GOODWE

User Manual

Grid-Tied PV Inverter

SDT Series

(5.0-40kW) G3

V1.5-2025-04-16

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NOTICE

The information in this user manual is subject to change due to product updates or other reasons. This guide cannot replace the product labels otherwise specified. All descriptions here are for guidance only.

CONTENT

1 About This Manual

This manual describes the product information, installation, electrical connection, commissioning, troubleshooting and maintenance. Read through this manual before installing and operating the product. All the installers and users have to be familiar with the product features, functions, and safety precautions. This manual is subject to update without notice. For more product details and latest documents, visit https://en.goodwe.com.

1.1 Applicable Model

This manual applies to the listed inverters below:

Model Description	Rated Output Power	Rated Output Voltage
GW8000-SDT-30	8kW	220/380,230/400,240/415, 3L/N/PE or 3L/PE
GW10K-SDT-30	10kW	
GW10K-SDT-EU30	10kW	
GW12K-SDT-30	12kW	
GW15K-SDT-30	15kW	
GW17K-SDT-30	17kW	
GW20K-SDT-30	20kW	
GW25K-SDT-C30	25kW	
GW25K-SDT-30	25kW	
GW30K-SDT-30	30kW	
GW30K-SDT-C30	30kW	
GW33K-SDT-C30	33kW	
GW36K-SDT-C30	36kW	
GW37K5-SDT-BR30	37.5kW	
GW40K-SDT-C30	40kW	
GW40K-SDT-P30	40kW	
GW20K-SDT-31	20kW	
GW25K-SDT-P31	25kW	

Model Description	Rated Output Power	Rated Output Voltage
GW12KLV-SDT-C30	12kW	127/220, 3L/N/PE or 3L/PE
GW17KLV-SDT-C30	17kW	
GW23KLV-SDT-BR30	23kW	
GW12KLV-SDT-C31	12kW	
GW5000-SDT-AU30	5kW	230/400,3L/N/PE or 3L/PE
GW6000-SDT-AU30	6kW	
GW8000-SDT-AU30	8kW	
GW9990-SDT-AU30	9.99kW	
GW15K-SDT-AU30	15kW	
GW20K-SDT-AU30	20kW	
GW25K-SDT-AU30	25kW	
GW29K9-SDT-AU30	29.9kW	

1.2 Target Audience

This manual applies to trained and knowledgeable technical professionals. The technical personnel has to be familiar with the product, local standards, and electric systems.

1.3 Symbol Definition

For better usage of this manual, the following symbols emphasize relevant important information. Read these symbols and their definitions carefully.

⚠DANGER
Indicates a high-level hazard that, if not avoided, will result in death or serious injury.
⚠WARNING
Indicates a medium-level hazard that, if not avoided, will result in death or serious injury.
⚠CAUTION
Indicates a low-level hazard that, if not avoided, could result in minor or moderate injury.

NOTICE

Highlight and supplement the texts. Or some skills and methods to solve product-related problems to save time.

2 Safety Precaution

⚠WARNING

The inverters are designed and tested strictly complying with related safety rules. Read and follow all the safety instructions and cautions before any operations. Improper operation might cause personal injury or property damage as the inverters are electrical equipment.

2.1 General Safety

NOTICE

- The information in this user manual is subject to change due to product update or other reasons. This manual cannot replace the product labels or the safety precaution unless otherwise specified. All descriptions here are for guidance only. Before installations, read through the user manual to learn about the product and the precautions.
- All operations should be performed by trained and knowledgeable technicians who are familiar with local standards and safety regulations.
- Use insulating tools and wear personal protective equipment when operating the inverter to ensure personal safety. Wear anti-static gloves, clothes, and wrist strap when touching electronic components to protect the inverter from damage.
- Strictly follow the installation, operation, and configuration instructions in this manual. The manufacturer shall not be liable for inverter damage or personal injury if you do not follow the instructions. For more warranty details, please visit https://en.goodwe.com/warranty

2.2 DC Side

⚠ DANGER

- Connect the inverter DC cables with the delivered DC connectors. The manufacturer shall not be liable for the equipment damage if DC connectors of other models are used.

⚠WARNING

- Make sure the component frames and the bracket system are securely grounded.
- Ensure the DC cables are connected tightly and securely.
- When measuring PV strings with multimeter, the manufacturer shall not be liable for the damage caused by reverse connection and extremely high voltage.
- Mixing PV modules of different brands or models in the same MPPT or connecting PV modules with different directions or inclination angles in the same PV string may not necessarily damage the inverter, but may lead to a decrease in the system performance.
- It is recommended that the voltage difference between different MPPT circuits does not exceed 160V.
- It is recommended that the sum of the Imp of the PV strings connected to each MPPT shall not exceed the Max. Input Current per MPPT of the inverter.
- Make sure when the maximum input power is 1100 V, the open-circuit voltage of each PV string connected to each MPPT does not exceed 1100 V. When the input power ranges from 1000 to 1100 V, the inverter is in standby mode. When the power recovers to the working voltage range (140 to 1000 V), the inverter will restore to normal operation mode.
- Make sure when the maximum input power is 850 V, the open-circuit voltage of each PV string connected to each MPPT does not exceed 850 V. When the input power ranges from 700 to 850 V, the inverter is in standby mode. When the power recovers to the working voltage range (140 to 700 V), the inverter will restore to normal operation mode.
- When there are multiple PV strings, it is recommended to maximize the connections of MPPTs.
- The PV modules used with the inverter must have an IEC 61730 A rating.

2.3 AC Side

⚠WARNING

- Make sure that the voltage and frequency at the connection point meet the inverter grid connection requirements.
- Additional protective devices like circuit breakers or fuses are recommended on the AC side. Specification of the protective device should be at least 1.25 times the maximum output current.
- Make sure that all the groundings are tightly connected.
- You are recommended to use copper cables as AC output cables. If you need aluminum cables, remember to use copper to aluminum adapter terminals.

2.4 Inverter

⚠ DANGER

- Do not apply mechanical load to the terminals. Otherwise the terminals can be damaged.
- All labels and warning marks should be visible after the installation. Do not scrawl, damage, or cover any label on the device.
- Warning labels on the inverter are as follows.

	DANGER. High voltage hazard. Disconnect all incoming power and turn off the product before working on it.		Delayed discharge. Wait 5 minutes after power off until the components are completely discharged.
	Read through the user manual before working on this device.		Potential risks exist. Wear proper PPE before any operations.
	High-temperature hazard. Do not touch the product under operation to avoid being burnt.		Grounding point.
	CE Mark.		Do not dispose of the inverter as household waste. Discard the product in compliance with local laws and regulations, or send it back to the manufacturer.

2.5 Personal Requirements

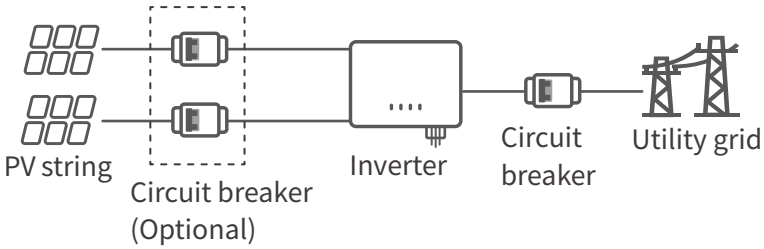
NOTICE

- Personnel who install or maintain the equipment must be strictly trained, learn about safety precautions and correct operations.
- Only qualified professionals or trained personnel are allowed to install, operate, maintain, and replace the equipment or parts.

3 Product Introduction

3.1 Introduction

The SDT inverter is a three-phase PV string grid-tied inverter. The inverter converts the DC power generated by the PV module into AC power and feeds it into the utility grid. The intended use of the inverter is as follows:



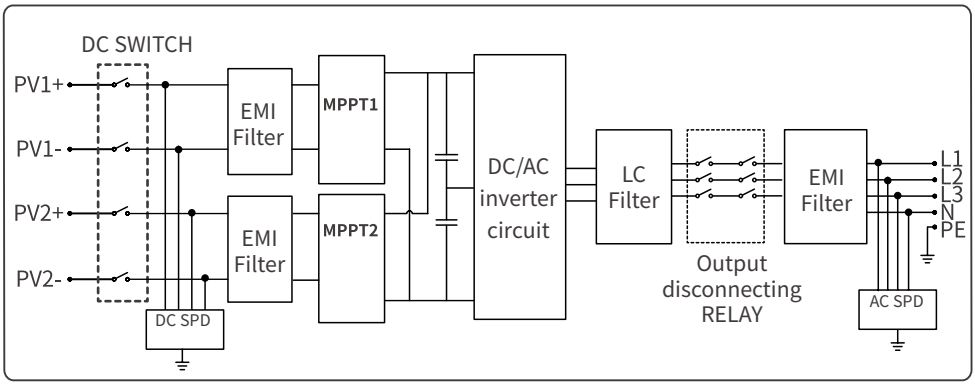
Model Description

GW12KLV-SDT-C30:

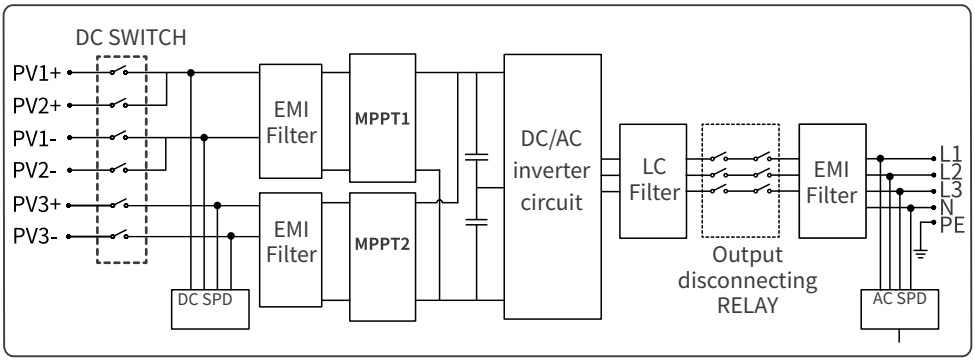
No.	Definition	Explanation
1	Brand code	GW: GoodWe
2	Nominal Power	12K：the nominal power is 12kW
3	Utility grid type	LV: Low voltage utility grid
4	Series code	SDT: SDT Series
5	Version code	The third generation

3.2 Circuit Diagram

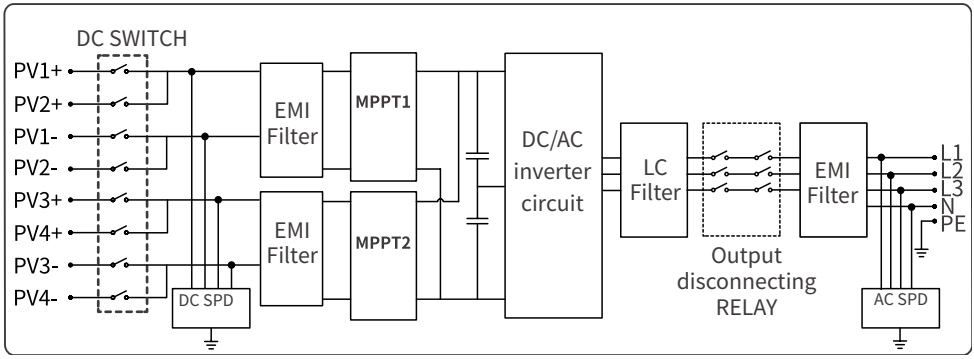
GW8000-SDT-30, GW10K-SDT-30, GW10K-SDT-EU30, GW12K-SDT-30, GW15K-SDT-30:



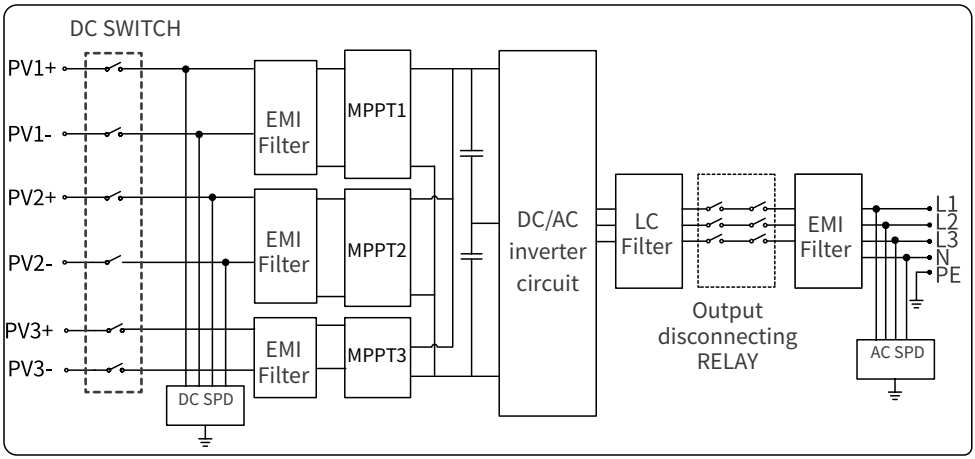
GW12KLV-SDT-C30, GW17K-SDT-30, GW20K-SDT-30, GW25K-SDT-C30:



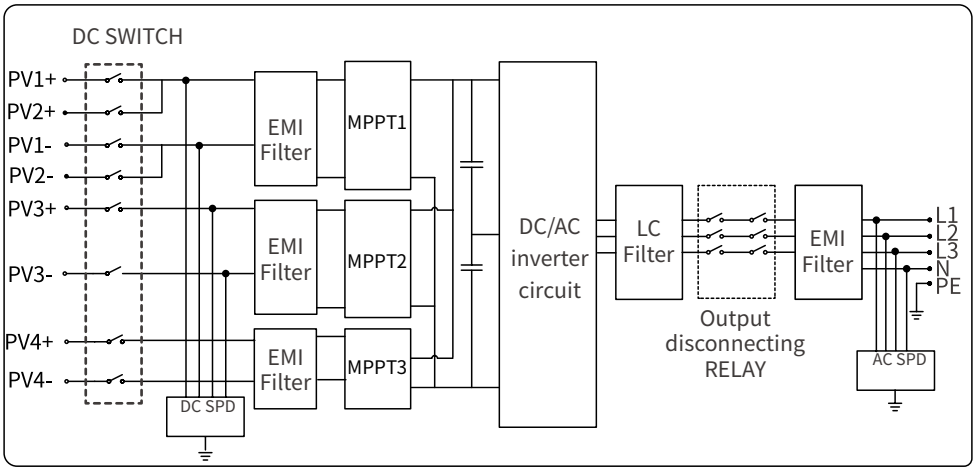
GW17KLV-SDT-C30, GW30K-SDT-C30, GW20K-SDT-31, GW12KLV-SDT-C31, GW25K-SDT-P31:



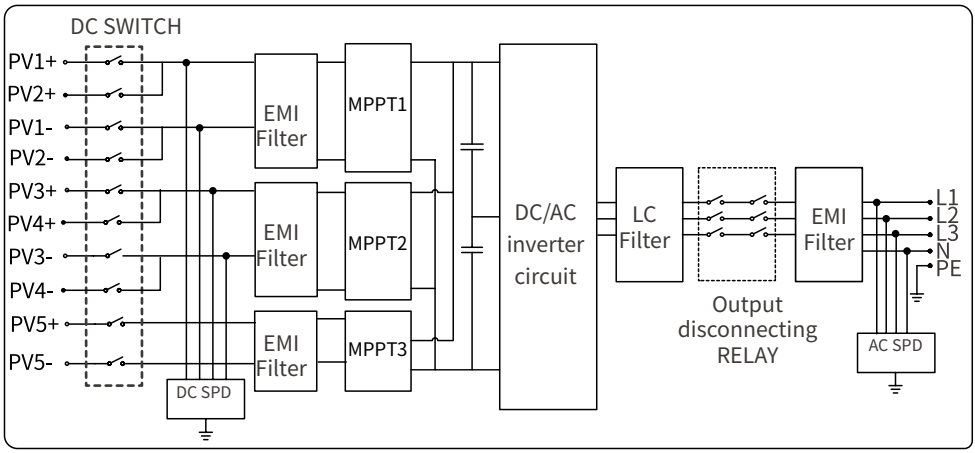
GW5000-SDT-AU30, GW6000-SDT-AU30:



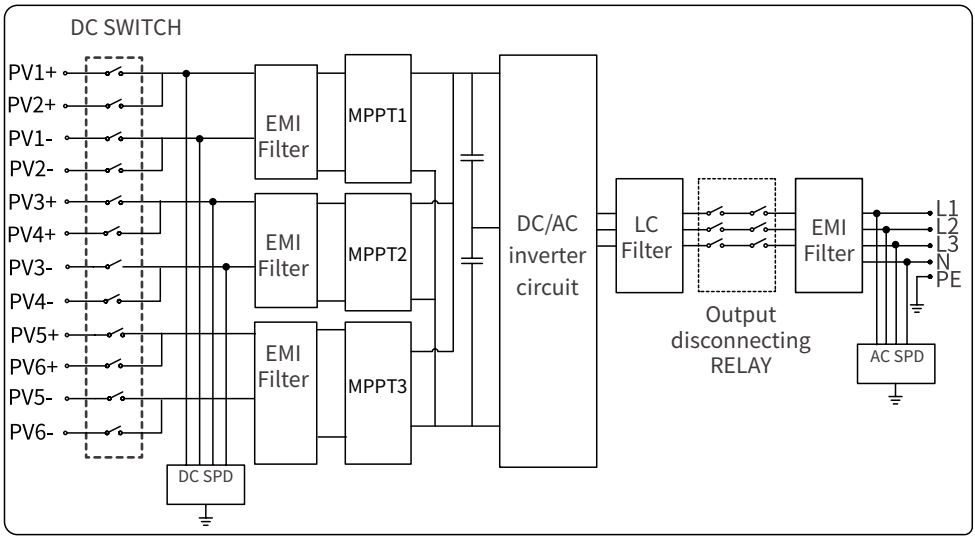
GW8000-SDT-AU30, GW9990-SDT-AU30:



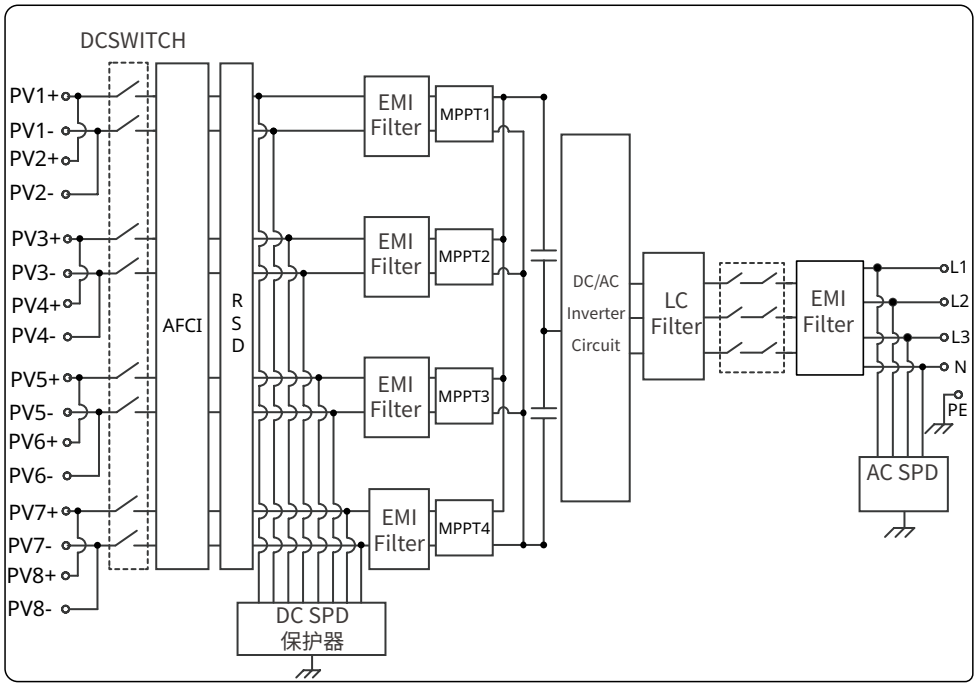
GW15K-SDT-AU30, GW20K-SDT-AU30:



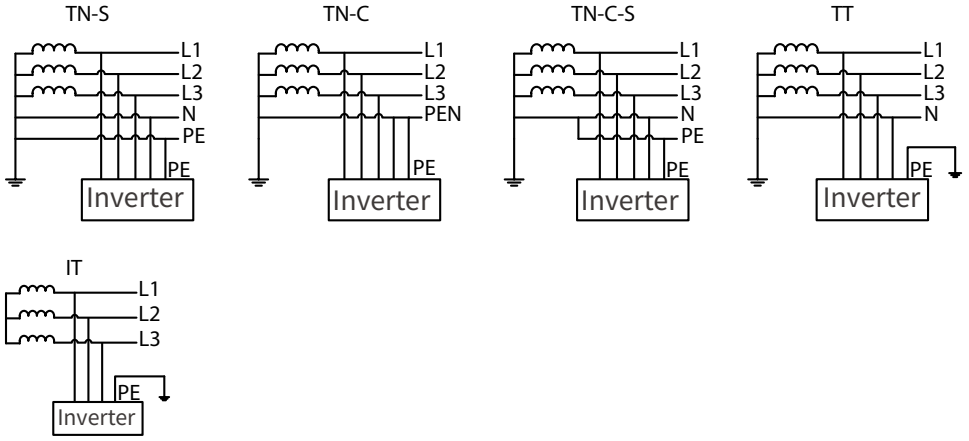
GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30, GW23KLV-SDT-BR30 , GW37K5-SDT-BR30, GW33K-SDT-C30, GW36K-SDT-C30, GW40K-SDT-C30:



GW40K-SDT-P30



3.3 Supported Grid Types



3.4 Features

AFCI (Arc Fault Circuit Interrupter)

The AFCI function is used to detect the arc faults on the DC side of the inverter. When an arc fault occurs, the inverter will automatically provide protection.

Reasons for the occurrence of electric arcs:
- Damaged or improperly connected DC connectors in the PV system.
- Wrong connected or broken cables.
- Aging connectors and cables.

Methods to detect electric arcs:
- When the inverter detects an electric arc, users can find the time of the fault and the detailed phenomenon through the inverter LCD or App.
- The inverter will shutdown for protection when electric arcs are detected. After waiting for 60 seconds, the inverter can automatically reconnect to the grid. If the inverter shutdowns for protection for many times, check its wiring, and eliminate electric arcs. For more operation details, refer to SolarGo App User Manual.

RSD

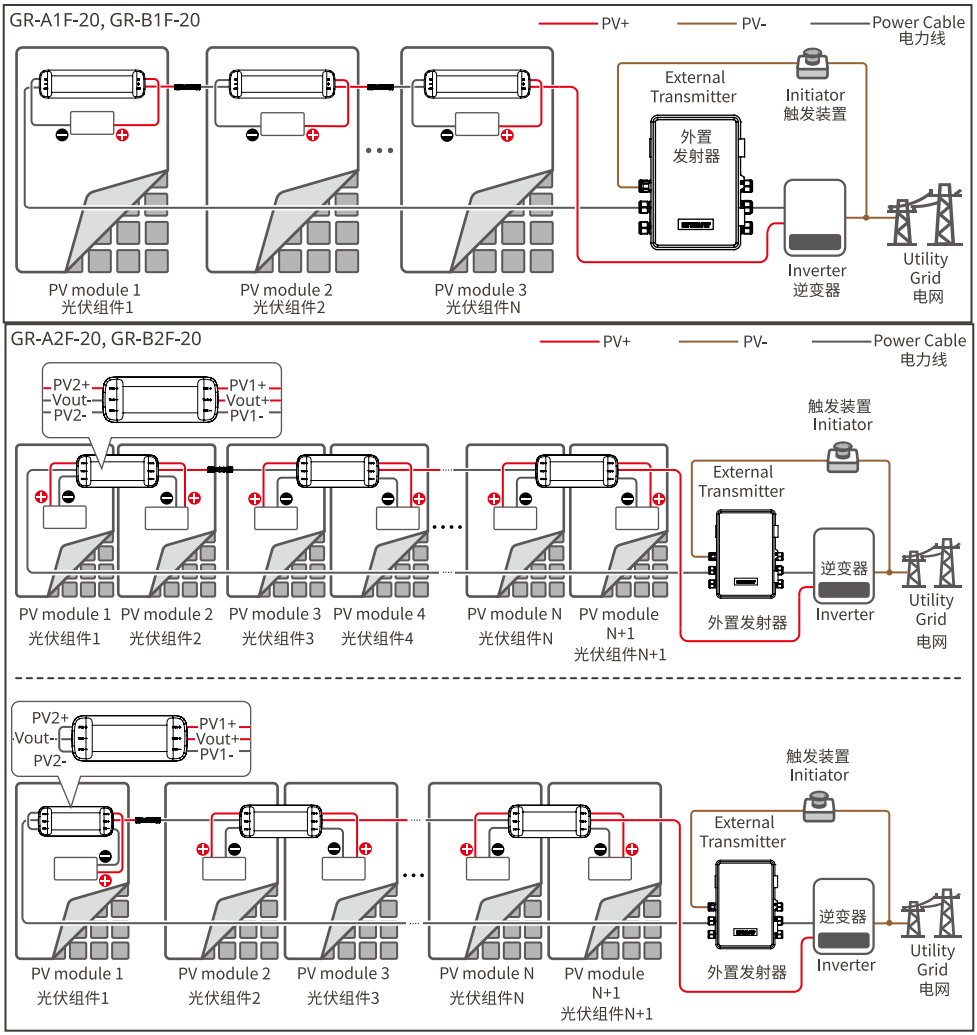
In the rapid shutdown system, the rapid shutdown transmitter and receiver work together, to achieve rapid system shutdown. The receiver maintains module output by receiving signals from the transmitter. The transmitter can be externally installed or integrated within the inverter. In the case of an emergency, the transmitter will stop working via enabling the external trigger, thus shutting down modules.

