USER MANUAL Off Grid Hybrid Inverter <sub>G6.2K-P1LK</sub>



Document version: 0 1

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## Preface

#### Notice

The products, services or features you purchase are subject to the commercial contracts and terms of the Company. All or part of the products and service features described in this document may not be within the scope of your purchase. Unless otherwise agreed in the contract, the Company does not make any express or implied statements or warranties regarding the contents of this document.

## **Keep The Manual Safe**

This manual is an important part of the device. You can print the electronic user manual into paper as needed, and keep the paper and electronic documents properly for subsequent reference. Anyone operating the device at any time must follow the requirements of this manual.

## **Copyright Notice**

The copyright of this manual belongs to our company. No unit or individual may plagiarize, partially copy, or completely copy (including software, etc.), or copy or distribute it in any form or by any means. Our company reserves the right of final interpretation. This manual may be updated based on user or customer feedback. The current version was last updated on 20240715.

## Overview

Please read the product manual carefully before installation, operation and maintenance. This manual contains important safety instructions and installation instructions that must be followed during equipment installation and maintenance.

## **Scope Of Application**

This product manual describes the installation, electrical connection, commissioning, maintenance and troubleshooting of the G6.2K-P1LK inverter.

## **Reading Object**

This manual is intended for professional electrical technicians who are responsible for the installation and commissioning of inverters in photovoltaic power generation systems.

## Symbols Used In This Manual

To ensure the personal and property safety of users when using this product, and to use this product efficiently, the manual provides relevant safety operation information and uses corresponding symbols to highlight it. You must fully understand and absolutely comply with these emphasized information to avoid personal injury and property loss. The following lists the symbols used in this manual.



# 1. Basic Safety Information



Please read the safety precautions in this manual carefully. If ignored, serious personal injury or death may result.

## 1.1. Necessary Conditions For Installing And Maintaining The Inverter

**a.** The G6.2K-P1LK photovoltaic energy storage inverter must fully comply with national and local grid standards and regulations.

**b.** Read and understand all instructions contained in this manual and become familiar with the relevant safety symbols before you begin installing and commissioning the equipment .

**c.** According to national and state/provincial regulations, access to the power grid is only possible with permission from the power department and can only be performed by qualified electrical engineers.

**d.** If any maintenance or repair is required, please contact the nearest authorized repair center. For information about the nearest authorized center, please contact your dealer. Do not repair the product yourself, as it may result in personal injury or property damage.

**e.** Before installing and maintaining the equipment, the high voltage DC power of the photovoltaic array should be cut off using a DC switch, otherwise the high voltage generated may cause serious injury.

### **Requirements For Installation And Maintenance Personnel**

When the inverter is running, some parts may be energized and some parts may become hot. Improper use, incorrect installation or incorrect operation may result in serious personal or property damage. Transportation, loading and unloading, installation, startup and maintenance operations must be performed by qualified electricians (all effective accident prevention measures in the user's country must be observed!). The company does not assume any responsibility for personal or property damage caused by any incorrect use.

#### **Assembly Conditions**

Assemble the G6.2K-P1LK photovoltaic energy storage inverter according to the detailed instructions in the following chapters of this manual. Place the inverter on a surface with appropriate load-bearing capacity (e.g., wall, component bracket) and ensure the inverter is installed vertically. Choose a suitable location for installing electrical equipment, ensuring there is enough space for fire passageways for maintenance in case of a malfunction. Maintain proper ventilation conditions to ensure adequate airflow circulation necessary for cooling. During assembly, the air humidity should be less than 90%.

## **Transportation Notes**

The inverter is in the best electrical and mechanical condition when it leaves the factory. When transporting the inverter, you must use the original packaging of the inverter or appropriate packaging to ensure the safety of the equipment during transportation. The transportation company is responsible for any damage to the machine caused during transportation. When picking up the goods, please conduct a comprehensive inspection of the inverter. If you find any packaging problems that may cause damage to the inverter, or if you find any visible damage to the inverter, please notify the responsible transportation company immediately. If necessary, you can seek help from your photovoltaic system installer or our company.

## **Electrical Connection Precautions**

When working with a powered inverter, please observe all current national regulations regarding the prevention of electrical accidents.





Only when the local power department permits and the work is completed by a professional electrical engineer The inverter can be connected to the grid only after electrical connection is made.

## **Operation Notes**

<u>!</u>	Touch the terminal of the power grid or equipment, which may cause electric shock death or fire! Do not touch the terminals or conductors connected to the grid circuit.
Danger	Note any instructions or safety instructions related to the grid connections.
<u>!</u>	During operation, some internal components will become hot, please wear protective gloves.

## **Maintenance And Repair Precautions**



Before performing any maintenance work, first disconnect the inverter from the grid and then disconnect the DC side electrical connection. Wait at least 5 minutes until the internal components are discharged before performing any repair work .



Any fault that affects the safety performance of the inverter must be eliminated before the inverter can be turned on again. If any maintenance work is required, please contact the local authorized maintenance center. will not bear the warranty and joint liability for the losses caused thereby .

#### Inverter EMC / Noise Level

Electromagnetic compatibility (EMC) refers to the ability of an electrical device to function without failure or error in a specified electromagnetic environment and without causing unacceptable impact on the environment. Therefore, EMC represents the quality characteristics of electrical equipment; inherent noise immunity; immunity to internal electrical noise; immunity to external noise; immunity to external system electromagnetic noise; noise emission level; the impact of electromagnetic emission on the environment.



