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版本	内容	日期	制作人
V1.0	首版发行	20260624	杨晓恒
V1.1	更新45项软件条目，更新12项软件条目，添加干接点内容	20260630	杨晓恒

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打印要求：

成型尺寸	148×210mm
材质	80克双胶纸
工艺	黑白印刷
成型方式	骑缝装订

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Inverter User Manual

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1.Information on this Manual

1.1 Validity

This manual is valid for the following devices:

- Solar inverter

1.2 Scope

This manual describes the assembly, installation, operation and of this unit. Please read this manual carefully before installations and operations.

1.3 Target Group

This document is intended for qualified persons and end users. Tasks that do not require any particular qualification can also be performed by end users. Qualified persons must have the following skills:

- Knowledge of how an inverter works and is operated
- Training in how to deal with the dangers and risks associated with installing and using electrical devices and installations
- Training in the installation and commissioning of electrical devices and installations
- Knowledge of the applicable standards and directives
- Knowledge of the compliance with this document and all safety information

1.4 Label Description

In order to ensure the user's personal safety when using this product, the inverter and manual provides relevant identification information and uses appropriate symbols to alert the user, who should carefully read the following list of symbols used in this manual.

Labels on Inverter

	CAUTION Do not disconnect under load!
	Danger: High Voltage! Danger: Electrical Hazard!
	Start maintaining the INVERTER at least 5 minutes after the INVERTER disconnected from all external power supplies.
	Read instructions carefully before performing any operation on the INVERTER.
	Grounding: The system must be firmly grounded for operator safety.

Labels in the documentation

⚠ WARNING!	A high level of potential danger, which if not avoided, could result in death or serious injury to personnel.
⚠ CAUTION!	A moderate or low level of potential danger, which if not avoided, could result in moderate or minor injuries to personnel. In some bad situation, it could result in death or serious injury to personnel.

1.5 Safety Instructions



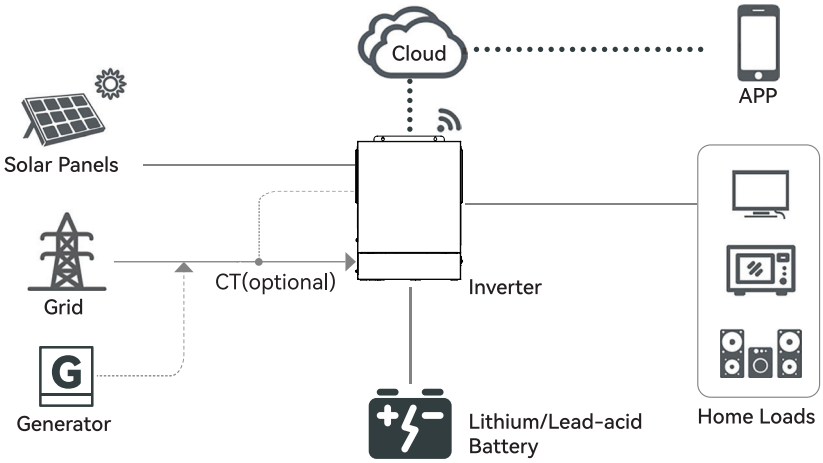
WARNING!

This chapter contains important safety and operating instructions. Read and keep this manual for future reference.

01. Please be clear which kind of battery system you want, lithium battery system or lead-acid battery system, if you choose the wrong system, energy storage system can't work normally.
02. Before using the unit, read all instructions and cautionary marking on the unit, the batteries and all appropriate sections of this manual. The company has the right not to quality assurance, if not according to the instructions of this manual for installation and cause equipment damage.
03. All the operation and connection please professional electrical or mechanical engineer.
04. All the electrical installation must comply with the local electrical safety standards.
05. When install PV modules in the daytime, installer should cover the PV modules by opaque materials, otherwise it will be dangerous as high terminal voltage of modules in the sunshine.
06. CAUTION – To reduce risk of injury, charge only deep-cycle lead-acid type rechargeable batteries and lithium batteries. Other types of batteries may burst, causing personal injury and damage.
07. Do not disassemble the unit. Take it to a qualified service center when service or repair is required. Incorrect re-assembly may result in a risk of electric shock or fire.
08. To reduce risk of electric shock, disconnect all wirings before attempting any maintenance or cleaning.Turning off the unit will not reduce this risk.
09. NEVER charge a frozen battery.
10. For optimum operation of this inverter, please follow required spec to select appropriate cable size. It's very important to correctly operate this inverter.

11.Be very cautious when working with metal tools on or around batteries. A potential risk exists to drop a tool to spark or short circuit batteries or other electrical parts and could cause an explosion.
12.Please strictly follow installation procedure when you want to disconnect AC or DC terminals. Please refer to INSTALLATION section of this manual for the details.
13.GROUNDING INSTRUCTIONS -This inverter should be connected to a permanent grounded wiring system. Be sure to comply with local requirements and regulation to install this inverter.
14.NEVER cause AC output and DC input short circuited. Do NOT connect to the grid when DC input short circuits.
15.Make sure the inverter is completely assembled, before the operation.

2.Introduction



This is a multifunctional solar inverter, integrated with a MPPT solar charge controller, a high frequency pure sine wave inverter and a UPS function module in one machine, which is perfect for off grid backup power and self-consumption applications. This inverter can work with or without batteries.

The whole system also need other devices to achieve complete running such as PV modules, generator, or utility grid. Please consult with your system integrator for other possible system architectures depending on your requirements. The WiFi module is built-in or plug-and-play monitoring device to be installed on the inverter. With this device, users can monitor the status of the PV system from the mobile phone or from the website anytime anywhere.

3. Installation

3.1 Unpacking and Inspection

3.1.1 Open-box Inspection

Products have been strictly tested before leaving the factory. Please sign for them after inspection. If the product is damaged, please contact the local distributor. Please open the box to check whether the outer packaging is intact or damaged, whether the internal equipment is damaged.

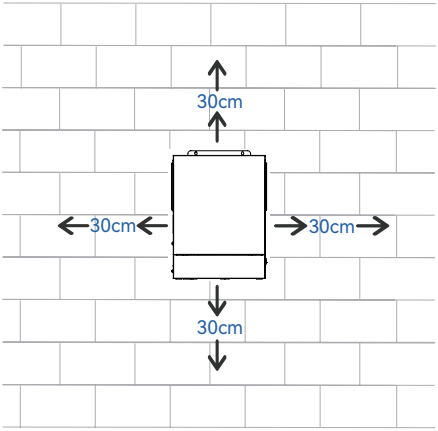
3.1.2 Installation Tools

Installation Tools	Multi-meter 	Protective gloves 	Insulated anti-smashing shoes 
	Safety glasses 	ESD wrist strap 	Hammer drill 
	Electric screwdriver 	Cross screwdriver 	Rubber mallet 
	Spirit level 	Wire cutter / stripper 	Terminal crimping tool 

3.2 Mounting Unit

Consider the following points before selecting where to install:

- Do not mount the inverter on flammable construction materials.
- Mount on a solid surface.
- Install this inverter at eye level in order to allow the LCD display to be read at all times.
- The ambient temperature should be between -10°C and 60°C to ensure optimal operation.
- The recommended installation position is to be adhered to the wall vertically.
- Be sure to keep other objects and surfaces as shown in the diagram above to guarantee sufficient heat dissipation and to have enough space for removing wires.

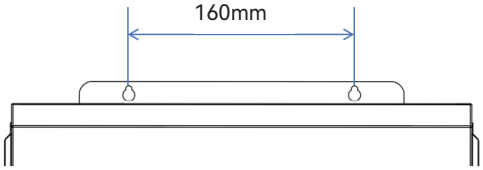


WARNING!

Inverter is suitable for mounting on concrete or other non-combustible surface only.

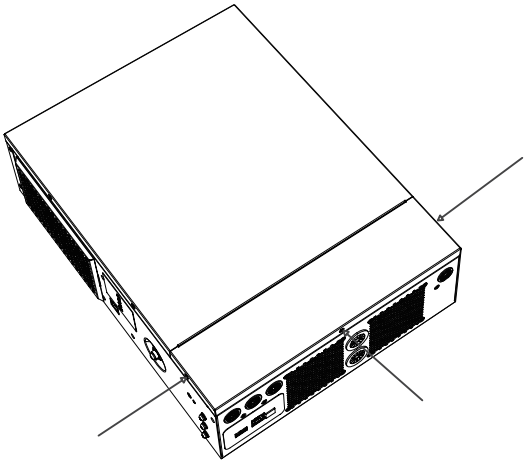
Follow the installation steps:

1. Use ϕ8 drilling bit drill holes on the mounting surface. The distance between 2 holes is 160mm. Then insert the expansion screw tube. M6 expansion screw is suggested.



2. Pick up the inverter vertically and align the screw holes at the top of the inverter with the expansion screw tube already installed on the wall. Fix the inverter on the mounting surface by screws.

Before connecting all wiring, please take off bottom cover by removing four screws as shown below:



3.3 AC Input / Output Connection



CAUTION!

Before connecting to AC input power source, please install a separate AC breaker between inverter and AC input power source. This will ensure the inverter can be securely disconnected during maintenance and fully protected from over current of AC input. The recommended spec of AC breaker is 40A.



CAUTION!

There are three terminal blocks with 'AC IN', 'AC OUT1', 'AC OUT2'(optional) markings. Please do NOT mis-connect input and output connectors.



CAUTION!

Be sure to connect AC cables with correct polarity. If L and N wires are connected reversely, it may cause damage to the inverter.

The N wires of input and output must not be connected together, as this may cause damage to the inverter in some condition.



WARNING!

All wiring must be performed by a qualified personnel.



WARNING!

It's very important for system safety and efficient operation to use appropriate cable for AC input connection. To reduce risk of injury, please use the proper recommended cable size as below.

Suggestion for AC input wires

Gauge	Cable (mm^2)
8 AWG	8.37



WARNING!

It's very important for system safety and efficient operation to use appropriate cable for AC output connection. To reduce risk of injury, please use the proper recommended cable size as below.

Suggestion for AC output wires

Gauge	Cable (mm^2)
8 AWG	8.37

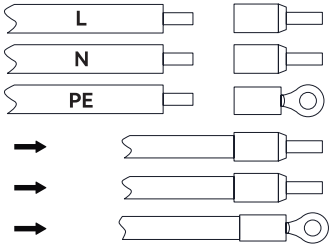
WARNING!

Make sure AC power is disconnected before attempting to connect AC power to the unit.

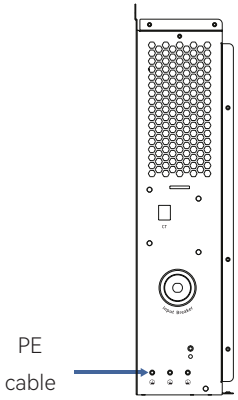
All operations during the electrical connection process, as well as the specifications of cables and components used, must comply with local laws and regulations. The cable color mentioned below is for typical reference.

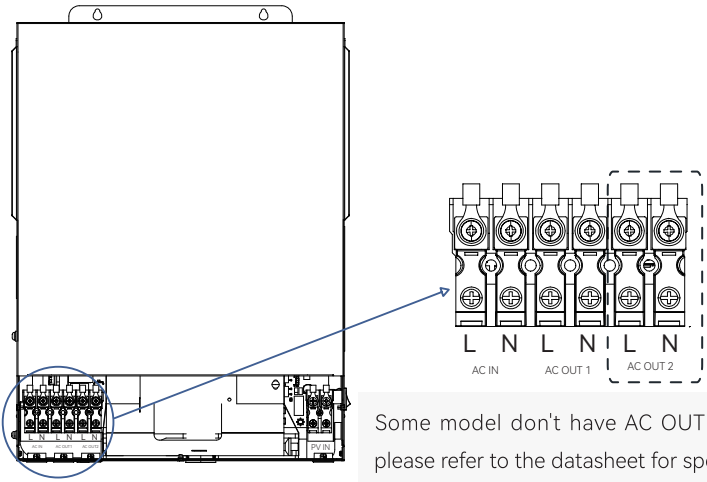
Please follow below steps to implement AC input (AC IN) connection:

1. Before making AC connection, be sure to switch off AC circuit breaker first.
2. Remove insulation sleeve 12mm from the head of cables, shorten the conductor part to 10mm. Insert the cable into the tubular terminal. Then use terminal crimping tool make the terminal and cable connected tightly.



