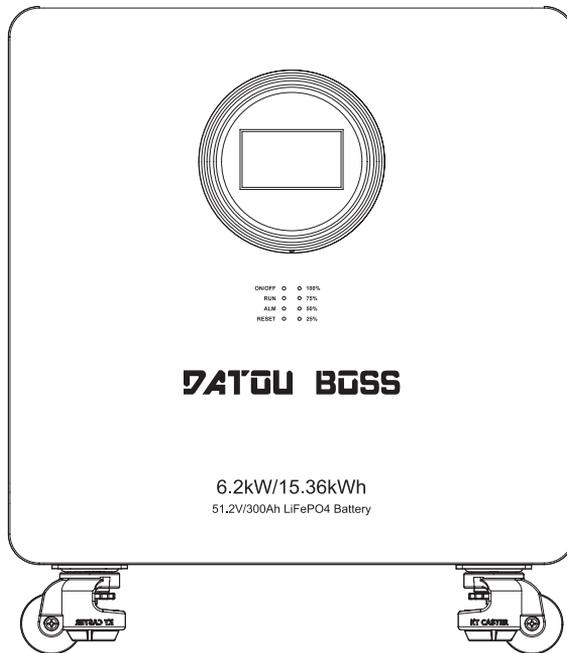


USER MANUAL

All-In-One Home Energy Storage

JC-6215



1. SECURITY:NOTESANDWARNINGS

READ, UNDERSTAND AND FOLLOW ALL INSTRUCTIONS: Before using or installing this product, fully read and understand all applicable instructions and documentation. Save all manuals and documentation for future reference.

1. Wear safety equipment and use insulated tools.
2. Installation should be carried out by a professional.
3. Use the appropriate size.
4. Ensure that the installation follows applicable local and national electrical codes.
5. Ensure that the system is properly grounded.
6. Ensure that the battery is installed in a location suitable for the electronic device.
7. Please keep the battery within the safe temperature range for stable operation.
8. Clean the battery with a suitable cleaner (e.g. sandpaper, dry cloth) and do not use any spray cleaners, liquids, aerosols or any solvents to clean the spray paint.
9. Make sure all fasteners are properly tightened.
10. Do not burn, crush or puncture the battery.
11. Do not place the battery in a hazardous/flammable environment where it could come into contact with corrosive chemicals or vapours.
12. Do not store or install this product in radiators, collectors, cookers or enclosures that may remain overheated.
13. Do not immerse the product in liquid.
14. Risk of fire, explosion and burns. If electrical odour or overheating occurs, safely disconnect circuit breakers and call the fire department.
15. Keep away from damaged batteries and any liquid (electrolyte) or gas (flammable) leaking from batteries. If inadvertently inhaled, evacuate the contaminated area and seek medical assistance.
16. If battery leakage/fluid comes into contact with eyes or skin, flush the affected area with running water for 15 minutes and seek medical attention.
17. In the event of a fire, do not use water! Use only dry powder fire extinguishers. If possible, move the battery pack to a safe place before it catches fire.

2. PREPARATION FOR SHIPMENT, RECEIPT AND INSTALLATION

2.1 Shipment and receipt

All-in-one batteries are made of lithium iron phosphate cells (LifePO4) and are classified as Class 9 Dangerous Goods, so please be aware of the following matters regarding shipment and receipt:

- SHIPPING: All-in-one batteries should be packaged appropriately for transport in accordance with the handling and labelling rules for lithium batteries UN3480.
- RECEIVING: When receiving the all-in-one battery, please inspect it. If you find any damage to the packaging or the inside of the battery pack, take photos and videos and contact your dealer immediately.

Please keep the original box and packaging materials intact in case the all-in-one battery needs to be repacked or warranted in the future.

2.2 Preparation for installation

Tools required for installation:

- Suitable size Phillips screwdriver / torque spanner / riveting pliers.

