Sigen Hybrid (5.0-30.0) TP AU

SigenStor EC (5.0-30.0) TP AU

User Manual

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Contents

Revision History **4**

Overview **5**

Chapter 1 Safety Precautions **6**

Chapter 2 Product Introduction **8**

2.1 Product Model No. 8

2.2 Appearance Introduction 10

2.3 Label Description 12

2.4 Supported Power Supply Methods for the Power Grid 13

2.5 Introduction to Typical Networking 14

Chapter 3 Site Selection Requirements **16**

Chapter 4 Equipment Installation and Wiring **19**

Chapter 5 System Operation **20**

5.1 LED Indicator State 20

5.2 mySigen App Query 21

Chapter 6 System Maintenance **22**

6.1 Routine Maintenance 22

6.2 Equipment Powering-on/Power-off 23

6.3 Emergency Treatment 25

Chapter 7 Appendix **26**

7.1 Technical Parameter 26

Revision History

Version	Date	Description
03	2025.03.25	Updated Chapter 6 System Maintenance Updated Chapter 7 Appendix (DVC)
02	2024.04.19	Updated Chapter 2 Product Introduction Updated Chapter 3 Site Selection Requirements
01	2024.01.30	First official release.

Overview

Introduction

The focus of this document is to provide an overview of the SigenStor EC (5.0-30.0) TP AU and Sigen Hybrid (5.0-30.0) TP AU inverter, including product features, networking, system operation, maintenance, etc.

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 and operation, 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 customer 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 device to high temperature or heat sources (such as sunlight, fire, or heaters) around the equipment for a long time.
- Do not clean or soak the equipment with water, alcohol, or oil to avoid power leakage.
- 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.

Warning

Do not touch the heat sink when the equipment is running.

Caution

- Do not use the equipment with faults. If the equipment appears abnormal (for example, appearance distortion), contact your sales agent.
- Carbon dioxide fire extinguishers and ABC dry powder fire extinguishers are recommended at home.