The high voltage circuits in the inverter are life-threatening! Only professional electrical engineers can operate this product : Minors , disabled people, and mentally ill people are not allowed to use this product; this product should be installed where children cannot reach it.

## 1.2. Explanation Of Safety Information Symbols

Danger	The high voltage circuits in the inverter are life-threatening! Only professional electrical engineers can operate this product: Minors , disabled people, and mentally ill people are not allowed to use this product; this product should be installed in children's Places out of reach of children.
Careful	Since the casing temperature of the inverter is very high during operation, be careful of burns! When the inverter is running, only the display screen and buttons of the inverter can be touched.
Notice	The photovoltaic array frame, bracket, etc. must be safely grounded and should comply with the grounding requirements of the local power department!
	Ensure that the maximum output voltage of the PV array (open circuit voltage after low temperature correction ) does not exceed the maximum input voltage of the inverter. This may cause damage to the inverter or other The company has the right not to provide warranty and bear no joint and several liability for any loss.

## Symbols On The Inverter

There are safety-related labels on the G6.2K-P1LK inverter. Please read and fully understand these labels before installing the device.

Symbol Symbolic Name		Symbolic Meaning
	Indicates that there is Residual pressure danger!	After the inverter DC side is powered off for a period of time, The internal capacitor is still charged and needs to wait 5 minutes to ensure that the capacitor is fully discharged before maintenance.
4	Be careful of high voltage and electric shock.	This inverter has high voltage during operation. All operations on the inverter must be performed by trained personnel. It should be carried out by professional electrical technicians.
<u>sss</u>	Be careful with hot surfaces.	The inverter casing temperature is very high when it is working, so it is strictly forbidden to touch it.
CE	symbol European Continent Standard allow (CE) certification.	This product complies with CE certification standards.

Symbol Symbolic Name		Symbolic Meaning	
Ground terminal.		Connect the inverter to the grounding bar to achieve grounding protection.	
Read the instructions. Please read this instruction manual befinistalling the inverter.		Please read this instruction manual before installing the inverter.	
Electrical positive and negative pole identification.		Remind users to pay attention to the polarity of electrical connections.	
Temperature indicator		Indicates the permissible temperature range.	
	This side faces up.	The inverter must always be transported, handled and stored in such a way that the arrow always points upwards.	

# 2. Product Description

## 2.1. Product Information

- The G6.2K-P1LK inverter is a single-phase photovoltaic energy storage inverter that integrates a photovoltaic grid-tie inverter and energy storage battery.
- The electricity generated by the photovoltaic power generation system is used for self-consumption, the excess electricity is used to charge the battery, and the remaining electricity is output to the grid. When the photovoltaic power does not meet its own consumption, the battery will discharge to support the load operation. If the battery power is insufficient, the system will obtain electricity from the grid to support the load.



### 2.2. Dimensions Description



## 2.3. Features

 $\cdot$  The G6.2K-P1LK photovoltaic energy storage inverter allows a maximum overload of 150% for 80ms, maximizing output power. The uninterruptible power supply (UPS) mode can support inductive loads such as air conditioners or refrigerators, with an automatic switching time of 10 milliseconds.

- $\cdot$  2 MPPT inputs, and supports 1.1 times DC overload.
- $\cdot$  Flexibly switch between grid-connected mode and energy storage mode.
- $\cdot$  The maximum battery charge and discharge efficiency is 95 % .

 $\cdot$  1 string battery input, maximum charge and discharge current 100A /130A .  $\cdot$  Smart monitoring (WiFi) .

#### 2.4. Electrical Block Diagram



## **3. Product Installation**

### Precautions



#### 3.1. Installation Process



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### 3.2. Pre-Installation Check

#### Check the outer packaging materials

The packaging materials and components may be damaged during transportation. Therefore, before installing the inverter, please check its outer packaging materials. Check whether the outer packaging materials have any damage, such as holes, cracks, etc. If you find any damage to the inverter, please do not open the packaging and contact the dealer as soon as possible. It is recommended that you Remove packaging materials within 24 hours.

#### Check delivery list

After unpacking the inverter, check whether the delivery is complete. If any damage is found or any components are missing, please contact the dealer.

Please check the product packaging and accessories carefully before installation .

Serial number	Graphics	Specifications	Quantity (PCS)
1		Inverter	1
2		User Manual	1
3		Warranty card	1
(4)		Certificate	1
5		Factory inspection report	1
6	or E	PV+/PV- input terminal	2

7	or ##	PV+/PV- input terminal metal core	2
8		Expansion bolt M8*100 (for inverter fixing)	2
9		WiFi Dongle	1
(10)		M4*6 (for WiFi Dongle fixation)	2
(1)		CT (including cable 3m)	1
(12)		CT connector × 1 (applicable to CT to inverter communication port)	1
(13)		O-type connector 8mm (battery line terminal spare)	2

# 4. Appearance



1	Switch	7	WiFi Dongle
2	Pressure Relief Valve	8	Grid interface
3	Photovoltaic Input*2	9	Operation panel
4	Communication port 1	10	Equipment Nameplate Label
5	Communication port 2	11	Handle
6	EPS Interface	12	Mounting brackets

# 5. Install

5.1 Prepare The Tools Required For The Installation And Electrical Connection

Serial Number	Tool	Tool Describe Functio	
1	A A A A A A A A A A A A A A A A A A A	Impact drill recom- mendation 12mm drill bit	Wall drilling
2		Flathead screwdriver	Disassembly, installation of screws and wiring