3. Insert AC input cables according to polarities indicated on terminal blocks and tighten the terminal screws. Be sure to connect PE protective cable on the inverter side first.
   PE → Protective Earth (yellow-green)
   L → LINE (brown or black)
   N → Neutral (blue)



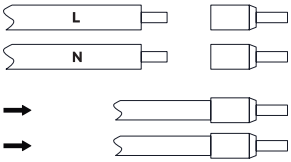


Some model don't have AC OUT 2 output, please refer to the datasheet for specification.

4. Make sure the cables are securely connected.

To implement AC output connection:

Follow the steps as AC input connection of L (LINE) and N (Neutral) cables.



CAUTION!

Appliances such as air conditioner are required at least 2~3 minutes to restart because it's required to have enough time to balance refrigerant gas inside of circuits. If a power shortage occurs and recovers in a short time, it will cause damage to your connected appliances. To prevent this kind of damage, please check with manufacturer of air conditioner that if it's equipped with time-delay function before installation. Otherwise, this solar inverter will trig overload fault and cut off output to protect your appliance but sometimes it still causes internal damage to the air conditioner.

3.4 PV Connection

CAUTION!
Before connecting to PV modules, please install a separate DC circuit breaker between inverter and PV modules.

WARNING!
Do not ground the positive or negative terminals of the PV modules, as this can severely damage the inverter.

WARNING!
Exposure to sunlight can generate lethal high voltages in photovoltaic strings, so strictly adhere to the safety precautions listed in the photovoltaic string and related documents.

WARNING!
Make sure to connect the PV terminals to the corresponding ports on the inverter, as reversing the polarity can damage the inverter.

WARNING!
All wiring must be performed by a qualified personnel.

WARNING!
It's very important for system safety and efficient operation to use appropriate cable for PV module connection. To reduce risk of injury, please use the proper recommended cable size as below. The cable color mentioned below is for typical reference.

Gauge	Cable (mm^2)
10AWG	5.26

PV Module Selection:

When selecting proper PV modules, please be sure to consider below parameters:

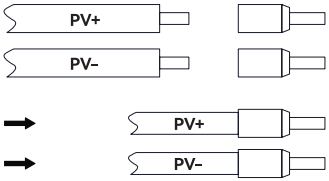
1. Open circuit Voltage (Voc) of PV modules not exceeds max. PV array open circuit voltage of inverter.
2. Open circuit Voltage (Voc) of PV modules should be higher than start-up voltage.

Max. PV Array Open Circuit Voltage	500Vdc
Start-up Voltage	70Vdc
PV Array MPPT Voltage Range	60Vdc~450Vdc

WARNING!
Please do not connect any DC switches or AC/DC circuit breakers before completing the electrical connections.

Please follow below steps to implement PV module connection:

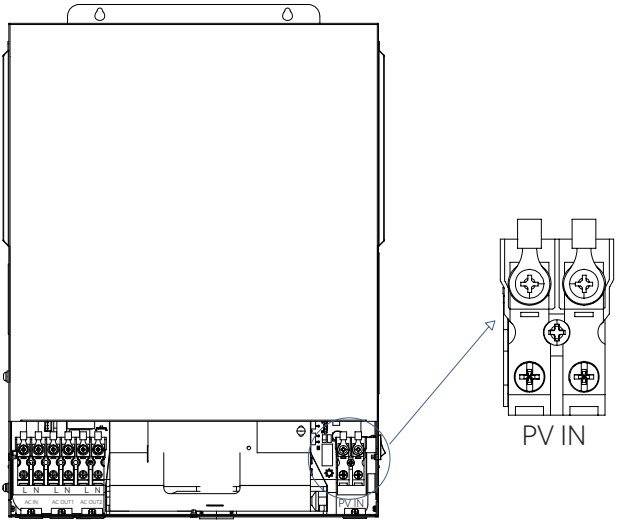
1. Before making PV connection, be sure to switch off DC circuit breaker first.
2. Remove insulation sleeve 12mm from the head of cables, shorten the conductor part to 10 mm. Insert the cable into the tubular terminal. Then use terminal crimping tool make the terminal and cable connected tightly.



3. Use multi-meter check to ensure the polarities are correct.
4. Insert PV cables according to polarities indicated on terminal block and tighten the terminal screws.

+ → PV+ (Red)

- → PV- (Black)



5. Make sure the cables are securely connected.

3.5 Battery Connection

3.5.1 Lead-acid Battery Connection

User can choose proper capacity lead acid battery with a nominal voltage at 24V. Also you need to choose battery type as 'AGM or FLD(flooded)'.



CAUTION!

For safety operation and regulation compliance, it's requested to install a separate DC over-current protector or disconnect device between battery and inverter. It may not be requested to have a disconnect device in some applications, however, it's still requested to have over-current protection installed. The recommended size of protector or disconnect is 250A.



WARNING!

All wiring must be performed by a qualified person.



WARNING!

It's very important for system safety and efficient operation to use appropriate cable for battery connection. To reduce risk of injury, please use the proper recommended cable and terminal size as below. The cable color mentioned below is for typical reference.



WARNING!

Make sure AC power is disconnected before attempting to connect AC power to the unit.

All operations during the electrical connection process, as well as the specifications of cables and components used, must comply with local laws and regulations. The cable color mentioned below is for typical reference.

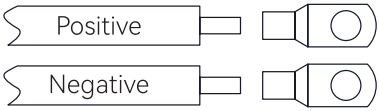
Recommended battery cable and terminal size:

Gauge	Cable (mm^2)
1 AWG	42

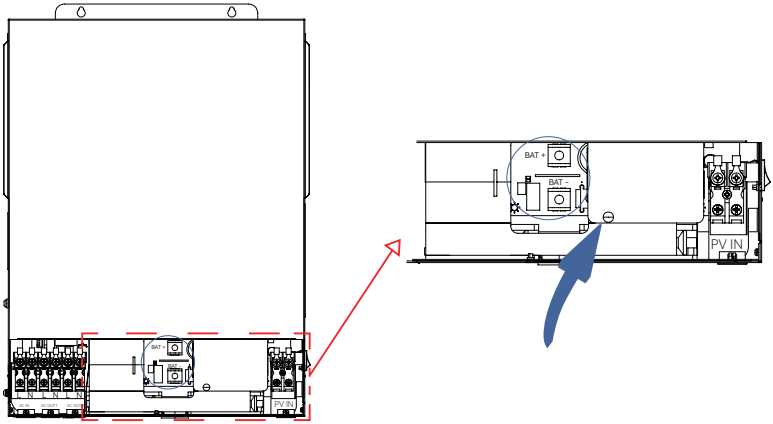
Note: For lead acid battery, the recommended charge current is 0.3C (C≤battery capacity)

Please follow below steps to implement battery connection:

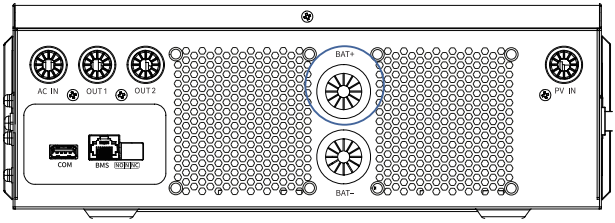
1. Unscrew the pre-fixed screws on battery poles. Prepare 2 DT terminals (It should fit for AWG1 cables).
2. Remove insulation sleeve 12mm from the head of cables, shorten the conductor part to 10 mm. Insert the cable into the DT terminal. Then use terminal crimping tool make the terminal and cable connected tightly.



3. Please rotate the duct paper to one side in the direction indicated by the arrow, Pass the battery cable through the battery installation hole on bottom shell, and tighten the terminal screws then rotate the duct paper back into place. Make sure polarity at both the battery and the inverter/charge is correctly connected and DT terminals are tightly screwed to the battery terminals.



Note: The positive battery terminal must pass through the red protective sleeve.



4. Connect all battery packs as units requires. It's suggested to connect at least 200Ah capacity battery.

WARNING! Shock Hazard

Installation must be performed with care due to high battery voltage in series.

CAUTION!

Do not place anything between the flat part of the inverter terminal and the DT terminal. Otherwise, overheating may occur.

CAUTION!

Do not apply anti-oxidant substance on the terminals before terminals are connected tightly.

CAUTION!

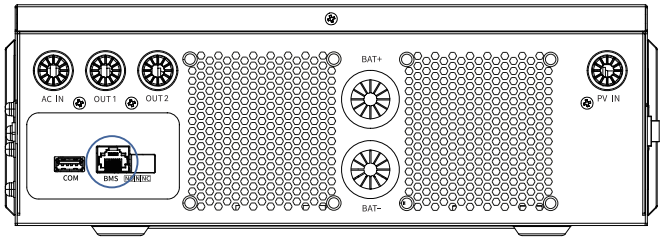
Before making the final DC connection or closing DC breaker/disconnector, be sure positive (+) must be connected to positive (+) and negative (-) must be connected to negative (-).

3.5.2 Lithium Battery Connection

If choosing lithium battery for inverter, please check the compatibility of the protocol first. There are two connectors on the lithium battery, RJ45 port of BMS and power cable.

Please follow below steps to implement lithium battery connection:

1. Follow section 3.5.1 to implement the power cable connection.
2. Connect RJ45 terminal of battery communication cable to BMS communication port of inverter. The communication protocol should be RS485 or CAN.



3. Insert the other end of RJ45 (battery communication cable) to battery communication port of lithium battery.

Note: If choosing lithium battery, make sure to connect the BMS communication cable between the battery and the inverter.

Lithium battery communication and setting:

In order to communicate with battery BMS, you should set the battery type to 'LIB' or 'FEL' in Section 4.2.2 Program 17.

Make sure the lithium battery BMS port connects to the inverter is pin to pin, the inverter BMS port pin assignment shown as below:

Pin number	BMS port
1	RS485B
2	RS485A
3	-
4	CANH
5	CANL
6	-
7	-
8	-

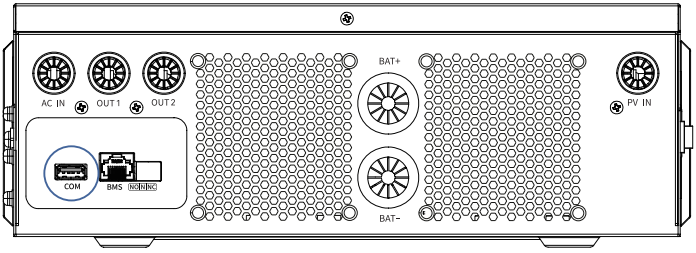
3.6 Final Assembly

After connecting all wiring, please put bottom cover back by screwing four screws mentioned in Section 3.2.

3.7 Smart Communication Stick Connection(Optional)

The smart communication stick (WIFI) is used to connect to the cloud platform. Please insert the stick into COM port directly.

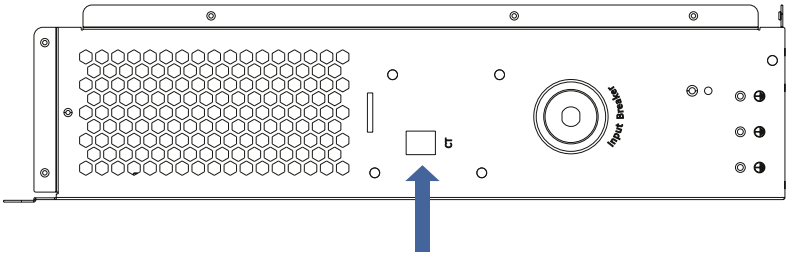
Some models support built-in WIFI monitoring function, please check the solar APP quick configuration guide.



3.8 CT Connection / Electricity Meter Connection(optional)

The inverter support CT/Electricity meter to measure the power feed to grid and have anti-reflux control function.