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

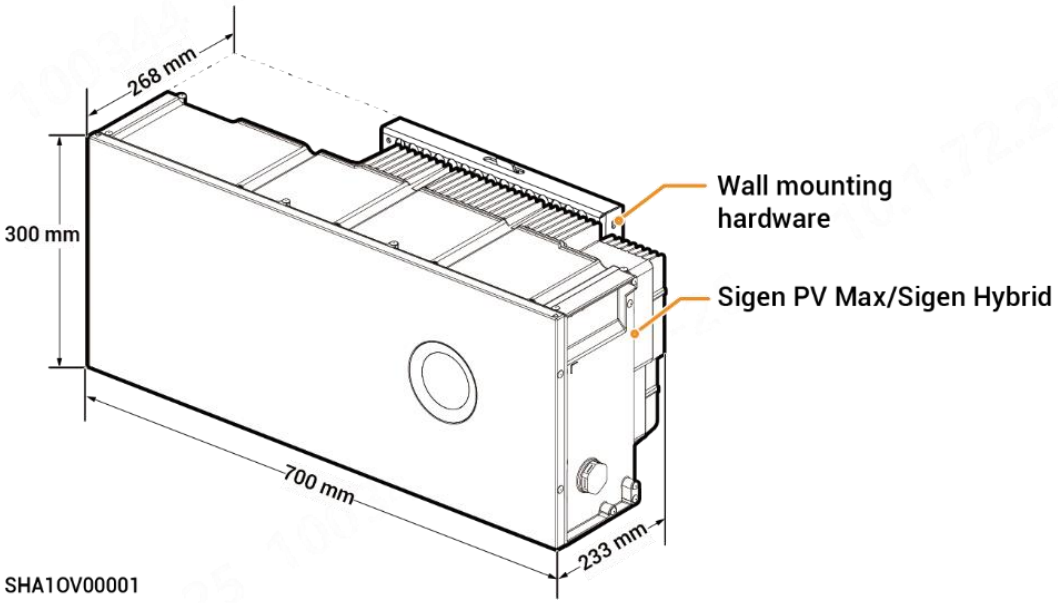
2.1 Product Model

Product code	Model No.	Name	Function specification
Sigen Hybrid	Sigen Hybrid 5.0 TP	Sigen Hybrid Inverter 5.0 kW Three Phase	Inverter; it can be used in conjunction with PV modules for pure PV applications or in combination with PV modules and SigenStor BAT for photovoltaic storage systems after the purchase and activation of a license.
	Sigen Hybrid 6.0 TP	Sigen Hybrid Inverter 6.0 kW Three Phase	
	Sigen Hybrid 8.0 TP	Sigen Hybrid Inverter 8.0 kW Three Phase	
	Sigen Hybrid 10.0 TP	Sigen Hybrid Inverter 10.0 kW Three Phase	
	Sigen Hybrid 12.0 TP	Sigen Hybrid Inverter 12.0 kW Three Phase	
	Sigen Hybrid 15.0 TP	Sigen Hybrid Inverter 15.0 kW Three Phase	
	Sigen Hybrid 17.0 TP	Sigen Hybrid Inverter 17.0 kW Three Phase	
	Sigen Hybrid 20.0 TP	Sigen Hybrid Inverter 20.0 kW Three Phase	
	Sigen Hybrid 25.0 TP	Sigen Hybrid Inverter 25.0 kW Three Phase	
	Sigen Hybrid 30.0 TP	Sigen Hybrid Inverter 30.0 kW Three Phase	
	SigenStor EC 5.0 TP	Sigen Energy Controller 5.0 kW Three Phase	Inverter; it can be used in conjunction with

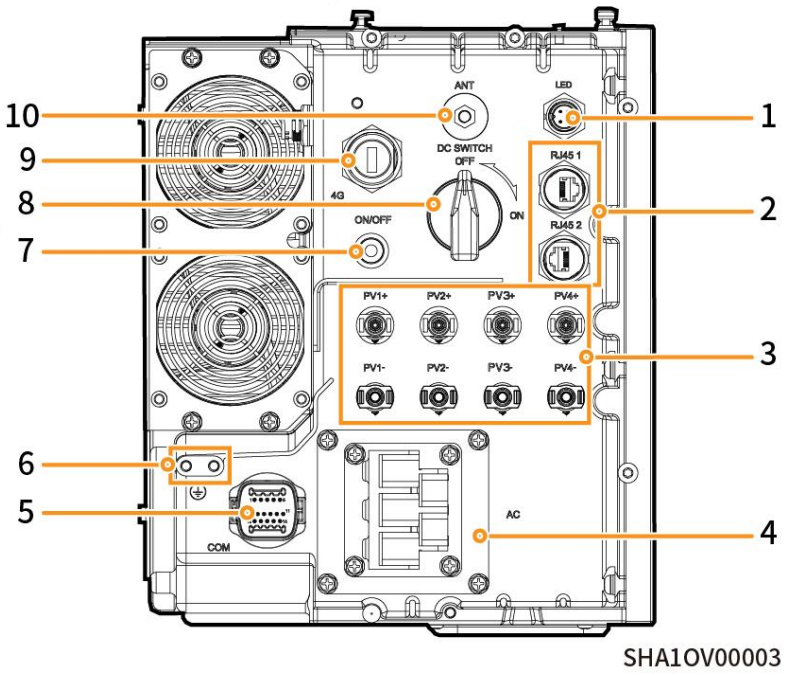
	SigenStor EC 6.0 TP	Sigen Energy Controller 6.0 kW Three Phase	PV modules for pure PV applications or in combination with PV modules and SigenStor BAT for photovoltaic storage systems
	SigenStor EC 8.0 TP	Sigen Energy Controller 8.0 kW Three Phase	
	SigenStor EC 10.0 TP	Sigen Energy Controller 10.0 kW Three Phase	
	SigenStor EC 12.0 TP	Sigen Energy Controller 12.0 kW Three Phase	
	SigenStor EC 15.0 TP	Sigen Energy Controller 15.0 kW Three Phase	
	SigenStor EC 17.0 TP	Sigen Energy Controller 17.0 kW Three Phase	
	SigenStor EC 20.0 TP	Sigen Energy Controller 20.0 kW Three Phase	
	SigenStor EC 25.0 TP	Sigen Energy Controller 25.0 kW Three Phase	
	SigenStor EC 30.0 TP	Sigen Energy Controller 30.0 kW Three Phase	

