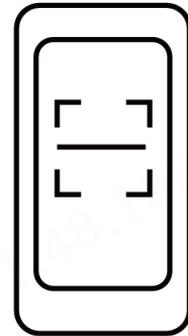


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Indicator	Color	Status	Status of SigenStor EVDC
		Off	Not powered on.
		Steady on	Powered on but the charging connector not connected to the vehicle.
		Steady on	<ul style="list-style-type: none"> The charging connector connected to the vehicle. Charging completed.
		Blink	Charging.
		Steady on	Alarming.
		Steady on	Equipment failure.

5.2 mySigen App Download and Login

1. Download the app.



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2. Provide your email account to the installer for signing up.
3. After signing up your account, the installer will ask you to activate your account.
4. Please check the email sent from the "sigencloud" account in your inbox, set your initial password, and activate your account.
5. Log in to the app.

5.3 Single SigenStor Scenario

5.3.1 Binding Sigen RFID Card



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Tips

If an error occurs when you bind the Sigen RFID Card, you can click  and delete the Sigen RFID Card on the "Card Management" page.

5.3.2 Use of Equipment

SigenStor EVDC supports App authenticated charging, Sigen RFID card authenticated, and unauthenticated charging.

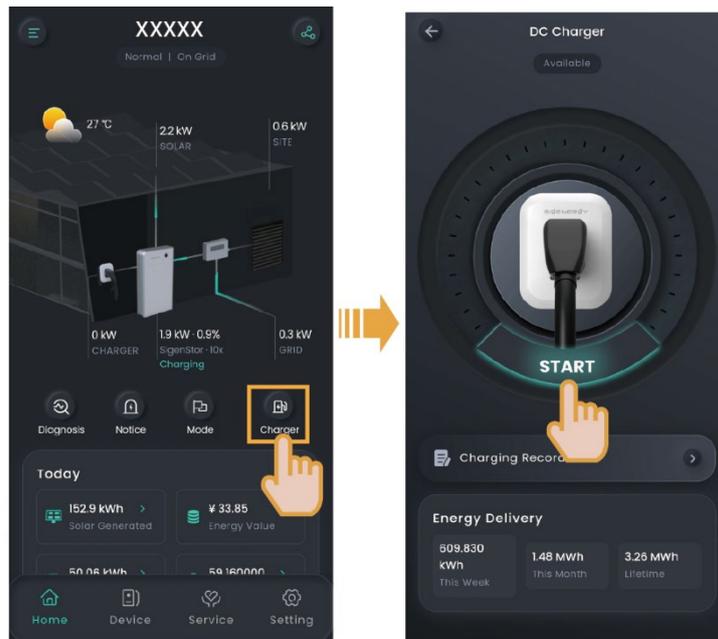
 **Caution**

Please carefully read vehicle-related precautions and requirements before charging vehicles.

5.3.2.1 App authenticated or Sigen RFID card authenticated charging (Recommended)

1. Install the charging connector in place.
2. Start charging on the equipment.

- **Method 1: App authenticated charging**



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- **Method 2: Sigen RFID card authenticated charging**