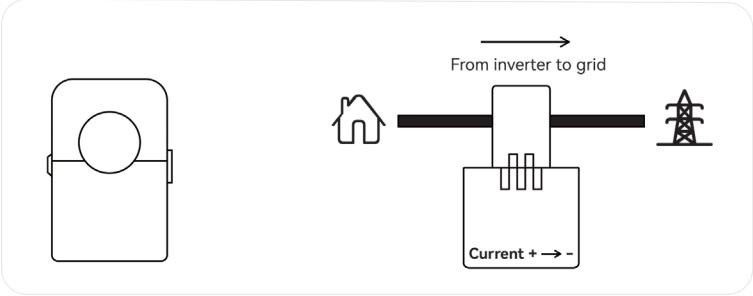
Insert CT cable or meter communication cable to CT port on inverter. Make sure that the CT cable connected to the inverter is Pin to Pin, and the inverter CT port pin assignment is shown as below:



Pin number	BMS port
1	MeterRS485B
2	MeterRS485A
3	Grid.Isense+
4	-
5	-
6	Grid.Isense-
7	-
8	-

3.8.1 CT Connection

Disassemble the CT and insert the L line (live wire) of the inverter and grid connection into it. It is important to pay attention to the direction of the CT and ensure that the arrow points from the inverter towards the grid. Plug RJ45 connector of CT into Meter/CT port.



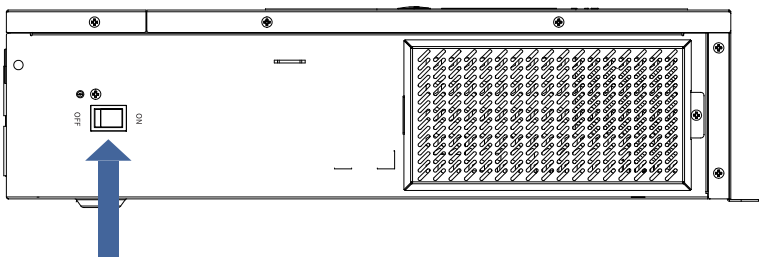
3.9 Dry Contact Signal

Unit Status	Condition	Dry contact port:	
		NC&C	NO&C
Power Off	Unit is off and no output is powered	Close	Open
Power On	powered from Utilit	Close	Open
	Battery low energy and the grid is not connected	Close state; Open after a 6-seconds delay	Open state; Close after a 6-seconds delay

4. Operation

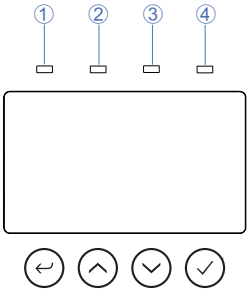
4.1 Power ON/OFF

Once the unit has been properly installed and the batteries are connected well, simply press ON/OFF switch (located on the button of the case) to turn on the unit.

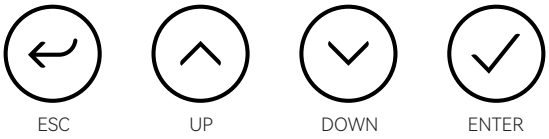


4.2 Operation and Display Panel

The operation and display panel, shown in below chart, is on the front panel of the inverter. It includes four indicators, four function keys and a LCD display, indicating the operating status and input/output power information.



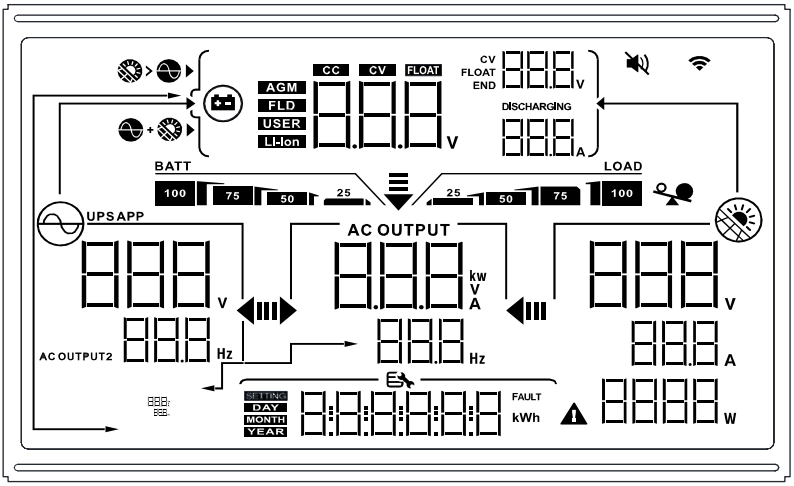
LED Indicator			Messages
① AC	Status indicator (Green)	Solid On	The grid power is normal and enters the grid power operation.
		Flashing	The grid power is normal, but it has not entered grid power operation.
		Off	The grid power is abnormal.
② Inverter	Invert indicator (Yellow)	Solid On	Output is powered by battery or PV in battery mode.
		Off	Other states.
③ Charging	Charging indicator (Yellow)	Solid On	The battery is in float charging.
		Flashing	The battery is in constant voltage/constant current charging.
		Off	Other states.
④ Fault	Fault indicator (Red)	Solid On	Fault occurs in the inverter.
		Flashing	Warning condition occurs in the inverter.
		Off	The inverter is working properly.

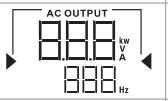


Function Buttons

Button	Description
ESC	To exit setting mode.
UP	To go to previous selection or adjust the setting parameter in the opposite direction.
DOWN	To go to next selection or adjust the setting parameter in the same direction.
ENTER	To confirm the selection in setting mode or enter setting mode.

4.2.1 LCD Display Icons



Display area	Icon	Description
①Battery Information		Battery icon.
		Battery type.
		Three charging period. The CC icon is illuminated during the constant current charging stage, the CV icon is illuminated during the constant voltage charging stage, and the FLOAT icon is illuminated during the float charging stage.
		Indicate battery voltage.
		During the constant voltage charging stage, the CV voltage is displayed and the CV icon is illuminated. During the float charging stage, the float voltage is displayed and the FLOAT icon is illuminated. During the discharge state, the end discharge voltage is displayed and the END icon is illuminated.
		Battery charging/discharging current.
②AC Input Information		AC input icon.
		UPS or APP input mode. When set to GEN input, it displays as APP.
		AC input voltage and frequency.
③PV Input Information		PV input icon.
		Indicate PV power, PV voltage, PV current, etc.
④Output Information		Indicate output voltage(V), apparent power (VA or kVA), output active power (W or kW) alternately, switching every five seconds Indicate output frequency.
⑤Battery Capacity		Indicate battery capacity.
⑥Load Capacity		Indicate load capacity.
		Over load icon.
⑦AC OUTPUT2 information		Second AC output icon.
		Indicate AC output 2 voltage(V).
⑧Parameter Query, Display time, Function Setting or Fault/ Alarm Information		Indicate system information; Display time; Function setting; Indicate Fault/Alarm.

Other Information		Mute
		Wifi connected
		Charging priority: PV + Grid If PV + Grid, the "+" icon light at same time; if only PV, the "" icon is only light.
		Charging priority: PV If PV first, the ">" icon light at same time.

Battery Capacity:

When the BMS is not connected, the default setting is that the SOC is 0% when the battery voltage reaches the under-voltage threshold, and 100% when the battery voltage reaches the float charge voltage threshold.

The SOC calculation formula is: SOC = (Vol + Cur × R - BAU) / (BFL-BAU) × 100%

"Vol" is the battery voltage.
"Cur" is the battery current (discharge current is positive, charge current is negative).
"R" is the battery internal resistance; based on standard cable lengths and typical laboratory conditions, the default value is 11 mΩ.
"BFL" is the set battery float charge voltage point.
"BAU" is the set battery under-voltage point.

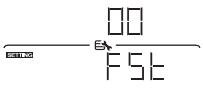
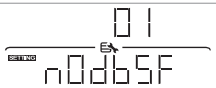
The table below shows the calculated values for reference:

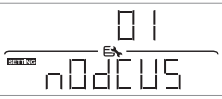
Battery type	Vol (Reference value)	Cur (Reference value)	BAU	BFL	SOC value
AGM	25V	100A	21V	27.6V	77%
GEL	25V	100A	21V	27V	85%
FLD	25V	100A	21V	27V	85%
LIB	25V	100A	21V	27.2V	82%
CUS	25V	100A	23V	27.6V	67%

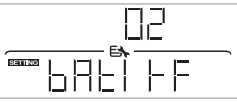
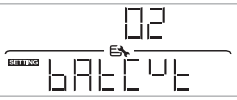
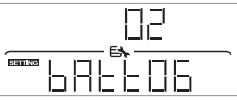
4.2.2 LCD Setting

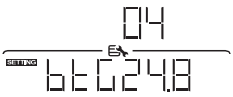
After pressing and holding ENTER button for 2 seconds, the unit will enter setting mode. Press 'UP' or 'DOWN' button to select setting programs. Then press 'ENTER' button to confirm the selection or 'ESC' button to exit.

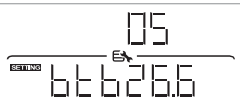
Quick Settings:

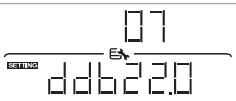
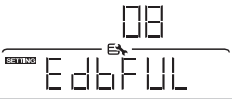
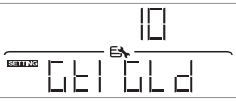
<table>
<tr><th>Program</th><th>Description</th><th colspan="2">Setting Option</th></tr>
<tr><td rowspan="2">00</td><td rowspan="2">Access The Quick Settings Menu (FST)</td><td colspan="2"></td></tr>
<tr><td colspan="2">Configuration settings: these can be set for all modes and take effect immediately.
On this settings page, press the confirmation button briefly to switch to the 'Fast Settings Menu (FST)'.</td></tr>
<tr><td rowspan="6">01</td><td rowspan="6">Operating Mode Settings Menu (MOD)</td><td>BAL(default)</td><td></td></tr>
<tr><td colspan="2">Green standby mode, corresponding to the following combination of settings in the configuration menu:
MOD: PGB+CHG: PNG+SSP(LBG), is suitable for areas where the grid supply is unstable and power cuts occur occasionally, but where there is ample photovoltaic energy. In such cases, the inverter utilises photovoltaic energy as much as possible whilst ensuring the battery retains a certain level of charge.</td></tr>
<tr><td>UES</td><td></td></tr>
<tr><td colspan="2">The self-consumption mode, corresponding to the following combination of settings in the menu:
MOD: PBG+CHG: OPV+SSP(LBG), is suitable for areas with a stable grid supply where electricity costs are high; in such cases, the inverter will minimise its use of grid power.</td></tr>
<tr><td>BSF</td><td></td></tr>
<tr><td colspan="2">Emergency backup power mode, corresponding to the following combination of settings in the professional configuration menu:
MOD: PGB + CHG: PNG + SSP(BLG), is suitable for areas where the grid supply is unstable and power cuts are frequent, and where there is limited solar energy available. In such circumstances, the inverter will do its utmost to keep the battery fully charged.</td></tr>
</table>

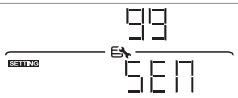
01	Operating Mode Settings Menu (MOD)	GEN	
		Generator mode, corresponding to the configuration menu combination MOD: MKS + CHG: PNG+SSP(BLG), is suitable for situations where a generator is connected; in this case, the inverter will do its utmost to keep the battery fully charged.	
		CUS	
		This is for display purposes only to indicate that the current setting is 'Other settings'; it is not a configurable parameter.	
02	Battery Type Settings Menu (BAT)	AGM (default)	
		Set the corresponding battery type to BAT: AGM+BMS: OFF, specifying a lead-acid battery with the BMS communication function disabled.	
		GEL	
		Configuration settings: these can be set for all modes and take effect immediately. Set the relevant menu combination to BAT: GEL+BMS: OFF to configure the system as a gel battery with the BMS communication function disabled.	
		PYL	
		Select the configuration option BAT: LIB+BMS: PYL from the menu, specifying a lithium-ion battery with BMS communication using the pylon protocol.	
		FLD	
		Set the relevant menu combination to BAT: FLD+BMS: OFF to configure the battery as a flooded battery with BMS communication disabled.	