- External transmitter:
- Models of the transmitter: GTP-F2L-20、GTP-F2M-20

https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_RSD-20-Transmitter_Quick-Installation-Guide-EN.pdf

- Models of the receiver: GR-A1F-20、GR-B1F-20、GR-A2F-20、GR-B2F-220

https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_RSD-20_Quick-Installation-Guide-POLY.pdf

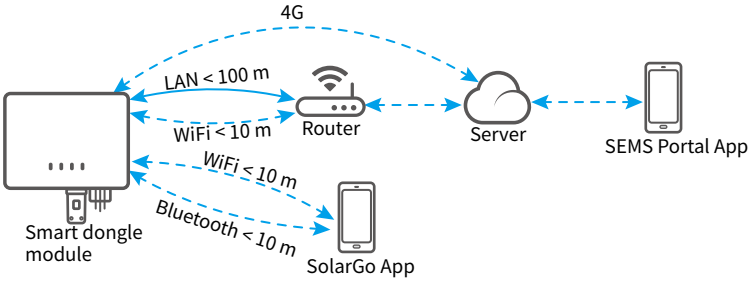


Integrated transmitter :
External initiator: A breaker on the AC side
Models of the receiver: GR-A1F-20、GR-B1F-20、GR-A2F-20、GR-B2F-+20
https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_RSD-20_Quick-Installation-Guide-POLY.pdf

Communications

The inverter supports parameter setting via WiFi or Bluetooth in the near proximity. It also supports connecting to the monitoring platform via WiFi, 4G or LAN, so as to monitor the operation status of the inverter, the operation conditions of the power station, etc.

- Bluetooth: meets Bluetooth 5.1 standard.
- WiFi: wireless IEEE 802.11 - b/g/n @2.4 - GHz.
- LAN: Ethernet with 10M/100Mbps adaptive speed. If a third-party monitoring platform is to be used, this platform must support the ModbusTCP communication protocol.
- 4G: It supports connection to a third-party monitoring platform via the MQTT communication protocol.



24h Load Monitoring (Optional)

The smart meter measures the data of the grid side and transmits it to the inverter.The inverter transmits the grid side data and the power generation data to the monitoring platform via a communication module, and then monitoring platform calculates the load power consumption, thus realizing the 24h load monitoring.

Power Supply at Night (Optional)

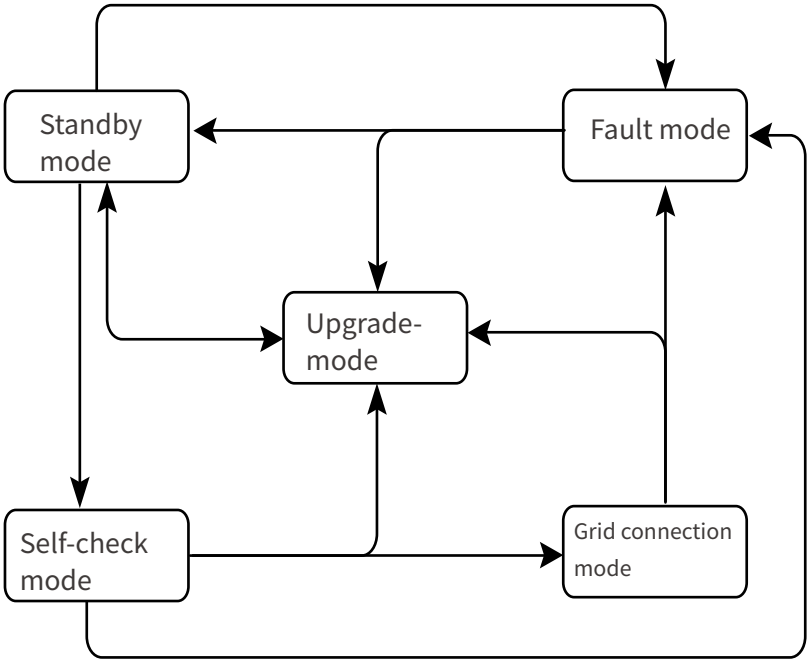
5-29.9kW(AU), GW25K-SDT-30, GW30K-SDT-30 (standard), others (optional). When the PV modules stop working due to insufficient sunlight at night, the inverter can take power from the grid side to maintain basic functions (such as monitoring, communication, safety module) and achieve functions such as 24h load monitoring, night monitoring and remote upgrading at night.

PID Functions

During operation, PV modules experience a potential difference between the output electrodes and the grounded module frame, which over time may result in reduced module efficiency—this phenomenon is known as Potential Induced Degradation (PID).

The PID function of this inverter operates by elevating the voltage differential between the PV panels and their frames to a positive value (termed as positive-voltage elevation). This effectively suppresses the PID effect and is applicable to P-type PV panels as well as N-type PV panels that necessitate positive - voltage elevation for PID suppression. For N-type PV panels that demand negative - voltage reduction to suppress the PID effect, it is advisable to deactivate this function. Regarding whether an N-type module falls into the category that requires positive - voltage elevation for PID suppression, please consult the module supplier.

3.5 Inverter Operation Mode



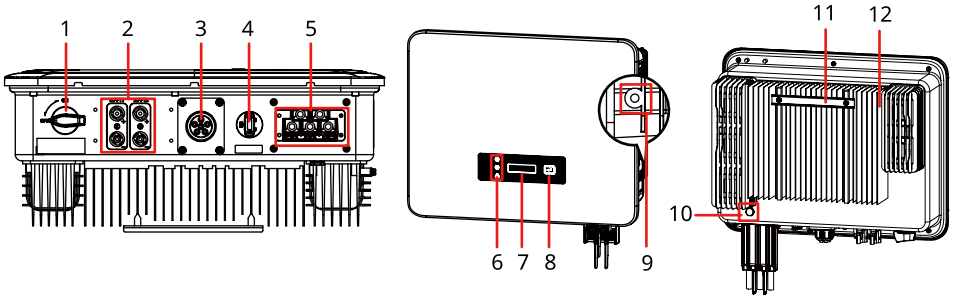
No.	Parts	Explanation
1	Standby mode	The waiting stage after being powered.. • After meeting the condition, the self-check mode is on. • If faults occur, the fault mode is on. • If the inverter receives upgrade requirements, the upgrade mode is on.
2	Self-check mode	Before starting operation, the inverter keeps self-checking and initializing. • If meeting the conditions, the grid connection mode is on, and the inverter starts grid connection operation. • If the inverter receives upgrade requirements, the upgrade mode is on. • If self-check fails, the fault mode is on.
3	Grid connection mode	The inverter can connect to the grid. • If faults occur, the fault mode is on. • If the inverter receives upgrade requirements, the upgrade mode is on.
4	Fault mode	If faults are detected, the fault mode is on. After faults are cleared, the waiting mode is on. After the waiting mode ends, the inverter will check operation mode, and starts the next operation mode.
5	Upgrade-mode	This mode is on when the inverter is upgrading programs. After program upgrading completes, waiting mode is on. After the waiting mode ends, the inverter will check operation mode, and starts the next operation mode.

3.6 Appearance

There may be differences in the appearance and color of the product, and the actual situation prevails.

3.6.1 Parts

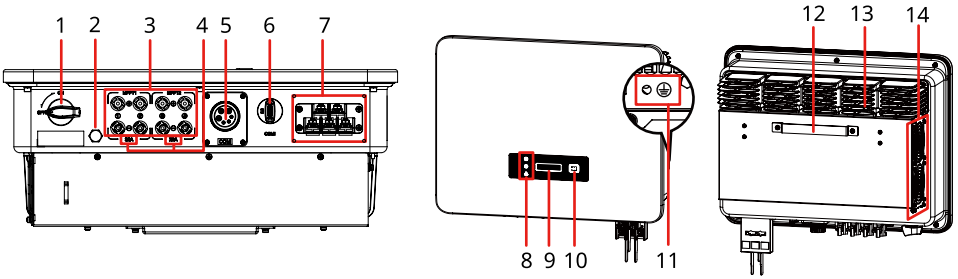
GW8000-SDT-30，GW10K-SDT-30，GW10K-SDT-EU30, GW12K-SDT-30 , GW15K-SDT-30



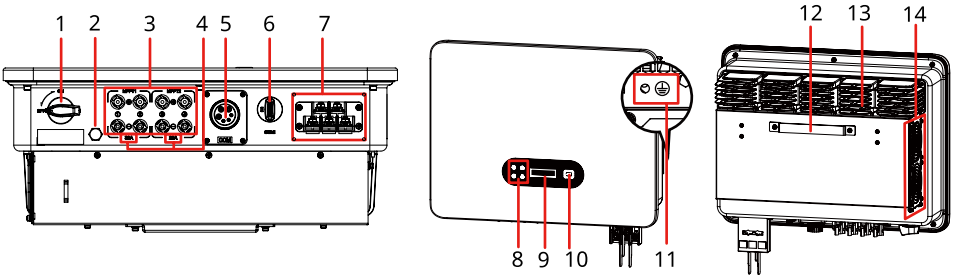
No.	Parts	Explanation
1	DC SWITCH	Start or stop DC input.
2	PV Input Terminal	Used to connect the PV module DC input cables.
3	Smart Dongle Terminal	Able to connect RS485, meter, emergency shutdown , remote shutdown, load control, DRED (only Australia) or RCR communication cable (only Europe).
4	Smart Dongle Terminal	• The dongle module can be connected. Choose modules depending on actual needs. • To connect USB flash drive for local software upgrading. • Data bugging communication cable is supported to be connected in Brazil.
5	AC Output Terminal	To connect the AC output cable, which links the inverter with the utility grid.
6	Indicator	Indicate the working status of the inverter.
7	LCD (Optional)	Used to check the parameters of the inverter.
7	Button (Optional)	Matches with LCD, and works on the inverter.
9	Grounding terminal	To connect the PE cable
10	Ventilation Valve	-

No.	Parts	Explanation
11	Mounting plate	Used to mount the inverter.
12	Heat sink	Used to cool the inverter.

GW12KLV-SDT-C30, GW17K-SDT-30, GW17KLV-SDT-C30, GW20K-SDT-30, GW25K-SDT-C30, GW30K-SDT-C30



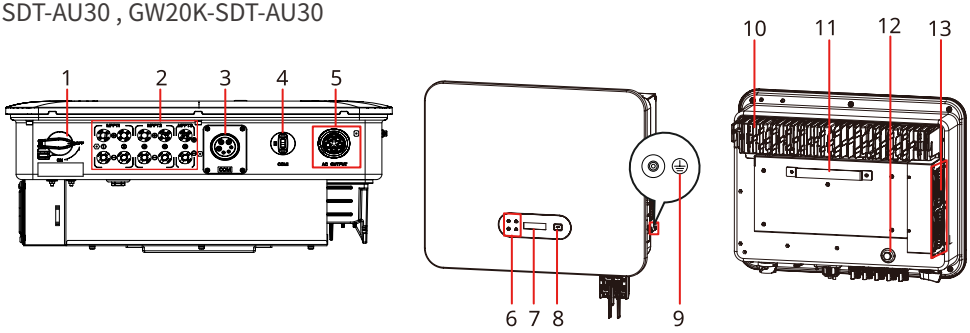
GW20K-SDT-31, GW12KLV-SDT-C31, GW25K-SDT-P31



No.	Components / Silk Screen Printing	Explanation
1	DC SWITCH	Start or stop DC input.
2	Ventilation Valve	-
3	PV Input Terminal	• Used to connect the PV module DC input cables. • GW30K-SDT-C30: 4 x PV+/PV-. • Others: 3 x PV+/PV-.

No.	Components / Silk Screen Printing	Explanation
4	Silk screen printing value of the maximum input current of each MPPT	The maximum current value to which each MPPT of the inverter can be connected. Values vary among different models of inverters, for the specific value, refer to the inverter technical parameter.
5	Smart Dongle Terminal	Able to connect RS485, meter, emergency shutdown , remote shutdown, load control, DRED (only Australia) or RCR Communication cable (only Europe).
6	Smart Dongle Terminal	• The dongle module can be connected. Choose modules depending on actual needs. • To connect USB flash drive for local software upgrading. • Data bugging communication cable is supported to be connected in Brazil.
7	AC Output Terminal	To connect the AC output cable, which links the inverter with the utility grid.
7	Indicator	Indicate the working status of the inverter.
9	LCD (Optional)	Used to check the parameters of the inverter.
10	Button (Optional)	Matches with LCD, and works on the inverter.
11	Grounding terminal	To connect the PE cable
12	Mounting plate	Used to install the inverter.
13	Heat sink	Used to cool the inverter.
14	Fan	• When the temperature is too high, it can cool down the inverter. • GW12KLV-SDT-C30, GW17K-SDT-30,GW20K-SDT-30,GW12KLV-SDT-C31, GW20K-SDT-31: External fan x 1, Others: External fans x 2.

GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDT-AU30 , GW20K-SDT-AU30



No.	Parts	Explanation
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3	Smart Dongle Terminal	Able to connect RS485, meter, emergency shutdown , remote shutdown, load control, DRED (only Australia) or RCR Communication cable (only Europe).
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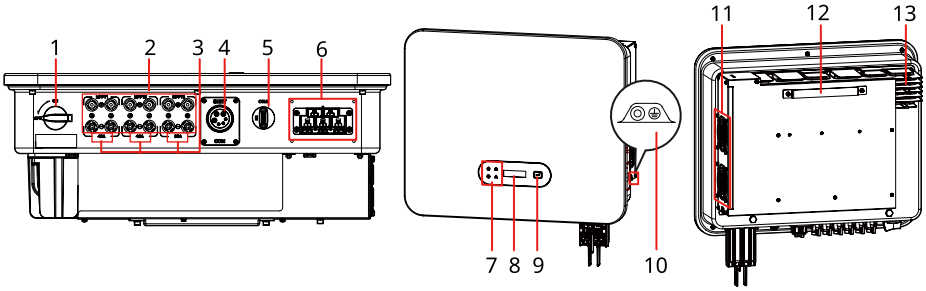
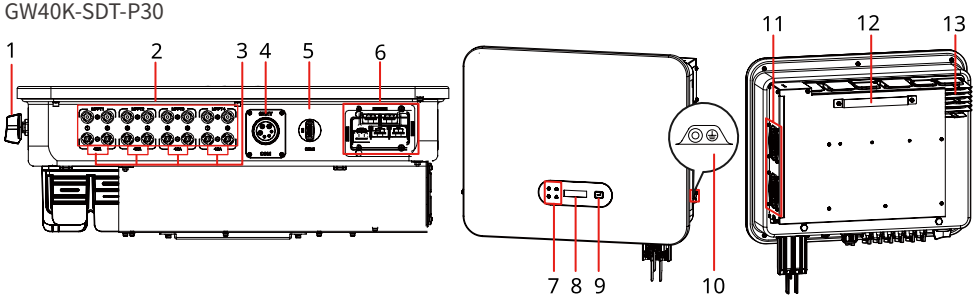
5	AC Output Terminal	To connect the AC output cable, which links the inverter with the utility grid.
6	Indicator	Indicate the working status of the inverter.
7	LCD (Optional)	Used to check the parameters of the inverter.
7	Button (Optional)	Matches with LCD, and works on the inverter.
9	Grounding terminal	To connect the PE cable
10	Heat sink	Used to cool the inverter.
11	Mounting plate	Used to install the inverter.
12	Ventilation Valve	-
13	Fan	When the temperature is too high, it can cool down the inverter.

GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30 , GW23KLV-SDT-BR30 , GW33K-SDT-C30, GW36K-SDT-C30, GW37K5-SDT-BR30, GW40K-SDT-C30



GW40K-SDT-P30



1	DC SWITCH	Start or stop DC input.
2	PV Input Terminal	Used to connect the PV module DC input cables.
3	Silk screen printing value of the maximum input current of each MPPT	The maximum current value to which each MPPT of the inverter can be connected. Values vary among different models of inverters, for the specific value, refer to the inverter technical parameter.
4	Smart Dongle Terminal	Able to connect RS485, meter, emergency shutdown , remote shutdown, load control, DRED (only Australia) or RCRCommunication cable (only Europe).
5	Smart Dongle Terminal	• The smart dongle module can be connected. Choose modules depending on actual needs. • To connect USB flash drive for local software upgrading. • Data bugging communication cable is supported to be connected in Brazil.

5	Smart Dongle Terminal	• The smart dongle module can be connected. Choose modules depending on actual needs. • To connect USB flash drive for local software upgrading. • Data bugging communication cable is supported to be connected in Brazil.
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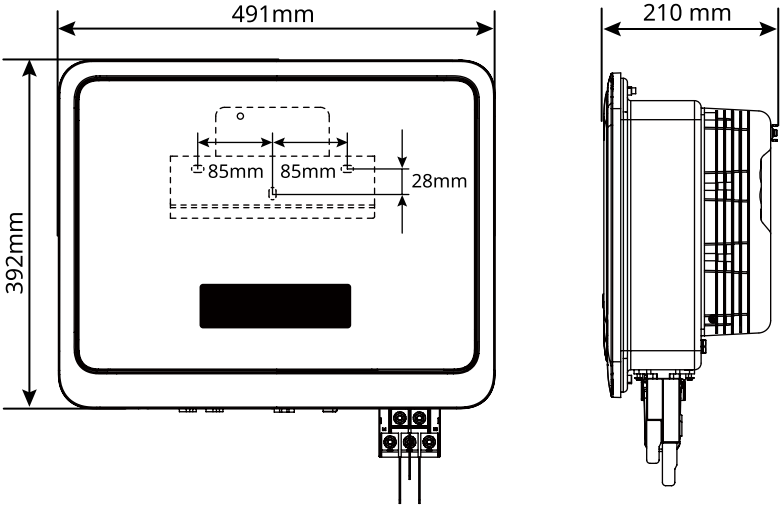
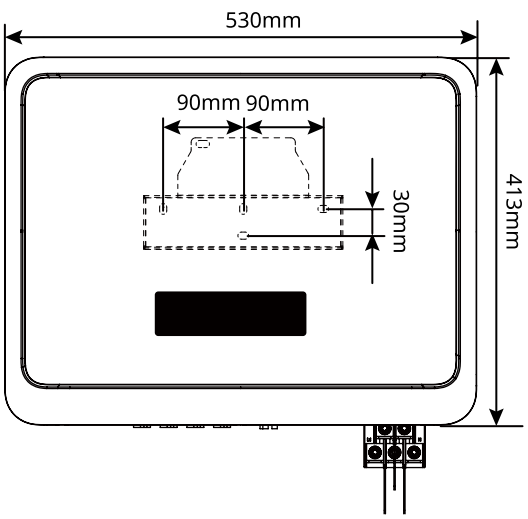
7	LCD (Optional)	Used to check the parameters of the inverter.
9	Button (Optional)	Matches with LCD, and works on the inverter.
10	Grounding terminal	To connect the PE cable
11	Fan	When the temperature is too high, it can cool down the inverter.
12	Mounting plate	Used to install the inverter.
13	Heat sink	Used to cool the inverter.

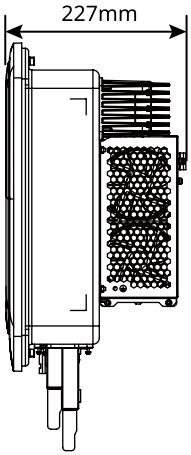
3.6.2 Dimensions

GW8000-SDT-30, GW10K-SDT-30, GW10K-SDT-EU30, GW12K-SDT-30, GW15K-SDT-30, GW12KLV-SDT-C30

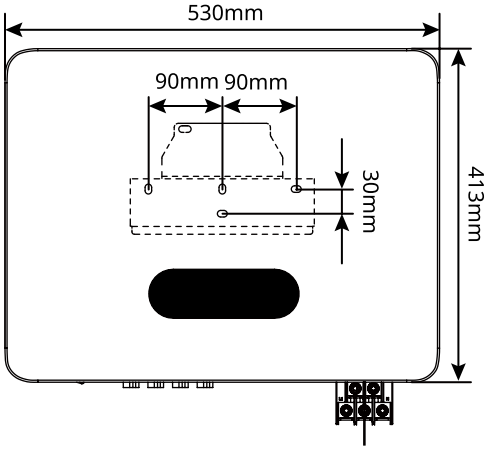


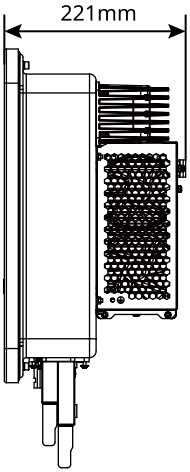
GW17K-SDT-30, GW17KLV-SDT-C30, GW20K-SDT-30, GW25K-SDT-C30, GW30K-SDT-C30



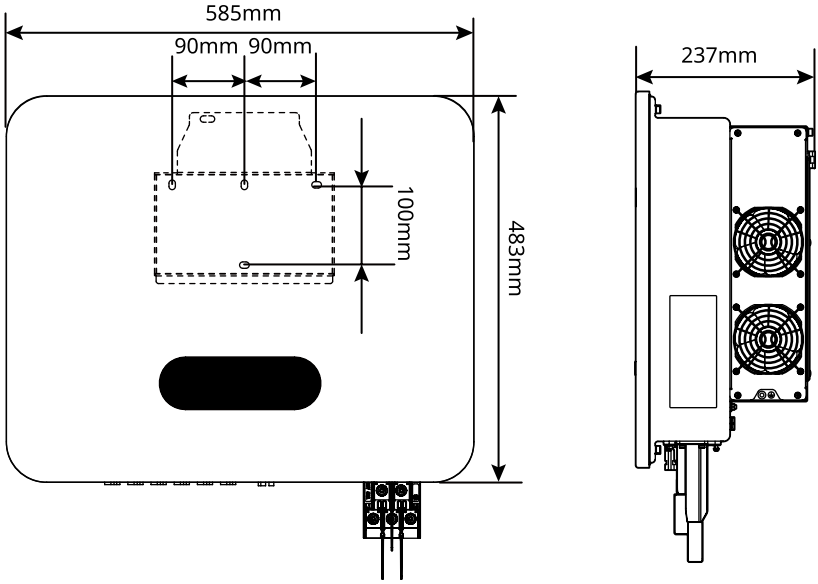


GW20K-SDT-31, GW12KLV-SDT-C31, GW25K-SDT-P31, GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDT-AU30 , GW20K-SDT-AU30