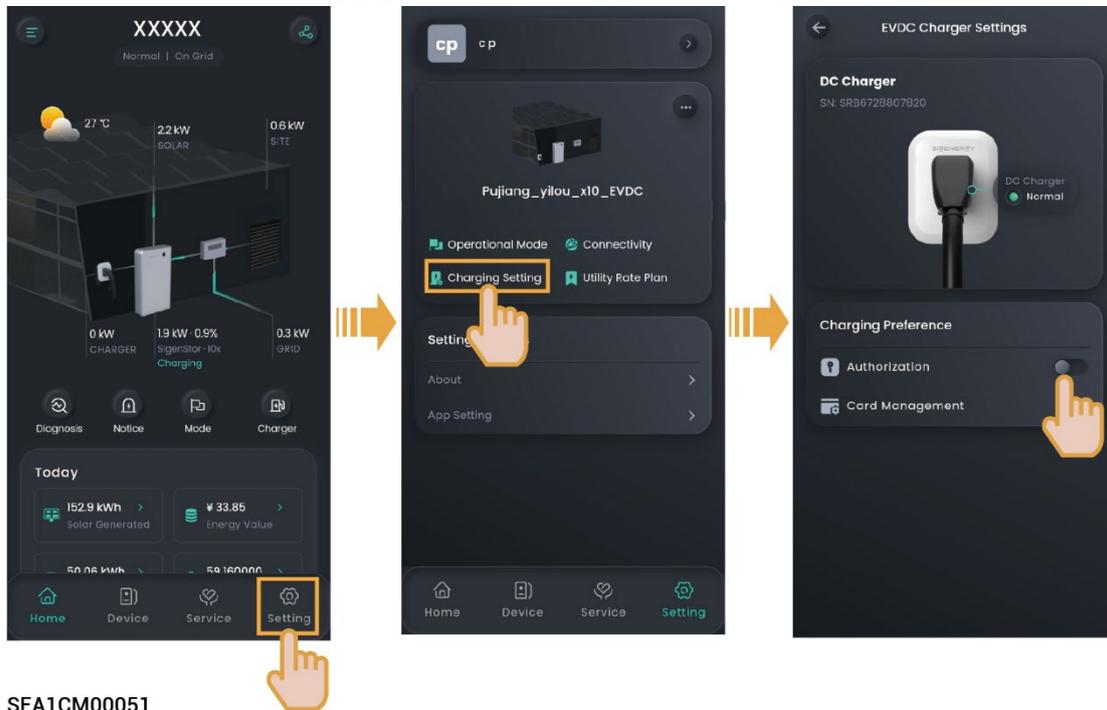
Swipe the Sigen RFID Card.

Tips

- **When you use the App or RFID card to start charging the equipment, it will perform a quick self-test, establish communication with the vehicle, and begin charging after about 30s to 40s. Please be patient and do not operate on the equipment, such as operating on the App, repeatedly swiping the card, or re-plugging the charging connector during this period.**
- **If the vehicle cannot be charged, try to re-plug the charging connector, ensure the charging connector is properly connected to the vehicle, and then restart the charging.**

5.3.2.2 Unauthenticated Charging Mode

1. Turn "Authentication" off, that is, .



2. Install the charging connector in place.

Tips

- It should be noted that when the unauthenticated charging mode is enabled, other vehicles can use this equipment for charging.
- When you use the App or RFID card to start charging the equipment, it will perform a quick self-test, establish communication with the vehicle, and begin charging after about 30s to 40s. Please be patient and do not operate on the equipment, such as operating on the App, repeatedly swiping the card, or re-plugging the charging connector during this period.
- If the vehicle cannot be charged, try to re-plug the charging connector, ensure the charging connector is properly connected to the vehicle, and then restart the charging.

5.3.2.3 Stop Charging

Charging completed

The equipment will automatically stop charging when the vehicle is fully charged.