02	Battery Type Settings Menu (BAT)	GRO	
		Set the relevant configuration menu combination to BAT: LIB+BMS: GRO, specifying a lithium-ion battery and growatt protocol for BMS communication.	
		VOL	
		Set the relevant configuration menu to the combination BAT: LIB+BMS: VOL, specifying a lithium-ion battery and voltronic protocol for BMS communication.	
		PAC	
		Set the relevant configuration menu combination to BAT: LIB+BMS: PAC, specifying a lithium-ion battery and the pace protocol for BMS communication.	
		IRF	
		Set the relevant configuration menu to the combination BAT: LIB+BMS: IRF, specifying a lithium-ion battery and the Iron towel protocol for BMS communication.	
		CVT	
		Set the relevant configuration menu to the combination BAT: LIB+BMS: CVT, specifying a lithium-ion battery and the CVTE protocol for BMS communication.	
		T06	
		For the corresponding configuration menu combination BAT: T06+BMS: OFF, configure the system for a 6-cell ternary lithium battery with the BMS communication function disabled.	

02	Battery Type Settings Menu (BAT)	T07	
		Set the relevant configuration menu to BAT: T07+BMS: OFF, configuring a 7-cell ternary lithium battery with the BMS communication function disabled.	
		F07	
		Set the relevant configuration menu to BAT: F07+BMS: OFF, configuring a 7-cell lithium iron phosphate battery pack with the BMS communication function disabled.	
		F08	
		Set the relevant configuration menu to BAT: F08+BMS: OFF, configuring an 8-cell lithium iron phosphate battery pack with the BMS communication function disabled.	
		CUS	
		This is for display purposes only to indicate that the current setting is 'Other settings'; it is not a configurable parameter.	
03	Maximum Charging Current (MCC)		
		Conditions: all statuses can be set. Set the maximum charging current for the inverter.	
04	Battery-To-Grid Gwitching Threshold (BTG)		
		Conditions: all statuses can be set. When the BMS function is enabled and communication is established, refer to the STG setting in the advanced settings menu to set the battery SOC threshold for switching from battery to grid power; otherwise, refer to the BTG setting in the advanced settings menu to set the battery voltage threshold for switching from battery to grid power.	

<table>
<tr><td rowspan="2">05</td><td rowspan="2">Grid-To-Battery (BTB) Threshold Setting</td><td colspan="2"></td></tr>
<tr><td colspan="2">Conditions: all statuses can be set.
When the BMS function is enabled and communication is established, refer to the STG setting in the advanced settings menu to set the battery SOC threshold for switching from battery to grid power; otherwise, refer to the BTG setting in the advanced settings menu to set the battery voltage threshold for switching from battery to grid power.</td></tr>
<tr><td rowspan="8">06</td><td rowspan="8">Dual-Output Enable Scenario Settings (DOP)</td><td>OFF (default)</td><td></td></tr>
<tr><td colspan="2">Conditions: all statuses can be set.
Default setting OFF: dual output is disabled in all operating conditions.</td></tr>
<tr><td>KLD</td><td></td></tr>
<tr><td colspan="2">Critical load mode: suitable for connecting critical loads to the main output (e.g. computers, televisions and lighting equipment) and non-critical loads to the secondary output (e.g. air conditioning units). This corresponds to the following combination of settings in the professional settings menu: GDE: ON + BDE: ON + PDE: ON + PED: OFF</td></tr>
<tr><td>SOL</td><td></td></tr>
<tr><td colspan="2">The PV support mode is suitable for feeders supplying improved loads associated with daytime usage (such as non-critical loads in workshops used during the day). The corresponding settings in the specialist menu are: GDE: OFF + BDE: ON + PDE: ON + PED: minimum (if PED is not already set to OFF, retain the original value).</td></tr>
<tr><td>CUS</td><td></td></tr>
<tr><td colspan="2">This is for display purposes only to indicate that the current setting is 'Other settings'; it is not a configurable parameter.</td></tr>
</table>

07	Setting The Threshold For Disabling Dual Battery Output (DDB)		
		Conditions: all statuses can be set. When the BMS function is enabled and communication is established, refer to the DBS setting in the advanced settings menu to set the battery SOC threshold at which dual-channel output is disabled; otherwise, refer to the DBV setting in the advanced settings menu to set the battery voltage threshold at which dual-channel output is disabled.	
08	Setting The Threshold For Enabling Dual Battery Output (EDB)		
		Conditions: all statuses can be set. When the BMS function is enabled, communication is established and functioning correctly, refer to the DES setting in the advanced settings menu to set the battery SOC threshold for enabling dual-channel output; otherwise, refer to the DEV setting in the advanced settings menu to set the battery voltage threshold for enabling dual-channel output.	
09	Feed Network Equipment Configuration (GST)		
		Conditions: all statuses can be set. Please refer to the 'GST Settings' option in the 'Programme Settings' menu.	
10	Feedback Network Configuration (GTI)	Default setting: OFF	
		Conditions: all statuses can be set. Feed network disabled.	
		GLD	
		The inverter can supply power to loads connected to the utility grid, but power output to the utility grid is disabled. This corresponds to the advanced settings menu combination GLD: ON + GAR: ON.	
		GTI	
		The inverter can supply power to both loads connected to the utility grid and the utility grid itself. This corresponds to the advanced settings menu combination GLD: ON + GAR: OFF.	

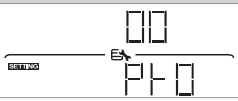
99	Advanced Energy Management Timing Settings (SEN)	
		Conditions: all statuses can be set. The default setting for all pages is OFF, meaning that this page setting is not active. The range for the hour setting is [0, 23], and the range for the minute setting is [0, 59].

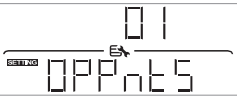
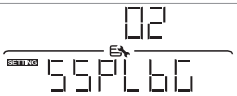
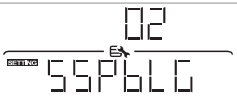
Operating the advanced settings:

(1) Press and hold the 'ENTER' key to enter the function settings page. Press the 'UP' or 'DOWN' key briefly to select a function. Once you have scrolled to the required function settings page, the corresponding function name will flash.

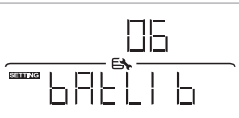
(2) Press the 'ENTER' key briefly to enter the settings page for the selected function. The selected function name will remain lit, and a value will appear to the left of it, flashing. Press the 'UP' or 'DOWN' key briefly to select the desired value for the function parameter.

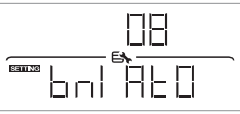
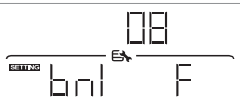
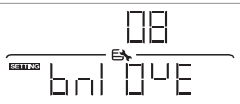
(3) Once you have navigated to the required function parameter, press the 'ENTER' key briefly to complete and apply the setting. The parameter value will now remain lit and will no longer flash.

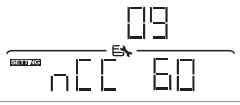
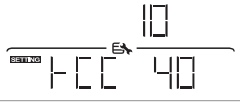
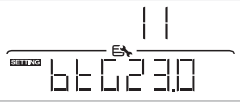
Program	Description	Setting Option	
00	Accessing the Programme Settings Menu (PRO)		
		Settings: asettings can be configured in standby or grid power mode; they take effect immediately upon completion. When switching back to battery mode, the frequency will change at a slower rate. Once you have switched to the 'Professional Settings Menu(PRO)', press the 'UP' or 'DOWN' button briefly to navigate to the relevant page in the 'Professional Settings Menu' and configure the settings.	
01	Output Priority Policy (OPP)	PGB(cefault)	
		Configuration settings: these can be set for all modes and take effect immediately. PV – Grid – Battery priority. The load is supplied by the PV system as a priority; when PV energy is insufficient, the grid supply provides additional power; when the grid is disconnected, the battery provides the remaining power.	

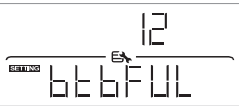
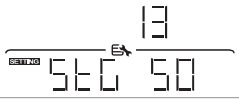
01	Output Priority Policy (OPP)	PBG	
		PV – Battery – Grid priority. The load is supplied by the PV system as a priority; when PV energy is insufficient, the battery provides supplementary power; when battery energy is insufficient, grid power provides supplementary power.	
		MKS	
		Power supply priority. When the PV system is operating normally, the load is supplied primarily by the PV system; if the PV system does not generate sufficient power, the battery provides supplementary power; if the battery does not have sufficient power, the grid supply provides supplementary power. When the PV system does not meet the grid connection criteria, the load is supplied primarily by the grid supply.	
02	Photovoltaic Priority Settings (SSP)	LBG(Default)	
		Load-Charging-Grid Priority. Photovoltaic energy is prioritised for supplying the load; any surplus is used for charging; if there is still a surplus, and the grid feed-in function is enabled and meets the grid feed-in conditions, the surplus is fed into the grid.	
		BLG	
		Charging – Load – Grid Feed-in Priority. Photovoltaic energy is prioritised for charging; any surplus is supplied to the load; if there is still a surplus, and the grid feed-in function is enabled and the conditions for grid feed-in are met, the surplus is fed into the grid.	
		LGB	
		Load – Grid – Charging priority. Photovoltaic energy is prioritised for supplying the load; if there is still surplus energy, it is fed into the grid provided the grid feed-in function is enabled and the grid feed-in conditions are met; otherwise, it is used for charging.	

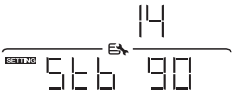
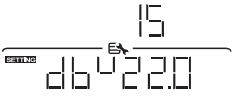
03	Charging Priority (CHP)	PNG(default)	
		Allows simultaneous charging from both solar power and the grid.	
		OPV	
		Solar charging only.	
		PVF	
		Charges via solar power only when both solar power and the grid are available; charges via solar power only when solar power is available; and allows charging via the grid only when the grid is available. Whether charging via grid power is permitted is determined not only by this option but also by other settings. Note: When the battery is under-voltage, grid charging is not restricted; the grid power will continue to charge the battery for 30 seconds after the under-voltage condition has been resolved.	
04	Input Mode (MOD)	APP(default)	
		Configuration options: all statuses can be configured, and the changes take effect immediately. The typical switching time between the three modes is 10 ms, and the criteria for detecting grid power faults and the grid voltage setting ranges differ between modes. APP mode, for use with household appliances.	
		UPS	
		UPS mode, for use with computers and similar equipment.	
		GEN	
		Generator mode, for use when a generator is connected to the grid input.	