2.2 Appearance Introduction

Appearance and Dimensions



Port Introduction



SHA1OV00003

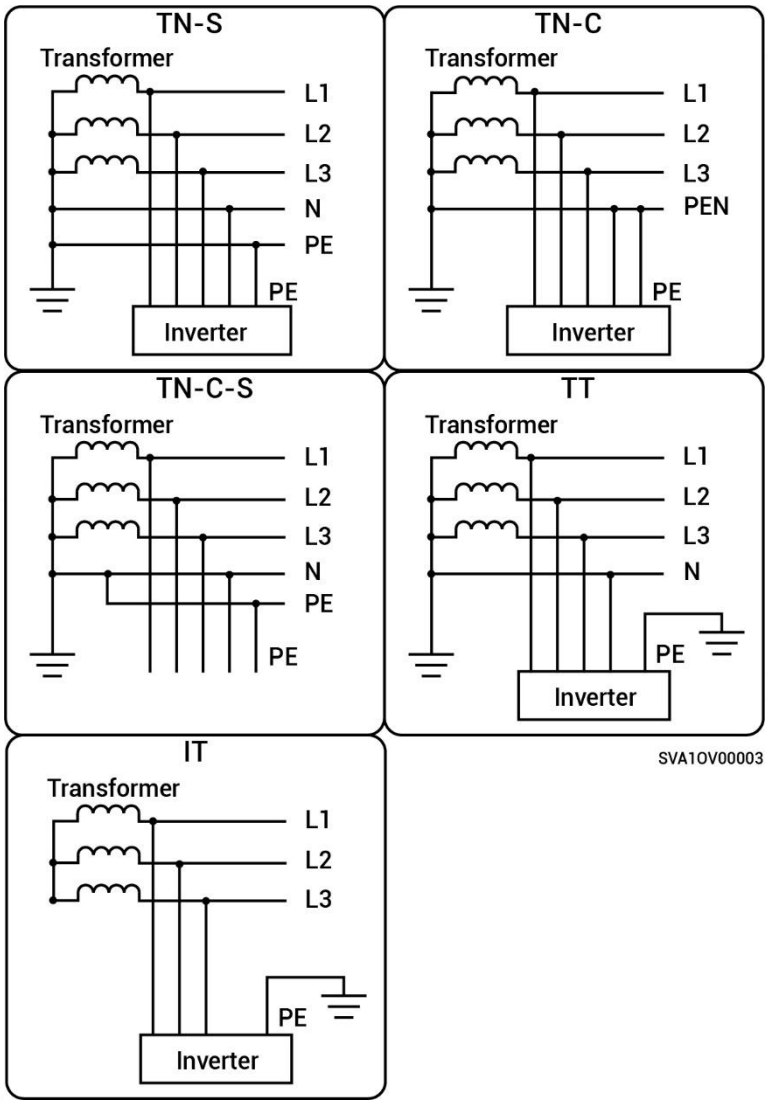
Serial No.	Name	Marking
1	Decorative cover strip light interface (This interface is unavailable for Sigen PV Max)	LED
2	Network interface	RJ45 1/ RJ45 2
3	DC input interface	PV1+/PV2+/ PV3+/PV4+/ PV1-/PV2- /PV3-/PV4-
4	AC output interface	AC
5	Communication interface	COM
6	Ground screw	-
7	Switch button (This button is unavailable for Sigen PV Max)	ON/OFF
8	DC switch	DC SWITCH
9	Sigen CommMod interface	4G
10	Antenna interface	ANT

2.3 Label Description

Symbols	Definition
	Danger! High Voltage 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.
	Warning! Life at risk. The equipment has potential hazards after running. Take proper protection when operating the equipment.
	After the equipment is powered off, the discharge of internal components is delayed. Wait 10 minutes until the equipment is fully discharged according to the label time.
	Warning! Risk of burns. The surface of the heat dissipation area is hot when the equipment is running. Do not touch it to avoid burns.
	Please refer to the instructions to operate the equipment.
	Earthing mark