During charging

- **Method 1: RFID card authenticated**

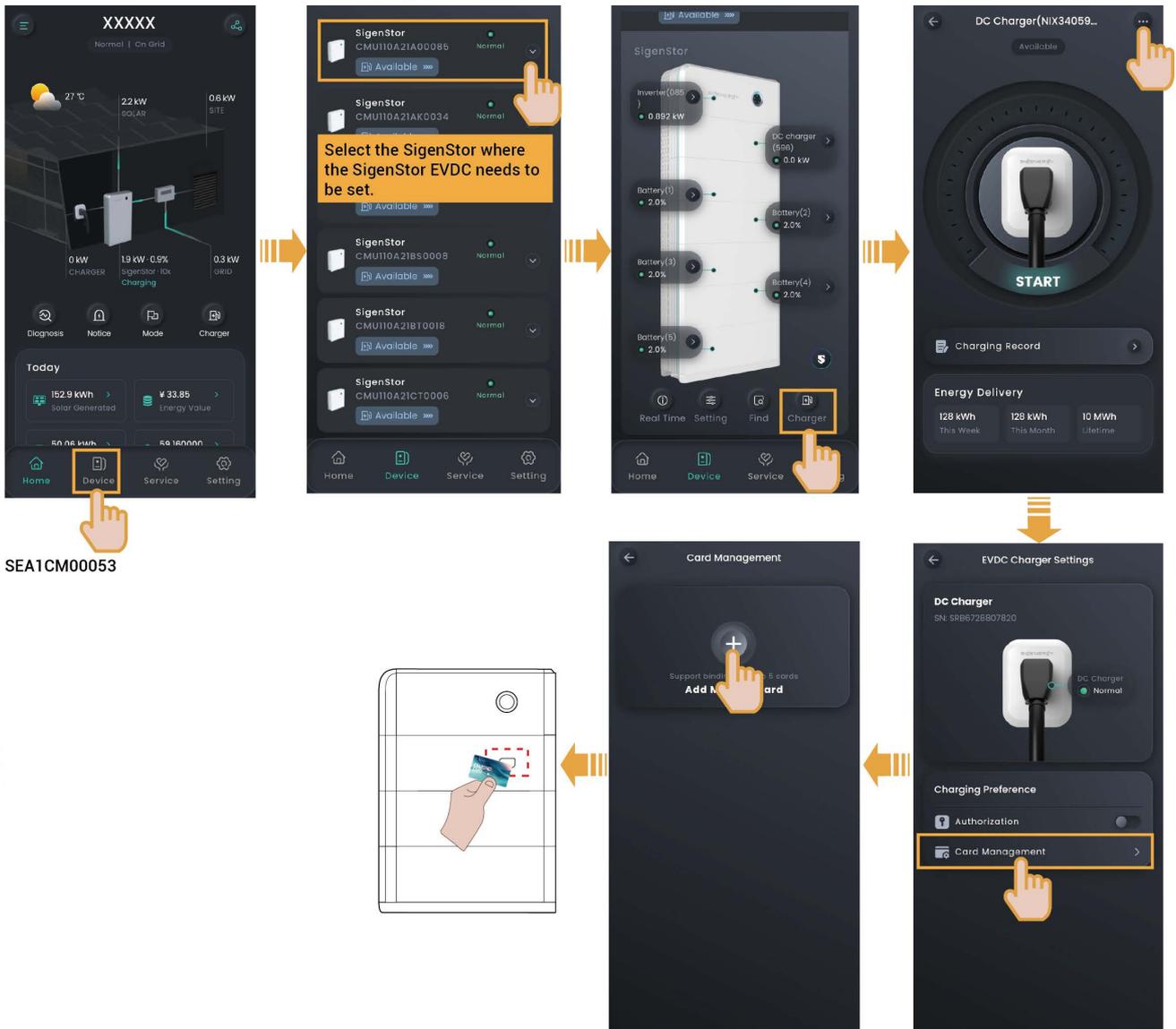
Read your Sigen RFID Card to stop charging.

- **Method 2: App authenticated**

Stop charging from "Home" → "Charger" → "Stop".

5.4 Multiple SigenStor Parallel Scenarios

5.4.1 Binding Sigen RFID Card



Tips

If an error occurs when you bind the Sigen RFID Card, you can click  and delete the Sigen RFID Card on the "Card Management" page.

5.4.2 Use of Equipment

SigenStor EVDC supports App authenticated charging, Sigen RFID card authenticated, and unauthenticated charging.