Connecting the battery using cables/lugs:

- Correct cable: a cable that meets the safe current for battery pack use.
- Correct lugs: conform to battery pack installation dimensions and safe current lugs.

3. INSTALLATION INSTRUCTIONS

3.1 Unpacking and inspection

Inspect the unit before installation. Make sure there is no damage in the package. You should receive the following items in the package:

- All-In-One Home Energy Storage
- User Manual x1

3.2 Preparatory work (installation in the off state, it is recommended that the installation of equipment to find a professional electrician installation)

Wall-mounted Before selecting a mounting location, consider the following points:

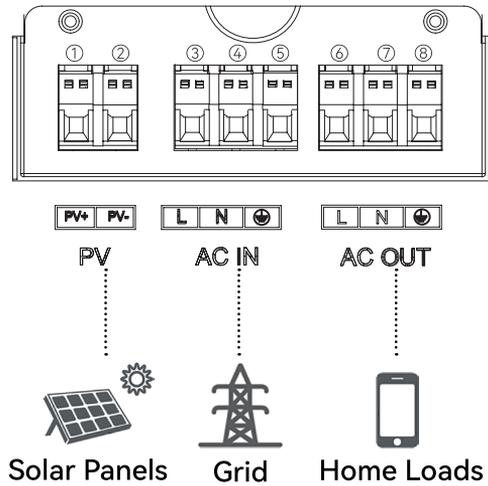
1. Use safety devices and insulated tools in accordance with applicable local and national electrical codes by a qualified person who has fully read, understands, and strictly adheres to all instructions in this manual.
2. In applicable locations and environments:
 - ①. Do not install the product in harsh environments; ambient temperatures should be between 0° C and 55° C to ensure optimum operation.
 - ②. No hazardous/flammable or corrosive chemicals or vapours.
 - ③. There are no nearby heat sources such as radiators, collectors or furnaces to transfer heat to the battery or retain excess heat in the enclosure.
 - ④. No children or pets are present or likely to be present.
 - ⑤. Do not install the All-in-One on flammable building materials, vertical mounting on a solid wall is recommended.
 - ⑥. Ensure that other objects and surfaces shown at right are retained so that there is enough room for heat dissipation and enough room to remove wires.
 - ⑦. Mount the MFP at eye level so that the LCD display can be read at all times.
 - ⑧. Its properly grounded, twisted, tightened and wired.



WARNING !

Requires the product to be installed with the power off and disconnected.

4. WIRING HOLE DESCRIPTION



- ① PV + Positive terminal port
- ② PV - Positive terminal port
- ③ AC IN + Utility direct charge positive terminal port
- ④ AC IN - Direct charging positive terminal for utility power
- ⑤ AC IN Utility direct charging ground wire connector
- ⑥ AC OUT + Inverter output positive terminal port
- ⑦ AC OUT - Inverter Output Negative Terminal Port
- ⑧ AC OUT Inverter output ground wire ground port

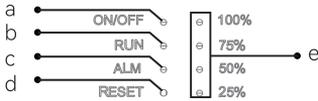
NOTE: Ensure that the installation follows applicable local and national electrical codes.

5. SPECIFICATION

OVERALL PARAMETERS		
Product Model	JC-6215	
Battery Type	LiFePO4 Battery 300Ah	
Battery Capacity	15.36kWh	
Dimensions (L x W x H)	550×541×638mm	
Weight	100kg	
Nominal Voltage	51.2V	
Battery Cycle Life	25° C Cycle	8000 cycles,70% SOH
	45° C Cycle	3000 cycles,70% SOH
Screen Type	LCD	
INPUT		
PV Charging Mode	MPPT	
PV Input Power Max.	8500W	
Mppt Tracking Range	60-500Vdc	
Optimum Voltage	300~400Vdc	
Max PV Input Voltage	500vdc	
Max PV Input Current	27A	
PV Charging Current Max.	120A	
AC Charging Current Max.	100A	
Charging Current Max.	120A	
Input Format	L+N+PE	
Rated Input Voltage	220/230/240VAC	
Voltage Range	90-280VAC 3V (Normal Mode) 170-280VAC 3V (UPS Mode)	
Frequency Range	50Hz/60Hz (Adaptive)	
OUTPUT		
Output Rated Power	Battery Inverter	6200W
	PV Inverter	6500W
Output Voltage	220/230/240VAC ± 5%	
Output Frequency	50/60Hz ± 0.1%	
Waveform	pure sine wave	
Switching Time (Settable)	Computer equipment 10ms, household appliances 20ms	
Peak Power	12400VA	
Overload Capacity	Battery mode:11s@105%~150% Load; 2s@150%~200% Load;400ms@>200% Load	
Liquid Crystal Display	Display of operating modes/loads/inputs/outputs, etc.	