3		4mm Phillips screwdriver	Disassembly and installation AC terminal screw
4	E FEIR C	Removal tools	Removing PV Terminals
5		Wire strippers	Wire stripping
6	English the	Crimping Tool	Crimping power grid and key load end cables Wire and crimp CT extension cable
7		Multimeter	Check whether the cable connection is correct. Is the positive and negative poles of the battery correct? Is it reliable?
8		Opening ≥ 32 mm Wrench	For tightening expansion bolts
9	4	Marker pen	Punch mark
10		Tape measure	Measuring distance
11	0-180*	Level	Ensure the backplane is level
12		protective gloves	Wear when installing the machine
13		protection goggle	Wearing while piercing
14		Face mask	Wearing while piercing

## 5.2 Installation Instructions 5.21 Installation is Not Allowed



## 5.22 Installation location Selection

In order to facilitate the protection and maintenance of the inverter, the installation location of the inverter must be carefully selected according to the following rules:

**Rule 1:** The inverter should be mounted on a solid surface that is suitable for the orientation of the inverter and can support the weight of the inverter.

Rule 2: The inverter should be installed vertically or with an inclination angle not exceeding 15°.



Rule 3: The ambient temperature must be below 60 degrees Celsius. Rule 4: To extend the service life of the inverter and protect it from direct sunlight, rain and snow, choose a sheltered installation location as much as possible.



**Rule 5:** The installation height should preferably make the display screen at eye level to facilitate display panel operation.

Rule 6: After installation, product labels should be neat and clean.

**Rule 7:** When installing the inverter, you need to reserve enough space around it. The specific dimensions are shown in the figure below:





Do not install near flammable, explosive or strong electromagnetic equipment.

## 5.3 Installation

**Step 1:** Please select a wall with sufficient bearing capacity (the bearing capacity of the wall must be higher than 24KG, otherwise the inverter may fall), and use a marker to mark the location where the fixed bracket needs to be drilled on the wall. Then use an impact drill to drill holes on the wall (hole diameter  $\Phi$ 10.5mm). When drilling, please keep the impact drill perpendicular to the wall, and the drilling depth should be slightly greater than the length of the expansion tube.

Step 2: Use the M8\*100 expansion screws in the accessories to fix it on the wall.

**Step 3:** Lift the inverter to the position where the fixing plate hole and the expansion screw are relative. In this process, the weight should be taken into consideration to keep the inverter balanced. Pass the expansion screw bolt through the fixing plate hole of the inverter, and use the expansion screw nut to fix the inverter and the expansion screw in turn to prevent the inverter from falling off the expansion screw.

Step 4: The ground cable should be connected to the ground location on the side.



## 6. Electrical Connection



6.1 PV Connection

Before connecting the PV cluster to the inverter, confirm the following requirements:

The total short-circuit current of the PV string must not exceed the maximum DC current of the inverter, which is 15A.

O The maximum input voltage of each PV string must not exceed 500V, otherwise there is a risk of electric shock and fire.

3 PV strings do not support grounding and are designed without transformers

0 Use the DC plug in the accessories

(5) The polarity of the PV string and the inverter cannot be reversed, otherwise the inverter may be damaged.



## 6.2 Battery Connection

① Please be careful to avoid electric shock and chemical hazards.

② Make sure there is an external DC switch (≥200A) connected to the battery.

③ Before connecting the battery to the inverter, make sure the battery switch is in the off state and the battery nominal voltage reaches the technical parameters of the GH series products, ensuring that the inverter and photovoltaic and AC power sources are completely isolated.

④ Applicable to lithium batteries (packs) with a capacity greater than or equal to 100ah. Battery cable requirements are as follows:

A B	Grade	Definition	Length
↓ ↓	А	Cable outer diameter	10~12mm
	В	Cross-sectional area	≥25mm
	С	Bare wire length	10mm

<b>Step 1:</b> Use crimping pliers to crimp the battery O-type terminals.	
Step 2: ① Route the battery power cable through the battery cover and lock it securely. ② Do not connect the battery with reverse polarity (+/-).	
Step 3: ① Connect the BMS CAN communication cable. ② The default CAN communication protocol is Pylon protocol, and the Daneng protocol can be selected.	

## **Suitable For Lead-Acid Batteries**

Lead-acid batteries and other similar older technology batteries require proper and precise design, installation and maintenance to work effectively.

For lead-acid battery packs, inconsistencies between battery packs may cause the battery packs to

be overcharged or over-discharged, which in turn may cause damage to the battery packs and shorten the life of the battery packs.

The AEP series inverters do not have a temperature compensation function, so customers need to make battery settings based on the actual operating temperature of the battery.

When setting the lead-acid battery parameters on the APP, strictly follow the battery specifications and refer to the actual operating conditions of the battery (such as operating temperature and battery life). Inappropriate settings will lead to higher SOC deviation, shortened battery life and battery damage.

Due to differences between battery packs, battery aging, and other characteristics of lead-acid batteries, the SOC calculation value of a lead-acid battery may not be very accurate.

The company is not responsible for any damage caused by battery out of warranty or battery quality issues.

The company reserves the right of final interpretation.

## **6.3 Grid Connection**

Make sure the inverter is completely disconnected from any DC or AC power source before connecting the AC cables.