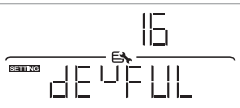
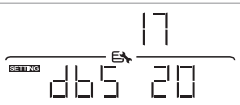
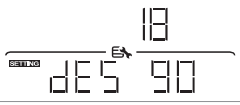
06	Battery Type (BAT)	AGM: Lead-acid battery (default)	
		Conditions: all statuses can be set. When the BMS is connected and communication is successful, if the current battery type is AGM or FLD, it will automatically switch to LIB, and the battery type cannot be set to AGM or FLD at this point.	
		GEL: Gel battery	
		FLD: Flooded battery	
		LIB: Lithium-ion battery	
		CUS: Customer-defined setting type	
		T06: 6-cell ternary lithium-ion battery	
		T07: 7-cell ternary lithium-ion battery	
		F07: 7-cell lithium iron phosphate battery	
		F08: 8-cell lithium iron phosphate battery	

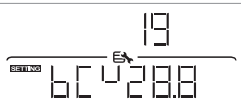
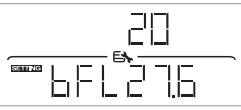
<table>
<tr><td rowspan="2">07</td><td rowspan="2">BMS Communication Functions (BMS)</td><td colspan="2"></td></tr>
<tr><td colspan="2">Conditions: all statuses can be set.
The default setting is OFF, meaning the function is disabled; when set to a specific BMS protocol, the inverter communicates with the lithium-ion battery BMS via the central control board to retrieve battery information.
Once the function is enabled, if a communication fault occurs, Alarm 56 is triggered and the inverter will no longer base its operating logic on BMS information.
The following BMS communication protocol types can be configured:
CVT: CVTE
PYL: PYLON
GRO: GROWATT
VOL: VOLTRONIC
IRF: IRON TOWEL
PAC: PACE</td></tr>
<tr><td rowspan="6">08</td><td rowspan="6">BMS ID Settings (BMI)</td><td>ATO (default)</td><td></td></tr>
<tr><td colspan="2">Conditions: all statuses can be set.
The system will automatically poll BMS IDs in ascending order; when it encounters the first ID that responds correctly, it will lock that ID and subsequently query only the BMS associated with that ID.</td></tr>
<tr><td>[0, 9]/A/B/C/D/E/F/</td><td></td></tr>
<tr><td colspan="2">Set to [0, 9]/A/B/C/D/E/F/: the system will only search using the specified IDs, where A–F represent IDs 10–15.</td></tr>
<tr><td>OVE</td><td></td></tr>
<tr><td colspan="2">The system will automatically poll BMS IDs in ascending order without locking any IDs, and will compile comprehensive BMS data once the polling is complete.</td></tr>
</table>

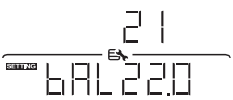
09	Maximum Charging Current (MCC)	
		Conditions: all statuses can be set. When the BMS is connected and communication is successful, the maximum charging current will be set to the maximum charging current uploaded by the BMS. The default setting is 60A, with options of 2/10/20/30/40/50/60/70/80/90/100A available.
10	Grid Charging Current (RCC)	
		Conditions: all statuses can be set. The default setting is 40A, with options of 2/10/20/30/40/50/60/70/80/90/100A available.
11	Battery-To-Grid Voltage (BTG)	
		Conditions: all statuses can be set. **Battery type AGM:** default setting is 23V; adjustable range is [22, 28.8]. **Battery type GEL:** default setting is 23V; adjustable range is [22, 28.2]. **Battery type FLD:** default setting is 23V; adjustable range is [22, 29] **Battery type LIB:** default setting is 24.8V, adjustable range is [20, 30] **Battery type T06:** default setting is 23V, adjustable range is [20, 25.8]. **Battery type T07:** default setting is 26.8V, adjustable range is [22.4, 30]. **Battery type F07:** default setting is 22.9V, adjustable range is [20, 25.9]. **Battery type F08:** default setting is 26.1V, adjustable range is [20, 29.6]. **Battery type CUS:** default setting is 23.8V, adjustable range is [22, 25].

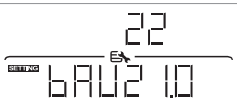
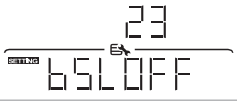
12	Battery-To-Battery (BTB) Voltage Point	
		Conditions: all statuses can be set. The battery will charge until it is fully charged before the device can be switched on in battery mode. When setting BTB, the value must not be less than the BTG setting, nor greater than the BCV setting. **Battery type AGM:** default setting is FUL; adjustable range is [22, 28.8]. **Battery type GEL:** default setting is FUL; adjustable range is [22, 28.2]. **Battery type FLD:** default setting is FUL; adjustable range is [22, 29] **Battery type LIB:** default setting is 26.6V, adjustable range is [20, 30] **Battery type T06:** default setting is 24.1V, adjustable range is [20, 25.8]. **Battery type T07:** default setting is 28.1V, adjustable range is [22.4, 30]. **Battery type F07:** default setting is 24V, adjustable range is [20, 25.9]. **Battery type F08:** default setting is 27.7V, adjustable range is [20, 29.6]. **Battery type CUS:** default setting is 27.2V, adjustable range is [23, 29]. Note: BTG (Program 11) and BTB (Program 12) shall be used in combination as the criteria for judging insufficient battery energy in the absence of BMS communication. It is recommended that the BTB setting be at least 2 V higher than the BTG setting, to prevent frequent grid connection and disconnection under PBG mode.
13	Low SOC To Grid Power Switching Function (STG)	
		Conditions: all statuses can be set. The default setting is 50. The configurable range is [10, 90] or OFF, with an increment of 1. In PBG priority grid mode, the system switches to grid mode when the lithium battery SOC reaches the set value. When enabled, the inverter switches to grid mode when the SOC falls below the set point. This can be set to OFF, in which case the inverter will no longer switch between battery and grid modes based on the SOC.

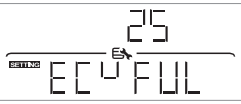
14	High SOC-To-Battery Transfer Function (STB)	
		Conditions: all statuses can be set. The default setting is 90. The configurable range is [10, 100] or OFF, with an increment of 1. In PBG priority grid-connected mode, the system switches to battery mode when the lithium battery SOC reaches the set value. When enabled, the inverter will only switch to battery mode when the SOC exceeds the set point. This can be set to OFF; in this case, the inverter will no longer switch between grid-connected and battery modes based on the SOC status. Note: STB (Program 14) and STG (Program 13) shall be used in combination as the criteria for judging insufficient battery energy when BMS communication is normal. It is recommended that the STB set point be more than 5% higher than the STG set point to avoid frequent grid connection and disconnection under PBG mode.
15	Battery Dual-Output Disable Voltage (DBV)	
		Conditions: all statuses can be set. **Battery type AGM:** default setting is 22V; adjustable range is [21, 28.8]. **Battery type GEL:** default setting is 22V; adjustable range is [21, 28.2]. **Battery type FLD:** default setting is 24V; adjustable range is [21, 29] **Battery type LIB:** default setting is 24V, adjustable range is [20, 30]. **Battery type T06:** default setting is 22.3V, adjustable range is [20, 25.8]. **Battery type T07:** default setting is 25.9V, adjustable range is [22.4, 30]. **Battery type F07:** default setting is 21.4V, adjustable range is [20, 25.9]. **Battery type F08:** default setting is 24.4V, adjustable range is [20, 29.6]. **Battery type CUS:** default setting is 24V, adjustable range is [22, 30].

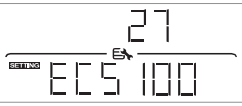
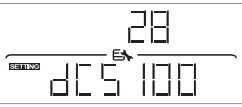
16	Battery Dual-Output Enable Voltage (DEV)	
		Conditions: all statuses can be set. **Battery type AGM:** default setting is FUL; adjustable range is [21, 28.8]. **Battery type GEL:** default setting is FUL; adjustable range is [21, 28.2]. **Battery type FLD:** default setting is FUL; adjustable range is [21, 29]. **Battery type LIB:** default setting is 26V, adjustable range is [20, 30]. **Battery type T06:** default setting is 24.1V, adjustable range is [20, 25.8]. **Battery type T07:** default setting is 28.1V, adjustable range is [22.4, 30]. **Battery type F07:** default setting is 24V, adjustable range is [20, 25.9]. **Battery type F08:** default setting is 27.7V, adjustable range is [20, 29.6]. **Battery type CUS:** default setting is 26V, adjustable range is [23, 30]. *This feature requires the use of a dual-output expansion board.
17	Disable SOC For dual Battery Output (DBS)	
		Conditions: all statuses can be set. *This function requires the use of a dual-output auxiliary board. The default setting is 20; the configurable range is [5, 90] or OFF.
18	Enable SOC For Dual Battery Outputs (DES)	
		Conditions: all statuses can be set. *This function requires the use of a dual-output auxiliary board. The default setting is 90; the adjustable range is [10, 100] or OFF.

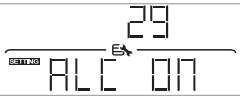
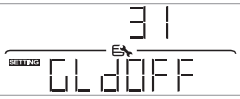
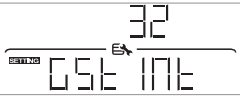
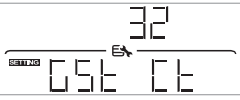
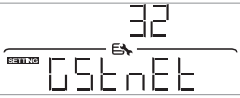
19	Setting The Voltage Point In Constant-Voltage Mode (BCV)	
		Conditions: all statuses can be set. When the battery type is LIB/T06/T07/F07/F08 and the BMS is connected and communication is successful, the constant voltage point will be set to the maximum charging voltage uploaded by the BMS. **Battery type AGM:** fixed at 28.8V. **Battery type GEL:** fixed at 28.2V. **Battery type FLD:** cannot be set; fixed at 29V. **Battery type LIB :** default setting is 27.6V; adjustable range is [20, 30]. **Battery type T06:** default setting is 24.7V, adjustable range is [20, 25.8]. **Battery type T07:** default setting is 28.8V, adjustable range is [22.4, 30]. **Battery type F07:** default setting is 24.6V, adjustable range is [20, 25.9]. **attery type F08:** default setting is 28.4V, adjustable range is [20, 29.6]. **Battery type CUS:** default setting is 28.2V, adjustable range is [24, 30].
20	Setting The Voltage Points For The Float Charging Mode (BFL)	
		Conditions: all statuses can be set. When the battery type is LIB/T06/T07/F07/F08 and the BMS is connected and communication is successful, the float charge point will be set to the maximum charging voltage uploaded by the BMS. **Battery type AGM:** fixed at 27.6V. **Battery type GEL:** fixed at 27V. **Battery type FLD :** fixed at 27V. **Battery type LIB :** default setting is27.2V; adjustable range is [20, 30]. **Battery type T06:** default setting is 24.7V, adjustable range is [20, 25.8].

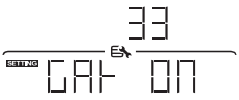
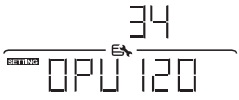
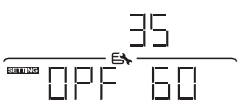
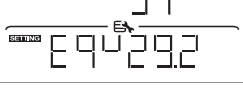
20	Setting The Voltage Points For The Float Charging Mode (BFL)	**Battery type T07:** default setting is 28.8V, adjustable range is [22.4, 30]. **Battery type F07:** default setting is 24.6V, adjustable range is [20, 25.9]. **Battery type F08:** default setting is 28.4V, adjustable range is [20, 29.6]. **Battery type CUS:** default setting is 27.6V, adjustable range is [24, 30].
21	Battery Low Voltage Alarm (BAL)	 Conditions: all statuses can be set. When the battery type is LIB/T06/T07/F07/F08 and the BMS is connected and communicating successfully, if the minimum discharge voltage reported by the BMS is lower than the currently set low-voltage threshold, the low-voltage threshold will be changed to the minimum discharge voltage reported by the BMS. **Battery type AGM:** fixed at 22V. **Battery type GEL:** fixed at 22V. **Battery type FLD:** fixed at 22V. **Battery type LIB:** default setting is 24V; adjustable range is [20, 30]. **Battery type T06:** default setting is 22.3V, adjustable range is [20, 25.8]. **Battery type T07:** default setting is 25.9V, adjustable range is [22.4, 30]. **Battery type F07:** default setting is 21.4V, adjustable range is [20, 25.9]. **Battery type F08:** default setting is 24.4V, adjustable range is [20, 29.6]. **Battery type CUS:** default setting is 23.8V, adjustable range is [21, 27].