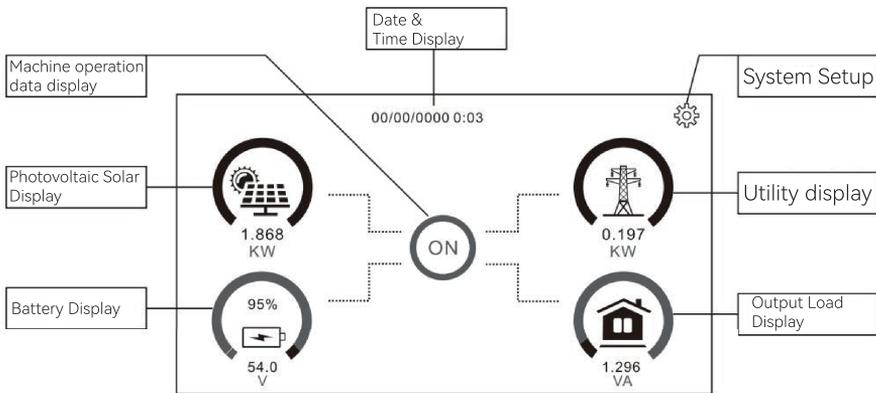
Operating Temperature	-10 ~ 50°C
Operating Environment Humidity	20% ~ 95% (no condensation)
Storage Temperature	-15 ~ 60°C
Altitude	Altitude should not exceed 1000m, derated above 1000m, up to 4000m, refer to IEC62040.
Noise Level	<50db

6. PRODUCT OVERVIEW

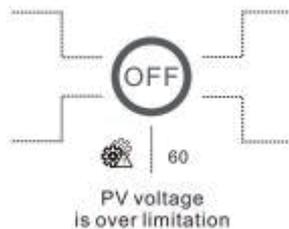
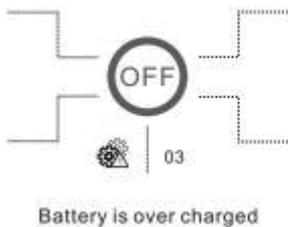


- a. Switching Indicator
- b. Operation Indicator
- c. Alarm Indicator
- d. Reset Button
- e. Battery Indicator

6.1 Product Overview



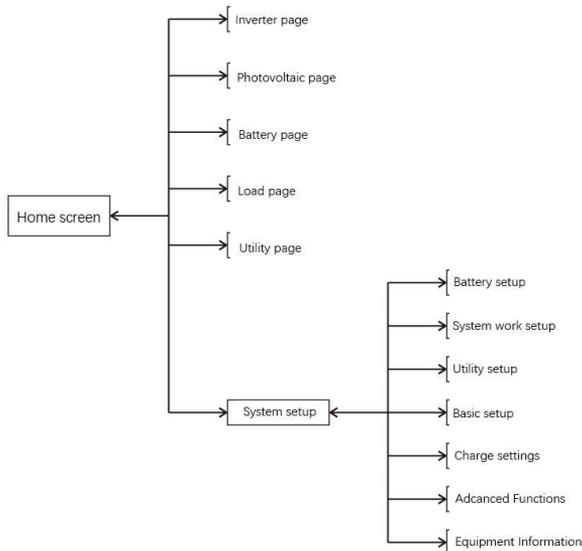
1. The absence of an icon in the centre of the main screen indicates that the system is in normal operation. If the centre of the main screen displays a grey icon and characters, this means that the inverter has issued an alarm, and the alarm message will be displayed as a character under the no icon (details of the error message can be found in the annunciator alarm menu). If a red icon and character are displayed in the centre of the main screen, this means that the inverter is faulty and the fault message will be displayed as a character under this icon (details of the error message can be found in the manual alarm menu).



