

## **User Manual**

12V 2000W High Frequency Pure Sine Wave Inverter



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Please follow the safety instructions for operation, the damage caused by not following the safety instructions shall be borne by the individual.

Please save these instructions

#### **Inverter Safety Information**

- 1. Forbidden for non-professionals to disassemble, repair or modify the inverter.
- 2. Do not place the inverter where children can touch it.
- **3.** Keep the inverter far away from harsh environments such as damp, greasy, flammable, explosive, or a large amount of dust.
- **4.** The AC output of the inverter is a high voltage, please do not touch the wiring.
- 5. Please read the product installation steps to ensure all connections are correct.
- **6.** Do not touch it when it working and keep away from materials or materials affected by high temperature.
- 7. Please do not open the terminal protection cover when the inverter is working.
- **8.** Be sure to disconnect the fuse or circuit breaker near the battery and AC output terminals, before installing and adjusting the wiring of the inverter,
- **9.** After installation, check whether all cable connections are tight to avoid the danger of heat accumulation due to virtual connections.
- **10.** The inverter is an off-grid, and the input power supply of the load equipment needs to confirm as the only input device, and do not use in parallel with other input AC power to avoid damage.

#### **Connection security information**

1. The DC voltage must be matched;

Each inverter has a nominal voltage, and the selected battery voltage must be consistent with the nominal DC input voltage of the inverter. For example, a 12V inverter must select a 12V battery.

2. The output power of the inverter must be greater than the maximum power of the electrical appliance;

The maximum power of equipment with large starting energy requirements, such as motors and air conditioners, cannot be greater than the output power of the inverter, and an additional power margin is required.

3. The positive and negative poles must be wired correctly;

The diameter of the connecting wire must be thick enough, and the length of the connecting wire should be minimized.

4. The inverter shell should be properly grounded to avoid personal injury due to leakage.

#### **Installation Safety Instructions**

⚠ Before installation, please read this manual carefully and be familiar with the installation steps.

- Be very careful when installing the battery. When installing a lead-acid liquid battery, you should wear protective glasses. Once you come into contact with the battery acid, please rinse it with clean water in time.
- Avoid placing metal objects near the battery to prevent short circuits of the battery.
- Acid gas may be generated when the battery is charged, make sure the surrounding environment is well-ventilated.
- When installing the cabinet, be sure to leave enough space around the inverter for heat dissipation; do not place the inverter and the lead-acid liquid battery together.
- False connection points and corroded wires can cause extreme heat to melt wire insulation, burn surrounding materials, and even cause fire, so make sure that the connectors are tightened, and the wires are fixed by cable ties to avoid loose connectors caused by shaking of the wires during mobile applications.
- When installing outdoors, avoid direct sunlight and rainwater infiltration.
- After the power switch is turned off, there is still high voltage inside the inverter, please do
  not open or touch the internal components, and related operations can only be performed after
  the capacitor is fully discharged.
- ◆ Please do not install the inverter in harsh environments such as damp, greasy, flammable, explosive, or a large amount of dust.
- ◆ It is forbidden to reverse the polarity of the battery input terminal of this product, otherwise, it is easy to damage the equipment or cause unpredictable dangers.
- The AC output is a high voltage, please do not touch the wiring.
- When the fan is working, do not touch it to avoid injury.
- It is necessary to confirm that the inverter is the only input device for the input power of the load equipment, and it is forbidden to use it in parallel with other input AC power sources to avoid damage.

### **Additional Safety note**

In order to protect the personal and property safety of users while using this product, the relevant information is provided in the manual and highlighted with the following symbols. If you encounter the following symbols in the manual, please read the relevant text carefully.

**▲** WARNING: Indicates a hazard of electric shock which, if not avoided, will result in equipment damage or personal electric shock/injury.

▲ ATTENTION: Indicates a potential hazard that, if not avoided, could result in equipment damage.

NOTE: Indicates an important prompt during operation, failure to execute may cause an equipment failure alarm.

## Feature

#### Reliable

- Advanced SPWM modulation technology pure sine wave output, high power quality.
- High power density and long life components are selected to support long-term operation at full power.

#### **Efficient**

- High conversion efficiency, low loss, low harmonic distortion.
- Three-speed operation mode, ON/OFF/ECO to maximize power saving.

#### **Smart**

- Standard Bluetooth, support mobile APP to check device operating parameters.
- With multiple expansion interfaces to meet the diverse needs of users.

#### **Security**

- With battery overvoltage, overdischarge protection, output overload, short circuit protection and over temperature protection (note, no backconnection protection, please do not backconnect).



**BougeRV provides 1-on-1 Solar Solution.** If you have any questions during use, please feel free to contact us:

If you could provide the following relevant information to our email (service@bougerv.com)

BougeRV provides an 18-month warranty service for the battery. Please read and follow the safety instructions in the manual carefully. The warranty service takes effect from the date of purchase.

Please provide the order number of the purchased product and the serial number (bar code).



Before contacting us: we can provide you with technical support solutions faster.

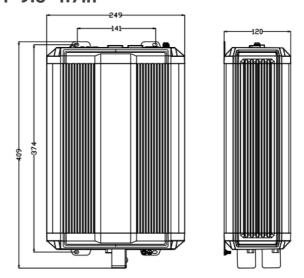
- (1) Voltage of battery
- (2) Power of electrical appliance etc.