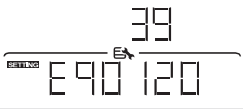
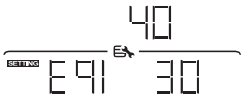
22	Battery Under-Voltage Shutdown Point (BAU)	
		Conditions: all statuses can be set. When the battery type is LIB/T06/T07/F07/F08, and the BMS is connected and communication is successful, the under-voltage threshold will be set to the minimum discharge voltage uploaded by the BMS. If the battery voltage falls below the currently set undervoltage threshold, a battery undervoltage alarm will be triggered, and the system will shut down after 30 seconds. When the BMS is connected and communication is successful, and the BSU is not set to OFF, the battery undervoltage shutdown threshold will only trigger an alarm but will not trigger a shutdown; shutdown is controlled by the BSU. **Battery type AGM:** fixed at 21V. **Battery type GEL:** fixed at 21V. **Battery type FLD:** fixed at 21V. **Battery type LIB:** default setting is 21V; adjustable range is [20, 30]. **Battery type T06:** default setting is 21.9V, adjustable range is [20, 25.8]. **Battery type T07:** default setting is 25.5V, adjustable range is [22.4, 30]. **Battery type F07:** default setting is 21V, adjustable range is [20, 25.9]. **Battery type F08:** default setting is 24V, adjustable range is [20, 29.6]. **Battery type CUS:** default setting is 23V, adjustable range is [21, 24].
23	Battery Low SOC Alarm Threshold (BSL)	
		Conditions: all statuses can be set. When the BMS is connected and communication is successful, and the setting is not set to OFF, a low SOC alarm will be triggered if the SOC uploaded by the BMS is lower than the current SOC threshold. The default setting is OFF; the configurable range is [5, 55] or OFF.

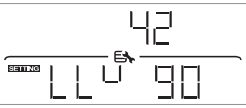
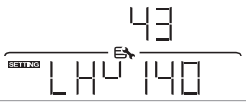
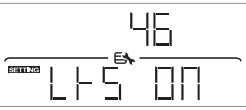
24	Battery Shutdown Threshold (BSU)	
		Conditions: all statuses can be set. When the BMS is connected and communication is successful, and the setting is not set to OFF, if the SOC uploaded by the BMS is lower than the current SOC threshold, a low SOC alarm will be triggered, followed by a shutdown after 5 seconds. The default setting is 20; the configurable range is [5, 50] or OFF.
25	Battery Voltage Point At Which Grid Charging Begins (ECV)	
		Conditions: all statuses can be set. Charging from the grid begins when the battery voltage falls below the currently set grid charging threshold. When set to FUL, grid charging remains active at all times. When the BMS is connected and has successfully communicated to obtain a valid SOC, this setting is disabled and control is transferred to the ECS. **Battery type AGM:** default setting is FUL; adjustable range is [21, 28.8]. **Battery type GEL:** default setting is FUL; adjustable range is [21, 28.2]. **Battery type FLD:** default setting is FUL; adjustable range is [21, 29]. **Battery type LIB:** default setting is FUL; adjustable range is [20, 30] **Battery type T06:** default setting is FUL; adjustable range is [20, 25.8]. **Battery type T07:** default setting is FUL; adjustable range is [22.4, 30]. **Battery type F07:** default setting is FUL; adjustable range is [20, 25.9]. **Battery type F08:** default setting is FUL; adjustable range is [20, 29.6]. **Battery type CUS:** default setting is FUL; adjustable range is [20, 30].
26	Battery Voltage Cut-Off Point(DCV) When Grid Power Is Disconnected	
		Conditions: all statuses can be set. Charging from the grid will cease when the battery voltage exceeds the currently set grid charging cut-off voltage. If set to FUL, charging from the grid will not take place.

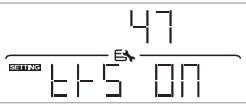
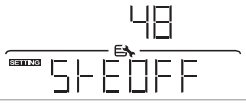
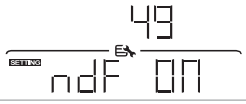
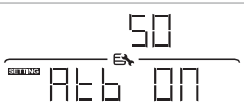
26	Battery Voltage Cut-Off Point(DCV) When Grid Power Is Disconnected	When the BMS is connected and has successfully communicated to obtain a valid SOC, this setting is disabled and control is transferred to the DCS. **Battery type AGM:** default setting is FUL; adjustable range is [21, 28.8]. **Battery type GEL:** default setting is FUL; adjustable range is [21, 28.2]. **Battery type FLD:** default setting is FUL; adjustable range is [21, 29]. **Battery type LIB:** default setting is FUL; adjustable range is [20, 30] **Battery type T06:** default setting is FUL; adjustable range is [20, 25.8]. **Battery type T07:** default setting is FUL; adjustable range is [22.4, 30]. **Battery type F07:** default setting is FUL; adjustable range is [20, 25.9]. **Battery type F08:** default setting is FUL; adjustable range is [20, 29.6]. **Battery type CUS:** default setting is FUL; adjustable range is [20, 30].
27	Grid Charging Start Point (ECS)	 Conditions: all statuses can be set. The default setting is 100, and the valid range is [0,100]: grid charging will commence when the battery SOC falls below the current set grid charging threshold. This setting is disabled if the BMS is not connected or if a valid SOC cannot be obtained.
28	Battery SOC Point When Grid Power Is Disconnected (DCS)	 Conditions: all statuses can be set. The default setting is 100, and the configurable range is [0,100]: grid charging will stop when the battery SOC is higher than the currently set grid charging cut-off SOC. This setting is disabled if the BMS is not connected or if a valid SOC cannot be retrieved.

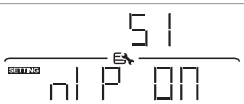
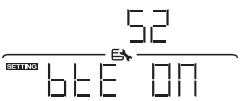
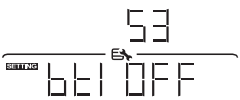
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</td></tr>
<tr><td>Conditions: all statuses can be set.
Default setting: on – the machine will emit an audible and visual alert when an alarm is triggered.
Set to OFF – the machine will not emit an audible or visual alert when an alarm is triggered.</td></tr>
<tr><td rowspan="2">30</td><td rowspan="2">Silent Mode (MUE)</td><td>
</td></tr>
<tr><td>Conditions: all statuses can be set.
The default setting is OFF, meaning the function is disabled; when set to ON, the buzzer will not sound under any circumstances, including during alarms or faults, and only the keypress tones will continue to sound.</td></tr>
<tr><td rowspan="2">31</td><td rowspan="2">Grid Load Function (GLD)</td><td>
</td></tr>
<tr><td>Conditions: all statuses can be set.
Default setting: OFF: this function is disabled.
Set to ON: In PGB/PBG mode, when other settings determine that energy can be supplied to the machine's grid port under certain conditions, enable this function to allow the machine to supply energy to the grid.</td></tr>
<tr><td rowspan="6">32</td><td rowspan="6">Grid-Side Energy Metering Equipment (GST)</td><td>INT(default)</td><td>
</td></tr>
<tr><td colspan="2">Conditions: all statuses can be set.
The default setting is INT: grid energy is measured via the inverter's utility-side port.</td></tr>
<tr><td>CT</td><td>
</td></tr>
<tr><td colspan="2">Set to CT: grid energy is measured via an external current transformer.</td></tr>
<tr><td>MET</td><td>
</td></tr>
<tr><td colspan="2">Set to MET: grid energy is measured via an external electricity meter.</td></tr>
</table>

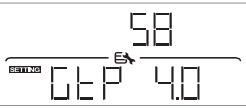
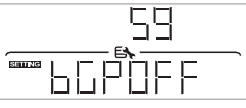
33	Anti-Backflow (GAR)	
		Conditions: all statuses can be set. Default setting is ON: If GST is set to INT, the inverter will only supply power to the output-side load (note: In this case, if GLD is set to ON, the grid-feeding deadband power will not take effect, and a small amount of power may be fed back into the grid; to avoid this, GLD must also be set to OFF); if GST is set to CT or MET, once the CT/meter is connected, the inverter can supply power to grid-side loads, and surplus energy will not be fed into the grid supply (note: If minor power feed-in still occurs in this case, adjust the CCT setting to correct the CT/meter power). Set to OFF: the inverter will feed power into the grid supply at the feed-in power level set by GTP.
34	Output Voltage (OPU)	
		Settings: standby or grid power mode can be selected; the settings take effect immediately. When switching back to battery mode, the frequency will change at a slower rate. The default setting is 120V; the selectable range is 100V, 110V, 120V or 127V.
35	Output Frequency (OPF)	
		Configuration settings: this setting is only available in standby mode. The default setting is 60 Hz; the adjustable range is 50 Hz to 60 Hz.
37	Equilibrium Voltage Point Setting (EQV)	
		All modes can be configured; the equalisation voltage must be greater than or equal to the constant voltage point. **Battery type AGM:** default setting is 29.2V; adjustable range is [28.8, 30].

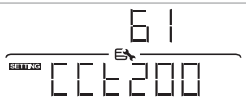
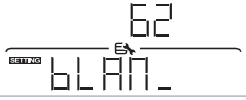
37	Equilibrium Voltage Point Setting (EQV)	**Battery type GEL:** default setting is 29.2V; adjustable range is [28.2, 30]. **Battery type FLD:** default setting is 29.2V; adjustable range is [29, 30]. **Battery type CUS:** default setting is 29.2V, adjustable range is [24, 30].
38	Equalisation Charging Time Setting (EQT)	 Conditions: all statuses can be set The default setting is OFF. The setting range is [5, 900] or OFF, with increments of 5 minutes. When set to OFF, equalisation charging will not be initiated.
39	Equalised Delay Time (EQO) Setting	 Conditions: all statuses can be set. Setting range [5, 900]: The default setting is 120 minutes, with increments of 5 minutes. Set to OFF: no equalisation delay is applied.
40	Equidistant Interval Setting (EQI)	 Conditions: all statuses can be set. The default setting is 30 days; the valid range is [1, 90], with increments of 1 day.
41	Enable Equalisation Settings (EQN)	 Conditions: all statuses can be set. Default setting is OFF: function is disabled. Set to ON: when the battery is connected during the float charge phase with equalisation mode enabled, equalisation charging is activated immediately and the controller will commence the equalisation phase.

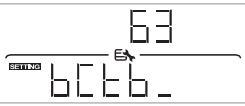
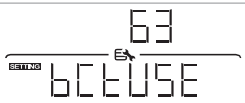
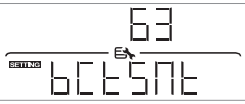
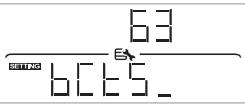
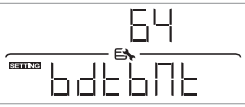
42	Low-Voltage Grid Supply Point (LLV)	
		The default setting for the grid low voltage threshold is 90V; this cannot be adjusted.
43	Grid High-Voltage Point (LHV)	
		The default setting for the grid high-voltage point is 140V; this cannot be adjusted.
44	Energy-Saving Mode (PWS)	
		Conditions: this setting takes effect if and only if PAM is set to SIG. Default setting OFF: this function is disabled. Set to ON: in battery mode, if the load is less than 25W and less than 100VA, the system will briefly suspend output before resuming. If the load is greater than 35W or greater than 120VA, the system will resume continuous normal output.
45	Overload To Bypass (OLG)	
		Conditions: all statuses can be set. Default setting is ON: when the PBG is prioritised for output to the load, the system will immediately switch to bypass (mains output, i.e. bypass mode) in the event of an overload. Set to OFF: this function is disabled.
46	Overload Restart (LRS)	
		Conditions: all statuses can be set. Default setting ON: when this function is enabled, if the inverter enters overload fault mode, it will automatically exit this mode after a certain period of time and restart. After a certain number of overload restarts, the inverter will no longer restart automatically. Set to OFF: if the inverter enters overload fault mode, it will remain in this mode and will not restart automatically.