2. At the top of the screen is the time .
2. System Setup icon, by pressing this setup button, you can access the system setup screen, which includes battery settings, system operating mode, grid settings, basic settings, advanced features, and device information.
3. The main screen displays information including photovoltaic, utility, load and battery. It also shows the direction of energy flow in arrows. When power is approaching the limit, the colour on the panel changes from green to red, allowing system information to be displayed vividly on the main screen.
4. The PV power and load power are always positive.
5. The utility power supply is negatively connected to the grid and positively acquired.
6. Negative battery power means charging , positive means discharging.
7. Indicator Light Information Sheet.

6.2 Touch screen display flow chart

1. At the top of the screen is the time .
2. System Setup icon, by pressing this setup button, you can access the system setup screen, which includes battery settings, system operating mode, grid settings, basic settings, advanced features, and device information.
3. The main screen displays information including photovoltaic, utility, load and battery. It also shows the direction of energy flow in arrows. When power is approaching the limit, the colour on the panel changes from green to red, allowing system information to be displayed vividly on the main screen.
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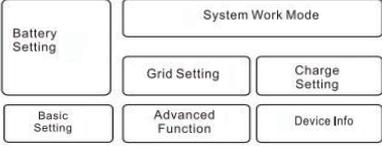
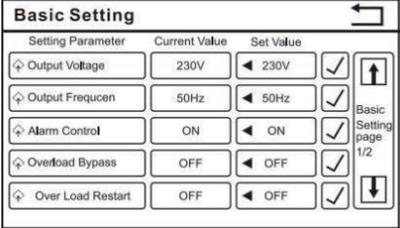
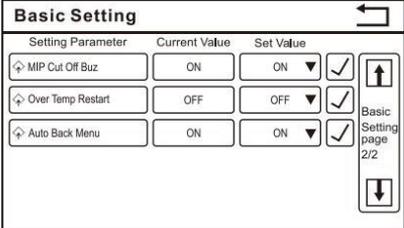
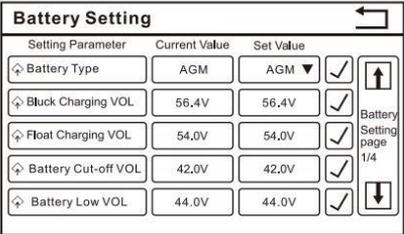