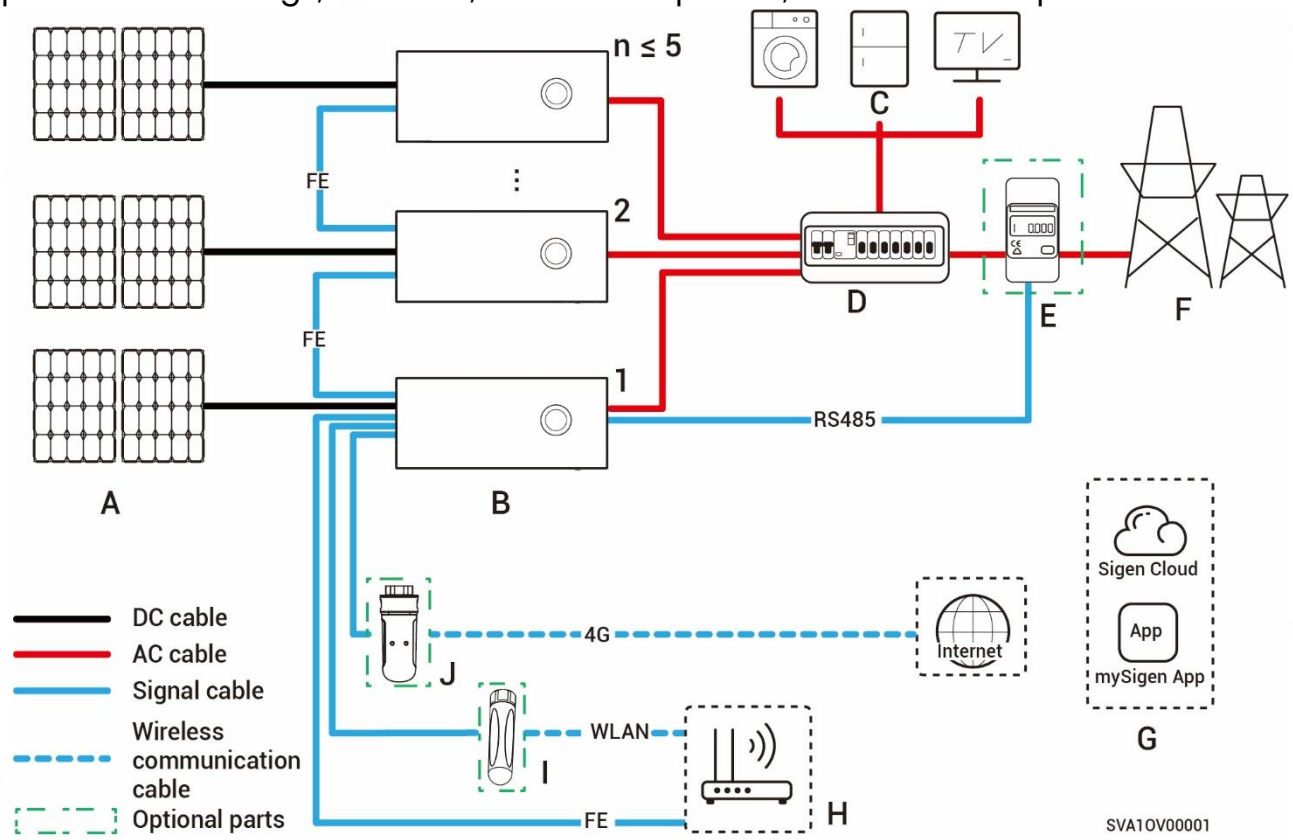
2.4 Supported Power Supply Methods for the Power Grid

- The grid supply methods supported by Sigen PV Max or Sigen Hybrid include TN-S, TN-C, TN-C-S , TT and IT.
- When TT is used as the power supply technique for the power grid, the voltage between N and PE is required to be < 30 V.



2.5 Introduction to Typical Networking

Sigen PV Max or Sigen Hybrid is designed for grid-connected photovoltaic systems on residential rooftops. The grid-connected system consists of photovoltaic strings, inverters, distribution panels, and other components.



A. PV panel **B.** Sigen PV Max/Sigen Hybrid **C.** Home loads
D. AC distribution panel **E.** Power sensor **F.** Power grid **G.** mySigen
H. Router **I.** Antenna **J.** CommMod

Tips

- Sigen PV Max or Sigen Hybrid supports a maximum of 5 units in cascade connection.
- The rated voltage of the AC switch connected to each inverter should be ≥ 380 Va.c and the rated current is recommended:
  - SigenStor EC /Sigen Hybrid (5.0-8.0) TP AU: The rated current is 25 A
  - SigenStor EC /Sigen Hybrid (10.0-15.0) TP AU: The rated current is 32 A
  - SigenStor EC /Sigen Hybrid (17.0-20.0) TP AU: The rated current is 40 A
  - SigenStor EC /Sigen Hybrid 25.0 TP AU: The rated current is 50 A
  - SigenStor EC/Sigen Hybrid 30.0 TP AU: The rated current is 63 A

- It is recommended to use FE and WLAN for communication with inverter. CommMod users must top up their own 4G data plan after a period of 2 years.