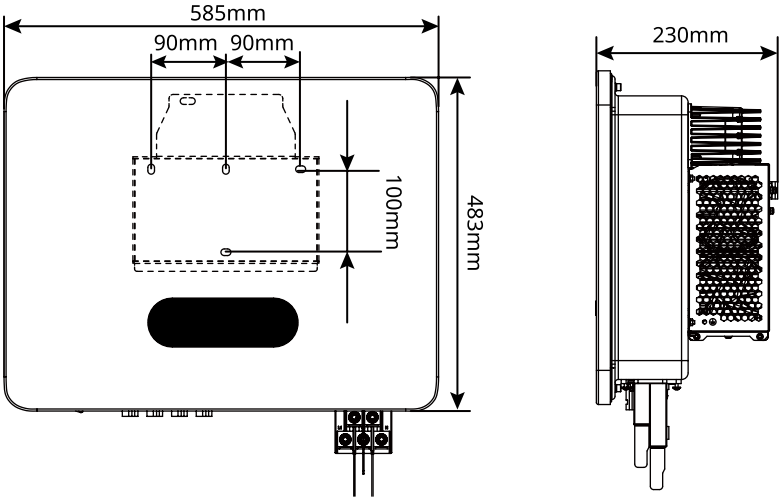




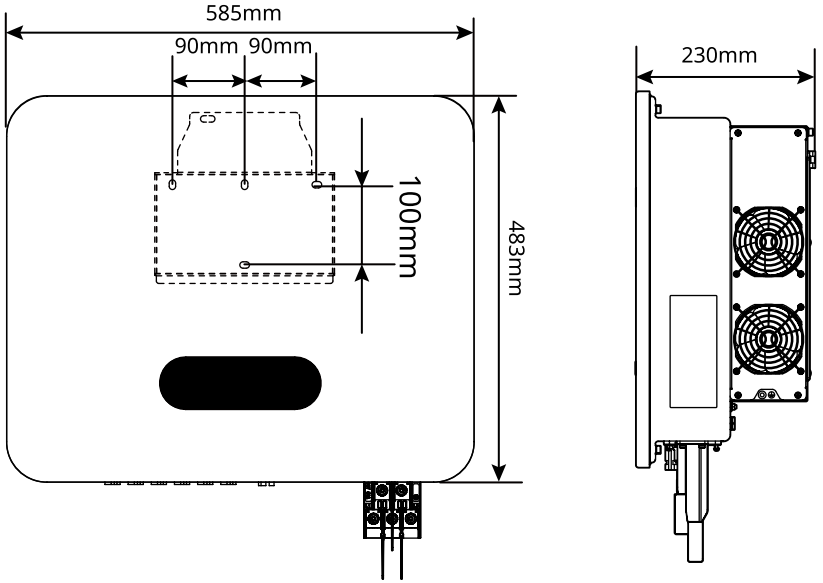
GW40K-SDT-P30



GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30



GW23KLV-SDT-BR30, GW33K-SDT-C30, GW36K-SDT-C30, GW37K5-SDT-BR30, GW40K-SDT-C30



Three LEDs

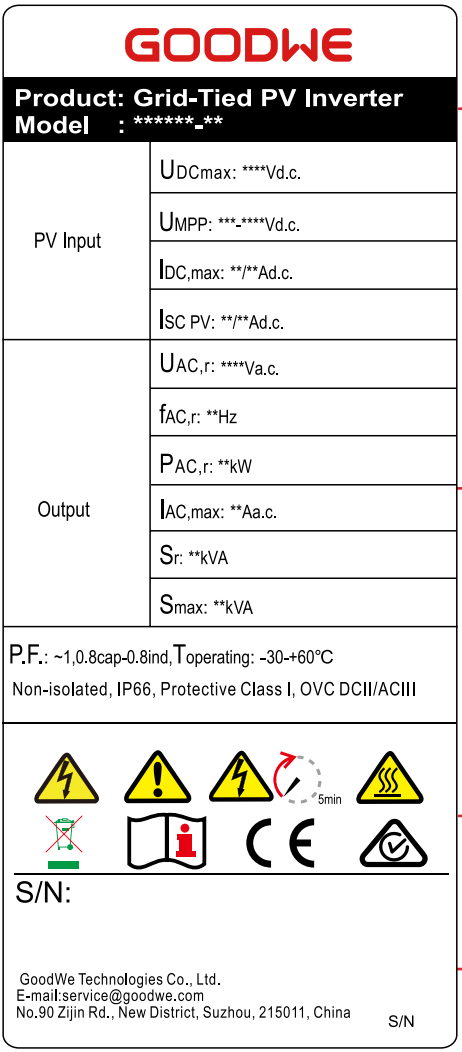
Indicator	Status	Explanation
Power		STEADY ON= WIRELESS IS CONNECTED/ACTIVE
		SINGLE BLINKING= WIRELESS SYSTEM IS RESET-TING
		BLINK 2 = NOT CONNECTED TO THE ROUTER OR BASE STATION
		BLINK 4 = NOT CONNECTED TO MONITORING SERVER
		BLINK = RS485 IS CONNECTED
		OFF = WIRELESS IS RESTORING FACTORY DEFAULT SETTING
Operation		STEADY ON = THE INVERTER IS FEEDING POWER
		OFF = THE INVERTER IS NOT FEEDING POWER
Fault		STEADY ON = A FAULT HAS OCCURRED
		OFF = NO FAULT

Four LEDs

Indicator	Status	Explanation
Power		STEADY ON: EQUIPMENT POWER ON
		OFF: OFF = EQUIPMENT POWER OFF
Operation		STEADY ON: THE INVERTER IS FEEDING POWER
		OFF: THE INVERTER IS NOT FEEDING POWER
		SINGLE SLOW BLINKING: SINGLE SLOW BLINKING = SELF CHECK BEFORE CONNECTING TO THE GRID
		SINGLE FAST BLINKING: SINGLE FAST BLINKING = CONNECTING TO THE GRID
SEMS		STEADY ON: STEADY ON= WIRELESS IS CONNECTED/ACTIVE
		SINGLE BLINKING: SINGLE FAST BLINKING= WIRELESS SYSTEM IS RESETTING
		BLINK 2: BLINK 2 = WIRELESS IS NOT CONNECTED TO ROUTER OR BASE STATION
		BLINK 4: BLINK 4 = NOT CONNECTED TO MONITOR-INGSERVER
		BLINKING: BLINKING = RS485 IS CONNECTED
		OFF: OFF = WIRELESS IS RESTORING FACTORY DEFAULT SETTING
Fault		STEADY ON: STEADY ON = A FAULT HAS OCCURRED
		OFF: OFF = NO FAULT

3.6.4 Nameplate

The nameplates are for reference only. The actual interface prevails.



GW trademark, product type, and product model

Technical parameters

Safety symbols and certification marks

Contact information and serial number

4 Check and Storage

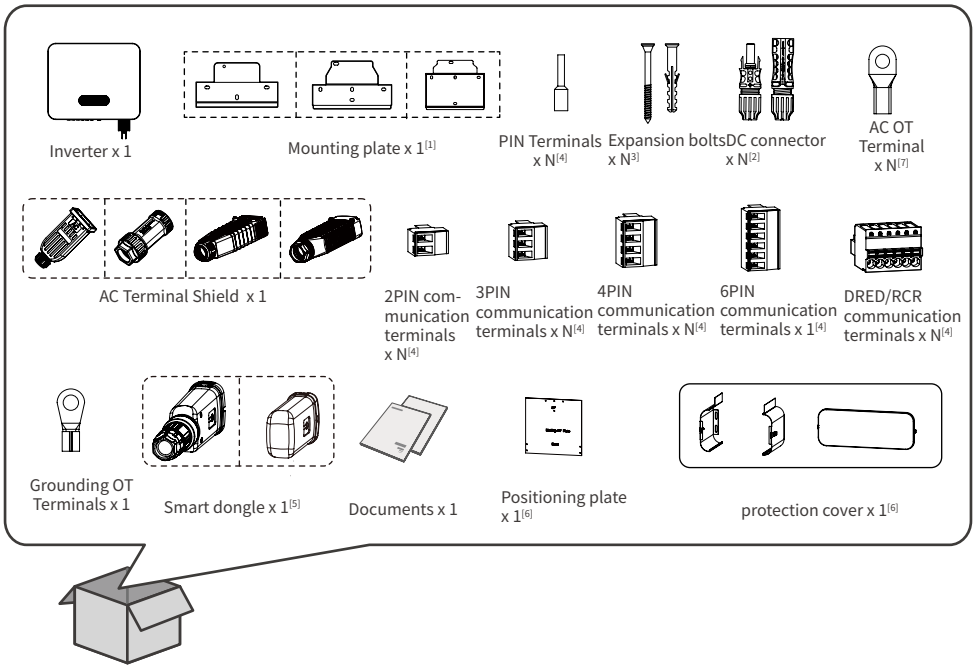
4.1 Check Before Receiving

Check the following items before receiving the product.

1. Check the outer packing box for damage, such as holes, cracks, deformation, and other signs of equipment damage. Do not unpack the package and contact the supplier as soon as possible if any damage is found.
2. Check the inverter model. If the inverter model is not what you requested, do not unpack the product and contact the supplier.
3. Check the deliverables for correct model, complete contents, and intact appearance. Contact the supplier as soon as possible if any damage is found.

4.2 Deliverables

NOTICE
[1] The type of mounting plate depends on the type of inverter. [2] The number of DC connectors is the same as the number of DC terminals of the inverter. You may confirm it according to the number of DC terminals of the inverter. [3] The number of expansion bolts matches with that of mounting plate holes. [4] The number of 2PIN communication terminals, 3PIN communication terminals, 4PIN communication terminals, or DRED/RCR communication terminals varies for different inverter configuration. The actual situation prevails. [5] Smart dongle: 4G, WiFi/LANsmart dongle. The actual delivered type depends on the selected inverter communication method. [6] Positioning plate and shields are only applicable to the following types: GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDTAU30, GW20K-SDT-AU30, GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30 [7] The number of GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDTAU30, GW20K-SDT-AU30 type AC OT Terminal: 0; the number of GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30 model AC OT Terminal: 5.



4.3 Storage

If the inverter is not to be installed or used immediately, please ensure that the storage environment meets the following requirements:

1. Do not unpack the outer package or throw the desiccant away.
2. Store the equipment in a clean place. Make sure the temperature and humidity are appropriate and no condensation.
3. The height and direction of the stacking inverters should follow the instructions on the packing box.
4. The inverters must be stacked with caution to prevent them from falling.
5. If the inverter has been stored for more than two years or has not been in operation for more than six months after installation, it is recommended to be inspected and tested by professionals before being put into use.
6. To ensure good electrical performance of the internal electronic components of the inverter, it is recommended to power it on every 6 months during storage. If it has not been powered on for more than 6 months, it is recommended to to be inspected and tested by professionals before being put into use.

5 Installation

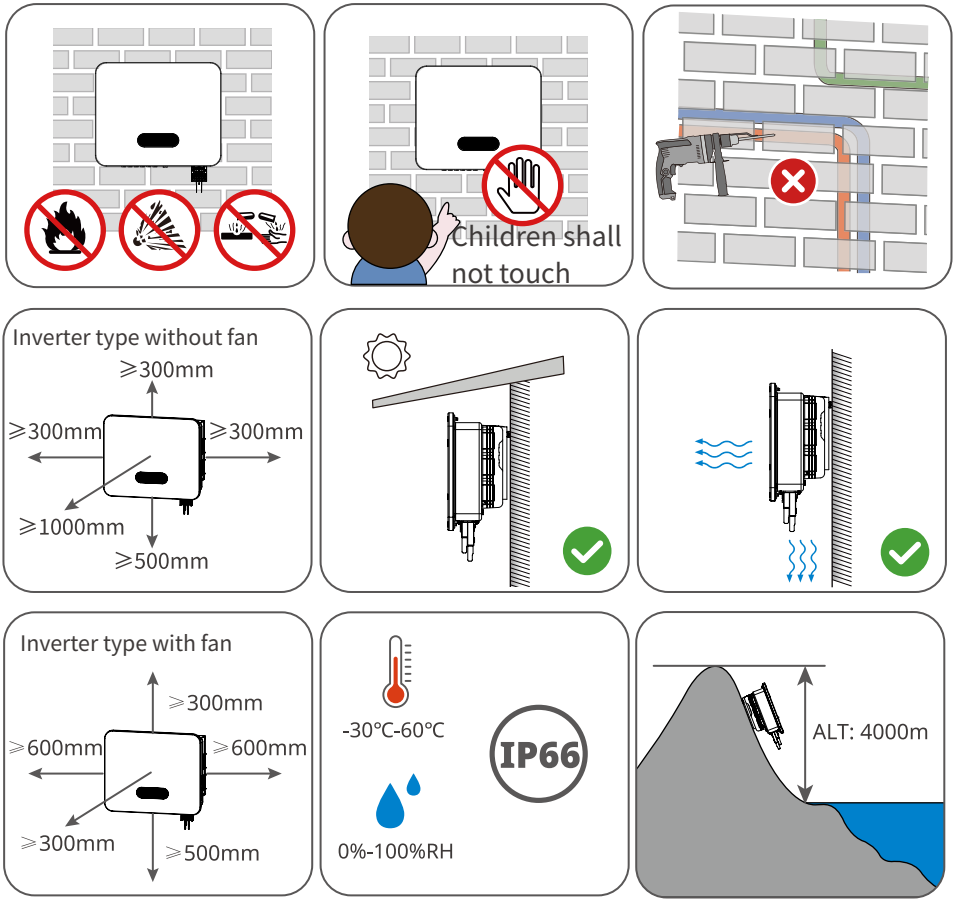
5.1 Installation Requirements

5.1 Installation Requirements

1. Do not install the equipment in a place near flammable, explosive, or corrosive materials.
2. Install the equipment on a surface that is solid enough to bear the inverter weight.
3. Install the equipment in a well-ventilated place to ensure good dissipation.
4. The equipment with a high ingress protection rating can be installed indoors or outdoors. The temperature and humidity at the installation site should be within the appropriate range.
5. Install the equipment in a sheltered place to avoid direct sunlight, rain, and snow. Build a sunshade if it is needed.
6. Do not install the equipment in a place that is easy to touch, especially within children' s reach. High temperature exists when the equipment is working. Do not touch the surface to avoid burning.
7. Install the equipment at a height that is convenient for operation and maintenance, electrical connections, and checking indicators and labels.
8. When the installation altitude of GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDT-AU30 , GW20K-SDT-AU30 is lower than 3000m and higher than 2000m, the inverter will derate. The installation altitude of GW20K-SDT-31, GW12KLV-SDT-C31, GW25K-SDT-P31, GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, , GW30K-SDT-30, GW23KLV-SDT-BR30, GW37K5-SDT-BR30, GW33K-SDT-C30, GW36K-SDT-C30, GW40K-SDT-C30, GW40K-SDT-P30, GW8000-SDT-30, GW10K-SDT-30 , GW10K-SDT-EU30, GW12K-SDT-30, GW12KLV-SDT-C30, GW15K-SDT-30 , GW17K-SDT-30, GW17KLV-SDT-C30, GW20K-SDT-30, GW25K-SDT-C30 , GW30K-SDT-C30 is lower than 4000m.
9. The inverter is easy to be corroded when installed in salt areas. A salt area refers to the region within 1000m offshore or affected by the sea breeze. The area prone to the sea breeze varies depending on weather conditions (e.g. typhoon, monsoon) or terrain (such as dams and hills).
10. Install the inverter away from high magnetic field to avoid electromagnetic interference. If there is any radio or wireless communication equipment

below 30MHz near the inverter, you have to:

- Add a low pass EMI filter or a multi winding ferrite core to the DC input cable or AC output cable of the inverter.
- Install the inverter at least 30m far away from the wireless equipment.

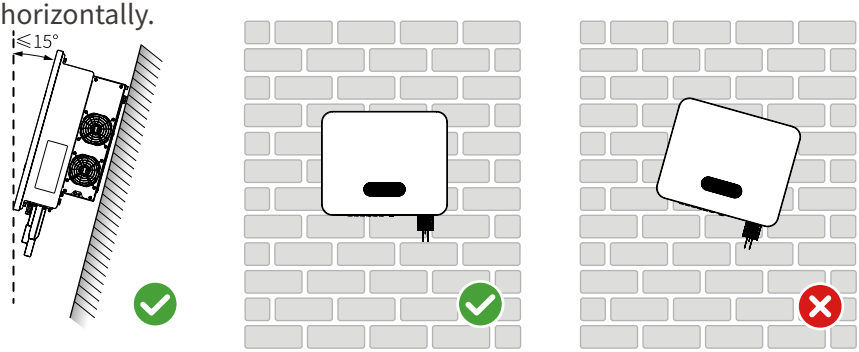


Installation Support Requirements

- The mounting support shall be nonflammable and fireproof.
- Make sure that the support surface is solid enough to bear the product weight load.
- Do not install the product on the support with poor sound insulation to avoid the noise generated by the working product, which may annoy the residents nearby.

Installation Angle Requirements

- Install the inverter vertically or at a maximum back tilt of 15 degrees.
- Do not install the inverter upside down, forward tilt, back forward tilt, or horizontally.



Installation tool

The following tools are recommended when installing the equipment. Use other auxiliary tools on site if necessary.

5.2 Inverter Installation

5.2.1 Moving the Inverter

⚠CAUTION

Move the inverter to the site before installation. Follow the instructions below to avoid personal injury or equipment damage:

1. Consider the weight of the equipment before moving it. Assign enough personnel to move the equipment to avoid personal injury.
2. Wear safety gloves to avoid personal injury.
3. Keep balance to avoid falling down when moving the equipment.

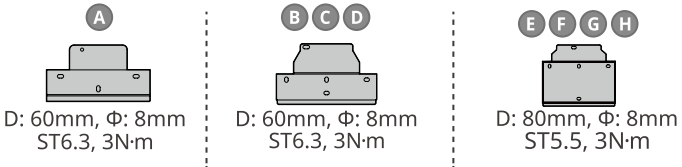
5.2.2 Inverter Installation

NOTICE

- Avoid the water pipes and cables buried in the wall when drilling holes.
- Wear goggles and a dust mask to prevent the dust from being inhaled or contacting eyes when drilling holes
- The anti-theft lock of appropriate size should be prepared by customers. Otherwise it is unable to finish the installation if the size is inappropriate.
- The appearance of graphics in this document is only for reference. There may be differences in the appearance of different models. The actual product prevails.
- Step 4 are only applicable to GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30 , GW15K-SDTAU30, GW20K-SDT-AU30, GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30 and GW30K-SDT-30.

Step 1 Put the mounting plate on the wall horizontally and mark positions for drilling holes.
Step 2 Drill holes with the hammer drill..
Step 3 Secure the mounting plate using the expansion bolts.
Step 4 Install the inverter on the mounting plate. Tighten the nuts to secure the mounting plate and the inverter.
Step 5 Install the anti-theft lock.

A	B	C	D	E	F	G
GW8000-SDT-30 GW10K-SDT-30 GW10K-SDT-EU30 GW12K-SDT-30 GW12KLV-SDT-C30 GW15K-SDT-30	GW17K-SDT-30 GW17KLV-SDT-C30 GW20K-SDT-30 GW25K-SDT-C30 GW30K-SDT-C30	GW20K-SDT-31 GW12KLV-SDT-C31 GW25K-SDT-P31	GW5000-SDT-AU30 GW6000-SDT-AU30 GW8000-SDT-AU30 GW9990-SDT-AU30 GW15K-SDT-AU30 GW20K-SDT-AU30	GW25K-SDT-AU30 GW29K9-SDT-AU30 GW25K-SDT-30 GW30K-SDT-30	GW23KLV-SDT-BR30 GW37K5-SDT-BR30 GW33K-SDT-C30 GW36K-SDT-C30 GW40K-SDT-C30	GW40K-SDT-P30



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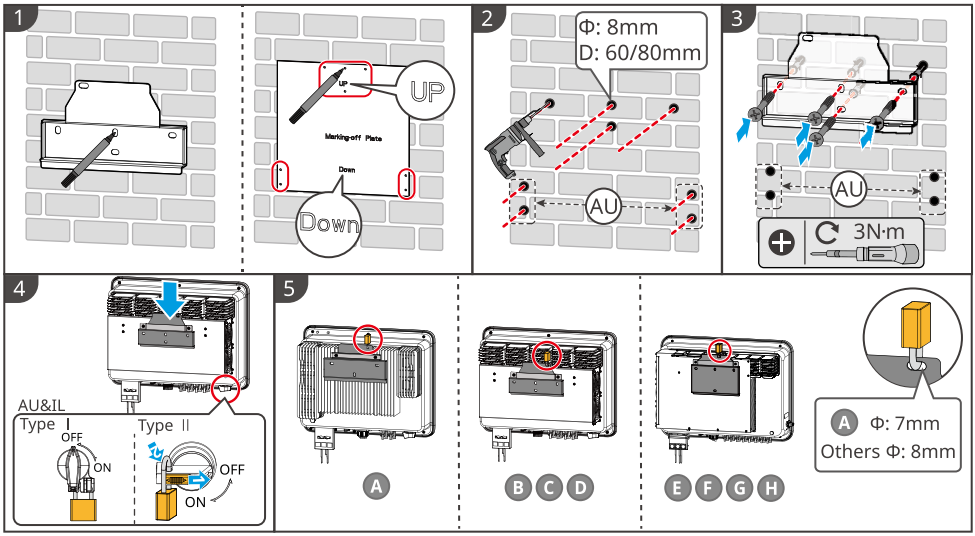


SDT30INT0006

6 Electrical Connection

6.1 Safety Precautions

⚠DANGER

- Disconnect the DC switch and the AC circuit breaker of the inverter to power off the inverter before any electrical connections. Do not work with power on. Otherwise, an electric shock may occur
- Perform electrical connections in compliance with local laws and regulations, including operations, cables, and component specifications.
- If the cable bears too much tension, the connection may be poor. Reserve a certain length of the cable before connecting it to the inverter cable port.

NOTICE

- Wear personal protective equipment like safety shoes, protective gloves, and insulating gloves during electrical connections.
- All electrical connections should be performed by qualified professionals.
- Cable colors in this document are for reference only. The cable specifications shall meet local laws and regulations.

NOTICE

- The appearance of graphics in this document is only for reference. There may be differences in the appearance of different models. The actual product prevails.

Cable Specification Requirement

Cable	Type	Cable Specification		
		Cable Outer Diameter (mm)	Conductor Cross Sectional Area: (mm^2)	
DC cable (MC4)	PV cable that meets 1100V standard	4.7 to 6.4	Recommended: 4 to 6	
AC Cable	Single four-core/ five-core outdoor copper/ aluminum wire [1]	GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDTAU30, GW20K-SDT-AU30: 13~18 Others: 18 ~ 30	Copper (supports single core or multi-cores wire): GW8000-SDT-30, GW10K-SDT-30, GW10K-SDT-EU30, GW12K-SDT-30, GW12KLV-SDT-C30, GW15K-SDT-30, GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDTAU30, GW20K-SDT-AU30: 6-10 GW17K-SDT-30, GW17KLV-SDT-C30, GW20K-SDT-30, GW25K-SDT-C30, GW30K-SDT-C30, GW20K-SDT-31, GW12KLV-SDT-C31, GW25K-SDT-P31: 16~25 GW12KLV-SDT-C30, GW17KLV-SDT-C30: 25 Copper (only supports multi-cores wire): GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30, GW23KLV-SDT-BR30, GW37K5-SDT-BR30, GW33K-SDT-C30, GW36K-SDT-C30, GW40K-SDT-C30, GW40K-SDT-P30:16-25	Aluminum (supports single core or multi-cores wire): GW8000-SDT-30, GW10K-SDT-30, GW10K-SDT-EU30, GW12K-SDT-30, GW12KLV-SDT-C30, GW15K-SDT-30: 10~16 GW17K-SDT-30, GW17KLV-SDT-C30, GW20K-SDT-30, GW25K-SDT-C30, GW30K-SDT-C30, GW20K-SDT-31, GW12KLV-SDT-C31, GW25K-SDT-P31: 16~25 GW12KLV-SDT-C30, GW17KLV-SDT-C30, GW30K-SDT-C30: 25 Aluminum (only supports multi-cores wire) GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30, GW23KLV-SDT-BR30, GW37K5-SDT-BR30, GW33K-SDT-C30, GW36K-SDT-C30, GW40K-SDT-C30, GW40K-SDT-P30:25-35

Cable	Type:	Cable Specification		
		Cable Outer Diameter (mm)	Conductor Cross Sectional Area: (mm^2)	
PE cable	Outdoor Cable	-	Copper: GW8000-SDT-30, GW10K-SDT-30, GW10K-SDT-EU30, GW12K-SDT-30, GW12KLV-SDT-C30, GW15K-SDT-30: 4 GW17K-SDT-30, GW17KLV-SDT-C30, GW20K-SDT-30, GW25K-SDT-C30, GW30K-SDT-C30, GW20K-SDT-31, GW12KLV-SDT-C31, GW25K-SDT-P31, GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDTAU30, GW20K-SDT-AU30: 10 GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30, GW23KLV-SDT-BR30, GW37K5-SDT-BR30, GW33K-SDT-C30, GW36K-SDT-C30, GW40K-SDT-C30, GW40K-SDT-P30: 10-16	Aluminum: GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30, GW30K-SDT-30, GW23KLV-SDT-BR30, GW37K5-SDT-BR30, GW33K-SDT-C30, GW36K-SDT-C30, GW40K-SDT-C30, GW40K-SDT-P30: 16 ~ 25 Other models do not support.
Communication cable	should be an outdoor shielded twisted-pair cable meeting local standards[2]	3 to 7	0.2 to 0.5	

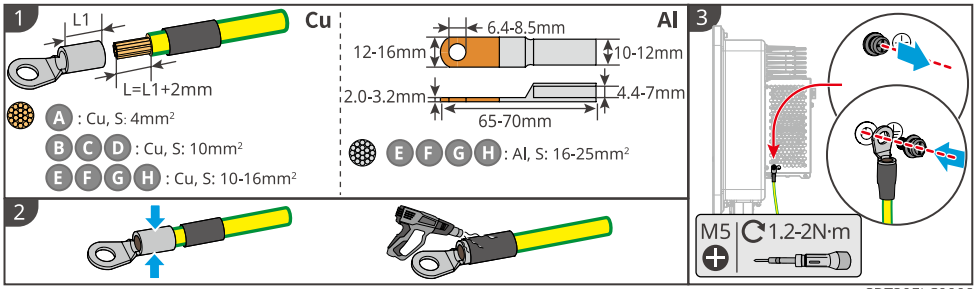
Note: [1] If you prefer aluminum cables, remember to use copper to aluminum transition terminals.

[2] Overall length of communication cable cannot exceed 1000 m. The values in this table are valid only when the external protective grounding conductor is made of the same metal as the phase conductor. Otherwise, the cross-sectional area of the external protective grounding conductor should be selected to ensure that its conductivity is equivalent to that specified in this table.

⚠WARNING

- The PE cable connected to the enclosure of the inverter cannot replace the PE cable connected to the AC output port. Make sure that both of the two PE cables are securely connected.
- Make sure that all the grounding points on the enclosures are equipotential connected when there are multiple inverters.
- To improve the corrosion resistance of the terminal, you are recommended to apply silica gel or paint on the ground terminal after installing the PE cable.
- PE cable should be prepared by customers.