O An external AC switch ( $\geqq$  32A) is required to isolate the power grid when necessary. The requirements for using the AC switch are as follows:





## 6.4 EPS Connection

① An external AC switch (>32A) is required to disconnect the load when necessary.

② If an electrical short circuit occurs only on the load side, the absence of an AC circuit breaker on the load side will cause the inverter to be damaged. And the load side function cannot be turned off under grid-connected conditions.

3 The maximum output power of EPS is 6000w (depending on the battery capacity) 1. If the load is continuously greater than 6000w, the inverter will stop outputting.

④ The output power of EPS depends on the capacity of the battery.

⑤ Do not connect to the mains to prevent damage to the machine due to incorrect wiring!

A	Grade	Definition	Length
	А	Conductor cross-sectional area	5mm <sup>*</sup>
	В	Bare wire length	8mm



## 6.5 CT Instructions

 $\textcircled$  In the system, a CT (current sensor) or meter must be installed to monitor the power of the house and set the state of the inverter (charging or discharging).

© CT current sensors or meters must be installed at the mains input. In this case, the inverter can monitor all the household power consumption. Based on the sensor, the inverter will control the power delivered to the grid to balance the household power consumption level.





# 7. Communication Port Description



# 8. Turn The Inverter On/off

## 8.1 Turn On The Inverter

(1). Turn on the AC circuit breaker.

(2). Turn on the PV DC switch

(3). Open the battery circuit breaker

(4). When the photovoltaic voltage is higher than 150V, or the AC grid has power, the inverter will automatically start (the screen lights up and enters standby mode). When the battery voltage is higher than 40V, press the power button (ON/OFF) on the front of the machine.

#### 8.2 Disconnecting The Inverter

(1) Open the AC circuit breaker to prevent the inverter from being reactivated.

(2) Disconnect the battery circuit breaker to prevent the inverter from being reactivated.

(3) Turn off the photovoltaic PV switch.

(4) Check the operating status of the inverter.

(5) After the LCD screen goes off, the inverter turns off.

## 9. Maintenance And Cleaning

#### 9.1 Heat Dissipation Check

If the inverter often reduces output power due to overheating, please check whether the inverter is blocked or clean the radiator and adjust the heat dissipation environment.

## 9.2 Inverter Cleaning

If the inverter is dirty, turn off the inverter and clean the casing.

#### 9.3 DC Switch Inspection

Check the circuit breaker and cables regularly for any external abnormalities. If the circuit breaker shows signs of damage or the cables show visible discoloration or damage, contact the installer.



#### Notic

It is recommended to operate once a year [turn the rotary switch of the DC switch from "on" to "off" 5 times in a row]. This can clean the rotary switch and the contact points of the switch, thereby extending the electrical tolerance time of the DC disconnection.

10. Notes On Disassembling and Returning The Machine To The Factory For Repair

#### 10.1 Disassembling The Inverter

(1) Disconnect the inverter as instructed.

(2) Unplug all cables from the inverter.

(3) Lift the inverter from the bracket and remove the bracket screws.



#### Notic

There is a risk of burns from the inverter housing parts during operation! Please wait for 20 minutes after shutting down and wait for the housing to cool down before disassembling!

## 10.2 Packaging The Inverter

If possible, pack the inverter in the original carton and secure it with tape. If the original packaging is no longer available, please use a carton that can fully support the inverter's weight and size, and the carton can be completely closed.

## 10.3 Storage Of Inverter

Store the inverter in a dry place with an ambient temperature between -25°C and +60°C.

# 11. Operating Mode

This series of hybrid inverters has the following main working modes:

## 11.1 Self-Generation And Self-Consumption Mode

Photovoltaic will be used for load and battery first. When photovoltaic cannot meet the load demand, the battery will discharge to supply energy. When photovoltaic meets the load, the excess energy will be stored in the battery. Priority: Load > Battery > Grid





## 11.2 Electricity Sales Model

Photovoltaic and batteries output all energy to the grid at the set time Priority: Load > Grid > Battery



# 12. Panel Operation Instructions

## **12.1 Panel Description**

Four button functions

Button	Function Description
ESC	<ol> <li>Short press on the display interface to return to the first page.</li> <li>Long press for 5 seconds on the setting interface and release it to return to the display interface</li> </ol>
UP	1. Page up 2. Set number +1
DOWN	1. Scroll down 2. Set the number -1
ENTER	<ol> <li>Long press for 5 seconds on the display interface and release to enter the settings interface.</li> <li>Short press and release on the setting interface to enter the setting item.</li> <li>Long press for 5 seconds on the setting interface to complete the selected setting item.</li> </ol>

## 12.2 LED Indicator Lamp Function



Indicator Lights	Name	Explain
LED-G	BAT (green)	On: Battery is present and the device is in off-grid or grid-connected working state Flashing : There is battery, but the inverter is in waiting state Off : No battery
LED-Y ON GRID (yellow)		On: There is AC power and the inverter is in grid-connected working state Flashing : There is AC power and the inverter is in waiting state Off : No mains power
LED-Y	OFF GRID (yellow)	On:There is no mains power and the inverter is in off-grid operation Flashing : No AC power, the inverter is in waiting state Off : The inverter is in grid-connected state or the inverter has no input
LED-R	Warning light (red)	On: Inverter fault Flashing : The inverter has an alarm. Off : The inverter is normal

#### 12.3 LCD Function Display



Figure 1-2 Four - button LCD interface display

The LCD display can be divided into: icon display, numerical display and function setting area, and workflow display area.