Chapter 3 Site Selection Requirements

Tips

- The warranty applies when the equipment has been installed properly for its intended use and in accordance with the operating instructions.
- During actual installation, the selection of installation location should comply with local firefighting, environmental protection regulations, and other relevant laws. The specific installation location planning should be subject to the installer or engineering, procurement, and construction (EPC) contracts.

Installation Environment Requirements

- Do not install the equipment in smoky, flammable, or explosive 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).

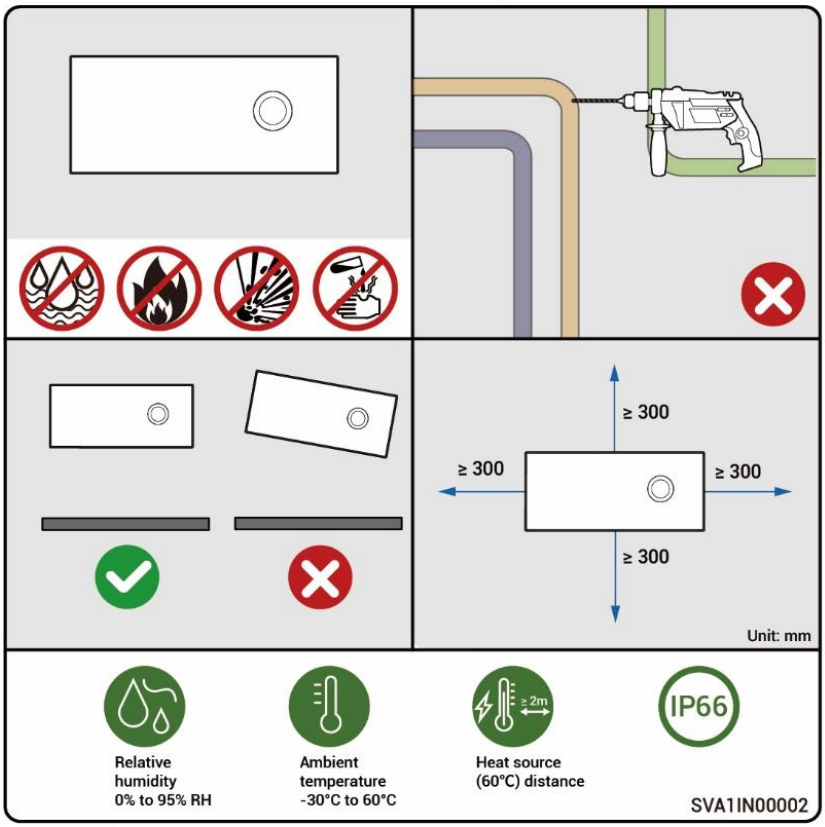
Installation Position Requirements

- Do not tilt or overturn the equipment to ensure that it is installed horizontally.
- Do not install the equipment in places 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 location where you can easily access, install, operate, maintain it, and view the 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.

Mounting Surface Requirements

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

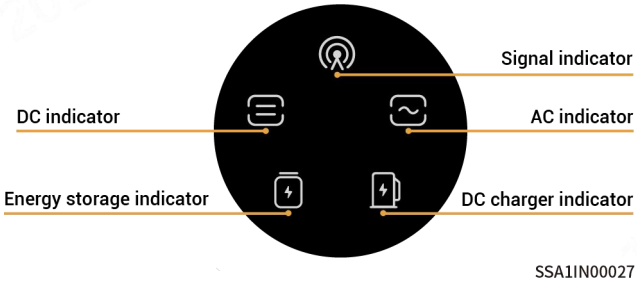

≥ 300
≥ 300
≥ 300
≥ 300
Unit: mm
Relative humidity 0% to 95% RH
Ambient temperature -30°C to 60°C
≥ 2m
Heat source (60°C) distance
IP66
SVA1IN00002

Chapter 4 Equipment Installation and Wiring

- Only company authorized personnel should install and connect the equipment. For details, see ***Sigen PV Max (5.0-30.0)TP, Sigen Hybrid (5.0-30.0)TP Installation Guide***.
- Parts and accessories supplied with the packing box are personal assets of the owner and must be kept safe.