A	B	C	D	E	F	G
GW8000-SDT-30 GW10K-SDT-30 GW10K-SDT-EU30 GW12K-SDT-30 GW12KLV-SDT-C30 GW15K-SDT-30	GW17K-SDT-30 GW17KLV-SDT-C30 GW20K-SDT-30 GW25K-SDT-C30 GW30K-SDT-C30	GW20K-SDT-31 GW12KLV-SDT-C31 GW25K-SDT-P31	GW5000-SDT-AU30 GW6000-SDT-AU30 GW8000-SDT-AU30 GW9990-SDT-AU30 GW15K-SDT-AU30 GW20K-SDT-AU30	GW25K-SDT-AU30 GW29K9-SDT-AU30 GW25K-SDT-30 GW30K-SDT-30	GW23KLV-SDT-BR30 GW37K5-SDT-BR30 GW33K-SDT-C30 GW36K-SDT-C30 GW40K-SDT-C30	GW40K-SDT-P30



SDT30ELC0008

6.3 Connect the AC Output Cable

WARNING

- Do not connect loads between the inverter and the AC circuit breaker directly connected to the inverter.
- The Residual Current Monitoring Unit (RCMU) is integrated into the inverter. The inverter will disconnect the utility grid rapidly once it detects any leak current over the permissible range.

Decide whether to install RCD (Residual Current Device) according to local laws and regulations. A type A RCD shall be added to protect the equipment when the DC component of the leakage current exceeds limits. Recommended RCD specifications:300mA.

NOTICE

Install one AC circuit breaker for each inverter. Multiple inverters cannot share one AC circuit breaker.

An AC circuit breaker shall be installed on the AC side to make sure that the inverter can safely disconnect the grid when an exception happens. Choose appropriate AC circuit breaker according to local laws and regulations. Recommended AC circuit breaker specifications:

Inverter Model	AC Circuit Breaker Specification
GW5000-SDT-AU30/GW6000-SDT-AU30/ GW8000-SDT-AU30/GW9990-SDT-AU30/ GW8000-SDT-30/GW10K-SDT-30/GW10K-SDT-EU30	20A
GW12K-SDT-30/GW15K-SDT-30/GW15K-SDT-AU30/GW17K-SDT-30	32A
GW12KLV-SDT-C30/GW20K-SDT-30/GW20K-SDT-AU30/GW20K-SDT-31/GW12KLV-SDT-C31	40A
GW25K-SDT-C30/GW25K-SDT-AU30/GW25K-SDT-30/GW25K-SDT-P31	50A
GW17KLV-SDT-C30/GW30K-SDT-C30/GW29K9-SDT-AU30/GW30K-SDT-30/GW33K-SDT-C30	63A
GW36K-SDT-C30/GW40K-SDT-C30/GW40K-SDT-P30	80A

⚠WARNING

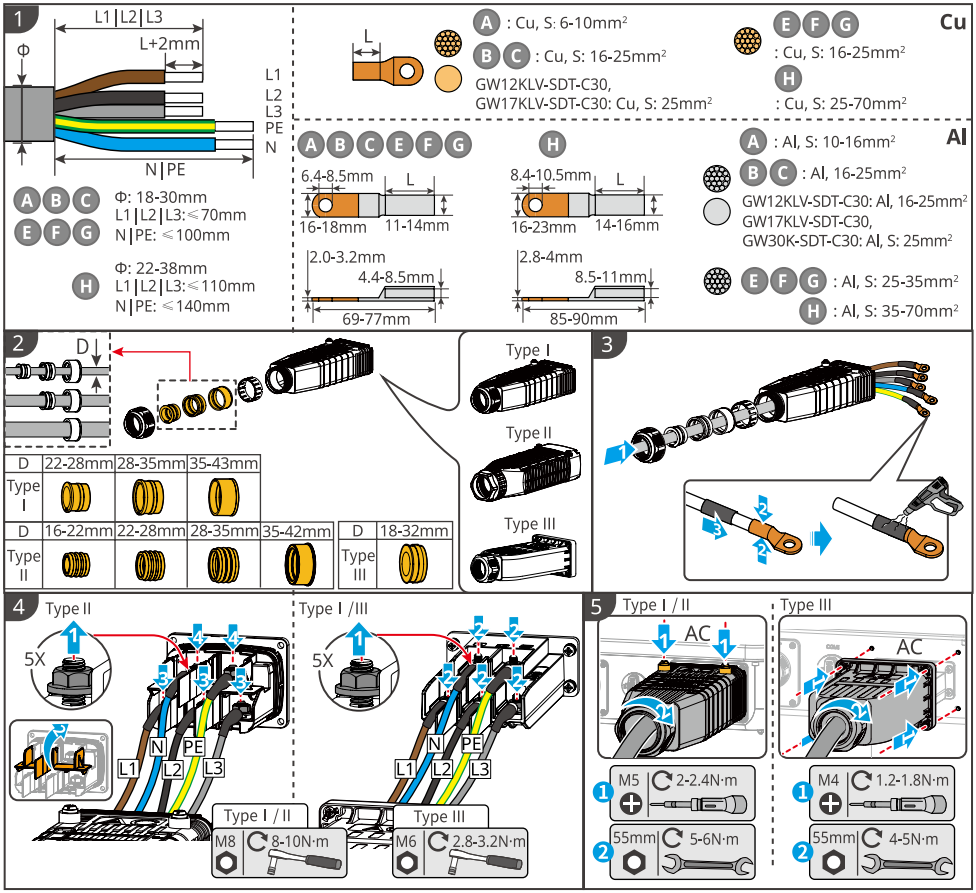
- Pay attention to the L1, L2, L3, N, PE on the AC terminal. Connect the AC cables to the corresponding terminals. The inverter may be damaged if the cables are connected inappropriately.
- Make sure that the whole cable cores are inserted into the AC terminal holes. No part of the cable core can be exposed.
- Make sure that the cables are connected securely. Otherwise, the terminal may be too hot to damage the inverter when the inverter is working.
- The AC output terminal supports both three-phase four-wire and three-phase five-wire connection configurations; the actual wiring configuration should depend on the specific installation scenario. In this document, the three-phase five-wire configuration is described as an example.
- Ensure that extra length is reserved for the protective grounding conductor, so it will be the last conductor to bear stress if the AC output cables experience tension due to force majeure.
- When aluminum conductors are used, copper-aluminum transition terminals must be utilized. AC wiring OT terminals should be prepared by cTerminal selection should comply with T/CEEIA 281-2017 or equivalent standards.

Type I:

Step 1: Prepare the AC output cables.
Step 2: Disassemble the AC terminal shield.
Step 3: Crimp the AC output cable, and penetrate it into the AC terminal shield.
Step 4: Disassemble the AC connector.

Step 5: Tighten AC connection.
Step 6: Tighten the AC terminal shield.

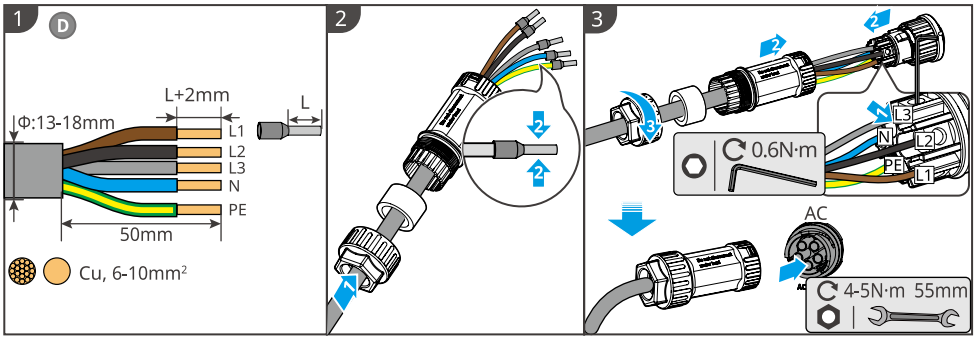
A	B	C	D	E	F	G
GW8000-SDT-30 GW10K-SDT-30 GW10K-SDT-EU30 GW12K-SDT-30 GW12KLV-SDT-C30 GW15K-SDT-30	GW17K-SDT-30 GW17KLV-SDT-C30 GW20K-SDT-30 GW25K-SDT-C30 GW30K-SDT-C30	GW20K-SDT-31 GW12KLV-SDT-C31 GW25K-SDT-P31	GW5000-SDT-AU30 GW6000-SDT-AU30 GW8000-SDT-AU30 GW9990-SDT-AU30 GW15K-SDT-AU30 GW20K-SDT-AU30	GW25K-SDT-AU30 GW29K9-SDT-AU30 GW25K-SDT-30 GW30K-SDT-30	GW23KLV-SDT-BR30 GW37K5-SDT-BR30 GW33K-SDT-C30 GW36K-SDT-C30 GW40K-SDT-C30	GW40K-SDT-P30



SDT30ELC0011

Type II:

Step 1 Prepare the AC output cables.
Step 2 Disassemble the AC terminal shield.
Step 3 Crimp the AC output cable, and penetrate it into the AC terminal shield.
Step 4 Tighten AC wiring.
Step 5 Tighten the AC terminal shield.



SDT30ELC0012

6.4 Connect the DC Input Cable

⚠DANGER

Confirm the following information before connecting the PV string to the inverter. Otherwise, the inverter may be damaged permanently or even cause fire and cause personal and property losses.

1. Make sure the maximum input voltage is within the permissible range of the inverter.
2. Make sure that the positive pole of the PV string connects to the PV+ of the inverter. And the negative pole of the PV string connects to the PV- of the inverter.

⚠WARNING

- Mixing PV modules of different brands or models in the same MPPT or connecting PV modules with different directions or inclination angles in the same PV string may not necessarily damage the inverter, but may lead to a decrease in the system performance.
- It is recommended that the voltage difference between different MPPT circuits does not exceed 160V.
- It is recommended that the sum of the Imp of the PV strings connected to each MPPT shall not exceed the Max. Input Current per MPPT of the inverter.
- Make sure when the maximum input power is 1100 V, the open-circuit voltage of each PV string connected to each MPPT does not exceed 1100 V. When the input power ranges from 1000 to 1100 V, the inverter is in standby mode. When the power recovers to the working voltage range (140 to 1000 V), the inverter will restore to normal operation mode.
- Make sure when the maximum input power is 850 V, the open-circuit voltage of each PV string connected to each MPPT does not exceed 850 V. When the input power ranges from 700 to 850 V, the inverter is in standby mode. When the power recovers to the working voltage range (140 to 700 V), the inverter will restore to normal operation mode.

⚠WARNING

- When there are multiple PV strings, it is recommended to maximize the connections of MPPTs.
- Use the delivered DC connectors. The manufacturer shall not be liable for the damage if other incompatible connectors are used.
- The PV strings cannot be grounded. Ensure the minimum isolation resistance of the PV string to the ground meets the minimum isolation resistance requirements before connecting the PV string to the inverter.
- The DC input cable is prepared by the customer.
- DC input cable type: the outdoor photovoltaic cable that meets the maximum input voltage of the inverter.

PV Strings Access Mode

NOTICE

For maximizing power generation, it is recommended to access PV strings in the way as follows:

●:Access one PV string ●●:Access two PV strings

[1]:MPPT4 is only applicable to GW40K-SDT-P30,.

PVstring numbers	MPPT1	MPPT2	MPPT3	MPPT4[1]
4	●	●	●	●
5	●●	●	●	●
6	●●	●●	●	●
7	●●	●●	●●	●
8	●●	●●	●●	●●

PV Access Mode

When installing the inverter for the first time, set corresponding MPPT connection mode via LCD (optional) or Solar Go App (contact after-sales for setting details) based on actual wiring mode. After setting completes, disconnect PV and AC power supply, and restart the inverter. If there is no feedback of abnormal PV access mode from the inverter, the setting is successful.

There are three PV access modes:

1. Independent mode (default): MPPT1, MPPT2, MPPT3, and MPPT4 are connected independently.
2. Partially parallel mode: MPPT1 and MPPT2 connected in parallel; and MPPT3 and MPPT4 connected independently.
3. Parallel mode: From MPPT1 to MPPT4 connected in parallel to the same PV module.

For specific selection of access modes, refer to **Chapter 8** or **Solar Go User Manual**.

Connect the DC Input Cable

Step 1 Prepare DC cables.

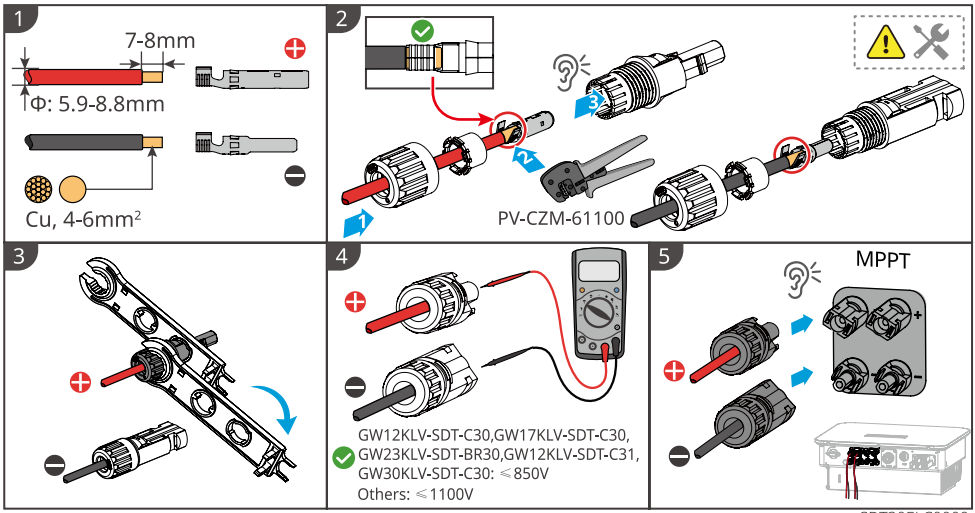
Step 2 Crimp the DC input terminals and assemble the DC connectors.

Step 3 Fasten the PV connector.

Step 4 Measure the DC input voltage.

Step 5 Connect the DC connectors to the DC terminals of the inverter.

MC4 DC connector

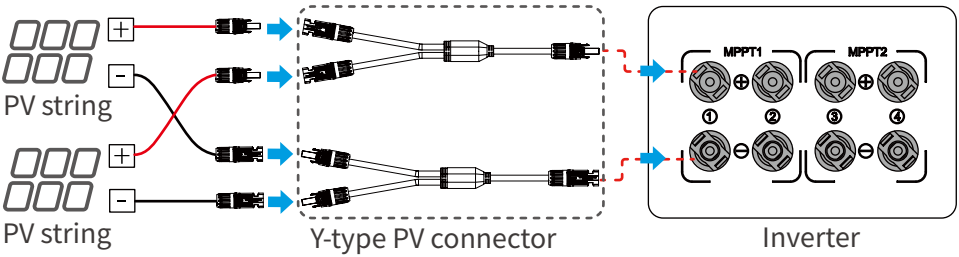


SDT30ELC0009

Connect the Y-type PV connector (Optional)

NOTICE

- If Y-type terminals are needed, make sure the DC connector model of the Y-type terminal is the same as that of PV input terminal of the inverter. The manufacturer shall not be liable for the equipment damage if incompatible Y-type terminal is used.
- Make sure all PV strings connected to a single MPPT via Y-type connectors need to have same configurations, including model, quantity, tilt angle, and orientation.
- The total current of strings connected via Y-type connectors needs to be less than the maximum allowable PV current per input.

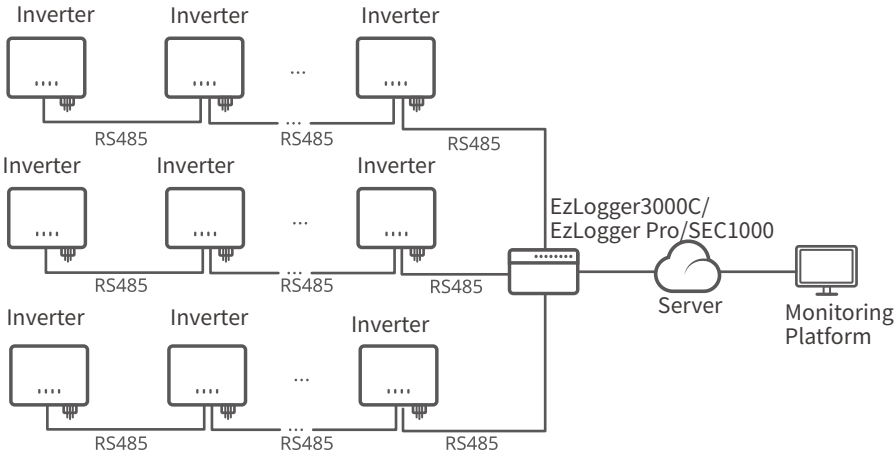


6.5 Connecting the Communication Cable

6.5.1 RS485 Communication Networking

NOTICE

- When using the data collector to connect RS485 and inverters, multiple inverters can be connected to each COM port of the data collector. If the model of Smart DataLogger is Ezlogger Pro or SEC1000, the maximum number of inverters connected to per COM port of the Smart DataLogger is 20; if the model of Smart DataLogger is Ezlogger3000C, the maximum number of inverters connected to per COM port of the Smart DataLogger is 25. The total length of the connecting cable should not exceed 1000m.
- If multiple inverters are connected in parallel, the DIP switch of the first and last inverter should be turned to ON position (Default), and the inverters in the middle should be in OFF position.



6.5.2 Export Power Limit

When all loads in the PV system cannot consume the generated electricity, the surplus power will be fed into the grid. In this case, it is possible to monitor the power generation with a Smart Meter or Smart DataLogger (Ezlogger 3000C) to control the amount of power fed into the grid.

⚠WARNING

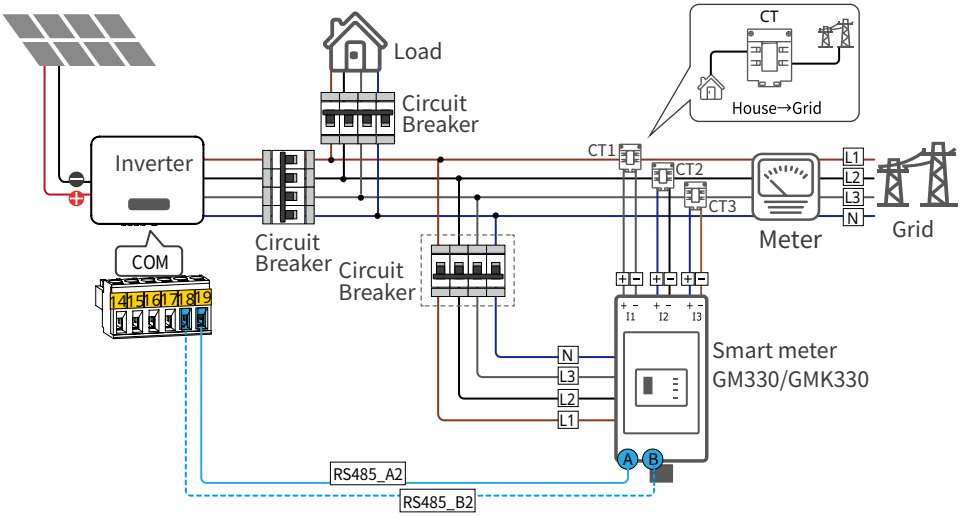
1. The place to snap fit the CT shall be near the grid connection point and the installation direction must be right. "-->" of CT refers that the inverter current flows to the Grid. The inverter will be triggered with an alarm if CT is installed reversely. It is unable to realize the power limit function.
2. The aperture of the CT should be larger than the outer diameter of the AC power cable to ensure that the AC power line can pass through the CT.
3. For specific CT wirings, please refer to the documents provided by the respective manufacturer, to ensure that the wiring direction is correct and CT is able to work properly.
4. CT shall be snap fitted on Cable L1, L2 and L3. Do not install it on Cable N.
5. Specification of CT:
   - Choose nA/5A for the CT ratio. (nA: For primary current of the CT, n ranges from 200 to 5000. Set the current value depending on the actual needs. 5A: The output current of the secondary current of the CT.)
   - The recommended precision of the CT: 0.5, 0.5s, 0.2, 0.2s. Ensure the sampling error for the CT current shall be ⩽ 1%.
6. To ensure the current detection accuracy of the CT, it is recommended that the length of the CT cable should not exceed 30 m.
7. The inverter supports setting parameters through WiFi, Bluetooth signal near-end, connecting to cell phone or WEB interface to set the device-related parameters, check the device operation information, error information, and timely understand the system status.
   - The 4G Kit-CN-G20, 4G Kit-CN-G21, Wi-Fi Kit, Wi-Fi/LAN Kit, WiFi Kit-20, or WiFi/LAN Kit-20 Smart Dongle can be used when there is only one inverter in the system.
   - When the system contains multiple inverters parallel connection, the main inverter needs to be installed with the Ezlink3000 Smart Dongle.

NOTICE

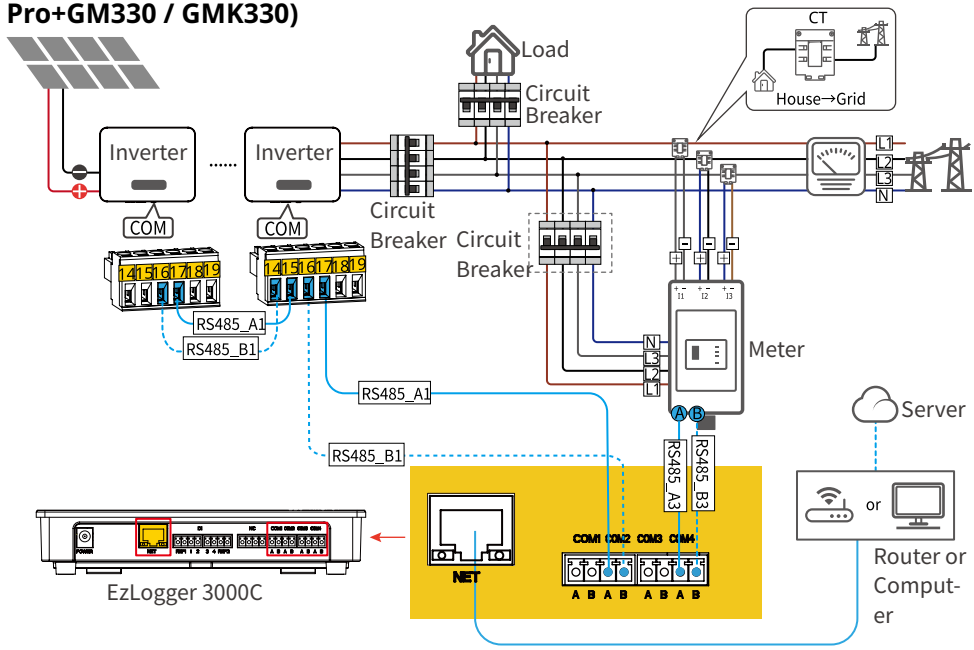
- Recommended cross-sectional area of the smart meter input power cable: 1mm²(18AWG).
- Set the CT ratio via SolarGo App. For example, set the CT ratio to 40 if a 200A/5A CT is selected.
- Scan the QR code below to get more information.

SolarGo App
User Manual

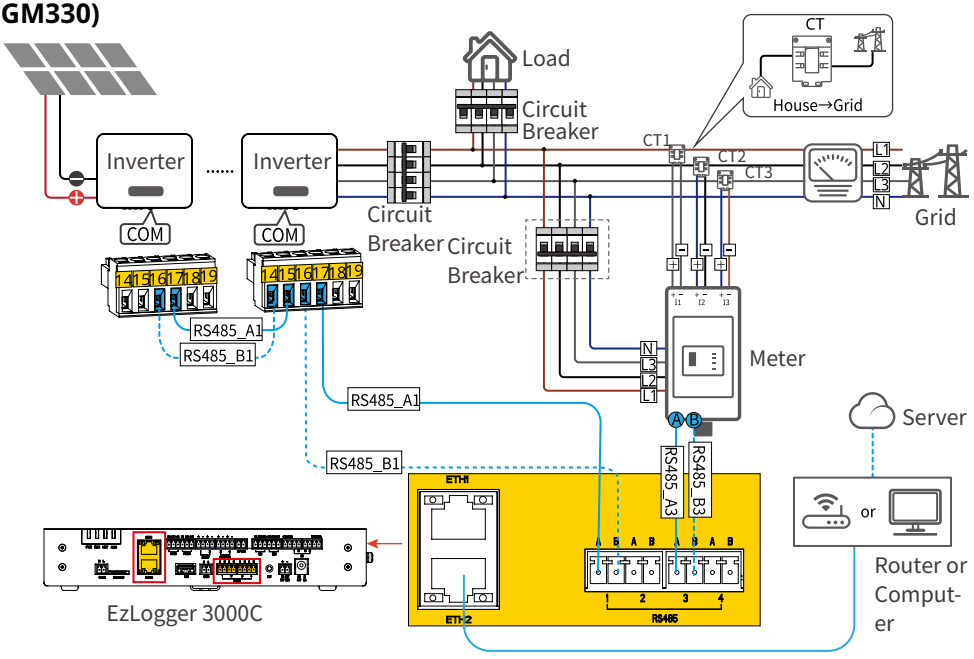
Export Power limit networking with single inverter (GMK330/GM330)



Multi inverters power limitation networking scheme (EzLogger Pro+GM330 / GMK330)



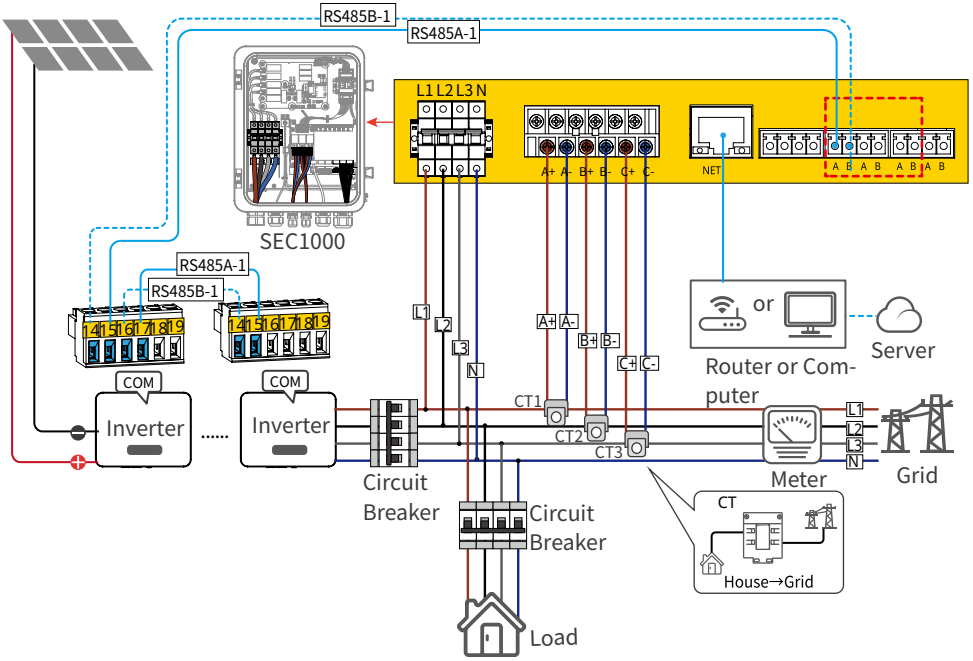
Multi inverters power limitation networking scheme (EzLogger3000C + GM330)



Multi inverters power limitation networking scheme (SEC1000)

⚠ WARNING

1. Connect SEC1000 AC cable to a 3L/N/PE Grid. The voltage of the grid shall be within allowable voltage sampling scope of SEC1000.
2. The place to snap fit the CT shall be near the on-grid point. Make sure the connecting direction is right. If CT is installed reversely, it is unable to realize the power limit function.
3. Prepare CT by yourself for external installation when selecting SEC1000.
4. The aperture of the CT should be larger than the outer diameter of the AC power cable to ensure that the AC power cable can pass through the CT.
5. For specific CT wirings, please refer to the documents provided by the respective manufacturer, to ensure that the wiring direction is correct and CT is able to work properly.
6. CT shall be snap fitted on Cable L1, L2 and L3. Do not install it on Cable N.