#### • Icon Display:

 $\cdot$  The load and battery graphs represent the load and battery capacity, with each square representing 25% of the capacity. The load icon will flash when the inverter is overloaded.

- · The settings icon lights up when entering the settings menu; otherwise, it remains unlit.
- $\cdot$  The fault icon is displayed only in fault mode and remains off in other situations.

#### • Numerical Display And Function Setting Area:

In non-functional setting mode, this area displays the relevant information of the inverter . In normal mode, the relevant information of the inverter is displayed. By operating the up and down query keys (UP, DOWN), the input voltage and output voltage, input frequency and output frequency, battery voltage and current, battery SOC and capacity, PV voltage and PV current, PV power generation and power, load power and load voltage, output apparent power and output voltage, load percentage, software version and other related information can be displayed. In fault mode, the fault code is displayed.

 $\cdot$  On the function setting page, you can set related settings by pressing the UP, DOWN, and ENTER keys.

#### • Workflow Display Area:

 $\cdot$  4 seconds after power-on , this display area mainly displays the current flow direction of the inverter.

Under normal circumstances, there are 15 pages of display pages. Press the UP key or DOWN key to turn the display page to display the input and output voltage , input and output frequency , battery, PV voltage and current , load, software version, and other information. If there is an alarm, an additional page of alarm information will be displayed. If the inverter fails, the fault code page will

be displayed by default. The main page displays fault or alarm information by default. When there is no fault or alarm in the inverter , the first page is displayed by default.

**Page 1 (main display page)** displays the inverter PV1 voltage and PV1 current, as shown in Figure 1-3.



Page 2 displays the inverter PV1 power generation and PV1 power, as shown in Figure 1-4.



Figure 1 - 4 shows page 2

Page 3 displays the inverter PV2 voltage and PV2 current, as shown in Figure 1-5.



Page 4 displays the inverter PV2 power generation and PV2 power, as shown in Figure 1-6.



Page 5 displays the inverter AC voltage and AC current, as shown in Figure 1-7



Page 6 displays the inverter AC active power and AC apparent power, as depicted in Figure 1-8.



Figure 1 - 8 shows page 6

**Page 7** displays the inverter AC daily power consumption and AC frequency, as depicted in Figure 1–9.



Page 8 displays the inverter AC daily power generation and inverter NTC temperature, as shown in Figure 1–10.



Page 9 displays the inverter load voltage and load current, as shown in Figure 1-11.



Figure 1-11 shows page 9

Page 10 displays the inverter load active power and load apparent power, as shown in Figure 1-12.



Page 11 displays the inverter load percentage and load frequency, as shown in Figure 1-13.



Figure 1 - 13 Display page 11

Page 12 displays the inverter battery voltage and battery current, as shown in Figure 1-14.



Figure 1 - 14 shows page 12

Page 13 displays the inverter battery temperature and battery power, as depicted in Figure 1-15.



Page 14 displays the inverter battery AH and battery SOC, as shown in Figure 1-16.



Page 15: displays the inverter software version, as shown in Figure 1-17.



## **12.4 Function Setting Operation**

#### • Function Setting Operation Of The Inverter :

The specific operations of entering and exiting the function setting page and function setting are as follows:

 $\cdot$  On the display interface, press the ENTER key for more than 5 seconds and release it to enter the function setting page. Press the UP key or DOWN key to select the function. After turning to the desired function setting page, short press the ENTER key until the corresponding function word flashes , and you can enter and modify the setting item .

 $\cdot$  Enter the setting page of the selected function, and the selected function word will appear with a flashing value. Press the UP key or DOWN key to select the value of the desired function parameter. Note: If the selected parameter involves 2–3 digits, you can short press the ENTER key to change the position.

• After turning the page to the function parameter you want to select, press the ENTER key for 5 seconds to complete the function setting. At this time, the function parameter value will remain on and will no longer flash.

In the settings interface, press and hold the ESC key for 5 seconds to return to the main display page (you can also do nothing and wait up to 30 seconds to automatically jump back to the main display page).

#### Set The Interface Zero: System Time



This setting item is only used for reading (only reads hours and minutes), which is convenient for reference of subsequent charging and discharging time period setting items. It has no setting

#### function

#### Setting Interface 1: Working Mode (MOD)

Figure 1 - 1 9

Function description: Set the inverter working mode (0: SELL, selling power mode 1: SELF-USE, self-generation and self-use mode)

The working mode definition is detailed in this manual.

Setting conditions: All states can be set and take effect immediately after setting.

#### Notice :

To set the electricity selling mode, you also need to set the discharge time period (setting items 16, 17, 18, 19, 20); the self-generation and self-use mode setting takes effect immediately. If you set forced charging (setting items 11, 12, 13, 14, 15) at this time, forced charging will take priority during this time period.

#### Setting Interface 2: Battery Type (bAt)

Function description: Set the battery type (AGM: lead-acid LEAD-ACID LIB: lithium battery LITHIUM) [Default]

Setting conditions: All states can be set and take effect immediately after setting. Note: To set the battery type to lithium battery, you also need to set the battery communication protocol (setting item 3) to work properly.



#### Setting Interface 3: Battery Agreement (BAF)

Function Description: Configures the battery communication protocol (PYL: PYLON [default], DNC: DN)

Setting Conditions: Changes take immediate effect and can be configured in all states.