Chapter 5 System Operation

5.1 LED Indicator State



Indicator	Color	State	Description
		Always on	The DC side is connected but not running.
		Always on	The DC side is running.
		-	The DC side is not connected.
		Flash	The DC side is faulty.
		Always on	The inverter is faulty.
		Always on	The AC side is connected but not running.
		Always on	Grid-connected operation.
		Always on	Off-grid operation.
		-	The AC side is not connected.
		Flash	Off-grid overload operation.
		Flash	The AC side is faulty.
		Always on	The inverter is faulty.
		-	The management system is not connected.
		Flash	Connected to local App.
		Always on	Connected to the management system using an FE or WLAN.
		Always on	Connected to the management system over 4G.
		Flash	Insufficient traffic for Sigen CommMod.

5.2 mySigen App Query

The App can be downloaded in the following two ways. For details, see ***mySigen App User Manual***.

App Store

Google Play

mySigen

SSA1CM00014

Chapter 6 System Maintenance

6.1 Routine Maintenance

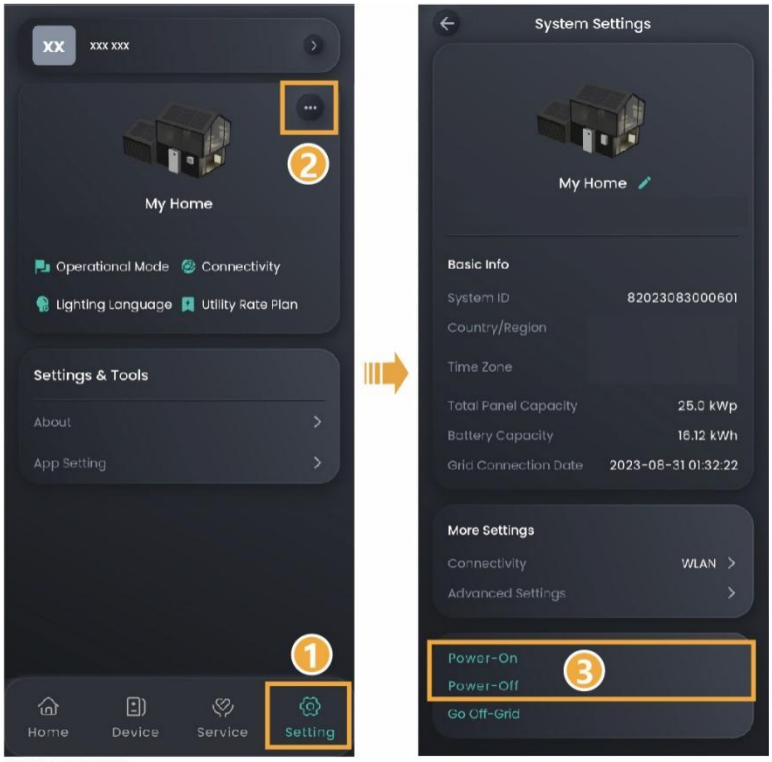
To ensure the long-term running of the equipment, you are advised to perform routine maintenance according to this section.

Inspection content	Inspection method	Power off or not	Maintenance cycle
System cleaning	Check the device regularly for shielding and dirt. If so, clean it up. Do not use tools that may cause electric shock or insulation damage, such as wire brushes and wet towels during the cleaning process.	Yes	Once every three months.
System running state	● Check whether the equipment is damaged or deformed. ● Listen for any abnormal noises during the operation of the equipment. ● When the equipment is running, check whether the equipment parameters are correctly set.	No	Once every six months.

6.2 Equipment Powering-on/Power-off

Scheme 1: App operation

Tap "Setting" in mySigen APP to turn on/off the device.



SSA1CM00001

Scheme 2: Manual operation

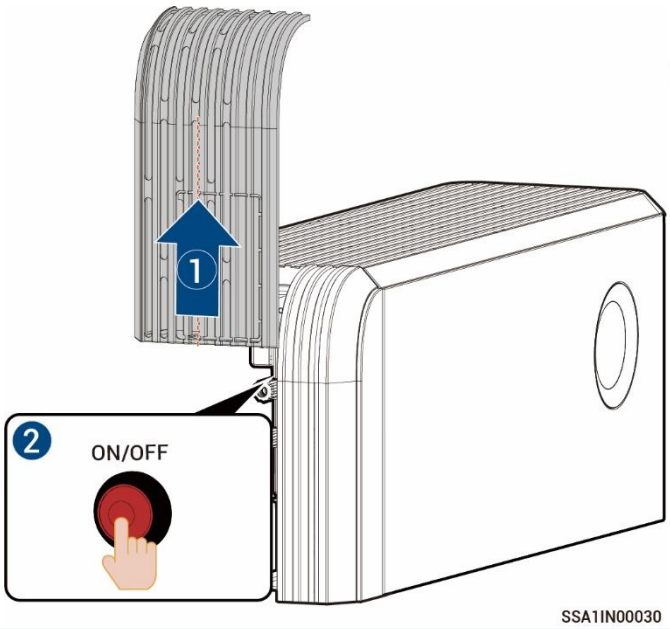
Follow the steps shown to remove the side and top decorative cover, and press the ON/OFF switch button.