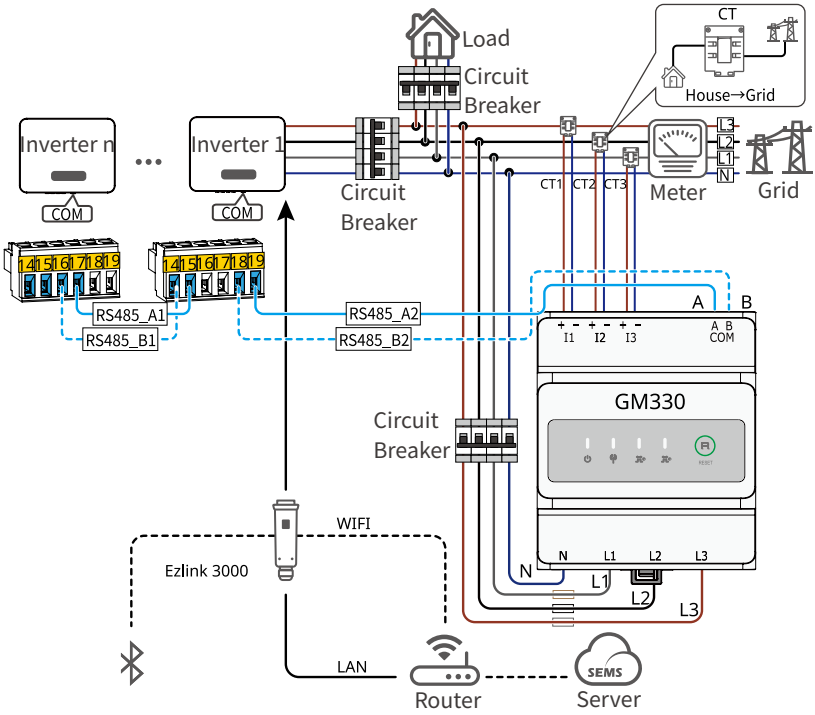


Based on the external CT test current, the recommended CT specification are:

No.	Current Scope	Description	Note
1	I_{max}< 250A	CT 200A Acrel/AKH-0.66(200A/5A)	CT for power limit, closed type (born dimension 31mm*11mm, Φ22mm)
		CT 250A/5A Acrel/AKH-0.66-K-30x20-250/5	CT for power limit, open type (opening size 32mm*22mm), 0.5% in precision
		CT 250A/5A Acrel/AKH-0.66-K-60x40-250/5	CT for power limit, open type (opening size 62mm*42mm), 1.0% in precision
2	250A ⩽ I_{max} < 1000A	CT 1000A/5A Acrel/AKH-0.66-K-60x40-1000/5	CT for power limit, open type (opening size 62mm*42mm), 0.5% in precision
		CT 1000A/5A Acrel/AKH-0.66-K-80x40-1000/5	CT for power limit, open type (opening size 82mm*42mm), 0.5% in precision
		CT 1000A/5A Acrel/AKH-0.66-K-80x80-1000/5	CT for power limit, open type (opening size 82mm*42mm), 0.5% in precision
3	1000A ⩽ I_{max} < 5000A	CT 5000A/5A Acrel/AKH-0.66-K-140x60-5000/5	CT for power limit, open type (opening size 142mm*62mm), 0.2% in precision
		CT 5000A/5A Acrel/AKH-0.66-K-160x80-5000/5	CT for power limit, open type (opening size 162mm*82mm), 0.2% in precision

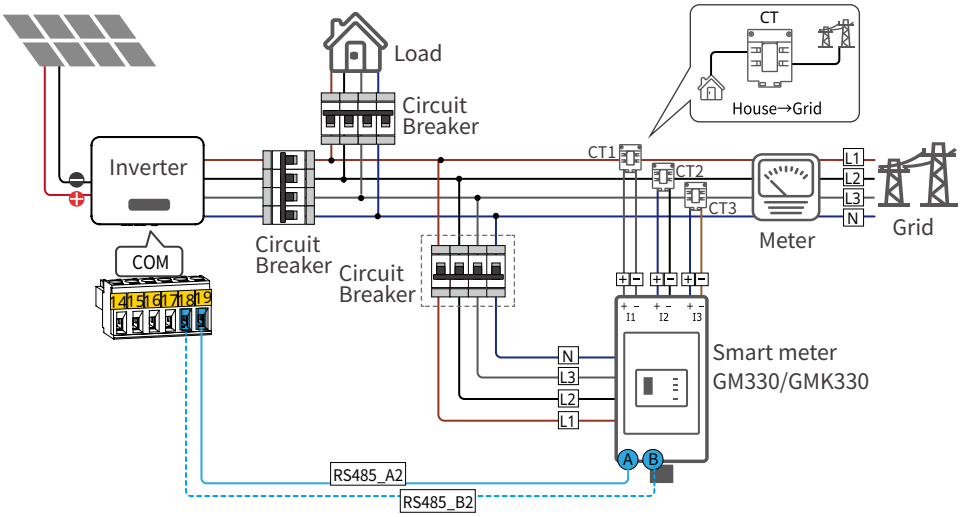
Multi inverters power limitation networking scheme (Ezlink3000 + GM330)

Available only for the following models: GW5000-SDT-AU30、GW6000-SDT-AU30、GW8000-SDT-AU30、GW9990-SDT-AU30、GW15K-SDTAU30、GW20K-SDT-AU30、GW25K-SDT-AU30、GW29K9-SDT-AU30、GW25K-SDT-30、GW30K-SDT-30



6.5.3 24H Load Monitoring

The selected night power supply inverter has a 24-hour load monitoring function. GMK330/GM330 measures on-grid data and transmit it to the inverter. The inverter transmits the power generation information and on-grid data to the monitoring platform via smart dongle. The monitoring platform calculates the load electricity consumption and achieves 24- hour real-time monitoring of the load electricity consumption.

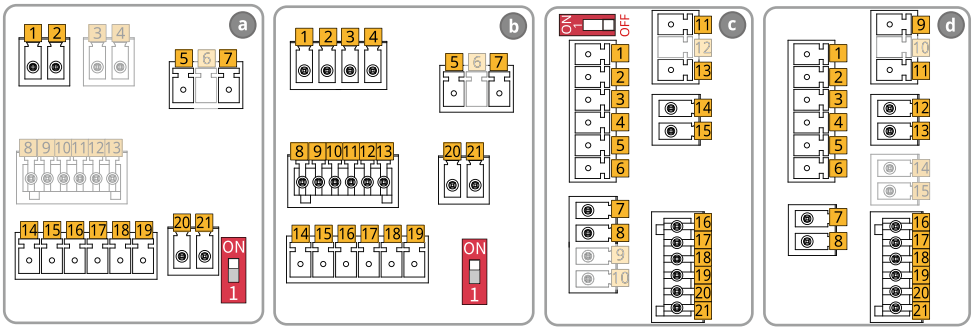


6.5.4 Connecting the Communication Cable

NOTICE

- When connecting the communication cable, make sure that the wiring port definition and the equipment are fully matched, and the cable alignment path should avoid interference sources, power cables, etc., so as not to affect signal reception.
- When connecting dry contact 1 communication cables, use 3PIN communication terminals.
- When connecting RS485, meter or DRED communication cables, use 6PIN communication terminals.
- The remote shutdown and DRED/RCR functions are disabled in default. Enable it via SolarGo App if needed. Detailed steps, refer to **SolarGo App User Manual**.
- Get more detailed information about the smart dongle from the official website.

Communication Ports



SDT30ELC0016

Model A includes: GW23KLV-SDT-BR30, GW37K5-SDT-BR30, GW33K-SDT-C30, GW36K-SDT-C30, GW40K-SDT-C30
Model B includes: GW25K-SDT-AU30, GW29K9-SDT-AU30, GW25K-SDT-30 , GW30K-SDT-30, GW40K-SDT-P30
Model C includes: GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30 , GW9990-SDT-AU30, GW15K-SDT-AU30, GW20K-SDT-AU30
Model D includes: GW8000-SDT-30, GW10K-SDT-30, GW10K-SDT-EU30 , GW12K-SDT-30, GW12KLV-SDT-C30, GW15K-SDT-30, GW17K-SDT-30, GW17KLV-SDT-C30, GW20K-SDT-30, GW25K-SDT-C30, GW30K-SDT-C30, GW20K-SDT-31 , GW12KLV-SDT-C31, GW25K-SDT-P31

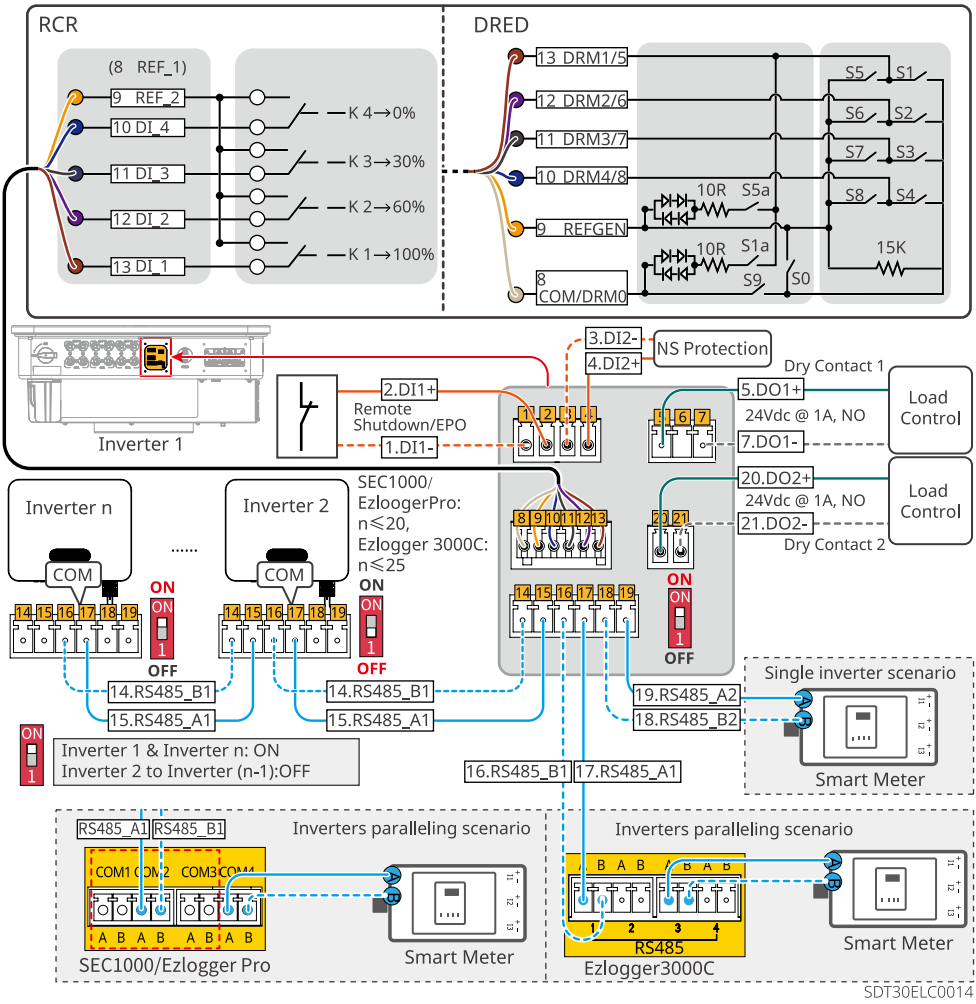
Terminal	Port definition for model A	Port definition for model B	Description
Meter(Single inverter)	18: RS485_B2 19: RS485_A2	18: RS485_B2 19: RS485_A2	The inverter is paired with a meter to achieve power limit function. If you need supporting equipment, you can contact the inverter manufacturer for purchase.
Inverter	14: RS485_B1 15: RS485_A1	14: RS485_B1 15: RS485_A1	To connect with the RS485 port of multi inverters or the Smart Datalogger.
Ezlogger3000C (Multiple inverters)	16: RS485_B1 17: RS485_A1	16: RS485_B1 17: RS485_A1	To connect with the RS 485 port of multi inverters or the Smart Datalogger.

Terminal	Port definition for model A	Port definition for model B	Description
RCR/DRED	Reserved	8: REF_1 or COM/DRM0 9: REF_2 or REFGEN 10: DI_4 or DRM4/8 11: DI_3 or DRM3/7 12: DI_2 or DRM2/6 13: DI_1 or DRM1/5	DRED (Demand Response Enabling Device): It provides a DRED signal control port to meet the DRED accreditation in Australia and other regions. RCR (Ripple Control Receiver): It provides an RCR signal control port to meet the grid dispatching requirements in regions such as Germany. The functions of DRM1-4 are reserved, and users need to prepare their own DRM devices.
remote shutdown/ EPO	20: DI1- 21: DI+	1: DI1- 2: DI+	Inverter meets the functions of remote shutdown, emergency shutdown (Only for India). The inverter is reserved for the wiring port, and users need to prepare their own devices.
Dry contact 1	5: DO1+ 6: NA 7: DO1-	5: DO1+ 6: NA 7: DO1-	Load control
Dry contact 2	1: DO2+ 2: DO2-	20: DO2+ 21: DO2-	Load control
Dry contact 3	Reserved	Reserved	Load control
NS protection	Reserved	3: DI2- 4: DI2+	To connect NS protection device (Only for Germany).

Terminal	Port definition for model C	Port definition for model D	Description
Meter(Single inverter)	5: RS485_B2 6: RS485_A2	5: RS485_B2 6: RS485_A2	The inverter is paired with a meter to achieve the function of preventing output power limitation. If you need supporting equipment, you can contact the inverter manufacturer for purchase.
Inverter	1: RS485_B1 2 RS485_A1	1: RS485_B1 2 RS485_A1	To connect with the RS485 port of multi inverters or the smart Data Logger.
Ezlogger3000C (Multiple inverters)	3: RS485_B1 4: RS485_A1	3: RS485_B1 4: RS485_A1	To connect with the RS485 port of multi inverters or the smart Data Logger.
RCR/DRED	16: COM/DRM0 17: REFGEN 18: DRM4/8 19: DRM3/7 20: DRM2/6 21: DRM1/5	16: REF_1 or COM/ DRM0 17: REF_2 or REFGEN 18: DI_4 or DRM4/8 19: DI_3 or DRM3/7 20: DI_2 or DRM2/6 21: DI_1 or DRM1/5	DRED (Demand Response Enabling Device): It provides a DRED signal control port to meet the DRED accreditation in Australia and other regions. RCR (Ripple Control Receiver): It provides an RCR signal control port to meet the grid dispatching requirements in regions such as Germany. The functions of DRM1-4 are reserved, and users need to prepare their own DRM devices.
remote shutdown/ EPO	7: DI1- 8: DI+	7: DI1- 8: DI+	For Remote Shutdown, For Emergency Power Off (Only for India). The functions of DRM1-4 are reserved, and users need to prepare their own DRM devices.

Terminal	Port definition for model C	Port definition for model D	Description
Dry contact 1	11: DO1+ 12: NA 13: DO1-	11: DO1+ 12: NA 13: DO1-	Load control
Dry contact 2	14: DO2+ 15: DO2-	12: DO2+ 13: DO2-	Load control
Dry contact 3	Reserved	14: DO3+ 15: DO3-	Load control
NS protection	Reserved	Reserved	To connect NS protection device (Only for Germany).

Take B for example



SDT30ELC0014

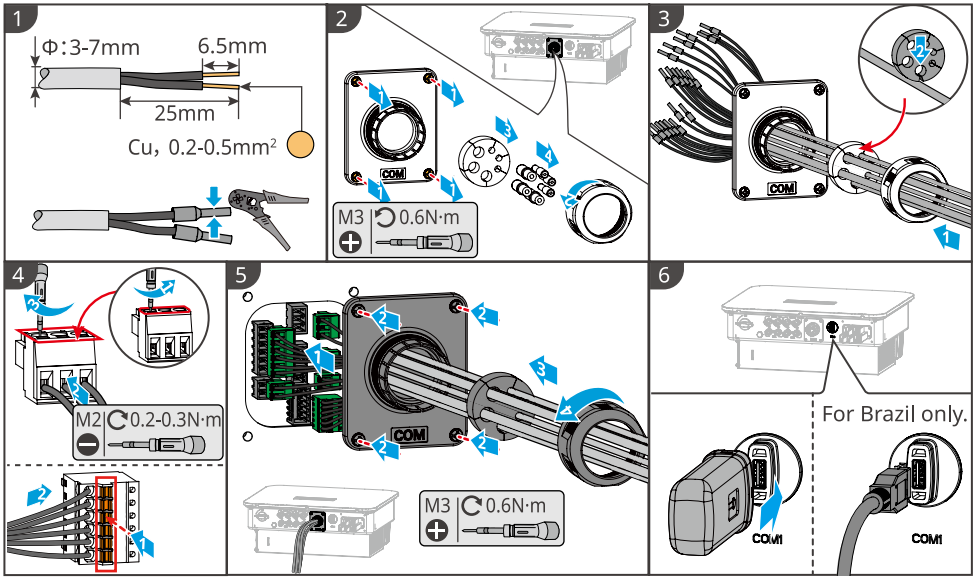
Step 1 Prepare the communication cable.

Step 2 Disassemble the communication connector.

Step 3-4 Connect the communication cable to the communication terminal and fasten it.

Step 5 Connect the communication terminal to the inverter.

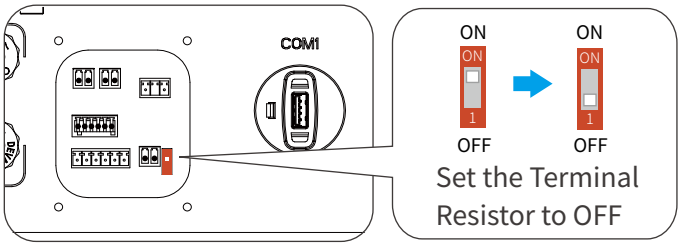
Step 6 Install the Smart Dongle.



SDT30ELC0013

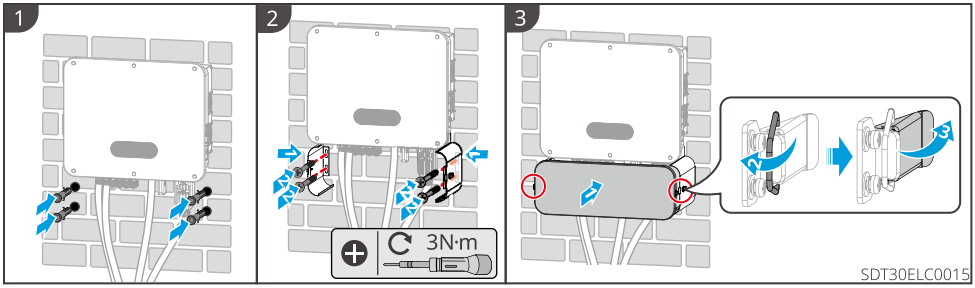
Closing the Terminal Resistance DIP Switch

Some models of inverters are equipped with RS485 terminal resistors, and the dip switch for this terminal resistor is turned on by default. 'ON' represents on, '1' represents off. Operation method: Open the outer cover of the communication port, and use an insulated paddle to turn the terminal resistance dip switch to "1" (OFF).



Installing the Protecting Cover

Only for Australia: GW5000-SDT-AU30, GW6000-SDT-AU30, GW8000-SDT-AU30, GW9990-SDT-AU30, GW15K-SDTAU30, GW20K-SDT-AU30, GW25K-SDT-AU30, GW29K9-SDT-AU30



7 Equipment Commissioning

7.1 Check Items Before Power ON

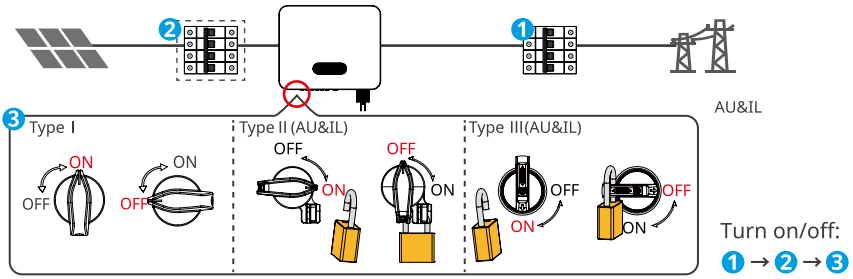
No.	Checking Item
1	The inverter is firmly installed in a clean place where is well-ventilated and easy to operate.
2	The PE cable, DC input cable, AC output cable, and communication cable are connected correctly and securely.
3	Cable ties are routed properly and evenly, and no burrs.
4	Unused ports and terminals are sealed.
5	The voltage and frequency at the connection point meet the on-grid requirements.

7.2 Power On

Step 1 Turn on the AC switch between the inverter and the utility grid.

Step 2 **(Optional)** Turn on the DC switch between the inverter and the PV modules.

Step 3 Turn on the DC switch of the inverter.



8 System Commissioning

8.1 Setting Inverter Parameters via LCD

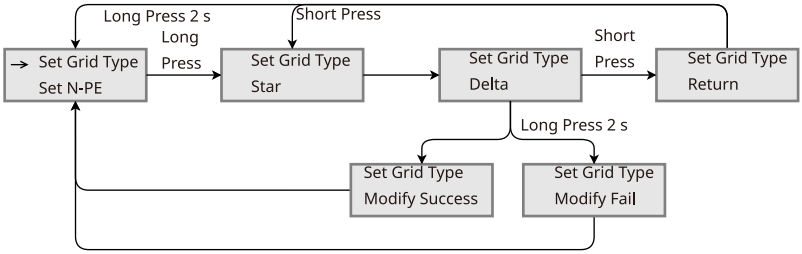
NOTICE

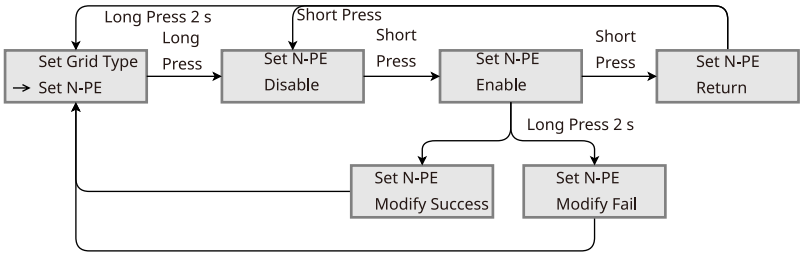
- Inverter software version shown in this document is V1.00.00. The screen shots are for reference only. The actual display may differ.
- The name, range, and default value of the parameters are subject to change or adjust. The actual display prevails.
- The power parameters should be set by professionals to prevent the generating capacity from being influenced by wrong parameters.

LCD and Button Description

- Stop pressing the button for a period on any page, the LCD will get dark and go back to the initial page.
- Short press the button to switch menu or adjust parameter values.
- Long press the button to enter the submenu. After adjusting the parameter values, long press to save it.