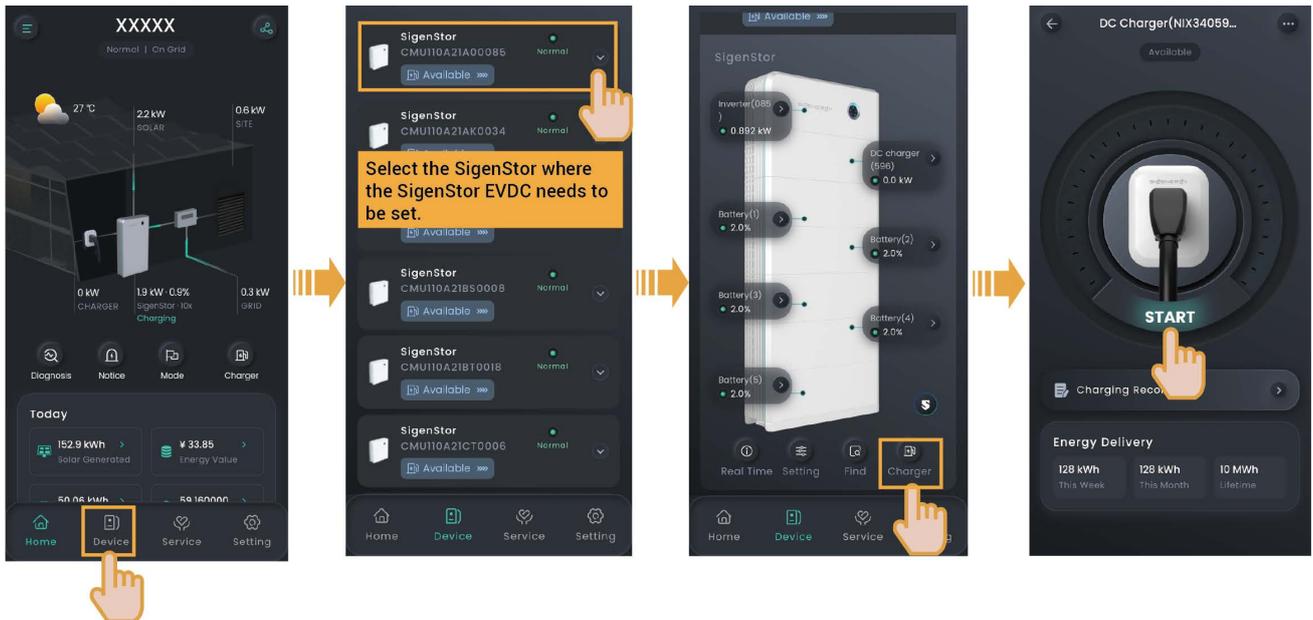
 **Caution**

Please carefully read vehicle-related precautions and requirements before charging vehicles.

5.4.2.1 App authenticated or Sigen RFID card authenticated charging (Recommended)

1. Install the charging connector in place.
2. Start charging on the equipment.

● Method 1: App authenticated charging



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● Method 2: Sigen RFID card authenticated charging

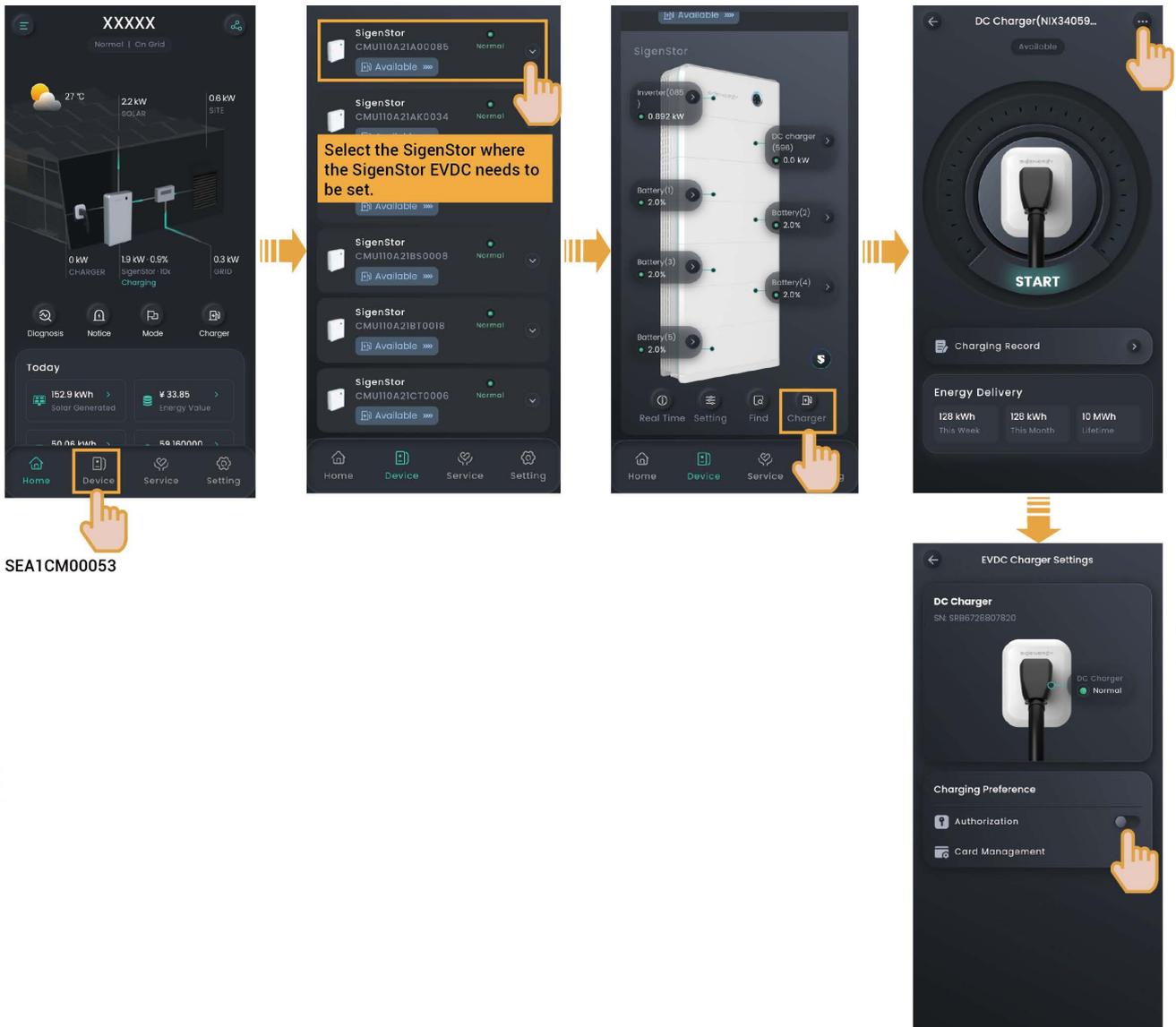
Swipe the Sigen RFID Card.