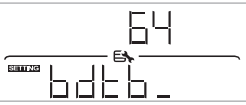
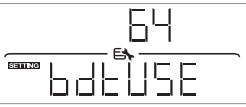
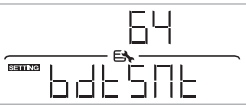
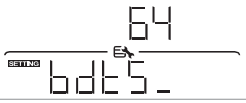
47	Temperature-Triggered Restart (TRS)	
		Conditions: all statuses can be set. Default setting ON: when this function is enabled, if the inverter enters over-temperature fault mode, it will automatically exit this mode after a certain period of time and restart. After a certain number of over-temperature restarts, the inverter will no longer restart automatically. Set to OFF: if the inverter enters over-temperature fault mode, it will remain in this mode and will not restart automatically.
48	Inverter Soft Start Settings (SRE)	
		Conditions: this setting takes effect if and only if PAM is set to SIG. The default setting is OFF; the output switch will only close once the inverter voltage has risen to the rated output. If set to ON, the output switch will close before the inverter begins to ramp up the voltage.
49	Automatically Return To The Main Page (MDF)	
		Conditions: all statuses can be set. Default setting ON: if the current page is not the home page of the display page, the system will automatically return to the home page after 1 minute. Set to OFF: the system will remain on the current page and will not automatically return to the home page of the display page.
50	Automatic Backlight (ATB)	
		Configuration requirements: all settings can be configured when the inverter is set to APP mode. Default setting ON: if no keys are pressed, the backlight will automatically switch off after 1 minute. Set to OFF: the screen backlight will remain on at all times.

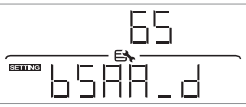
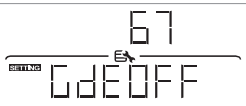
51	Main Input Power Loss Alarm (MIP)	
		Conditions: all statuses can be set. Default setting: ON. If the main input is lost, the buzzer will sound continuously for 5 seconds. Set to OFF: if the main input is lost, the buzzer will not sound.
52	Battery Not Connected (BTE)	
		Conditions: all statuses can be set. Default setting ON: the device will automatically perform battery disconnection detection and lithium battery activation whilst in operation. Set to OFF: the device will maintain the current battery connection status and will not perform detection or lithium battery activation whilst in operation.
53	Immediate Battery Disconnection Detection (BTI)	
		Conditions: all statuses can be set. Default setting OFF: this function is disabled. Set to ON: the machine will immediately perform a battery disconnection check or lithium battery activation when the conditions for such checks are met, and this setting will automatically revert to OFF once the check or activation is complete.
54	Battery Not Connected Alarm (SBA)	
		Conditions: all statuses can be set. Default setting OFF: no 'battery not connected' alarm will be triggered when the battery is not connected. Set to ON: a 'battery not connected' alarm will be triggered when the battery is not connected.

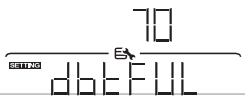
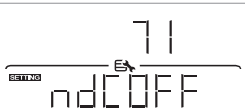
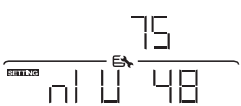
58	Grid-Connected Power Setting (GTP)		
		Conditions: all statuses can be set. The default setting is 4.0. The valid range is [0.5, 4.0], with an increment of 0.5, and the unit is kW.	
59	Battery Load Settings (BGP)		
		Conditions: all statuses can be set. Default setting OFF. When grid power is connected, the battery does not supply power to the load. Set to ON: when the grid load GLD is enabled, the output priority is set to PBG mode, and the battery is sufficiently charged, the grid power is connected and the battery takes priority in supplying power to the load.	
60	CT/MET Direction Settings (CTC)	ATO	
		Conditions: all statuses can be set. Automatic direction detection: when the machine is connected to the grid supply, it will perform a CT/meter direction check. Thereafter, provided the grid supply remains connected, this check will be performed once a day. If three consecutive checks reveal an anomaly, an alarm will be triggered indicating a CT/meter connection fault (alarm 76).	
		POS	
		The direction of the CT/meter indicates the flow of energy from the inverter to the grid supply.	
		NEG	
		The direction of the CT/meter indicates the direction in which energy flows from the grid into the inverter. If the setting is POS/NEG but the actual connection direction of the CT/meter is opposite to the set direction, this will result in abnormal feed-in power and will not trigger an alarm.	

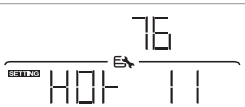
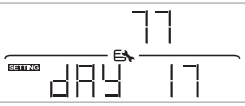
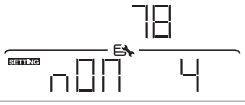
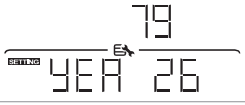
<table>
<tr><td rowspan="2">61</td><td rowspan="2">CT Grid Power Compensation Settings (CCT)</td><td colspan="2"></td></tr>
<tr><td colspan="2">Conditions: all statuses can be set.
The default setting is 200 W: the adjustable range is [0–400] W, in 10 W increments. This setting can be adjusted to reduce the reverse current protection power when the reverse current protection power is slightly too high.</td></tr>
<tr><td rowspan="12">62</td><td rowspan="12">BMS Loss Of Action (BLA) Settings</td><td>A_(default)</td><td></td></tr>
<tr><td colspan="2">Conditions: all statuses can be set.
An alarm is triggered when the BMS is lost, but charging and discharging are permitted.</td></tr>
<tr><td>AC_</td><td></td></tr>
<tr><td colspan="2">An alarm is triggered when the BMS is lost and charging is disabled, but discharging is permitted.</td></tr>
<tr><td>ACD</td><td></td></tr>
<tr><td colspan="2">An alarm is triggered when the BMS is lost, and both charging and discharging are disabled.</td></tr>
<tr><td>N_</td><td></td></tr>
<tr><td colspan="2">No alarm is triggered when the BMS is lost, and both charging and discharging are permitted.</td></tr>
<tr><td>NC_</td><td></td></tr>
<tr><td colspan="2">No alarm is triggered when the BMS is lost, and discharging is permitted but charging is disabled.</td></tr>
<tr><td>NCD</td><td></td></tr>
<tr><td colspan="2">No alarm is triggered when the BMS is lost, and both charging and discharging are disabled.</td></tr>
</table>

63	BMS Charging Mode Settings (BCT)	BNK(default)	
		Conditions: all statuses can be set. The charging current is set to the lower of the value uploaded by the BMS and the user-defined charging current, and the value of the MCC setting is adjusted accordingly.	
		B_	
		The charging current is set to the lower of the value uploaded by the BMS and the user-defined charging current.	
		USE	
		The charging current is set to the user-defined charging current.	
		SNK	
		The charging current is set to the minimum of the three values: the current uploaded by the BMS, the user-defined setting, and the charging current calculated from the SOC; the value of the MCC setting is adjusted accordingly.	
		S_	
		The charging current is set to the lowest of the value uploaded by the BMS, the user-defined charging current and the charging current calculated based on SOC.	
64	BMS Discharge Mode Settings (BDT)	BNK (default)	
		Conditions: all statuses can be set. The discharge current is set to the lower of the value uploaded by the BMS and the user-defined discharge current, and the value of the MDC setting is adjusted accordingly (note: if MDC is set to OFF, the value of the MDC setting is not changed).	

64	BMS Discharge Mode Settings (BDT)	B_	
		The discharge current is set to the lower of the value uploaded by the BMS and the user-defined discharge current.	
		USE	
		The discharge current is set to the rated discharge current.	
		SNK	
		The discharge current is set to the minimum of the three values: the discharge current uploaded by the BMS, the user-defined value, and the calculated SOC value. The value of the MDC setting is also adjusted accordingly (note: if MDC is set to OFF, the value of the MDC setting is not adjusted).	
		S_	
		The discharge current is set to the minimum of the values uploaded by the BMS, the user-defined discharge current and the discharge current calculated from the SOC.	
65	BMS Control Information Action Settings (BSA)	OFF (default)	
		Conditions: all statuses can be set. Charging and discharging are not controlled by the BMS charging and discharging flag.	
		AC_	
		Charging is controlled by the BMS charging flag, but discharging is not controlled by the BMS discharging flag.	

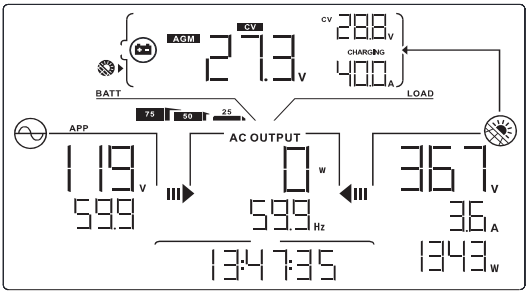
65	BMS Control Information Action Settings (BSA)	A_D	
		Discharging is controlled by the BMS discharging flag, but charging is not controlled by the BMS charging flag.	
		ACD	
		Discharging is controlled by the BMS discharging flag, and charging is controlled by the BMS charging flag.	
66	Enable Setting For Dual-Channel Output In Off-Grid Mode (BDE)		
		Conditions: all statuses can be set. Default setting OFF: in off-grid mode, the dual-output function is disabled. Set to ON: in off-grid mode, the dual-output function is enabled.	
67	Grid-Connected Mode Dual-Output Enable Setting (GDE)		
		Conditions: all statuses can be set. Default setting OFF: in grid-connected mode, the dual-output function is disabled. Set to ON: in grid-connected mode, the dual-output function is enabled.	
68	Dual-Output Enable Setting For Photovoltaic Mode Only (PDE)		
		Conditions: all statuses can be set. Default setting OFF: in PV mode only, the dual-output function is disabled. Set to ON: in PV mode only, the dual-output function is enabled; in this case, dual output is forced on and is not controlled by the battery voltage.	

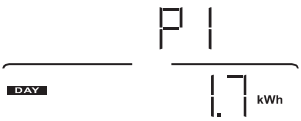
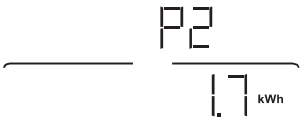
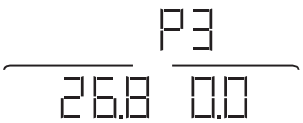
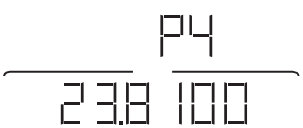
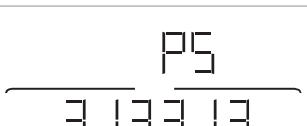
69	Dual-Output Enable Photovoltaic Power Setting (PED)	
		Conditions: all statuses can be set. Default setting is OFF: this setting is disabled. Set to [1000,5000]: set the step size to 500W. When the PV output power exceeds the set value, dual output is enabled; otherwise, dual output is disabled.
70	Dual-Channel Duration (DBT)	
		Conditions: all statuses can be set. This function is only active in off-grid mode when the battery is connected. The default setting is FUL: dual-output duration is unlimited. Set to [5, 900] minutes: in 5-minute increments; the dual output will switch off once the duration reaches the set value. After switching off, the setting will only take effect if the dual-output duration is set to a value different from the current one; otherwise, the setting will not take effect and the dual output will remain switched off.
71	Maximum Discharge Current (MDC)	
		Conditions: all statuses can be set. The setting range is [10, 170 A] or OFF. Set to OFF: this setting is disabled. The setting range is [10, 170 A]. The setting increment is 5 A. The battery discharge current is limited to no more than the maximum discharge current value set. If the battery discharge current exceeds the limit, an overload alarm 60 is triggered. If the overload persists for a certain period, the inverter reports an overload fault 14 and enters fault mode. The default setting is OFF.
75	RTC Clock Minute Setting (MIU)	
		Conditions: all statuses can be set. The setting range is [0, 59], in minutes. When you access this setting, the value displayed is the current minute of the RTC clock.