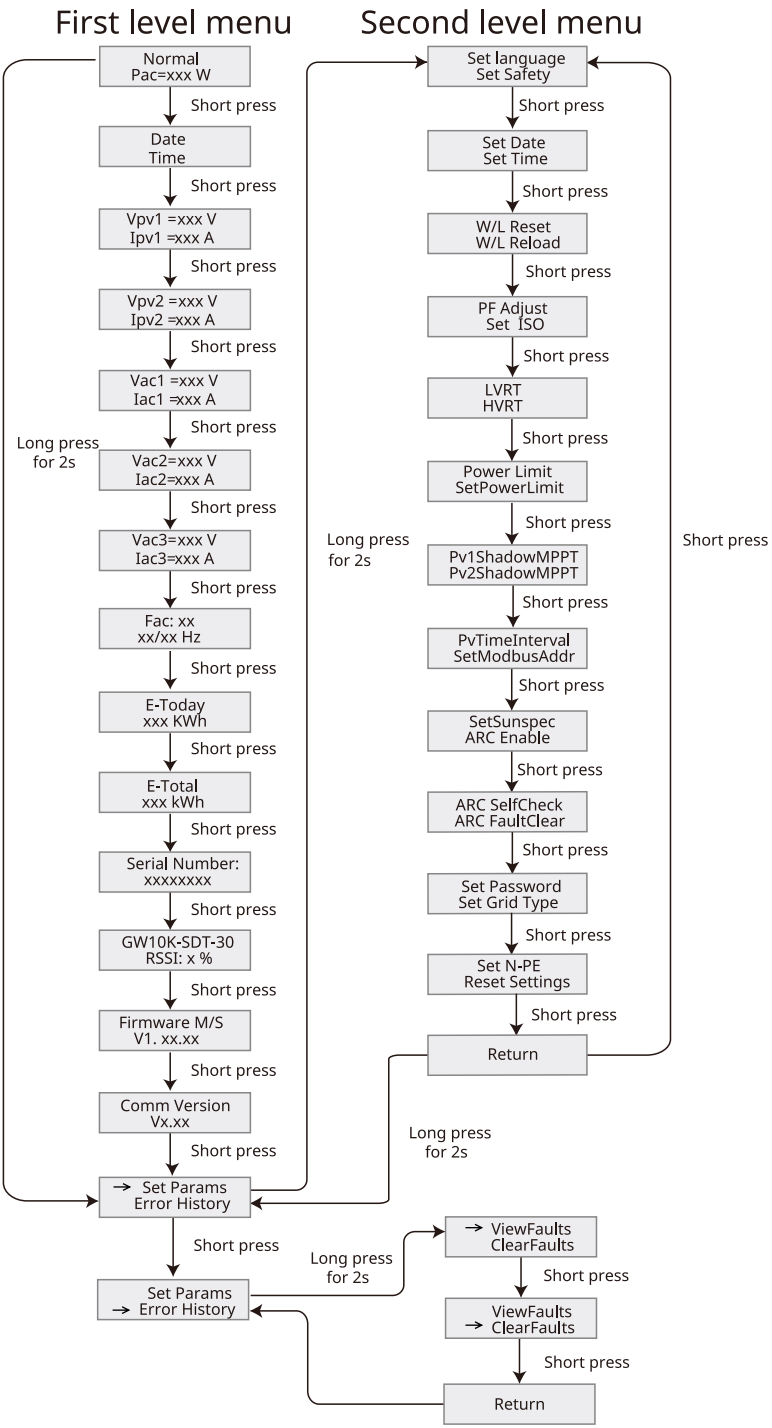
Example:





8.1.1 LCD Menu Introduction

This part describes the menu structure, allowing you to view inverter information and to set parameters more conveniently.


First level menu
Second level menu
Normal
Pac=xxx W
Short press
Date
Time
Vpv1 =xxx V
Ipv1 =xxx A
Vpv2 =xxx V
Ipv2 =xxx A
Vac1 =xxx V
Iac1 =xxx A
Long press
for 2s
Vac2=xxx V
Iac2=xxx A
Vac3=xxx V
Iac3=xxx A
Fac: xx
xx/xx Hz
E-Today
xxx KWh
E-Total
xxx kWh
Serial Number:
xxxxxxxx
GW10K-SDT-30
RSSI: x %
Firmware M/S
V1. xx.xx
Comm Version
Vx.xx
→ Set Params
Error History
Set Params
→ Error History
Set language
Set Safety
Set Date
Set Time
W/L Reset
W/L Reload
PF Adjust
Set ISO
LVRT
HVRT
Power Limit
SetPowerLimit
Pv1ShadowMPPT
Pv2ShadowMPPT
PvTimeInterval
SetModbusAddr
SetSunspec
ARC Enable
ARC SelfCheck
ARC FaultClear
Set Password
Set Grid Type
Set N-PE
Reset Settings
Return
Long press
for 2s
Short press
→ ViewFaults
ClearFaults
ViewFaults
→ ClearFaults
Return

8.1.2 Inverter Parameter Introduction

Parameters	Description
Normal =0.0W	Home page. Indicates the real-time power of the inverter.
Date Time	Check the time of the country/region.
Vpv1= xxx V	Check the DC input voltage of the inverter.
Vpv2= xxx V	Check the DC input current of the inverter.
Vac	Check the voltage of the utility grid.
Iac	Check the AC output current of the inverter.
Fac	Check the frequency of the utility grid.
E-Today	Check the genenominal power of the inverter for that day.
E-Total	Check the total genenominal power of the inverter.
Serial Number	Check the serial number of the inverter.
GW10K-SDT-30 RSSI: xx%	Check the signal strength of the Smart Dongle.
Firmware M/S	Check the firmware version.
Comm Version	Check the communication version.
Set Language	Set the display language.
Set Safety	Set the safety country/region in compliance with the local grid standard and application scenario of the inverter.
Set Date	Set time according to the actual time in the country/region where the inverter is located.
Set Time	
W/L Reset	Power off and restart the Smart Dongle.
W/L Reload	Restore the factory settings of the Smart Dongle. Reconfigure the Smart Dongle network parameters after restoring the factory settings
PF Adjust	Set the power factor of the inverter according to the actual situation.
Set ISO	Indicates the PV-PE insulation resistance threshold value. When the detected value is under the set value, the IOS fault occurs.

Parameters	Description
LVRT	With LVRT on, the inverter will stay connected with the utility grid after a short-term utility grid low voltage exception occurs.
HVRT	With HVRT on, the inverter will stay connected with the utility grid after a short-term utility grid high voltage exception occurs.
Power Limit	Set the power fed back into the utility grid according to the actual situation.
Set Power Limit	
Pv1 Shadow MPPT	Enable the shadow scan function if the PV panels are shadowed.
Pv2 Shadow MPPT	
Pv Time Interval	Set the scan time according to the actual need.
Set Modbus Addr	Set the actual Modbus address.
Set Sunspec	Set the Sunspec based on the actual communication method.
ARC Enable	The function is optional and off by default. Please open or close it according to actual need.
ARC Self Check	Detect if the ARC function is normal.
ARC Fault Clear	Clear the ARC Fault.
Set Password	The password can be adjusted. Please record the new password and if you lose the password, please contact the after-sales service center.
Set Grid Type	Set the grid type according to the actual situation. Star and Delta grid are supported.
Set N-PE	To enable the detection of N line to ground insulation resistance.
Reset Settings	Restore part of factory settings.
View Faults	Check historical fault records of the inverter.
Clear Faults	Clear historical fault records of the inverter.

8.2 Setting Inverter Parameters via App

SolarGo app is a mobile application that communicates with the inverter via Bluetooth module, WIFi module or 4G module. Commonly used functions are as follows:

1.Check the operating data, software version, alarms of the inverter, etc.

2.Set grid parameters and communication parameters of the inverter.

3.Maintain the equipment.

For more details, refer to the SolarGo APP User Manual. Get the user manual from the official site or by scanning the QR code below.

SolarGo App

SolarGo App User Manual

8.3 Monitoring via SEMS Portal

SEMS Portal is a monitoring platform that can communicate with devices via LAN, 4G or WiFi. Commonly used functions are as follows:

1. Management of organization or user information.
2. Addition and monitoring of power station information.
3. Maintenance of the equipment.

SEMS Portal APP

SEMS Portal User Manual

9 Maintenance

9.1 Power Off the Inverter

⚠DANGER

- Power off the inverter before operations and maintenance. Otherwise, the inverter may be damaged or electric shocks may occur.
- Delayed discharge. Wait until the components are discharged after power off.

Step 1 (Optional) Issue a command to the inverter for halting the grid connection.
Step 2 Turn off the AC switch between the inverter and the utility grid.
Step 3 Turn off the DC switch of the inverter.
Step 4 (Optional) Turn off the switch between the inverter and the PV modules.

9.2 Removing the Inverter

⚠ WARNING

- Make sure that the inverter is powered off.
- Wear proper PPE before any operations.

Step 1 Disconnect all the cables, including DC cables, AC cables, communication cables, Smart Dongle, and PE cables.
Step 2 Handle or hoist the inverter to take it down from the wall or the bracket.
Step 3 Remove the bracket.
Step 4 Store the inverter properly. If the inverter needs to be used later, ensure that the storage conditions meet the requirements.

9.3 Disposing of the Inverter

If the inverter cannot work anymore, dispose of it according to the local disposal requirements for electrical equipment waste. Do not dispose of it as household waste.

9.4 Troubleshooting

Perform troubleshooting according to the following methods. Contact the after-sales service if these methods do not work.
Collect the information below before contacting the after-sales service, so that the problems can be solved quickly.

1. Inverter information like serial number, software version, installation date, fault time, fault frequency, etc.
2. Installation environment, including weather conditions, whether the PV modules are sheltered or shadowed, etc. It is recommended to provide some photos and videos to assist in analyzing the problem.
3. Utility grid situation.

No.	Fault	Cause	Solutions
1	Utility Loss	1. Utility grid power fails. 2. The AC circuit or the AC breaker is disconnected.	1. The alarm will be automatically cleared after the grid power supply restores. 2. Check whether the AC cable is connected and the AC breaker is on.
2	Grid Overvoltage	The grid voltage exceeds the allowed range, or the duration exceeds the set value of HVRT duration.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If it occurs frequently, please check whether the grid voltage is within the allowed range. • If the grid voltage exceeds the allowable range, please contact local power operator. • If the grid voltage is within the allowable range, please modify the Grid, HVRT or Overvoltage protection value with the consent of the local power operator. 3. If it does not restore for a long time, please check whether the AC side circuit breaker or output cables are connected properly.

No.	Fault	Cause	Solutions
3	Grid Rapid Overvoltage Protection	The grid voltage is abnormal or the ultra-high voltage triggers the fault.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. Check whether the grid voltage has been operating at a relatively high level for a long time. If the problem occurs frequently, check whether the grid voltage is within the permissible range. • If the grid voltage exceeds the allowable range, please contact local power operator. • If the grid voltage is within the allowable range, please modify the inverter grid overvoltage protection value with the consent of the local power operator. 3. If it does not restore for a long time, please check whether the AC side circuit breaker or output cables are connected properly.

No.	Fault	Cause	Solutions
4	Grid Undervoltage	The grid voltage is below the allowed range, or the duration exceeds the set value of LVRT duration.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If it occurs frequently, please check whether the grid voltage is within the allowed range. • If the grid voltage exceeds the allowable range, please contact local power operator. • If the grid voltage is within the allowable range, please modify the Grid, HVRT or Overvoltage protection value with the consent of the local power operator. 3. If it does not restore for a long time, please check whether the AC side circuit breaker or output cables are connected properly.

No.	Fault	Cause	Solutions
5	Grid 10min Overvoltage	The average value of the grid voltage within 10 minutes exceeds the range specified by safety regulations.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. Check whether the grid voltage has been operating at a relatively high level for a long time. If the problem occurs frequently, check whether the grid voltage is within the permissible range. • If the grid voltage exceeds the allowable range, please contact local power operator. • If the grid voltage is within the allowable range, please modify the Grid 10min Overvoltage protection value with the consent of the local power operator.

No.	Fault	Cause	Solutions
6	Grid Overfrequency	The frequency of the grid exceeds the local grid standard range.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If it occurs frequently, please check whether the grid voltage is within the allowed range. • If the grid voltage exceeds the allowed range, please contact local power operator. • If the grid voltage is within the allowable range, please modify the Grid Overfrequency protection value with the consent of the local power operator.
7	Grid Underfrequency	The frequency of the grid is below the local grid standard range.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If it occurs frequently, please check whether the grid voltage is within the allowed range. • If the grid voltage exceeds the allowed range, please contact local power operator. • If the grid voltage is within the allowable range, please modify the Grid Underfrequency protection value with the consent of the local power operator.

No.	Fault	Cause	Solutions
8	Anti-islanding	The grid has been disconnected. The grid voltage is maintained due to the presence of loads. Grid connection has been stopped based on safety regulations and protection requirements.	The inverter will resume grid reconnection after the grid to return to normal.
9	LVRT Undervoltage	Abnormal grid, and the abnormal duration exceeds the specified value of local high voltage safety regulation.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If the problem occurs frequently, check whether the grid voltage is within the permissible range. If not, contact the local power company. If yes, contact the dealer or the after-sales service.
10	LVRT Overvoltage	Abnormal grid, and the abnormal duration exceeds the specified value of local high voltage safety regulation.	

No.	Fault	Cause	Solutions
11	Abnormal GFCI 30mA	The insulation impedance pf PV string to ground decreases during the operation of the inverter.	1. If occurs occasionally, it may be caused an occasional abnormal outside wiring. The inverter will recover automatically after clearing the abnormality. 2. If it occurs frequently or cannot restore for a long time, please check if the insulation impedance of the PV string to the ground is too low.
12	Abnormal GFCI 60mA		
13	Abnormal GFCI 150mA		
14	Abnormal GFCI		
15	Large DC of AC current L1	The DC component of the inverter output current exceeds the local safety regulations or the inverter's default allowable range.	1. If caused by an external fault (such as the grid abnormality, frequency abnormality, etc.), the inverter will resume normal operation automatically after the fault is cleared. 2. If the alarm occurs frequently or affects the normal power generation, please contact your dealer or after-sales service center.
16	Large DC of AC current L2		
17	Low Insulation Res	1. The short circuit protection of PV to the ground. 2. The installation environment of PV strings is relatively humid for a long time and the insulation of PE cable is poor.	1. Check the impedance of the PV string to the ground. If there is a short circuit phenomenon, please check the short circuit point and rectify it. 2. Check if the PE cable of the inverter is connected correctly. 3. If it is confirmed that the impedance is indeed lower than the default value in cloudy and rainy days, please reset the "insulation impedance protection value".

No.	Fault	Cause	Solutions
18	Abnormal Ground	1. The PE cable is not connected. 2. When grounding the PV string, the AC output cables L and N of the inverter are reversed.	1. Please confirm if the PE cable of the inverter is not connected properly. 2. Under the scenario of PV string grounding, please confirm whether the inverter's AC output cables L and N are reversed.
19	L-PE Short Circuit	Low impedance or short circuit of output phase line to PE.	Test the output phase line to PE impedance, find out where the impedance is relatively low and repair it.
20	Anit Reverse power Failure	Abnormal load connection	1. If caused by an external fault, the inverter will resume normal operation automatically after the fault is cleared. 2. If the alarm occurs frequently or affects the normal power generation, please contact your dealer or after-sales service center.
21	Internal Comm Loss	1. Chip has not be powered on 2. Chip program version error	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.
22	AC HCT Check abnormal	Abnormal sampling of AC HCT	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.

No.	Fault	Cause	Solutions
23	GFCI HCT Check abnormal	Abnormal sampling of GFCI HCT	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.
24	Relay Check abnormal	1. The relay is abnormal or short-circuited. 2. The control circuit is abnormal. 3. The AC cable connection is abnormal, like a virtual connection or short circuit.	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.
25	Internal Fan abnormal	1. The fan power supply is abnormal. 2. Mechanical exception or clogging. 3. The fan is aging and damaged.	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.
26	Exter-nal Fan abnormal		
27	Flash Fault	Internal storage Flash exception	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.

No.	Fault	Cause	Solutions
28	DC Arc Fault	1. The PV string connection terminal is not securely connected. 2. The DC cable is damaged.	Please check if the DC side is correctly wired according to the guidance of the user manual.
29	AFCI Self-test Fault	Arc detection device is abnormal	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.
30	INV Module Overtemperature	1. The inverter is installed in a place with poor ventilation. 2. The ambient temperature exceeds 60°C. 3. A fault occurs in the internal fan of the inverter.	1. Check the ventilation and the ambient temperature at the installation point. 2. If the ventilation is poor or the ambient temperature is too high, improve the ventilation and heat dissipation. 3. Contact the dealer or after-sales service if both the ventilation and the ambient temperature are proper.
31	1.5V Ref abnormal	The reference circuit is abnormal.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
32	0.3V Ref abnormal	The reference circuit is abnormal.	

No.	Fault	Cause	Solutions
33	BUS Overvoltage	1. The PV voltage is too high. 2. The sampling of the inverter BUS voltage is abnormal. 3. The isolation of the transformer of the inverter is poor, so two inverters influence each other when connected to the grid. One of the inverters reports DC Overvoltage.	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.
34	P-BUS Overvoltage		
35	N-BUS Overvoltage		
36	BUS Overvoltage(Slave CPU 1)		
37	PBUS Overvoltage(Slave CPU 1)		
38	NBUS Overvoltage(Slave CPU 1)		
39	PV Input Overvoltage	Excessive PV modules are connected in the series, and the open-circuit voltage is higher than the operating voltage.	Check whether the PV string open-circuit voltage meets the maximum input voltage requirements.
40	PV Continuous Hardware Overcurrent	1. Improper PV panels configuration. 2. Hardwares are damaged.	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.

No.	Fault	Cause	Solutions
41	PV Continuous Software Overcurrent	1. Improper PV panels configuration. 2. Hardwares are damaged.	Disconnect the AC output switch and DC input switch, and after 5 minutes, close the AC side switch and DC side switch. Contact the dealer or the after-sales service if the fault persists.
42	String Reversed (String1~String16)	PV String Reversed	Check whether PV strings are connected reversely.
43	PV Voltage Low	Sun light is weak or changing abnormally.	1. If the problem occurs occasionally, the reason might be abnormal sun light. The inverter will recover automatically without manual intervention. 2. If the problem occurs frequently, contact the dealer or the after-sales service.
44	BUS Voltage Low	Sun light is weak or changing abnormally.	1. If the problem occurs occasionally, the reason might be abnormal sun light. The inverter will recover automatically without manual intervention. 2. If the problem occurs frequently, contact the dealer or the after-sales service.

No.	Fault	Cause	Solutions
45	BUS Soft Start Failure	boost Driving circuit is abnormal.	Disconnect the AC circuit breaker and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
46	BUS Voltage Imbalance	1. Power off the inverter. 2. Abnormal hardware.	Disconnect the AC circuit breaker and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
47	Gird Phase Lock failure	The grid frequency is unstable.	Disconnect the AC circuit breaker and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
48	Inverter Continuous Overcurrent	Short time sudden changes in the grid or load cause the control overcurrent.	If the problem occurs occasionally, ignore it. If the problem occurs frequently, contact the dealer or the after-sales service.
49	Inv Software Overcurrent		
50	R Phase Hardware Overcurrent		
51	S Phase Hardware Overcurrent		
52	T Phase Hardware Overcurrent		

No.	Fault	Cause	Solutions
53	PV Hardware Over-current	Sun light is weak or changing abnormally.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
54	PV Software Over-current		
55	PV HCT Failure	Abnormal boost current sensor	Disconnect the AC circuit breaker and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
56	Cavity Overtemperature	1, The inverter is installed in a place with poor ventilation. 2, The ambient temperature exceeds 60°C. A fault occurs in the internal fan of the inverter.	1.Check the ventilation and the ambient temperature at the installation point. 2.If the ventilation is poor or the ambient temperature is too high, improve the ventilation and heat dissipation. 3, Contact the dealer or after-sales service if both the ventilation and the ambient temperature are proper.

9.5 Routine Maintenance

⚠DANGER

Power off the inverter before operations and maintenance. Otherwise, the inverter may be damaged or electric shocks may occur.

Maintaining Item	Maintaining Method	Maintaining Period
System Clean	Check the heat sink, air intake, and air outlet for foreign matter or dust.	Once 6-12 months
Fan	Check the fan for proper working status, low noise, and intact appearance.	Once a year
DC Switch	Turn the DC switch on and off ten consecutive times to make sure that it is working properly.	Once a year
Electrical Connection	Check whether the cables are securely connected. Check whether the cables are broken, or whether there is any exposed copper core.	Once 6-12 months
Sealing	Check whether all the terminals and ports are properly sealed. Reseal the cable hole if it is not sealed or too big.	Once a year

10 Technical Parameters

Technical Data	GW5000-SDT-AU30	GW6000-SDT-AU30
Input		
Max.Input Power (W)	7500	9000
Max.Input Voltage(V)	1100	1100
MPPT Operating Voltage Range (V)	140~950	140~950
MPPT Voltage Range at Nominal Power (V)*2	150~850	150~850
Start-up Voltage (V)	160	
Nominal Input Voltage (V)	600	600
Max. Input Current per MPPT (A)	16/16/16	
Max. Short Circuit Current per MPPT (A)	23/23/23	
Max.Backfeed Current to The Array(A)	0	0
Number of MPP trackers	3	3
Number of Strings per MPPT	1	1
Output		
Nominal Output Power (W)	5,000	6,000
Nominal Output Apparent Power (VA)	5,000	6,000
Max. AC Active Power (W)	5,000	6,000
Max. AC Apparent Power (VA)	5,000	6,000
Nominal Output Voltage (V)	230/400, 3L/N/PE or 3L/PE	230/400, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180- 260 (According to local standard)	180- 260 (According to local standard)
Nominal AC Grid Frequency (Hz)	50/60	50/60
AC Grid Frequency Range (Hz)	45~55 / 55~65	45~55 / 55~65
Max. Output Current (A)	7.3	8.7
Max. Output Fault Current (Peak and Duration) (A)	26 @6.5us	26 @6.5us
Inrush Current (Peak and Duration) (A)	19.3 @50us	19.3 @50us

Technical Data	GW5000-SDT-AU30	GW6000-SDT-AU30
Nominal Output Current (A)	7.3 @400Vac	8.7 @400Vac
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	
Max. Total Harmonic Distortion	< 3%	
Maximum Output Overcurrent Protection (A)	26	
Efficiency		
Max. Efficiency	98.5%	
European Efficiency	97.8%	
Protection		
PV String Current Monitoring	Integrated	
PV Insulation Resistance Detection	Integrated	
Residual Current Monitoring	Integrated	
PV Reverse Polarity Protection	Integrated	
Anti-islanding Protection	Integrated	
AC Overcurrent Protection	Integrated	
AC Short Circuit Protection	Integrated	
AC Overvoltage Protection	Integrated	
DC Switch	Integrated	
DC Surge Protection	Type II	
AC Surge Protection	Type II	
AFCI	Optional	
Rapid Shutdown	Optional	
Remote Shutdown	Optional	
PID Recovery	Optional	
Power Supply at Night	Integrated	
General Data		
Operating Temperature Range (°C)	-30 ~ +60	
Derating temperature (°C)	45	

Technical Data	GW5000-SDT-AU30	GW6000-SDT-AU30
Storage Temperature (°C)	-30 ~ +70	
Relative Humidity	0 ~ 100%	
Max. Operating Altitude (m)	3000	
Cooling Method	Smart Fan Cooling	
User Interface	LED, LCD (Optional), WLAN + APP	
Communication	WiFi+LAN+Bluetooth or 4G (Optional)	
Communication Protocols	Modbus TCP/RTU	
Weight (kg)	＜20	
Dimension (W×H×D mm)	530×413×221	
Noise Emission (dB)	＜35dB	
Topology	Non-isolated	
Self-consumption at Night (W)	<1	
Ingress Protection Rating	IP66	
Anti-corrosion Class	C4(C5 Optional)	
DC Connector	MC4 (Max. 4-6 mm^2)	
AC Connector	OT terminal(Max.10 mm^2)	
Environmental Category	4K4H	
Pollution Degree	III	
Overvoltage Category	DC II / AC III	
Protective Class	I	
The Decisive Voltage Class (DVC)	PV: C AC: C Com: A	
Active Anti-islanding Method	AFDPF + AQDPF *1	AFDPF + AQDPF *1
Country of Manufacture	China	China

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: The PV input voltage should be higher than the Max. MPPT Voltage at Nominal Power.