6.3 Touch screen operating instructions

6.3.1 Touch screen main interface page content instructions

Inverter Page	Inverter Data Details Page
<p style="text-align: center;">Detail</p> <p>Machine Type: 6248 Lcd Version:V10.01 Inverter Type: HPVINV04 Driver Version:V10.01 Boosting Temp: 31°C Main Version:V10.03 Machine Temp: 51°C MPPT Temp: 25°C MOS Temp: 39°C IAP Status: Norma</p> <p style="text-align: right;">BACK</p>	<p>This page shows in detail the machine model, machine type, boost tube temperature, internal temperature, MPPT temperature, inverter temperature, whether the underlying program is normal or not, the version number of the colour screen, the version number of the centralised control board, and the version number of the machine control board.</p>
Photovoltaic Page	Photovoltaic Data Detail Page
<p style="text-align: center;">Solar</p> <p>PV1 Input: 262.6 V 7.0 A P11 Input Power : 1855 W PV2 Input: 0.0 V 0.1 A PV2 Input Power: 0 W Today: 0.000KWh Month : 0.0KWh Year: 0.0KWh Total: 0.0KWh</p> <p style="text-align: right;">BACK</p>	<p>This page shows the input voltage, current, and power of the PV solar panel in detail. It also records today's PV power, this month's PV power, this year's PV power, and total PV power.</p>
Battery Page	Battery Detail Page
<p style="text-align: center;">Battery</p> <p>Battery Type: AGM BMS COM Function: OFF Battery Voltage: 54.0 V Charge Current: 12 A Discharge Current: 0 A Bus Voltage: 428 V Li Battery Active: OFF</p> <div style="text-align: right;">  </div> <p style="text-align: right;">BACK</p>	<p>This page shows in detail the battery type, BMS current communication status, battery voltage, BAT charge current, BAT discharge current and BUS bus voltage and lithium activation status.</p>
BMS Page	BMS Detail Page
<p style="text-align: center;">BMS</p> <p>BMS 485 Protocol: NULL SOC: 100 % Charge Current: 0.0 A Discharge Current: 0.0 A BMS Temper : 0.0 C Discharge Limit Voltage: 0.0 V Charge Limit Voltage: 0.0 V Charge Limit Current: 100.0 A</p> <div style="text-align: right;">   </div> <p style="text-align: right;">BACK</p>	<p>This page details the BMS current usage protocol, BMS current SOC value, BMS charging current, BMS discharging current, BMS temperature, BMS discharging limit voltage, BMS charging limit voltage, and BMS charging limit current.</p>

6.3.2 System Setup Menu

<p>System Setup Menu</p> 	<p>System Setup Menu Page</p> <p>This is the System Settings page, including Battery Settings, System Operation Mode, Battery Settings, Utility Settings, Charging Settings, Basic Settings, Advanced Functions, and Device Information.</p>
<p>Basic Setup Menu</p> 	<p>Basic Setup Menu Page</p> <p>This page can be set</p> <p>Inverter voltage: 220/230/240V (default 230V)</p> <p>Inverter frequency: 50/ HZ (default 50HZ)</p> <p>Buzzer: ON/OFF</p> <p>Bypass switch: ON/OFF</p> <p>Overload restart: ON/OFF</p>
	<p>This page allows you to set</p> <p>Input source prompt function: ON/OFF</p> <p>Over-temperature restart function: ON/OFF</p> <p>Over-temperature restart function: ON/OFF</p>
<p>Battery Setting Menu</p>	<p>Battery Setting Menu Page</p>
	<p>This page allows you to set</p> <p>Battery type: AGM/FLD/USE/LIA/PYL/TQF / GRO/LIB/LIC</p> <p>TRONG CHARGE VOLTAGE : This procedure can be set if Custom is selected for Battery Type. The setting range for 24V system models is 24.0V to 30.0V, 48V system models have a setting range of 48-0V to 60.0V. 0V, 48V system models have a setting range of 48-0V to 60.0V</p> <p>Float Charging Voltage: 27V/54V</p> <p>Low Power Cutoff Voltage: If battery power is the only available source, the inverter will shut down. If PV energy and battery power are available, the inverter will charge the battery without AC output. This procedure can be set up if Custom is selected for the battery type. The setting</p>

range for the 24V system model is 20.0V to 26.0V. The setting range for 24V system models is 20.0V to 26.0V. The setting range is 20.0V to 26.0V for 24V system models, 40.0V to 52.0V for 48V system models. None, the low DC cut-off voltage will be fixed to the set value regardless of what percentage of the load is connected.

Battery Low Alarm Voltage:

Range of settings for 24V system models 20.0V-27.0V.

Setting range 40.0V-54.0V for 48V system models.