6 <b>8</b> F	ij	JnC	
	Figure 1 - 21		

#### Setting Interface 4: Battery Discharge Cut-Off SOC (BSU)

Function description: Set the battery discharge cut-off SOC (0-100 can be set). If the battery SOC is lower than this setting value, the battery cannot enter the normal working state and needs to be charged.

setting conditions: All states can be set and take effect immediately after setting.



Figure 1 - 22

#### Setting Interface 5: AC Maximum Charging Current Setting (RCC)

Function description: Set the maximum charging current of the inverter AC (0-100A adjustable) Setting conditions: All states can be set and take effect immediately after setting.



Figure 1 - 23

#### Setting Interface 6: AC+PV Maximum Charging Current (MCC)

Function Description: Set the maximum charging current of the inverter AC+PV (0-100A adjustable)

Setting conditions: All states can be set and take effect immediately after setting.

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	Figure 1 - 24	

#### Setting Interface Seven: Battery Charging Cut-off Voltage Setting (bAO)

Function Description: Set the battery charging cut-off voltage (0-58.5V can be set). If the battery voltage is higher than this setting value, the charging state will stop and exit the charging state. Setting conditions: All states can be set and take effect immediately after setting.



#### Setting Interface Eight: Battery Discharge Cut-Off Voltage Setting Value (bAU)

Function Description: Set the battery discharge cut-off voltage (0-58.5V can be set). When the battery voltage is lower than this set value, the battery stops discharging. Setting conditions: All states can be set and take effect immediately after setting.



#### Setting Interface Nine: Battery Float Charge Voltage Setting Value (bFL)

Function Description: Set the battery float charge voltage (0-58.5V adjustable) Setting conditions: All states can be set and will take effect immediately after setting Note: In lead-acid mode, this setting value will take effect; in lithium battery mode, the charge and discharge current will be based on the value uploaded by BMS.



Figure 1 - 27

#### Setting Interface 10: Battery Constant Voltage Charging Value (bCV)

Function Description: Set the battery float charge voltage (0-58.5V adjustable) Setting conditions: All states can be set and will take effect immediately after setting Note: In lead-acid mode, this setting value will take effect; in lithium battery mode, the charge and discharge current will be based on the value uploaded by BMS.



Figure 1 - 28

#### Setting Interface 11: Forced Charging Enable (FCE)

Function Description: Set the inverter to force charging (OFF: turn off, ON: turn on) Setting conditions: All states can be set and will take effect immediately after setting Note: After forced charging is enabled, you also need to set the charging time period (setting items 12, 13, 14, 15) before the inverter can force charging the battery.

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Figure 1 - 29

#### Setting Interface 12: Forced Charging Start time (CS1)

Function Description: Set the start time of inverter forced charging time period 1 (0-24H setting, three digits; for example, 020: 2 o'clock, 200: 20 o'clock). The time period will take effect in the charging enable mode of the setting interface 11.

Setting conditions: All states can be set and will take effect immediately after setting



#### Setting Interface 13: Forced Charging End Time (CE1)

Function Description: Set the end time of inverter forced charging time period 1 (0-24H setting, three digits; for example, 020: 2 o'clock, 200: 20 o'clock). The time period will take effect in the charging enable mode of the setting interface 11.

Setting conditions: All states can be set and will take effect immediately after setting



Figure 1 - 31

#### Settings Interface 14: Forced Charging Start time 2 (CS2)

**Function Description:** Set the start time of inverter forced charging time period 2 (0-24H setting, three digits; for example, 020: 2 o'clock, 200: 20 o'clock). The time period will take effect in the charging enable mode of the setting interface 11.

Setting conditions: All states can be set and will take effect immediately after setting



Figure 1 - 32

#### Setting Interface 15: Forced Charging End Time 2 (CE2)

**Function Description:** Set the end time of inverter forced charging time period 2 (0-24H setting, three digits; for example, 020: 2 o'clock, 200: 20 o'clock). The time period will take effect in the charging enable mode of the setting interface 11.

Setting conditions: All states can be set and will take effect immediately after setting



#### Setting Interface 16: Forced Discharge Enable (FDE)

Function Description: Set the inverter to force discharge (OFF: Close ON: Open)

Setting conditions: All states can be set and take effect immediately after setting (only effective in forced charging prohibition mode)

**Note:** After forced discharge is enabled, you also need to set the discharge time period (setting items 17, 18, 19, 20), and set the inverter working mode to SELL (setting item 1) before the inverter can force AC feeding to the grid.



Figure 1 - 34

#### Setting Interface 17: Forced Release Start time (DS1)

**Function Description:** Set the start time of inverter forced discharge time period 1 (0-24H setting, three digits; for example, 020: 2 o'clock, 200: 20 o'clock)

Setting conditions: All states can be set and will take effect immediately after setting



Setting Interface 18: End Time Of Forced Release (DE1)

Function Description: Set the end time of inverter forced discharge time period 1 (0-24H setting, three digits; for example, 020: 2 o'clock, 200: 20 o'clock)

Setting conditions: All states can be set and will take effect immediately after setting



Figure 1 - 36

#### Setting Interface 19: Forced Release Start Time 2 (DS2)

**Function Description:** Set the start time of the inverter forced charging time period 2 (0-24H setting, three digits; for example, 020: 2 o'clock, 200: 20 o'clock) **Setting conditions:** All states can be set and will take effect immediately after setting