> **Tips**
>
> Press and hold for more than 3s to turn on or off the power; an interval of more than 10s is needed between power-on and power-off.

1. Remove the side and top decorative cover.
2. Turn DC SWITCH on the equipment to the OFF position.

3. Turn off the switch connected to the equipment in the backup power distribution panel.

4. After all LED indicators on the equipment go off, wait for the corresponding time as indicated on the label on the equipment before proceeding.



Tips

In case of prolonged inactivity of the equipment (such as being offline for several consecutive days or having minimal operational hours), the system will issue a reminder. If no feedback is received from you, the equipment will be automatically turned off as a precautionary measure for safety. To resume operation of the equipment, please reach out to us for further instructions.

6.3 Emergency Treatment

Emergency Measures for Fire

Danger

- Please shut down the equipment or disconnect the main power switch when it is safe.
- If the fire is small, use carbon dioxide or ABC dry powder extinguisher to extinguish the fire.
- If the fire is spreading, evacuate the building or equipment area immediately and call the fire department. Re-entry to burning buildings is prohibited.
- Do not contact with high voltage components during fire fighting, otherwise it may lead to the risk of electric shock.
- After extinguishing the fire, do not use the equipment, please contact your sales agent.

Emergency Measures for Flood

Danger

- Please shut down the equipment or disconnect the main power switch when it is safe.
- After the flood waters recede, do not use the equipment. Please contact your sales agent.

Chapter 7 Appendix

7.1 Technical Parameter

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

Pollution degree:PD2, PD3;

The DVC class for the Communication Interface and RJ45 port 1&2 is DVC A, for DC&AC port is DVC C.

Environmental category：outdoor, indoor conditional, indoor unconditional;

backfeed current: 0A;

For Sigen Hybrid 5.0 TP AU, the inrush current is 7.2 A, the Max. output overcurrent protection is 7.2 A, the Max. output fault current is 17.8 A;

For Sigen Hybrid 6.0 TP AU, the inrush current is 10.0 A, the Max. output overcurrent protection is 10.0 A, the Max. output fault current is 21.3 A;

For Sigen Hybrid 8.0 TP AU, the inrush current is 13.4 A, the Max. output overcurrent protection is 13.4 A, the Max. output fault current is 28.4 A;

For Sigen Hybrid 10.0 TP AU, the inrush current is 16.7 A, the Max. output overcurrent protection is 16.7 A, the Max. output fault current is 35.5 A;

For Sigen Hybrid 12.0 TP AU, the inrush current is 20.1 A, the Max. output overcurrent protection is 20.1 A, the Max. output fault current is 42.6 A;

For Sigen Hybrid 15.0 TP AU, the inrush current is 25.1 A, the Max. output overcurrent protection is 25.1 A, the Max. output fault current is 53.2 A;

For Sigen Hybrid 17.0 TP AU, the inrush current is 28.4 A, the Max. output overcurrent protection is 28.4 A, the Max. output fault current is 60.3 A;

For Sigen Hybrid 20.0 TP AU, the inrush current is 33.4 A, the Max. output overcurrent protection is 33.4 A, the Max. output fault current is 70.9 A;

For Sigen Hybrid 25.0 TP AU, the inrush current is 41.8 A, the Max. output overcurrent protection is 41.8 A, the Max. output fault current is 88.7 A;

For Sigen Hybrid 30.0 TP AU, the inrush current is 43.4 A, the Max. output overcurrent protection is 43.4 A, the Max. output fault current is 91.9 A;

For other details about equipment parameters, see the Data sheets of the product. Isc(Battery port): 90 A For the above Sigen Hybrid inverter models, the Isc(Battery Port) is 90 A;

For both Sigen Hybrid and PV inverter, the Isc(PV) IS 20 A;

PV array configuration: Floating.

RCD applied in the system： Type B, 300mA nominal residual current protection, 500mA max residual current protection.