Battery Setting			
Setting Parameter	Current Value	Set Value	
BMS Function Switch	OFF	OFF ▼	✓
BMS SOC Under Lock	10%	10%	✓
BMS SOC Turn To AC	20%	20%	✓
BMS SOC Turn To DC	95%	95%	✓
BMS Restart SOC	50%	50%	✓

Battery Setting page 2/4

This page allows you to set

BMS function switch: whether to enable the BMS communication function or not

BMS Soc Loc kout: When the SOC value of the BMS falls below the set value, the inverter switches off to protect the battery.

BMS Soc to AC: When the inverter's mode of operation is set to Battery Priority Mode, the inverter will be forced to enter power charging when the SOC of the BMS falls below the set value.

BMS Soc to DC: When the inverter's operating mode is set to Battery Priority Mode, the inverter will return to DC operating mode when the SOC of the BMS is higher than the set value. **Battery Soc Restart:** When the inverter is switched on, the SOC must be higher than the set value to work normally.

Battery Setting			
Setting Parameter	Current Value	Set Value	
Battery Equalization	OFF	OFF ▼	✓
BAT EQ Voltage	58.4V	58.4V	✓
BAT EQ Time	60 Min	60Min	✓
BAT EQ Out Time	120 Min	120Min	✓
BAT EQ Interval	30 Day	30Day	✓

Battery Setting page 3/4

This page allows you to set

Battery balancing: If you select "liquid battery" in the battery type or "user-defined", you can set up the program.

Battery equalization voltage: 24V system models default 29.2V, 48V system models default 58-4V

Battery equalization time: Setting range from 5 minutes to 900 minutes.

Battery balancing timeout: Setting ranges from 5 minutes to 900 minutes. Equalization interval: Setting range from 0 to 90 days

Battery Setting			
Setting Parameter	Current Value	Set Value	
DC TO AC Voltage	46.0V	46.0V ▼	✓
AC TO DC Voltage	54.0V	54.0V ▼	✓

Battery Setting page 4/4

This page allows you to set
DC to AC voltage: 22V-25.5V/44V-51VAC
AC to DC voltage: 24V-29/48V-58V

System working mode setting menu

System working mode setting menu page

System Work Mode			
Setting Parameter	Current Value	Set Value	
ECO	OFF	OFF	✓
Output Priority	SUB	SUB	✓
Output TYPE	PAL	PAL	✓
Clear Generation	OFF	OFF	✓
Reset Factory Setting	OFF	OFF	✓

Work Mode page 1/1

This page allows you to set
ECO function: When the load is low in battery mode, the 16 system will temporarily stop.
Output priority: Output source priority options
 1. SUB: Solar energy is the first priority for loads. If solar energy is not enough to power all connected loads, utility grid energy will supply power to the loads at the same time. Solar energy provides power as the first priority for load output source priority selection.
 2. SBU: If solar energy is not enough to power all connected loads, battery energy will power the loads at the same time. The mains supply power to the load only when the battery voltage drops to a low warning voltage or when solar energy and batteries are insufficient.
 3. Output type: SIG/PAL/3P1/3P2/3P3
 4. Restore factory settings: To restore default values, check the box and click the "YES" button

Mains grid setting menu

Mains grid setting menu page

Grid Setting			
Setting Parameter	Current Value	Set Value	
Input Voltage Range	APL	APL ▼	✓
Grid-Connected Regulation	Mode 04	Mode 04 ▼	✓
Grid Feed Enable	OFF	OFF ▲	✓
Grid Feed Current	10A	10A	✓

Grid Setting page 1/2

This page allows you to set
Input voltage range: APL\LUPS
Photovoltaic energy source type: Mode 01\Mode 02\Mode 03 Mode 04
Grid connection mode: Disabled\Enable
Municipal power parallel network current: default 20A

Grid Setting				
Setting Parameter	Current Value	Set Value		
AC CHA Open Time	0:00	0:00	<input checked="" type="checkbox"/>	Grid Setting page 2/2
AC CHA Stop Time	0:00	0:00	<input checked="" type="checkbox"/>	

This page allows you to set
Start time for charging mains grid: settable range 0-23
Power grid charging shutdown time: settable range 0-23