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Figure 1 - 37

#### Setting Interface 20: Forced Charging End Time 2 (CE2)

**Function Description:** Set the end time of inverter forced discharge time period 2 (0-24H setting, three digits; for example, 020: 2 o'clock, 200: 20 o'clock)

Setting conditions: All states can be set and will take effect immediately after setting





\*\*\*Forced charging & forced discharging and their time period settings are all for grid-connected working mode

#### Setting Interface 21: Lithium Battery Forced Activation Enable (CE2)

Function Description: Enable the forced activation command of lithium battery (ON: enable, OFF: disable)

Setting conditions: All states can be set

**Note:** The command will only take effect when there is photovoltaic power and the PV voltage is greater than 150V.

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Figure 1 - 39

#### Setting Interface 22: Anti-Backflow Function Enable (AGE)

Function Description: Turn on the anti-backflow function (ON: turn on, OFF: turn off) Setting conditions: All states can be set

**Note:** After the anti-backflow function is turned on, the inverter will not feed AC power to the grid; after connecting to a diesel generator, the anti-backflow function needs to be turned on, otherwise there is a risk of damaging the equipment.



Figure 1 - 40

#### Setting Interface 23: Diesel Generator Enable (GEN)

Function Description: Enable the diesel generator (ON: on, OFF: off)
Setting conditions: After connecting to the diesel generator, you can set
Note: After the diesel generator is enabled, the battery can only be charged but not discharged.
When PV is present, the diesel generator only bypasses the load and does not charge the battery.
Only when PV is less than 110V will the diesel generator intervene to charge the battery.
The diesel generator and AC power have the same interface. You can only connect one of them, not both.



## 13. Fault and Alarm Description



Figure 1 - 41 Fault and alarm icons

Function description: The alarm code ALA flashes and the buzzer sounds for 1 second, and then stops for 1 minute. The fault indicator code is always on and the buzzer sounds for a long time. The fault and alarm LCD display is as shown in the figure above. The fault mode fault icon is always on, and the alarm status alarm icon flashes. Contact the manufacturer according to the fault information to eliminate the abnormal situation.

#### 13.1 Fault Description

• Fault: The inverter enters fault mode, the LED light turns red and the LCD displays the fault code.

	Fault Code Table						
Error Code	Chinese Meaning	English Meaning	Relevant Actions	Triggering Conditions	Recovery conditions	Fault Alarm	
1	(Fan failure)	cFanFault	Switch to fa- ilure mode	Fan failure	If the fan is not blocked, it cannot be restored	Fault	
2	/	/	/	/	/	/	
3	/	/	/	/	/	/	
4	Back Up Over load failure	BackUp Overload Fault	Switch to failure mode	Off-grid port over load & inverter off-grid abnormality	Off-grid port overload: Reduce load and restart to recover Inverter off-grid abnormality: If it cannot be restored after restarting, it is abnormal and cannot be restored	Fault	
5	ARM communi- cation failure	ARM Commun- ication Fault	Switch to failure mode	ARM105 and DSP commu- nication failure	lf you do not restore after restart, you cannot recover.	Fault	
6	/						
7	/						
8	ARM communi- cation failure	ARM Commun- ication Fault	Switch to failure mode	ARM105 cannot receive DSP commu- nication signal	After restart, if it is not restored, it cannot be restored	Fault	
9	/						
10	Storage failure	EEPROM Fault	Switch to failure mode	EEPROM memory chip error	After restart, if it is not restored, it cannot be restored	Fault	
11	/						
12	/						
13	/						
14	/						
15	/						
16	Group three- phase failure fault	Three Phase Fault	Switch to failure mode	When threephase power is conn- ected, the comm- unication between inverters is abnormal.	Check whether the wiring is normal and reconnect the signal line to restore	Fault	
17	Parallel communica- tion failure	Paralle- Com Fault	Switch to failure mode	Parallel com- munication abnormality	Check whether the wiring is normal and reconnect the signal line to restore	Fault	

#### Fault Code Table

Error Code	Chinese Meaning	English Meaning	Relevant Actions	Triggering Conditions	Recovery conditions	Fault Alarm
18	Relay failure	Relay Fault	Switch to failure mode	Relay detection abnormality	After restart, if it is not restored, it cannot be restored	Fault
19	/					
20	/					
21	Hall Fault	Hall Sen- sor Fault	Switch to failure mode	Current sensor abnormality	Unrecoverable	Fault
22	Master-slave commu- nication failure	DSP Commu- nication Fault	Switch to failure mode	DSP cannot receive ARM105 communication signal	After restart, if it is not restored, it cannot be restored	Fault
23	DC bus overvoltage	Bus Over Voltage	Switch to failure mode	BUS bus overvoltage	After the restart, if not restored, it can not be restored	Fault
24	/					
25	/					
26	/					
27	/					
28	Inverter current DC component fault	DCI High	Switch to failure mode	The DC compon- ent of the inverter current is detec- ted to be excessive.	Check whether the load is abnormal. If there is no abnor- mality, if it does not recover after restart, it is unrecoverable	Fault
29	PV overvo- ltage fault	PV Over Voltage	Switch to failure mode	PV input volt- age is too high	Reducing the PV input voltage will restore	Fault
30	Grid voltage failure	Grid Voltage Fault	Switch to failure mode	The AC voltage exceeds the set upper and lower limits.	The system will resume operation when the mains voltage returns to within the set value range.	Fault
31	Grid frequency failure	Grid Frequ- ency Fault	Switch to failure mode	The mains AC frequency exce- eds the upper and lower limits of the set value	The system will resume operation when the mains frequency returns to within the set value range.	Fault
32	Inverse temperature Fault	Inverter NTC Fault	Switch to failure mode	Inverter temperature is too high	If the inverter is turned off for 30 minutes and then turned on again, and the error message persists, it cannot be reset.	Fault

## 13.2 Alarm Description

• Alarm: The inverter does not enter fault mode, the LED light flashes red, and the LCD displays the alarm code.