Tips

- **When you use the App or RFID card to start charging the equipment, it will perform a quick self-test, establish communication with the vehicle, and begin charging after about 30s to 40s. Please be patient and do not operate on the equipment, such as operating on the App, repeatedly swiping the card, or re-plugging the charging connector during this period.**
- **If the vehicle cannot be charged, try to re-plug the charging connector, ensure the charging connector is properly connected to the vehicle, and then restart the charging.**

5.4.2.2 Unauthenticated Charging Mode

1. Turn "Authentication" off, that is, .



2. Install the charging connector in place.

Tips

- It should be noted that when the unauthenticated charging mode is enabled, other vehicles can use this equipment for charging.
- When you use the App or RFID card to start charging the equipment, it will perform a quick self-test, establish communication with the vehicle, and begin charging after about 30s to 40s. Please be patient

and do not operate on the equipment, such as operating on the App, repeatedly swiping the card, or re-plugging the charging connector during this period.

- **If the vehicle cannot be charged, try to re-plug the charging connector, ensure the charging connector is properly connected to the vehicle, and then restart the charging.**

5.4.2.3 Stop Charging

Charging completed

The equipment will automatically stop charging when the vehicle is fully charged.

During charging

- **Method 1: RFID card authenticated**

Read your Sigen RFID Card to stop charging.

- **Method 2: App authenticated**

Stop charging from "Device" → "SigenStor" → "Charger" → "Stop".

5.5 Other Settings of mySigen App

For more information about the app settings, refer to *mySigen App User Manual*.

Chapter 6 Routine Maintenance

To ensure the long-term operation of the equipment, you are advised to perform routine maintenance according to this section.

Inspection content	Inspection method	Power off or not	Maintenance cycle
System cleaning	Regularly check the equipment for blocking out or dust contamination. If so, clean it up. Do not use tools that may cause electric shock or insulation damage, such as wire brushes during the cleaning process.	Yes	Once every three months.
System operating state	<ul style="list-style-type: none"> ● Check whether the equipment is damaged or deformed. ● Listen for any abnormal noises during the operation of the equipment. ● When the equipment is operating, check whether the equipment parameters are correctly set. 	No	Once every six months.

Chapter 7 Appendix

7.1 Technical Parameter

For details about equipment parameters, see the Data sheets of the product.