Charge setting menu

Charge setting menu page

Charge Setting				
Setting Parameter	Current Value	Set Value		
CHA Source Priority	SNU	SNU	<input checked="" type="checkbox"/>	Charge Setting page 1/1
MAX Utility CHA CUR	30A	30 A	<input checked="" type="checkbox"/>	
MAX CHA Current	40A	40 A	<input checked="" type="checkbox"/>	
Solar Supply Priority	BLU	BLU	<input checked="" type="checkbox"/>	

This page allows you to set
Charging priority: Configure charging priority

1. CS0: Solar energy will give priority to charging batteries. AC power charges the battery only when solar energy is not available.
2. SNU: Solar and mains power will charge the battery at the same time.
3. OS0: Solar will be the only source of chargers, AC or not.

Note: If the inverter/charger is operating in battery mode, only solar energy will charge the battery. If there is sufficient solar energy, solar energy will charge the batteries.

Maximum AC current

Note: If the set value in the maximum charging current is less than the set value in the maximum AC current, the inverter will use the charging current in the maximum charging current to charge the AC charger.

Maximum charging current: Configure total charging current for solar and AC chargers

Advanced settings menu

Advanced settings menu page

Advanced Function				
Setting Parameter	Current Value	Set Value		
Dual Mode	ON	ON	<input checked="" type="checkbox"/>	Adv page 1/3
Dual BAT VOL Under	44.0V	44.0V	<input checked="" type="checkbox"/>	
Dual BAT SOC Under	20%	20%	<input checked="" type="checkbox"/>	
Dual BAT VOL Receiver	52.0V	52.0V	<input checked="" type="checkbox"/>	
Dual BAT SOC Receiver	50%	50%	<input checked="" type="checkbox"/>	

This page allows you to set
the second output battery voltage: On/Off Off
Second output battery voltage: 44V/22V, if the battery voltage is lower than the inverter setting, the second output is cut off.
Turn off the second output battery capacity: The default is 20%. If the battery capacity is lower than the SOC setting, the second output will be cut off.

Restoring the second output battery voltage: The default is 52V/26V. If the battery voltage is higher than the battery voltage

setting, the second output will resume.
Restoring the capacity of the second output battery: The default is 50%. If the battery capacity is higher than the SOC setting, the second output will be restored.

Setting Parameter	Current Value	Set Value
Dual Discharge Time	Disable	0min
Dual Recover Delay Time	5 Min	5 Min
Dual Output On Time	0:00	0:00
Dual Output Off Time	0:00	0:00

This page allows you to set
Second output discharge time: 0-990min
 Configure the discharge time to turn off the second output and wait time to turn on the second output when the inverter returns to line mode or the battery is in a charged state.
Second output recovery delay time: Configure the second output recovery delay. Even if the conditions for restoring the voltage of the second output battery and restoring the capacity of the second output battery are met, it is still necessary to wait for the recovery delay to end to restore the second output, and the value range is 0-66 minutes
Second output turn-on time: Values range from 0 to 23.
Second output turn-off time: Values range from 0 to 23.

Setting Parameter	Current Value	Set Value
Output Open Time	0:00	0:00
Output Stop Time	0:00	0:00

This page allows you to set
Output open time: Values range from 0 to 23.
Output stop time: Values range from 0 to 23.

Product information setting menu

Product information setting menu page

This page can set the system time: Year/ month/ day/ hour/ minute/ second
Screen brightness: from dark to bright.
RGB switch: on/off

When the BMS/485 communication interface is externally connected, as shown in the following figure:



6.4 Description of functions and alarms

6.4.1 Description of the fault

Fault: The inverter enters the fault mode, the red LED is always on and the LCD displays the fault code. Fault reference code.