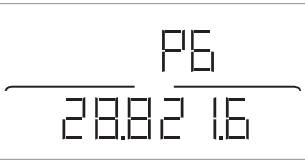
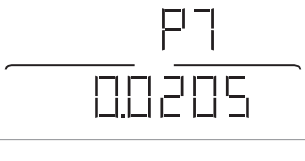
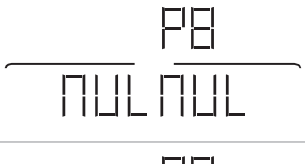
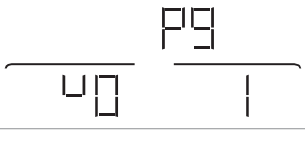
76	RTC Clock Hour Setting (HOR)	
		Conditions: all statuses can be set. The setting range is [0, 23], in hours. When you access this setting, the value displayed is the current hour as shown on the RTC clock.
77	RTC Clock Day Setting (DAY)	
		Conditions: all statuses can be set. The setting range is [1, 31], in days. When you access this setting, the value displayed is the current day according to the RTC clock.
78	RTC Clock Monthly Settings (MON)	
		Conditions: all statuses can be set. The setting range is [1, 12], in months. When you access this setting, the value displayed is the current month according to the RTC clock.
79	RTC Clock Year Setting (YEA)	
		Conditions: all statuses can be set. The setting range is [0, 99], in years. When this setting is accessed, the value displayed is the year of the current RTC clock; the corresponding actual year is: [2000 + the set value].
99	Restore Default Settings (STD)	
		Configuration conditions: settings can be adjusted in mains mode and standby mode (where there is no output but the display is lit). Settings cannot be adjusted in battery mode. In parallel operation mode, settings can be adjusted when the toggle switches on all units are switched off. Before this setting is changed, this screen displays 'OFF'. When set to 'ON', the system will revert to the default settings. Once the setting has been applied, this screen will display 'OFF' again. Grid and standby modes can be set and take effect immediately; however, this setting is not available in battery mode.

4.3 Display Information

The LCD display information will be switched in turns by pressing 'UP' or 'DOWN' key.
The main page displays information including: time, input and output voltages, input and output frequencies, battery status, PV voltage and current, and load status.



LCD display	Informatiopn
	Display the daily power generation from solar.
	Display total power generation from solar.
	Display lithium battery voltage and current. Display ERR when BMS communication fails. If BMS function is disabled, the page will not display.
	Display lithium battery temperature and SOC. Display ERR when BMS communication fails. If BMS function is disabled, the page will not display.
	Display lithium battery rated capacity and remaining capacity. Display ERR when BMS communication fails. If BMS function is disabled, the page will not display.

	Display lithium battery maximum charging voltage and minimum discharging voltage. Display ERR when BMS communication fails. If BMS function is disabled, the page will not display.
	Display lithium battery maximum charging current and maximum discharging current. Display ERR when BMS communication fails. If BMS function is disabled, the page will not display.
	Display lithium battery alarm and fault information. Display ERR when BMS communication fails. If BMS function is disabled, the page will not display.
	Display inverter firmware version.

5. Fault Reference Code



Fault display:

Function description: If an alarm occurs, the indicator flashes and the buzzer sounds once every second for 1 minute before stopping. If a fault occurs, the fault indicator stays on, the buzzer sounds for 10 seconds and then stops, and the system will attempt an automatic restart. If the device still fails to work normally after accumulating 6 restarts within 15 minutes, the device and LCD screen will remain in a fault state. You need to completely power off the device (turn off the screen) or wait for 15 minutes before restarting it.

The LCD display interface in the fault state is shown in the figure above. In fault mode, the fault icon stays on; in alarm state, the alarm icon flashes. Please contact the manufacturer to troubleshoot the abnormal condition based on the fault information.

Fault: The inverter enters fault mode, with a constant red LED light and LCD displaying a fault code.

Fault code sheet

Fault code	Meaning	Relevant action	Trigger conditions	Resume conditions
1	Grid soft start fail	Turn fault mode	Grid soft start process starts but bus voltage does not reach set value.	Restore after reaching the set voltage for 15 seconds.
2	Bus over voltage	Turn fault mode	Bus voltage is higher than set value.	Restore after reaching the set voltage for 15 seconds.
3	Bus below voltage	Turn fault mode	Bus voltage is lower than set value.	Cannot restore
4	Battery over current	Turn fault mode	Battery current is higher than set value.	Cannot restore
5	System over temperature	Turn fault mode	PFC temperature is higher than set value or fan is not connected.	Restore after temperature lower than set value and fan connected for 15 minutes.
6	Battery over voltage	Turn fault mode	Battery voltage is higher than set value.	Restore after reaching the set voltage for 15 seconds.
7	Bus soft start failed	Turn fault mode	Battery soft start process starts but the bus voltage has not reached set value.	Restore after reaching the set voltage for 15 seconds.
8	Bus short circuit	Turn fault mode	Bus voltage is lower than set value.	Cannot restore.
9	Inverter soft start failed	Turn fault mode	Inverter soft start process starts but the inverter voltage has not reached set value.	Restore after reaching the set voltage for 15 seconds.
11	Inverter under voltage	Turn fault mode	The inverter voltage is lower than the set value in battery mode.	Restore after reaching the set voltage for 15 seconds.

Fault code	Meaning	Relevant action	Trigger conditions	Resume conditions
12	Inverter short circuit	Turn fault mode	Inverter voltage is less than the set value and current is higher than the set value.	Restore after reaching the set value for 15 seconds.
13	Inverter negative power	Turn fault mode	The inverter power is negative and exceeds the set value for a period of time.	Restore after reaching the set value for 15 seconds.
14	Over load	Turn fault mode	The load current, load power, battery current, or grid current exceeds the set value.	Restore after reaching the set value for 15 seconds.
17	Program updating	Turn fault mode	Inverter updating or OTA.	Restore after updating.
18	PV reverse connection	Turn fault mode	PV reverse connection.	Restore after connecting correctly for 15 seconds.
26	BMS fault	Turn fault mode	Error code in BMS message.	Restore after BMS fault resolved.
27	MCU Fail	Turn fault mode	Internal fault.	System automatically restarts.
30	PV over voltage	Turn fault mode	PV voltage exceeds the maximum supported voltage.	Restore after voltage returning lower than maximum supported voltage.

6. Alarm Reference Code

Alarm: the inverter does not enter the fault mode, LED red light flashing, LCD displays the Alarm code.



Alarm code sheet

Alarm code	Meaning	Relevant action	Trigger conditions	Resume conditions
50	Battery open	Alarm	Battery disconnected for no more than 10 minutes.	Restore after battery connected and charging for 2 minutes.
51	Battery under voltage	Alarm, battery low voltage shutdown or cannot power on.	Battery voltage is lower than BAU set value.	Meet any one of the following conditions: 1. The battery voltage exceeds 26V. 2. When grid power is connected, or the toggle switch is off, or the system is shut down remotely, the battery voltage exceeds the BAU setpoint by 1.5V.
52	Battery low voltage	Alarm	Battery voltage is lower than BAL set value.	The battery voltage is 1.5 V above the BAL setpoint.
53	Battery charge short circuit	Alarm, battery does not charge.	The voltage of a single cell is less than 6V and there is a charging current.	Restore after a maximum of 1 minute when the short circuit is eliminated.
56	BMS loss	Alarm	Communication failure after BMS communication function is enabled.	Restore after communication function disabled or communication success.
58	Fan error	Alarm, fan operation in full speed.	No fan speed signal detected.	Restore after fan speed signal detected.

Alarm code	Meaning	Relevant action	Trigger conditions	Resume conditions
59	EEPROM error	Alarm	EEPROM read/write error; data reset to factory settings.	Can not restore
60	Overload	Alarm	The grid current/battery discharge current/ load power is higher than the rated value.	Restore after the grid current/battery discharge current/load power is less than the rated value.
62	PV energy weak	Alarm, Turn off the PV output to the load, but keep the PV charging the battery.	When the battery is not connected, the bus voltage is lower than the set value.	Restore after battery connected or grid connected, or 10 minutes later.
68	Battery under SOC shutdown	Alarm, turn to standby mode.	BMS reports SOC lower than BSU set value.	Disable the low SOC shutdown function, or disable the BMS communication function, or resume operation when the SOC returns to the BSU set value plus 5%.
69	Battery below SOC warning	Alarm, if it is in standby mode, it will remain in standby mode.	Lithium battery SOC is lower than set value+5% (grid mode or battery mode), lower than set value+10% (standby mode).	Disable the low SOC alert function, or disable the BMS communication function, or resume operation when the SOC returns to the BSL setpoint plus 5%.
72	Battery can not startup	Alarm	After power-up, the battery voltage is below the permitted start-up voltage of 23V .	The battery voltage is above the permitted start-up voltage of 23.6V.

Alarm code	Meaning	Relevant action	Trigger conditions	Resume conditions
76	CT/Meter Communica-tion Fault	Alarm: Power supply to the utility side has been suspended.	When the utility load function is enabled, utility power is connected, the CT/meter direction is set to ATO, the grid-side power measurement device is not set to INT, and communication with these devices is abnormal.	When the alarm conditions are not met.
77	Grid power is unstable	Alarm	Lost of grid power three times within 5 minutes.	Restore after 5 mins

7. Battery Equalization

Equalization function is added into charge controller. It reverses the buildup of negative chemical effects like stratification, a condition where acid concentration is greater at the bottom of the battery than at the top. Equalization also helps to remove sulfate crystals that might have built up on the plates. If left unchecked, this condition, called sulfation, will reduce the overall capacity of the battery. Therefore, it's recommended to equalize battery periodically.

Note: *Don't activate this mode when using lithium batteries.

• How to Apply Equalization Function

You can enable battery equalization function in monitoring LCD setting Program 32 by setting time, or you can choose immediate equalization on Program 35. Then, you may apply this function in device by either one of following methods:

1. Set equalization voltage point on Program 31.
2. Set equalization charging time on Program 32.
3. Set equalization delay time on Program 33.
4. Set equalization interval time on Program 34.
5. Set immediate equalization mode activation on Program 35.

8. Trouble Shooting

Problem	Fault Event	Trigger conditions	What to do
LED screen display fault code 2	Bus voltage high	1. Check whether the total rated voltage of PV string exceeds the Max. PV open circuit voltage of inverter.	If it exceeds, reduce the PV module number.
LED screen display fault code 3	Bus voltage low	1. Disconnect the load from inverter and restart again to observe if it recovers.	If it recovers, it indicates that there are too many impact loads and part of them should be removed from inverter.
LED screen display fault code 5	Over temperature	1. After the temperature is low, start the inverter output and check whether the fan rotates.	If the fan is not rotating, there may be a fault with the fan or its wiring.
		2. Check if the dust filter is too dirty.	If there is excessive dust accumulation, it needs to be cleaned.
		3. Check if there is a clearance space of more than 30cm around the machine.	If there is insufficient space, please refer to the user manual for reinstalling.
		4. Check if the ambient temperature is too high (above 45℃).	For example, avoid direct sunlight.
		5. Check if the air duct paper is loose.	Install the plastic nail provided by the manufacturer at the loose position.
LED screen display fault code 26	BMS fault	1. Check the BMS fault information through the battery background controller.	Handle battery problems according to fault information.

Problem	Fault Event	Trigger conditions	What to do
LED screen display fault code 56	BMS loss	1. Check whether the communication cable is plugged into the correct port of the lithium battery.	The lithium battery may have multiple communication interfaces, which need to be plugged into the correct position.
		2. Check whether the battery dial switch setting is consistent with the protocol used.	The battery supports a variety of BMS protocols, and different protocols can be selected through the dial switch on the battery.
		3. Confirm whether the definition of battery port pin of BMS communication cable is consistent with that of inverter.	If not, replace the correct cable.
		4. Confirm whether the BMS protocol matches the inverter.	If it is not within the matching range of inverter, the Protocol shall be replaced.
		5. Replace the battery or inverter for test.	If it is normal after replacement, the communication hardware fails.
LED screen display fault code 58	Fan abnormal alarm	1. Confirm if the fan rotation is abnormal and if there is any foreign object causing obstruction.	Remove any foreign objects.
		2. Check if the fan is not connected or if the wiring is loose.	Ensure proper connection of the fan.
		3. Replace the fan to check if the fan is damaged.	Confirm damage and replace the fan.
LED screen display fault code 62	PV Energy Weak	1. Check if PV power is normal.	If abnormal, repair PV.
		2. Check if PV power is lower than load demand.	Remove part of the load.

Notes:

1. Updates to the content and version of this manual will not be notified separately.
2. The product images displayed in this manual are for visual illustration purposes only and do not represent the actual dimensional ratios of the equipment. The actual appearance of the product shall be subject to the datasheet or the physical product.