#### Alarm code table

Alarm Code	Chinese Meaning	English Meaning	Related actions	Recovery conditions	Fault Alarm
1	/				
2	Battery soft start error	Bat Soft Start Fault	Warning: Battery not charging	Restart to recover	Alerts
3	BMS overvoltage alarm	BMS Over Voltage	Alarm, the inverter exits working state	Stop charging & battery discharge to recover	Alerts
4	BMS undervoltage alarm	BMS Under Voltage	Alarm, the inverter exits working state	Recharge to restore	Alerts
5	/				
6	Battery communic- ation alarm	BMS COM Fail	Warning, battery not working	Check whether the communic- ation cable is plugged in properly. Replug it to restore the system	Alerts
7	Abnormal battery temperature	Bat Temperture Fault	Warning, warning, the battery is not working	Turning off the inverter for 30 minutes to dissipate heat, then restarting it will restore the system	Alerts
8	Abnormal temperature of the charge and discharge module	Chgdis Module Temperture Fault	Warning, battery not working	After stopping for 30 minutes to cool down, restart the machine to recover	Alerts
9	Battery disch- arge overcurrent alarm	BMS Discharger Over Current	Alarm, exit inverter	Restart to recover	Alerts
10	Battery charg- ing overcurrent alarm	BMS Charger Over Current	Alarm, exit inverter	Restart to recover	Alerts
11	Battery overvo- Itage warning	Bat Voltage High	Alarm, exit inverter	Stop charging & battery discharge to recover	Alerts
12	Battery low voltage warning	Bat Voltage Low	Warning, battery stops discharging	Charge to the BMS undervol- tage recovery point for recovery	Alerts
13	Battery discharge overtempera- ture alarm	BMS Disch- arger Over Temperature	Alarm, switch to standby mode	After stopping for 30 minutes to cool down, restart the machine to recover	Alerts
14	Battery charging overtempera- ture alarm	BMS Charger Over Temperature	Alarm, switch to standby mode	After stopping for 30 minutes to cool down, restart the machine to recover	Alerts
15	Battery discharge undertempera- ture alarm	BMS Disch- arger Under Temperature	Alarm, switch to standby mode	The ambient temperature is too low, it can be restored after warming up	Alerts

16	Battery charging undertempera- ture alarm	BMS Charger Under Temperature	Alarm, switch to standby mode	The ambient temperature is too low, it can be restored after warming up	Alerts
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The pictures or schematic diagrams in this manual are for reference only. The actual product shall prevail. Any content shall be subject to change without prior notice.

# 14. Technical Parameters

Model	G6.2K-P1LK
DC input (PV)	
Maximum Photovoltaic Input power	7000W
Maximum DC Voltage	500V
Starting Voltage	150V
Rated Voltage	360V
MPPT Operating Voltage Range	120V~430V
MPPT Quantity	2
Number Of MPPT Strings Per Channel	1
Maximum Input Current Of Each MPPT	15A
Maximum Short-Circuit Current Of Each MPPT	18.9A
AC Output ( Grid )	
Rated Power	6200W
Maximum Apparent Power	6200 VA
Rated Voltage (Range)	230V
Rated Frequency (Range)	50Hz /60Hz
Maximum Output Current	29.6A
Power Factor	0.8 Leading ~ 0.8 Lagging
THDi	<3%
Grid Connection Type	L+N+PE
Battery Input	
Battery Type	Lithium-Ion Battery/Lead-Acid Battery
Operating Voltage Range	41.6V ~ 58.5V
Maximum Charge And Discharge Current	100A / 130A
Continuous Charge And Discharge Ppower	4800W/6200W
AC Output (Backup)	
Maximum Output Power	6200W
Maximum Apparent Power	6200VA
Maximum Output Current	26.9A
Rated Voltage	230V

Rated Frequency	50Hz / 60Hz
THD	<3%
Switching Time	<20ms (Capacitive Load); <10ms (Resistive Load)
Efficiency	
Maximum Efficiency	98%
European Efficiency	97%
MPPT Efficiency	99.99%
Protection Facilities	
AC Lightning Protection	Supported
AC Short Circuit Protection	Supported
General Data	
Dimensions (W/H/T)	514.4 /567.9/233.6mm
Weight	32 . 5kg
Range Of Working Temperature	-25°C ~ 60°C
Nighttime Power Consumption	< 20W
Тороюду	Transformerless Design
Cooling Method	Intelligent Air Cooling
Protection Level	IP65
Relative Humidity	0-95% Non-Condensing
Altitude	2000m
DC Connection Type	MC4
AC connection Type	Connector
Display Method	LCD
Communication Interface: RS485/CAN/USB	Supported /Supported /Supported
Monitoring Interface: WIFI	Supported
Warranty Period: 5 Years/10 Yyears	Available/Optional
Certification	CE