Technical Data	GW8000-SDT-AU30	GW9990-SDT-AU30
Input		
Max.Input Power (W)	12000	15000
Max.Input Voltage(V)	1,100	1,100
MPPT Operating Voltage Range (V)	140~950	140~950
MPPT Voltage Range at Nominal Power (V)*2	150~850	180~850
Start-up Voltage (V)	160	
Nominal Input Voltage (V)	600	600
Max. Input Current per MPPT (A)	32/16/16	
Max. Short Circuit Current per MPPT (A)	45/23/23	
Max.Backfeed Current to The Array(A)	0	0
Number of MPP trackers	3	3
Number of Strings per MPPT	2/1/1	2/1/1
Output		
Nominal Output Power (W)	8,000	9,990
Nominal Output Apparent Power (VA)	8,000	9,990
Max. AC Active Power (W)	8,000	9,990
Max. AC Apparent Power (VA)	8,000	9,990
Nominal Output Voltage (V)	230/400, 3L/N/PE or 3L/PE	230/400, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180- 260 (According to local standard)	180- 260 (According to local standard)
Nominal AC Grid Frequency (Hz)	50/60	50/60
AC Grid Frequency Range (Hz)	45~55 / 55~65	45~55 / 55~65
Max. Output Current (A)	11.6	14.5
Max. Output Fault Current (Peak and Duration) (A)	37 @6.5us	37 @6.5us
Inrush Current (Peak and Duration) (A)	28.1 @50us	28.1 @50us
Nominal Output Current (A)	11.6 @400Vac	14.5 @400Vac

Technical Data	GW8000-SDT-AU30	GW9990-SDT-AU30
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	
Max. Total Harmonic Distortion	< 3%	
Maximum Output Overcurrent Protection (A)	37	
Efficiency		
Max. Efficiency	98.5%	
European Efficiency	97.9%	
Protection		
PV String Current Monitoring	Integrated	
PV Insulation Resistance Detection	Integrated	
Residual Current Monitoring	Integrated	
PV Reverse Polarity Protection	Integrated	
Anti-islanding Protection	Integrated	
AC Overcurrent Protection	Integrated	
AC Short Circuit Protection	Integrated	
AC Overvoltage Protection	Integrated	
DC Switch	Integrated	
DC Surge Protection	Type II	
AC Surge Protection	Type II	
AFCI	Optional	
Rapid Shutdown	Optional	
Remote Shutdown	Optional	
PID Recovery	Optional	
Power Supply at Night	Integrated	
General Data		
Operating Temperature Range (°C)	-30 ~ +60	
Derating temperature (°C)	45	
Storage Temperature (°C)	-30 ~ +70	
Relative Humidity	0 ~ 100%	
Max. Operating Altitude (m)	3000	

Technical Data	GW8000-SDT-AU30	GW9990-SDT-AU30
Cooling Method	Smart Fan Cooling	
User Interface	LED, LCD (Optional), WLAN + APP	
Communication	WiFi+LAN+Bluetooth or 4G (Optional)	
Communication Protocols	Modbus TCP/RTU	
Weight (kg)	＜20	
Dimension (W×H×D mm)	530×413×221	
Noise Emission (dB)	＜35dB	
Topology	Non-isolated	
Self-consumption at Night (W)	<1	
Ingress Protection Rating	IP66	
Anti-corrosion Class	C4(C5 Optional)	
DC Connector	MC4 (Max. 4-6 mm^2)	
AC Connector	OT terminal(Max.10 mm^2)	
Environmental Category	4K4H	
Pollution Degree	III	
Overvoltage Category	DC II / AC III	
Protective Class	I	
The Decisive Voltage Class (DVC)	PV: C AC: C Com: A	
Active Anti-islanding Method	AFDPF + AQDPF *1	AFDPF + AQDPF *1
Country of Manufacture	China	China

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: The PV input voltage should be higher than the Max. MPPT Voltage at Nominal Power.

Technical Data	GW15K-SDT-AU30	GW20K-SDT-AU30
Input		
Max.Input Power (W)	22500	30000
Max.Input Voltage(V)	1,100	1,100
MPPT Operating Voltage Range (V)	140~950	140~950
MPPT Voltage Range at Nominal Power (V)*2	210~850	300~850
Start-up Voltage (V)	160	
Nominal Input Voltage (V)	600	600
Max. Input Current per MPPT (A)	32/32/16	
Max. Short Circuit Current per MPPT (A)	45/45/23	
Max.Backfeed Current to The Array(A)	0	0
Number of MPP trackers	3	3
Number of Strings per MPPT	2/2/1	2/2/1
Output		
Nominal Output Power (W)	15,000	20,000
Nominal Output Apparent Power (VA)	15,000	20,000
Max. AC Active Power (W)	15,000	20,000
Max. AC Apparent Power (VA)	15,000	20,000
Nominal Output Voltage (V)	230/400, 3L/N/PE or 3L/PE	230/400, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180- 260 (According to local standard)	180- 260 (According to local standard)
Nominal AC Grid Frequency (Hz)	50/60	50/60
AC Grid Frequency Range (Hz)	45~55 / 55~65	45~55 / 55~65
Max. Output Current (A)	21.8	29.0
Max. Output Fault Current (Peak and Duration) (A)	70 @6.5us	70 @6.5us
Inrush Current (Peak and Duration) (A)	42.3 @50us	42.3 @50us

Technical Data	GW15K-SDT-AU30	GW20K-SDT-AU30
Nominal Output Current (A)	21.8 @400Vac	29 @400Vac
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	
Max. Total Harmonic Distortion	< 3%	
Maximum Output Overcurrent Protection (A)	70	
Efficiency		
Max. Efficiency	98.6%	98.6%
European Efficiency	98.1%	98.3%
Protection		
PV String Current Monitoring	Integrated	
PV Insulation Resistance Detection	Integrated	
Residual Current Monitoring	Integrated	
PV Reverse Polarity Protection	Integrated	
Anti-islanding Protection	Integrated	
AC Overcurrent Protection	Integrated	
AC Short Circuit Protection	Integrated	
AC Overvoltage Protection	Integrated	
DC Switch	Integrated	
DC Surge Protection	Type II	
AC Surge Protection	Type II	
AFCI	Optional	
Rapid Shutdown	Optional	
Remote Shutdown	Optional	
PID Recovery	Optional	
Power Supply at Night	Integrated	
General Data		
Operating Temperature Range (°C)	-30 ~ +60	
Derating temperature (°C)	45	
Storage Temperature (°C)	-30 ~ +70	
Relative Humidity	0 ~ 100%	

Technical Data	GW15K-SDT-AU30	GW20K-SDT-AU30
Max. Operating Altitude (m)	3000	
Cooling Method	Smart Fan Cooling	
User Interface	LED, LCD (Optional), WLAN + APP	
Communication	WiFi+LAN+Bluetooth or 4G (Optional)	
Communication Protocols	Modbus TCP/RTU	
Weight (kg)	＜20	＜22
Dimension (W×H×D mm)	530×413×221	
Noise Emission (dB)	＜40dB	
Topology	Non-isolated	
Self-consumption at Night (W)	<1	
Ingress Protection Rating	IP66	
Anti-corrosion Class	C4(C5 Optional)	
DC Connector	MC4 (Max. 4-6 mm^2)	
AC Connector	OT terminal (Max. 16 mm^2)	
Environmental Category	4K4H	
Pollution Degree	III	
Overvoltage Category	DC II / AC III	
Protective Class	I	
The Decisive Voltage Class (DVC)	"PV: C AC: C Com: A"	
Active Anti-islanding Method	AFDPF + AQDPF *1	AFDPF + AQDPF *1
Country of Manufacture	China	China

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: The PV input voltage should be higher than the Max. MPPT Voltage at Nominal Power.

Technical Data	GW25K-SDT-AU30	GW29K9-SDT-AU30
Input		
Max.Input Power (W)	37,500	45,000
Max.Input Voltage(V)	1100	1100
MPPT Operating Voltage Range (V)	140~950	140~950
MPPT Voltage Range at Nominal Power (V)*2	400~850	400~850
Start-up Voltage (V)	160	
Nominal Input Voltage (V)	600	600
Max. Input Current per MPPT (A)	40/40/40	
Max. Short Circuit Current per MPPT (A)	56/56/56	
Max.Backfeed Current to The Array(A)	0	0
Number of MPP trackers	3	3
Number of Strings per MPPT	2	2
Output		
Nominal Output Power (W)	25,000	29,990
Nominal Output Apparent Power (VA)	25,000	29,990
Max. AC Active Power (W)	25,000	29,990
Max. AC Apparent Power (VA)	25,000	29,990
Nominal Output Voltage (V)	230/400, 3L/N/PE or 3L/PE	230/400, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180- 260 (According to local standard)	180- 260 (According to local standard)
Nominal AC Grid Frequency (Hz)	50/60	50/60
AC Grid Frequency Range (Hz)	45~55 / 55~65	45~55 / 55~65
Max. Output Current (A)	37.9	45.5
Max. Output Fault Current (Peak and Duration) (A)	126 @6.5us	126 @6.5us
Inrush Current (Peak and Duration) (A)	48.12 @50us	48.12 @50us
Nominal Output Current (A)	36.3 @400Vac	43.5 @400Vac

Technical Data	GW25K-SDT-AU30	GW29K9-SDT-AU30
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	
Max. Total Harmonic Distortion	< 3%	
Maximum Output Overcurrent Protection (A)	126	
Efficiency		
Max. Efficiency	98.7%	
European Efficiency	98.3%	
Protection		
PV String Current Monitoring	Integrated	
PV Insulation Resistance Detection	Integrated	
Residual Current Monitoring	Integrated	
PV Reverse Polarity Protection	Integrated	
Anti-islanding Protection	Integrated	
AC Overcurrent Protection	Integrated	
AC Short Circuit Protection	Integrated	
AC Overvoltage Protection	Integrated	
DC Switch	Integrated	
DC Surge Protection	Type II	
AC Surge Protection	Type II	
AFCI	Optional	
Rapid Shutdown	Optional	
Remote Shutdown	Optional	
PID Recovery	Optional	
Power Supply at Night	Integrated	
General Data		
Operating Temperature Range (°C)	-30 ~ +60	
Derating temperature (°C)	45	
Storage Temperature (°C)	-30 ~ +70	
Relative Humidity	0 ~ 100%	
Max. Operating Altitude (m)	4000	

Technical Data	GW25K-SDT-AU30	GW29K9-SDT-AU30
Cooling Method	Smart Fan Cooling	
User Interface	LED, LCD (Optional), WLAN + APP	
Communication	WiFi+LAN+Bluetooth or 4G (Optional)	
Communication Protocols	Modbus TCP/RTU	
Weight (kg)	＜30	
Dimension (W×H×D mm)	585*483*230	
Noise Emission (dB)	＜45dB	
Topology	Non-isolated	
Self-consumption at Night (W)	<1	
Ingress Protection Rating	IP66	
Anti-corrosion Class	C4	
DC Connector	MC4 (Max. 4-6 mm^2)	
AC Connector	OT terminal (Max. 25 mm^2)	
Environmental Category	4K4H	
Pollution Degree	III	
Overvoltage Category	DC II / AC III	
Protective Class	I	
The Decisive Voltage Class (DVC)	PV: C AC: C Com: A	
Active Anti-islanding Method	AFDPF + AQDPF *1	AFDPF + AQDPF *1
Country of Manufacture	China	China

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: The PV input voltage should be higher than the Max. MPPT Voltage at Nominal Power.

Technical Data	GW25K-SDT-30	GW30K-SDT-30
Input		
Max.Input Power (W)	37,500	45,000
Max.Input Voltage(V)	1100	1100
MPPT Operating Voltage Range (V)	140~950	140~950
MPPT Voltage Range at Nominal Power (V)*2	400~850	400~850
Start-up Voltage (V)	160	
Nominal Input Voltage (V)	600	600
Max. Input Current per MPPT (A)	40/40/40	
Max. Short Circuit Current per MPPT (A)	50/50/50	
Max.Backfeed Current to The Array(A)	0	0
Number of MPP trackers	3	3
Number of Strings per MPPT	2	2
Output		
Nominal Output Power (W)	25,000	30,000
Nominal Output Apparent Power (VA)	25,000	30,000
Max. AC Active Power (W)	25,000	30,000
Max. AC Apparent Power (VA)	25,000	30,000
Nominal Power at 40°C (W)	25,000	30,000
Max. Power at 40°C (Including AC Overload) (W)	25,000	30,000
Nominal Output Voltage (V)	220/380, 230/400, 240/415, 3L/N/PE or 3L/PE	220/380, 230/400, 240/415, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180- 260 (According to local standard)	180- 260 (According to local standard)
Nominal AC Grid Frequency (Hz)	50/60	50/60
AC Grid Frequency Range (Hz)	45~55 / 55~65	45~55 / 55~65
Max. Output Current (A)	37.9	45.5
Max. Output Fault Current (Peak and Duration) (A)	126 @6.5us	126 @6.5us

Technical Data	GW25K-SDT-30	GW30K-SDT-30
Inrush Current (Peak and Duration) (A)	48.12 @50us	48.12 @50us
Nominal Output Current (A)	37.9 @380Vac 36.3 @400Vac 34.8 @415Vac	45.5 @380Vac 43.5 @400Vac 41.7 @415Vac
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	
Max. Total Harmonic Distortion	< 3%	
Maximum Output Overcurrent Protection (A)	126	
Efficiency		
Max. Efficiency	98.7%	
European Efficiency	98.3%	
Protection		
PV String Current Monitoring	Integrated	
PV Insulation Resistance Detection	Integrated	
Residual Current Monitoring	Integrated	
PV Reverse Polarity Protection	Integrated	
Anti-islanding Protection	Integrated	
AC Overcurrent Protection	Integrated	
AC Short Circuit Protection	Integrated	
AC Overvoltage Protection	Integrated	
DC Switch	Integrated	
DC Surge Protection	Type II	
AC Surge Protection	Type II	
AFCI	Optional	
Rapid Shutdown	Optional	
Remote Shutdown	Integrated	
PID Recovery	Optional	
Power Supply at Night	Integrated	
General Data		
Operating Temperature Range (°C)	-30 ~ +60	

Technical Data	GW25K-SDT-30	GW30K-SDT-30
Derating temperature (°C)	45	
Storage Temperature (°C)	-30 ~ +70	
Relative Humidity	0 ~ 100%	
Max. Operating Altitude (m)	4000	
Cooling Method	Smart Fan Cooling	
User Interface	LED, LCD (Optional), WLAN + APP	
Communication	WiFi+LAN+Bluetooth or 4G (Optional)	
Communication Protocols	Modbus TCP/RTU	
Weight (kg)	＜30	
Dimension (W×H×D mm)	585*483*230	
Noise Emission (dB)	＜45dB	
Topology	Non-isolated	
Self-consumption at Night (W)	<1	
Ingress Protection Rating	IP66	
Anti-corrosion Class	C4	
DC Connector	MC4 (Max. 4-6 mm^2)	
AC Connector	OT terminal (Max. 25 mm^2)	
Environmental Category	4K4H	
Pollution Degree	III	
Overvoltage Category	DC II / AC III	
Protective Class	I	
The Decisive Voltage Class (DVC)	PV: C AC: C Com: A	
Active Anti-islanding Method	AFDPF + AQDPF *1	AFDPF + AQDPF *1
Country of Manufacture	China	China

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: The PV input voltage should be higher than the Max. MPPT Voltage at Nominal Power.

Technical Data	GW8000-SDT-30	GW10K-SDT-30	GW10K-SDT-EU30	GW12K-SDT-30
Input				
Max.Input Power (W)*2	12000	15000	15000	18000
Max.Input Voltage(V)	1100	1100	1100	1100
MPPT Operating Voltage Range (V)	140~1000	140~1000	140~1000	140~1000
MPPT Voltage Range at Nominal Power (V)	250~850	310~850	310~850	380~850
Start-up Voltage (V)	160			
Nominal Input Voltage (V)	600	600	600	600
Max. Input Current per MPPT (A)	22			
Max. Short Circuit Current per MPPT (A)	27.5			
Max.Backfeed Current to The Array(A)	0	0	0	0
Number of MPP trackers	2	2	2	2
Number of Strings per MPPT	1	1	1	1
Output				
Nominal Output Power (W)	8000	10000	10000	12000
Nominal Output Apparent Power (VA)	8000	10000	10000	12000
Max. AC Active Power (W)*3	8800	11000	10000	13200
Max. AC Apparent Power (VA)	8800	11000	10000	13200
Nominal Power at 40°C(W)	8000	10000	10000	12000
Max Power at 40°C (including AC overload) (W)	8000	10000	10000	12000
Nominal Output Voltage (V)	220/380,230/400,240/415, 3L/N/PE or 3L/PE			
Output Voltage Range (V)	180~280 (According to local standard)			
Nominal AC Grid Frequency (Hz)	50 / 60	50 / 60	50 / 60	50/60
AC Grid Frequency Range (Hz)	45~55 / 55-65			
Max. Output Current (A)*4	13.4	16.7	15.2	20.0

Max. Output Fault Current (Peak and Duration) (A)	42 (at 6.5μs)			67 (at 6.5μs)
Inrush Current (Peak and Duration) (A)	23.7 (at 50μs)			
Nominal Output Current (A)*4	11.6	14.5	14.5	17.4
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)			
Max. Total Harmonic Distortion	<3%			
Maximum output overcurrent protection(A)	42	42	42	67
Efficiency				
Max. Efficiency	98.5%			
European Efficiency	98.0%			98.2%
Protection				
PV String Current Monitoring	Integrated			
PV Insulation Resistance Detection	Integrated			
Residual Current Monitoring	Integrated			
PV Reverse Polarity Protection	Integrated			
Anti-islanding Protection	Integrated			
AC Overcurrent Protection	Integrated			
AC Short Circuit Protection	Integrated			
AC Overvoltage Protection	Integrated			
DC Switch	Integrated			
DC Surge Protection	Type III (Type II Optional)			
AC Surge Protection	Type III (Type II Optional)			
AFCI	Optional			
Emergency Power Off	Optional			
Rapid Shutdown	Optional			
Remote Shutdown	Optional			
PID Recovery	Optional			
Power Supply at Night	Optional			
General Data				
Operating Temperature Range (°C)	-30~+60			

Derating Temperature (°C)	45	
Storage Temperature (°C)	-30~+70	
Relative Humidity	0~100%	
Max. Operating Altitude (m)	4000	
Cooling Method	Natural Convection	
User Interface	LED, LCD (Optional), WLAN+APP	
Communication	RS485, WiFi, LAN or 4G or Bluetooth(Optional)	
Weight (Kg)	14.7	16.2
Dimension (W×H×Dmm)	491×392×210	
Noise Emission (dB)	<30	
Topology	Non-isolated	
Night Power Consumption (W)	<1	
Ingress Protection Rating	IP66	
Anti-corrosion Class	C4,C5(Optional)	
DC Connector	MC4(4~6mm^2)	
AC Connector	OT terminal (Max.10 mm^2)	OT terminal (Max. 16 mm^2)
Environmental Category	4K4H	
Pollution Degree	III	
Overvoltage Category	DC II / AC III	
Protective class	I	
The Decisive Voltage Class (DVC)	PV:C AC:C Com:A	
Active Anti-islanding Method	AFDPF + AQDPF *1	
Country of Manufacture	China	

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: For Brazil Max. Input Power (W), GW8000-SDT-30 is 14400, GW10K-SDT-30 is 18000, GW12K-SDT-30 is 21600, GW15K-SDT-30 is 27000, GW17K-SDT-30 is 30600, GW20K-SDT-30 is 36000, GW12KLV-SDT-C30 is 21600, GW17KLV-SDT-C30 is 30600, GW25K-SDT-C30 is 45000, GW30K-SDT-C30 is 54000
*3: For Brazil and Chile, the Max. AC Active Power (W) &Max. AC Apparent Power (VA): GW8000-SDT-30 is 8000, GW10K-SDT-30 is 10000, GW12K-SDT-30 is 12000, GW15K-SDT-30 is 15000, GW17K-SDT-30 is 17000, GW20K-SDT-30 is 20000, GW12KLV-SDT-C30 is 12000, GW17KLV-SDT-C30 is 17000, GW25K-SDT-C30 is 25000, GW30K-SDT-C30 is 30000
*4: For Brazil and Chile, Max. Output Current (A) and Nominal Output Current (A): GW8000-SDT-30 is 12.1, GW10K-SDT-30 is 15.2, GW12K-SDT-30 is 18.2, GW15K-SDT-30 is 22.7, GW17K-SDT-30 is 25.8, GW20K-SDT-30 is 30.3, GW12KLV-SDT-C30 is 33.3, GW17KLV-SDT-C30 is 50.0, GW25K-SDT-C30 is 37.9, GW30K-SDT-C30 is 45.5.

Technical Data	GW15K-SDT-30	GW17K-SDT-30	GW20K-SDT-30	GW12KLV-SDT-C30
Input				
Max.Input Power (W)*2	22500	25500	30000	18000
Max.Input Voltage(V)	1100			850
MPPT Operating Voltage Range (V)	140~1000			140~700
MPPT Voltage Range at Nominal Power (V)	480~850	520~850	520~850	260~600
Start-up Voltage (V)	160			
Nominal Input Voltage (V)	600			420
Max. Input Current per MPPT (A)	22	32/22		
Max. Short Circuit Current per MPPT (A)	27.5	40/27.5		
Max.Backfeed Current to The Array(A)	0			
Number of MPP trackers	2			
Number of Strings per MPPT	1	2/1		
Output				
Nominal Output Power (W)	15000	17000	20000	12000
Nominal Output Apparent Power (VA)	15000	17000	20000	12000
Max. AC Active Power (W)*3	16500	18700	22000	12000
Max. AC Apparent Power (VA)	16500	18700	22000	12000
Nominal Power at 40°C(W)	15000	17000	20000	12000
Max Power at 40°C (including AC overload) (W)	15000	17000	20000	12000
Nominal Output Voltage (V)	220/380,230/400,240/415, 3L/N/PE or 3L/PE			127/220, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180~280 (according to local standard)			114~139(according to local standard)
Nominal AC Grid Frequency (Hz)	50 / 60	50 / 60	50 / 60	60
AC Grid Frequency Range (Hz)	45~55 / 55-65			59.5~60.2
Max. Output Current (A)*4	25.0	28.3	33.3	33.3

Max. Output Fault Current (Peak and Duration) (A)	67 (at 6.5μs)	73 (at 6.5μs)		
Inrush Current (Peak and Duration) (A)	23.7 (at 50μs)	30.2 (at 50μs)		
Nominal Output Current (A)*4	21.8	24.7	29.0	29.0
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)			
Max. Total Harmonic Distortion	<3%			
Maximum output overcurrent protection(A)	67	73		
Efficiency				
Max. Efficiency	98.5%			98.2%
European Efficiency	98.2%			97.2%
Protection				
PV String Current Monitoring	Integrated			
PV Insulation Resistance Detection	Integrated			
Residual Current Monitoring	Integrated			
PV Reverse Polarity Protection	Integrated			
Anti-islanding Protection	Integrated			
AC Overcurrent Protection	Integrated			
AC Short Circuit Protection	Integrated			
AC Overvoltage Protection	Integrated			
DC Switch	Integrated			
DC Surge Protection	Type III (Type II Optional)			Type II
AC Surge Protection	Type III (Type II Optional)			
AFCI	Optional			
Emergency Power Off	Optional			
Rapid Shutdown	Optional			
Remote Shutdown	Optional			
PID Recovery	Optional			
Power Supply at Night	Optional			
General Data				
Operating Temperature Range (°C)	-30~+60			

Derating Temperature (°C)	45	
Storage Temperature (°C)	-30~+70	
Relative Humidity	0~100%	
Max. Operating Altitude (m)	4000	
Cooling Method	Natural Convection	Smart Fan Cooling
User Interface	LED, LCD (Optional), WLAN+APP	
Communication	RS485, WiFi, LAN or 4G or Bluetooth(Optional)	
Weight (Kg)	16.2	17.1
Dimension (W×H×Dmm)	491×392×210	530×413×227
Noise Emission (dB)	<30	<45
Topology	Non-isolated	
Night Power Consumption (W)	<1	
Ingress Protection Rating	IP66	
Anti-corrosion Class	C4,C5(Optional)	
DC Connector	MC4(4~6mm^2)	
AC Connector	OT terminal (Max. 16 mm^2)	OT terminal (Max. 25 mm^2)
Environmental Category	4K4H	
Pollution Degree	III	
Overvoltage Category	DC II / AC III	
Protective class	I	
The Decisive Voltage Class (DVC)	PV:C AC:C Com:A	
Active Anti-islanding Method	AFDPF + AQDPF *1	
Country of Manufacture	China	

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: For Brazil Max. Input Power (W), GW8000-SDT-30 is 14400, GW10K-SDT-30 is 18000, GW12K-SDT-30 is 21600, GW15K-SDT-30 is 27000, GW17K-SDT-30 is 30600, GW20K-SDT-30 is 36000, GW12KLV-SDT-C30 is 21600, GW17KLV-SDT-C30 is 30600, GW25K-SDT-C30 is 45000, GW30K-SDT-C30 is 54000
*3: For Brazil and Chile, the Max. AC Active Power (W) &Max. AC Apparent Power (VA): GW8000-SDT-30 is 8000, GW10K-SDT-30 is 10000, GW12K-SDT-30 is 12000, GW15K-SDT-30 is 15000, GW17K-SDT-30 is 17000, GW20K-SDT-30 is 20000, GW12KLV-SDT-C30 is 12000, GW17KLV-SDT-C30 is 17000, GW25K-SDT-C30 is 25000, GW30K-SDT-C30 is 30000
*4: For Brazil and Chile, Max. Output Current (A) and Nominal Output Current (A): GW8000-SDT-30 is 12.1, GW10K-SDT-30 is 15.2, GW12K-SDT-30 is 18.2, GW15K-SDT-30 is 22.7, GW17K-SDT-30 is 25.8, GW20K-SDT-30 is 30.3, GW12KLV-SDT-C30 is 33.3, GW17KLV-SDT-C30 is 50.0, GW25K-SDT-C30 is 37.9, GW30K-SDT-C30 is 45.5.