Error code	Fault event
01	When the inverter is turned off, the fan is locked.
02	High temperature or poor NTC connection.
03	Battery voltage too high.
04	Battery voltage too low.
05	Output short circuit or overheating detected inside the product.
06	Output voltage too high
07	Overload timeout.
08	Bus voltage too high.
09	Bus soft start failed.
51	Excessive current or power surge.
52	Bus voltage too low
53	Inverter soft start failed.
55	The DC voltage in the AC output too high.
57	Current sensor failed.
58	The output voltage too low.
59	PV voltage exceeds limit.

6.4.2 Warning Description

WARNING: The LCD displays a warning code and the inverter does not enter fault mode.

Warning Codes	Warning Events	Audible alarms
01	The fan is locked when the inverter is on.	Three beeps every second.
02	overheating	None
03	Battery overcharging	One beep every second.
04	low power	One beep every second.
07	Overload	One beep every 0.5 seconds.
10	Output power derate	Two beeps every 3 seconds.
15	PV low energy	Two beeps every 3 seconds
16	High AC input during bus soft start (>280VAC)	None
E9	Battery balancingq	None
6P	Battery not connected	None

6.4.3 Code Reference

The relevant information code will be displayed on the LCD screen. Please check the operation of the inverter LCD screen.

Code	Instructions
60	If the battery status does not allow charging and discharging after successful communication between the inverter and the battery, it will display code 60, Stop battery charging and discharging.
61	Communications interruption <ul style="list-style-type: none"> • After the battery is connected and no communication signal is detected for 1 minute, the buzzer will beep. • After the inverter and battery are successfully connected, a communication interruption occurs and the buzzer beeps immediately.
69	If the battery status does not allow charging after successful communication between the inverter and the battery, it will display code 69, stop charging the battery.
70	If the battery state must be charged after successful communication between the inverter and the battery, it will display code 70, Charge Battery.
7	If the battery status does not allow discharging after successful communication between the inverter and the battery, it will display code 71, Stop Battery Discharge.

7. INCIDENTHANDLING

Problems	Liquid Crystal Display/Light Emitting Diode/Buzzer	Explanation/possible reasons	How to do.
Product automatically switches off during start-up	The LCD/LED and buzzer will activate for 3 seconds and then turn off completely.	Battery voltage too low (<1.91V/battery)	1. Charge the battery 2. Replace the battery
No response after power on	No instructions	1. Battery voltage is too low. (<1.4V battery) 2. Internal fuse tripped.	1. Replace the fuse. 2. Charge the battery. 3. Replace batteries. Check that the AC circuit breaker has not tripped and that the AC wiring is well connected.
Internal relay repeatedly opens and closes when the unit is switched on	liquid crystal screen	Battery disconnected.	Check that battery leads are well connected.
Buzzer beeps continuously	Error code 07	Overload error. It's time to overload the inverter by 105%.	Reduce the load on the connection by switching off some devices.
		If the PV input voltage is higher than the specification, the output power will be reduced. In this case, if the connected load is higher than the derated output power, an overload will result.	Reduce the number of PV components or connected loads in series.
	Error code 05	Output short circuit.	Check that the unit airflow is not obstructed or that the ambient temperature is not too high.
		Internal converter assembly temperature exceeds 20° C	Check that the unit airflow is not obstructed or that the ambient temperature is not too high.
	Error code 02	The internal temperature of the inverter module exceeds 100° C.	
	Error code 03	The battery is overcharged.	Check that the specifications and quantity of batteries meet the requirements.
Battery voltage is too high.		Check that the specifications and quantity of batteries meet the requirements.	
	Error code 01	fan failure	Replace the fan

	Error code 06/58	Output abnormality (inverter voltage below 190Vac or above 260Vac)	1. Reduce the connected load. 2. Return to the repair centre.
	Error code 08/09/53/57	Internal components have failed.	Return to the repair centre.
	Error code 51	Overcurrent or power surge.	Restart the device and if the error occurs again, return to the repair centre.
	Error code 52	Bus voltage too low.	
	Error code 55	Output voltage unbalance.	Reduce the number of PV assemblies in series.
	Error code 59	PV input voltage out of specification.	