Technical Data	GW17KLV-SDT-C30	GW25K-SDT-C30	GW30K-SDT-C30
Input			
Max.Input Power (W)*2	25500	37500	45000
Max.Input Voltage(V)	850	1100	1100
MPPT Operating Voltage Range (V)	140~700	140~1000	140~1000
MPPT Voltage Range at Nominal Power (V)	260~500	550~850	550~850
Start-up Voltage (V)	160		
Nominal Input Voltage (V)	420	600	600
Max. Input Current per MPPT (A)	42/32	42/22	42/32
Max. Short Circuit Current per MPPT (A)	52.5/40	52.5/27.5	52.5/40
Max.Backfeed Current to The Array(A)	0	0	0
Number of MPP trackers	2	2	2
Number of Strings per MPPT	2	2/1	2
Output			
Nominal Output Power (W)	17000	25000	30000
Nominal Output Apparent Power (VA)	17000	25000	30000
Max. AC Active Power (W)*3	17000	27500	33000
Max. AC Apparent Power (VA)	17000	27500	33000
Nominal Power at 40°C(W)	17000	25000	30000
Max Power at 40°C (including AC overload) (W)	17000	25000	30000
Nominal Output Voltage (V)	127/220,3L/N/PE or 3L/PE	220/380,230/400,240/415, 3L/N/PE or 3L/PE	
Output Voltage Range (V)	114~139(according to local standard)	180~280 (according to local standard)	
Nominal AC Grid Frequency (Hz)	60	50 / 60	50 / 60
AC Grid Frequency Range (Hz)	59.5~60.2	45~55 / 55-65	
Max. Output Current (A)*4	50.0	41.7	50.0

Max. Output Fault Current (Peak and Duration) (A)	115 (at 6.5μs)	95 (at 6.5μs)	115 (at 6.5μs)
Inrush Current (Peak and Duration) (A)	29.4 (at 50μs)		
Nominal Output Current (A)*4	43.5	36.3	43.5
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)		
Max. Total Harmonic Distortion	<3%		
Maximum output overcurrent protection(A)	115	95	115
Efficiency			
Max. Efficiency	97.5%	98.6%	98.6%
European Efficiency	96.9%	98.2%	98.3%
Protection			
PV String Current Monitoring	Integrated		
PV Insulation Resistance Detection	Integrated		
Residual Current Monitoring	Integrated		
PV Reverse Polarity Protection	Integrated		
Anti-islanding Protection	Integrated		
AC Overcurrent Protection	Integrated		
AC Short Circuit Protection	Integrated		
AC Overvoltage Protection	Integrated		
DC Switch	Integrated		
DC Surge Protection	Type II	Type III (Type II Optional)	
AC Surge Protection	Type III (Type II Optional)		
AFCI	Optional		
Emergency Power Off	Optional		
Rapid Shutdown	Optional		
Remote Shutdown	Optional		
PID Recovery	Optional		
Power Supply at Night	Optional		
General Data			
Operating Temperature Range (°C)	-30~+60		

Derating Temperature (°C)	45		
Storage Temperature (°C)	-30~+70		
Relative Humidity	0~100%		
Max. Operating Altitude (m)	4000		
Cooling Method	Smart Fan Cooling		
User Interface	LED, LCD (Optional), WLAN+APP		
Communication	RS485, WiFi, LAN or 4G or Bluetooth(Optional)		
Weight (Kg)	20.5	19.7	20.5
Dimension (W×H×Dmm)	530×413×227		
Noise Emission (dB)	<45		
Topology	Non-isolated		
Night Power Consumption (W)	<1		
Ingress Protection Rating	IP66		
Anti-corrosion Class	C4,C5(Optional)		
DC Connector	MC4(4~6mm^2)		
AC Connector	OT terminal (Max. 25 mm^2)		
Environmental Category	4K4H		
Pollution Degree	III		
Overvoltage Category	DC II / AC III		
Protective class	I		
The Decisive Voltage Class (DVC)	PV:C AC:C Com:A		
Active Anti-islanding Method	AFDPF + AQDPF *1		
Country of Manufacture	China		

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: For Brazil Max. Input Power (W), GW8000-SDT-30 is 14400, GW10K-SDT-30 is 18000, GW12K-SDT-30 is 21600, GW15K-SDT-30 is 27000, GW17K-SDT-30 is 30600, GW20K-SDT-30 is 36000, GW12KLV-SDT-C30 is 21600, GW17KLV-SDT-C30 is 30600, GW25K-SDT-C30 is 45000, GW30K-SDT-C30 is 54000
*3: For Brazil and Chile, the Max. AC Active Power (W) &Max. AC Apparent Power (VA): GW8000-SDT-30 is 8000, GW10K-SDT-30 is 10000, GW12K-SDT-30 is 12000, GW15K-SDT-30 is 15000, GW17K-SDT-30 is 17000, GW20K-SDT-30 is 20000, GW12KLV-SDT-C30 is 12000, GW17KLV-SDT-C30 is 17000, GW25K-SDT-C30 is 25000, GW30K-SDT-C30 is 30000
*4: For Brazil and Chile, Max. Output Current (A) and Nominal Output Current (A): GW8000-SDT-30 is 12.1, GW10K-SDT-30 is 15.2, GW12K-SDT-30 is 18.2, GW15K-SDT-30 is 22.7, GW17K-SDT-30 is 25.8, GW20K-SDT-30 is 30.3, GW12KLV-SDT-C30 is 33.3, GW17KLV-SDT-C30 is 50.0, GW25K-SDT-C30 is 37.9, GW30K-SDT-C30 is 45.5.

Technical Data	GW23KLV-SDT-BR30	GW37K5-SDT-BR30
Input		
Max.Input Power (W)*2	46000	67500
Max.Input Voltage(V)	850	1100
MPPT Operating Voltage Range (V)	140~700	140~1000
MPPT Voltage Range at Nominal Power (V)	350~600	480~850
Start-up Voltage (V)	160	
Nominal Input Voltage (V)	420	600
Max. Input Current per MPPT (A)	42/42/32	
Max. Short Circuit Current per MPPT (A)	52.5/52.5/40	
Max.Backfeed Current to The Array(A)	0	0
Number of MPP trackers	3	3
Number of Strings per MPPT	2	2
Output		
Nominal Output Power (W)	23000	37500
Nominal Output Apparent Power (VA)	23000	37500
Max. AC Active Power (W)	23000	37500
Max. AC Apparent Power (VA)	23000	37500
Nominal Power at 40°C(W)	23000	37500
Max Power at 40°C (including AC overload) (W)	23000	37500
Nominal Output Voltage (V)	127/220, 3L/N/PE or 3L/PE	220/380, 230/400, 240/415, 3L/N/PE or 3L/PE
Output Voltage Range (V)	114~139(according to local standard)	180~280 (according to local standard)
Nominal AC Grid Frequency (Hz)	60	60
AC Grid Frequency Range (Hz)	59.5~60.2	
Max. Output Current (A)	60.4	56.9

Max. Output Fault Current (Peak and Duration) (A)	157 (at 6.5μs)	157 (at 6.5μs)
Inrush Current (Peak and Duration) (A)	60 (at 500μs)	60 (at 500μs)
Nominal Output Current (A)	60.4	56.9 @380Vac 54.4 @400Vac 52.1 @415Vac
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Max. Total Harmonic Distortion	<3%	<3%
Maximum output overcurrent protection(A)	157	157
Efficiency		
Max. Efficiency	97.8%	98.6%
European Efficiency	97.0%	97.8%
Protection		
PV String Current Monitoring	Integrated	Integrated
PV Insulation Resistance Detection	Integrated	Integrated
Residual Current Monitoring	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated
AC Overcurrent Protection	Integrated	Integrated
AC Short Circuit Protection	Integrated	Integrated
AC Overvoltage Protection	Integrated	Integrated
DC Switch	Integrated	Integrated
DC Surge Protection	Type II	Type II
AC Surge Protection	Type III (Type II Optional)	Type III (Type II Optional)
AFCI	Optional	Optional
Emergency Power Off[*3]	NA	NA
Rapid Shutdown	Optional	Optional
Remote Shutdown	Integrated	Integrated
PID Recovery	Optional	Optional
Power Supply at Night	Optional	Optional

General Data		
Operating Temperature Range (°C)	-30 ~ 60	-30 ~ 60
Derating Temperature (°C)	45	45
Storage Temperature (°C)	-30 ~ 70	-30 ~ 70
Relative Humidity	0 ~ 100%	0 ~ 100%
Max. Operating Altitude (m)	4000	4000
Cooling Method	Smart Fan Cooling	Smart Fan Cooling
User Interface	LED, LCD (Optional), WLAN+APP	LED, LCD (Optional), WLAN+APP
Communication	RS485, WiFi+LAN+Bluetooth or 4G (Optional)	RS485, WiFi+LAN+Bluetooth or 4G (Optional)
Communication Protocols	Modbus TCP	Modbus TCP
Weight (kg)	28	28
Dimension (W×H×D mm)	585×483×230	585×483×230
Noise Emission (dB)	45	45
Topology	Non-isolated	Non-isolated
Self-consumption at Night (W)	<1	<1
Ingress Protection Rating	IP66	IP66
Anti-corrosion Class	C4	C4
DC Connector	MC4 (4~6mm^2)	MC4 (4~6mm^2)
AC Connector	OT (Max 35mm^2)	OT (Max 35mm^2)
Environmental Category	4K4H	4K4H
Pollution Degree	III	III
Overvoltage Category	DC II / AC III	DC II / AC III
Protective Class	I	I
The Decisive Voltage Class (DVC)	PV: C AC: C Com: A	PV: C AC: C Com: A
Active Anti-islanding Method	AFDPF + AQDPF *1	AFDPF + AQDPF *1
Country of Manufacture	China	China

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: In Latin America, the Max.Input Power of GW33/36/40K-SDT-C30 can achieve 1.8*Pn.
*3: Only available in Indian.

Technical Data	GW33K-SDT-C30	GW36K-SDT-C30	GW40K-SDT-C30
Input			
Max.Input Power (W)*2	49,500	54,000	60,000
Max.Input Voltage(V)	1,100	1,100	1,100
MPPT Operating Voltage Range (V)	140~1000	140~1000	140~1000
MPPT Voltage Range at Nominal Power (V)	480~850	480~850	480~850
Start-up Voltage (V)	160		
Nominal Input Voltage (V)	600	600	600
Max. Input Current per MPPT (A)	42/42/32		
Max. Short Circuit Current per MPPT (A)	52.5/52.5/40		
Max.Backfeed Current to The Array(A)	0	0	0
Number of MPP trackers	3	3	3
Number of Strings per MPPT	2	2	2
Output			
Nominal Output Power (W)	33,000	36,000	40,000
Nominal Output Apparent Power (VA)	33,000	36,000	40,000
Max. AC Active Power (W)	33,000	36,000	40,000
Max. AC Apparent Power (VA)	33,000	36,000	40,000
Nominal Power at 40°C(W)	33,000	36,000	40,000
Max Power at 40°C (including AC overload) (W)	33,000	36,000	40,000
Nominal Output Voltage (V)	220/380, 230/400, 240/415, 3L/N/PE or 3L/PE	220/380, 230/400, 240/415, 3L/N/PE or 3L/PE	220/380, 230/400, 240/415, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180~280 (according to local standard)	180~280 (according to local standard)	180~280 (according to local standard)
Nominal AC Grid Frequency (Hz)	50	50	50
AC Grid Frequency Range (Hz)	45~55		
Max. Output Current (A)	50.1	54.6	60.7
Max. Output Fault Current (Peak and Duration) (A)	126 (at 6.5μs)	157 (at 6.5μs)	157 (at 6.5μs)

Inrush Current (Peak and Duration) (A)	60 (at 500μs)	60 (at 500μs)	60 (at 500μs)
Nominal Output Current (A)	50.1 @380Vac 47.9 @400Vac 45.9 @415Vac	54.6 @380Vac 52.3 @400Vac 50.1 @415Vac	60.7 @380Vac 58.0 @400Vac 55.6 @415Vac
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	~1 (Adjustable from 0.8 leading to 0.8 lagging)	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Max. Total Harmonic Distortion	<3%	<3%	<3%
Maximum output overcurrent protection(A)	126	157	157
Efficiency			
Max. Efficiency	98.6%	98.6%	98.6%
European Efficiency	97.8%	97.8%	97.8%
Protection			
PV String Current Monitoring	Integrated	Integrated	Integrated
PV Insulation Resistance Detection	Integrated	Integrated	Integrated
Residual Current Monitoring	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated
AC Overcurrent Protection	Integrated	Integrated	Integrated
AC Short Circuit Protection	Integrated	Integrated	Integrated
AC Overvoltage Protection	Integrated	Integrated	Integrated
DC Switch	Integrated	Integrated	Integrated
DC Surge Protection	Type III (Type II Optional)	Type III (Type II Optional)	Type III (Type II Optional)
AC Surge Protection	Type III (Type II Optional)	Type III (Type II Optional)	Type III (Type II Optional)
AFCI	Optional	Optional	Optional
Emergency Power Off*3	Integrated	Integrated	Integrated
Rapid Shutdown	Optional	Optional	Optional
Remote Shutdown	NA	NA	NA
PID Recovery	Optional	Optional	Optional
Power Supply at Night	Optional	Optional	Optional
Operating Temperature Range (°C)	-30 ~ 60	-30 ~ 60	-30 ~ 60
Derating Temperature (°C)	45	45	45

General Data			
Storage Temperature (°C)	-30 ~ 70	-30 ~ 70	-30 ~ 70
Relative Humidity	0 ~ 100%	0 ~ 100%	0 ~ 100%
Max. Operating Altitude (m)	4000	4000	4000
Cooling Method	Smart Fan Cooling	Smart Fan Cooling	Smart Fan Cooling
User Interface	LED, LCD (Optional), WLAN+APP	LED, LCD (Optional), WLAN+APP	LED, LCD (Optional), WLAN+APP
Communication	RS485, WiFi+LAN+ Bluetooth or 4G (Optional)	RS485, WiFi+LAN+ Bluetooth or 4G (Optional)	RS485, WiFi+LAN+ Bluetooth or 4G (Optional)
Communication Protocols	Modbus TCP	Modbus TCP	Modbus TCP
Weight (kg)	28	28	28
Dimension (W×H×D mm)	585×483×230	585×483×230	585×483×230
Noise Emission (dB)	45	45	45
Topology	Non-isolated	Non-isolated	Non-isolated
Self-consumption at Night (W)	<1	<1	<1
Ingress Protection Rating	IP66	IP66	IP66
Anti-corrosion Class	C4	C4	C4
DC Connector	MC4(4~6mm^2)	MC4(4~6mm^2)	MC4(4~6mm^2)
AC Connector	OT(Max 35mm^2)	OT(Max 35mm^2)	OT(Max 35mm^2)
Environmental Category	4K4H	4K4H	4K4H
Pollution Degree	III	III	III
Overvoltage Category	DC II / AC III	DC II / AC III	DC II / AC III
Protective Class	I	I	I
The Decisive Voltage Class (DVC)	PV: C AC: C Com: A	PV: C AC: C Com: A	PV: C AC: C Com: A
Active Anti-islanding Method	AFDPF + AQDPF *1	AFDPF + AQDPF *1	AFDPF + AQDPF *1
Country of Manufacture	China	China	China

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*2: In Latin America, the Max.Input Power of GW33/36/40K-SDT-C30 can achieve 1.8*Pn.
*3: Only available in Indian

Technical Data	GW40K-SDT-P30
Input	
Max.Input Power (kW)	72.0
Max.Input Voltage(V)*1	1,100
MPPT Operating Voltage Range (V)	140-1000
MPPT Voltage Range at Nominal Power (V)	400-850
Start-up Voltage (V)	160
Nominal Input Voltage (V)	600
Max. Input Current per MPPT (A)	40
Max. Short Circuit Current per MPPT (A)	56
Max.Backfeed Current to The Array(A)	0
Number of MPP trackers	4
Number of Strings per MPPT	2
Output	
Nominal Output Power (kW)	40.0
Nominal Output Apparent Power (kVA)	40.0
Max. AC Active Power (kW)	40.0
Max. AC Apparent Power (kVA)	40.0
Nominal Output Voltage (V)	220/380,230/400,240/415, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180-280
Nominal AC Grid Frequency (Hz)	50/60
AC Grid Frequency Range (Hz)	45-55/55-65
Max. Output Current (A)	60.6
Max. Output Fault Current (Peak and Duration) (A)	157(at 6.5μs)
Inrush Current (Peak and Duration) (A)	60(@500μs)
Nominal Output Current (A)	58.0
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Max. Total Harmonic Distortion	<3%
Maximum output overcurrent protection(A)	157
Efficiency	
Max. Efficiency	98.6%
European Efficiency	97.7%
Protection	
PV String Current Monitoring	Integrated
PV Insulation Resistance Detection	Integrated

Residual Current Monitoring	Integrated
PV Reverse Polarity Protection	Integrated
Anti-islanding Protection	Integrated
AC Overcurrent Protection	Integrated
AC Short Circuit Protection	Integrated
AC Overvoltage Protection	Integrated
DC Switch	Integrated
DC Surge Protection	Type II
AC Surge Protection	Type II
AFCI	Optional
Emergency Power Off	Optional
Rapid Shutdown	Optional
Remote Shutdown	Optional
PID Recovery	Optional
Power Supply at Night	Optional
General Data	
Operating Temperature Range (°C)	-30 ~ +60
Storage Temperature (°C)	-30 ~ +70
Relative Humidity	0 ~ 100%
Max. Operating Altitude (m)	4000
Cooling Method	Smart Fan Cooling
User Interface	LED,LCD(Optional), WLAN + APP
Communication	RS485, WiFi, LAN Bluetooth,4G(Optional)
Communication Protocols	Modbus TCP (Optional)
Weight (kg)	31
Dimension (W×H×D mm)	585*483*237
Noise Emission (dB)	<45
Topology	Non-isolated
Self-consumption at Night (W)	<1
Ingress Protection Rating	IP66
Anti-corrosion Class	C4,C5(Optional)
DC Connector	MC4 (4~6mm^2)
AC Connector	OT terminal (Max.35mm^2)
Environmental Category	4K4H
Pollution Degree	III

Overvoltage Category	DC II / AC III
Protective Class	I
The Decisive Voltage Class (DVC)	PV : C AC : C Com : A
Active Anti-islanding Method	AFDPF + AQDPF *2
Country of Manufacture	China

*1: When the input voltage is between 1000V and 1100V, the inverter will enter standby mode. When the voltage returns to 140V-1000V, the inverter will resume normal operation.

*2: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.

Technical Data	GW20K-SDT-31	GW12KLV-SDT-C31	GW25K-SDT-P31
Input			
Max. Input Power (W)*2	36,000	21,600	45,000
Max. Input Voltage (V)	1,100	850	1,100
MPPT Operating Voltage Range (V)	140～1000	140～700	140～1000
MPPT Voltage Range at Nominal Power (V)	400~850	260~600	450~850
Start-up Voltage (V)	160	160	160
Nominal Input Voltage (V)	600	420	600
Max. Input Current per MPPT (A)	40/40	40/40	40/40
Max. Short Circuit Current per MPPT (A)	52.5/52.5	52.5/52.5	52.5/52.5
Max. Backfeed Current to The Array (A)	0	0	0
Number of MPP Trackers	2	2	2
Number of Strings per MPPT	2/2	2/2	2/2
Output			
Nominal Output Power (W)	20,000	12,000	25,000
Nominal Output Apparent Power (VA)	20,000	12,000	25,000
Max. AC Active Power (W)*3	20,000	12,000	25,000
Max. AC Apparent Power (VA)	20,000	12,000	25,000
Nominal Power at 40°C(W)	20,000	12,000	25,000
Max Power at 40°C (including AC overload) (W)	20,000	12,000	25,000
Nominal Output Voltage (V)	220/380,230/400, 240/415, 3L/N/PE or 3L/PE	127/220, 3L/N/PE or 3L/PE	220/380,230/400, 240/415, 3L/N/PE or 3L/PE
Output Voltage Range (V)	180~280 (according to local standard)	114~139(according to local standard)	180~280 (according to local standard)
Nominal AC Grid Frequency (Hz)	50/60	60	50/60
AC Grid Frequency Range (Hz)	45~55 / 55~65	59.5~60.2	45~55 / 55~65
Max. Output Current (A)*4	30.3	31.5	37.9

Max. Output Fault Current (Peak and Duration) (A)	73 (at 6.5μs)	73 (at 6.5μs)	95 (at 6.5μs)
Inrush Current (Peak and Duration) (A)	30.2 (at 50μs)	30.2 (at 50μs)	29.4 (at 50μs)
Nominal Output Current (A)*4	30.3	31.5	37.9
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)		
Max. Total Harmonic Distortion	<3%	<3%	<3%
Maximum output overcurrent protection(A)	73	73	95
Efficiency			
Max. Efficiency	98.5%	98.2%	98.5%
European Efficiency	97.9%	97.2%	97.9%
Protection			
PV String Current Monitoring	Integrated	Integrated	Integrated
PV Insulation Resistance Detection	Integrated	Integrated	Integrated
Residual Current Monitoring	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated
AC Overcurrent Protection	Integrated	Integrated	Integrated
AC Short Circuit Protection	Integrated	Integrated	Integrated
AC Overvoltage Protection	Integrated	Integrated	Integrated
DC Switch	Integrated	Integrated	Integrated
DC Surge Protection	Type III (Type II Optional)	Type II	Type III (Type II Optional)
AC Surge Protection	Type III (Type II Optional)	Type III (Type II Optional)	Type III (Type II Optional)
AFCI	Optional	Optional	Optional
Emergency Power Off	Optional	Optional	Optional
Rapid Shutdown	Optional	Optional	Optional
Remote Shutdown	Optional	Optional	Optional
PID Recovery	Optional	Optional	Optional
Power Supply at Night	Optional	Optional	Optional
General Data			

Operating Temperature Range (°C)	-30~+60	
Derating temperature (°C)	45	
Storage Temperature (°C)	-30~+70	
Relative Humidity	0~100%	
Max. Operating Altitude (m)	4000	
Cooling Method	Smart Fan Cooling	
User Interface	LED, LCD (Optional), WLAN+APP	
Communication	RS485, WiFi, LAN or 4G or Bluetooth(Optional)	
Weight (kg)	16.6	17.7
Dimension (W×H×D mm)	530×413×221	
Noise Emission (dB)	＜45	
Topology	Non-isolated	
Self-consumption at Night (W)	<1	
Ingress Protection Rating	IP66	
Anti-corrosion Class	C4,C5(Optional)	
DC Connector	MC4 (4~6 mm^2)	
AC Connector	OT terminal (Max. 16mm^2)	
Environmental Category	4K4H	
Pollution Degree	III	
Overvoltage Category	DC II / AC III	
Protective Class	I	
The Decisive Voltage Class (DVC)	PV : C AC : C Com : A	
Active Anti-islanding Method*1	AFDPF + AQDPF	
Country of Manufacture	China	

*1: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.

Overvoltage category definition

Category I: Applies to equipment connected to a circuit where measures have been taken to reduce transient overvoltage to a low level
Category II: Applies to equipment not permanently connected to the installation. Examples are appliances, portables tools and other plug-connected equipment.
Category III: Applies to a fixed equipment downstream, including the main distribution board. Examples are switch gear and other equipment in an industrial installation.
Category IV: Applies to equipment permanently connected at the origin of an installation (upstream of the main distribution board). Examples are electricity meters, primary over-current protection equipment and other equipment connected directly to outdoor open lines.

Moisture location category definition

Parameters	Level		
	3K3	4K2	4K4H
Moisture Parameters	0~+40°C	-33~+40°C	-33~+40°C
Temperature Range	5% - 85%	15% - 100%	4% - 100%

Environment category definition：
Outdoor: Ambient Temperature: -25~+60°C, applied to Pollution Degree 3 environment.
Indoor Unconditioned: Ambient Temperature: -25~+40°C, applied to Pollution Degree 3
environment.
Indoor conditioned：Ambient Temperature: 0~+40°C, applied to Pollution Degree 2 environment.

Pollution degree definition:
Pollution Degree 1: No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.
Pollution Degree 2: Normally only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation must be expected.
Pollution Degree 3: Conductive pollution occurs, or dry. non-conductive pollution occurs, which becomes conductive due to condensation, which is expected.
Pollution Degree 4: Persistent conductive pollution occurs, for example, the pollution caused by conductive dust, rain or snow.

11 Obtaining of Relevant Manuals

Name of the Document	Official Website Link
Smart Meter Quick Installation Guide (GM330、GMK330)	https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_Smart%20Meter-EU_Quick%20Installation%20Guide-POLY.pdf
Quick Installation Guide for EzLink3000	https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_EzLink_Quick%20Installation%20Guide-EN.pdf
Ezlogger3000C Quick Installation Guide	https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_Ezlogger3000C_Quick-Installation-Guide-POLY.pdf
EzLogger Pro Quick Installation Guide	https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_Ezlogger%20Pro_User%20Manual-EN.pdf
4G Kit-CN-G20、4G Kit-CN-G21 Quick Installation Guide	https://www.goodwe.com/Ftp/Installation-instructions/4G-KIT.pdf
WiFi、LAN Kit-20、WiFi Kit-20 Quick Installation Guide	https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_WiFi-LAN-Kit-20_WiFi-Kit-20_Quick-Installation-Guide-POLY.pdf

GoodWe Website

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