#### The company does not assume any responsibility for damages caused by the following circumstances

- 1. Damage caused by improper use or use in an inappropriate place.
- 2. The current, voltage, and power of the load exceed the limit value of the inverter.
- 3. Damage caused by the working environment temperature exceeding the limited working temperature range.
- 4. Unauthorized disassembly and maintenance of the inverter due to arcing, fire, explosion and other accidents caused by failure to follow the inverter logo or manual instructions.
- 5. Force majeure

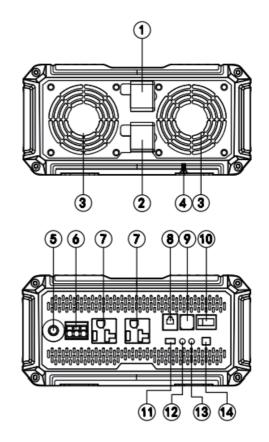
## Appearance and Interface Description

Product size: 409\*249\*120mm/16.1\*9.8\*4.7in



#### **Interface Description**

- 1 Positive electrode of battery input
- 2 Negative electrode of Battery input
- 3 Cooling fan
- 4 Input grounding terminal
- 5 Output overload protector
- 6 AC output terminal 1
- 7 AC output terminal 2
- 8 RS485 communication interface
- 9 USB interface
- 10 ON/OFF/ECO mode switch
- 11 TTL communication interface
- 12 Running indicator
- 13 Fault indicator
- 14 External switch contact interface



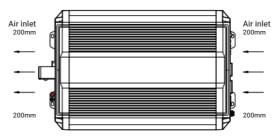
### Installation and Wiring

#### **Installation Steps:**

Step 1: Read the user manual carefully.

Step 2: Determine the installation position and heat dissipation space.

Determine the installation position (wall-mounted or horizontal installation mode can be used). When installing the inverter, ensure that sufficient space is available and the inverter is removed At least 200mm (7.9in) space should be left between the tuyere and the intake for air circula-



⚠ If installed in a closed container, ensure that heat dissipation can be dissipated through the container; otherwise, reduce the amount of heat used.

Step 3: Connect cables



tion.

- 1. The AC device shall be determined according to the continuous output power of the inverter, but the impact power of the AC device. Do not exceed the instantaneous impact power of the inverter. Otherwise, the inverter may be damaged.
- 2. Before wiring, set the inverter switch to OFF state.



• 3. During the wiring process, do not close the circuit breaker or safety, and confirm the lead connection of the electrodes of each component

The connection is correct.

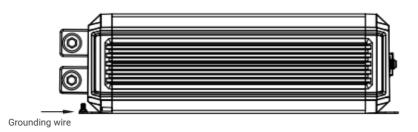
• 4. The battery end needs to be installed with insurance, which is selected according to the inverter input rated current of 2-2.5 times

Ensure that the safe position is not more than 150mm away from the battery.

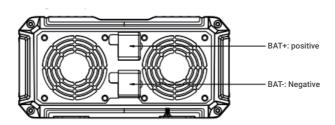
• 5. The input has no reverse connection protection. Before connecting the battery cable, ensure that the positive and negative terminals are correctly connected.

#### Wiring sequence:

#### 3.1 Ground wire:



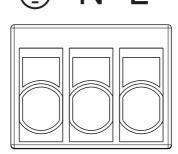
#### 3.2 Battery positive and negative wires



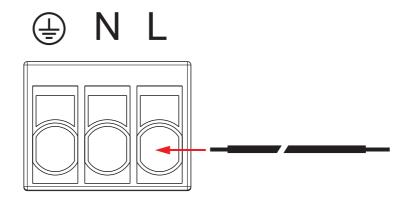
⚠ Input has no reverse connection protection. Before connecting the battery cable, ensure that the positive and negative terminals are correctly connected; otherwise, the inverter may be damaged!

#### 3.3 AC Equipment

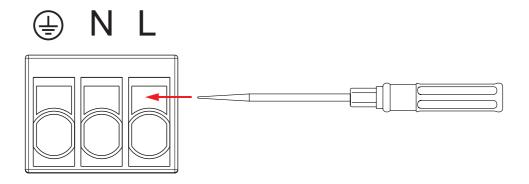
1) The device has two AC output interfaces. Connect the load device to the following 3P terminals if the power of a single load device is higher than 70% of the rated power, defined as follows:



- Single strand copper wire with a wire diameter less than 4 mm<sup>2</sup> is recommended;
- Add soldering tin to the wiring place to make it integral and insert it into the corresponding hole if multiple strands of wire are used;
- Please connect the ground wire first, then the fire wire L and zero wire N.



• Stop the inverter to remove the wiring, then use a sharp tool to insert the small hole above the interface and pull out the connecting wire by force.



2) The inverter is equipped with 2 standard American standard terminal, as shown in the figure below, the maximum current bearing capacity of the terminal is 20A.



#### **Step 4: Start the inverter**

- 4.1 Close the circuit breaker at the DC input end of the inverter or the insurance at the battery end;
- 4.2 Short-circuit the external switch contact interface of the inverter (factory default short-circuit state);
- 4.3 Set the mode switch of the inverter to ON and start the output of the inverter: the running indicator is steady green and normally outputs AC power;
- 4.4 Close the circuit breakers on the AC load line, turn on the AC load one by one, and check the running state of the inverter and the load;
- 4.5 If the fault indicator is red and the buzzer alarms after the inverter are started, shut down the load and inverter, please refer to Common problems and solutions for troubleshooting. After the fault is rectified, repeat the preceding steps.

## Basic Parameters

| Product Model                 | IU12-2KW   | Note                                      |
|-------------------------------|--|---|
| Rated output power W          | 2000W  |   |
| Rated output power vA         | 2000VA   |   |
| instantaneous<br>impact power | 4000W  |   |
| Rated output voltage          | 110VAC/115VAC/120VAC (±3%)   | Default: 120 V, adjusted by communication |
| Output frequency              | 50/60 Hz (±0.2%)   | Default: 60 HZ, adjusted by communication |
| Output waveform               | Pure sine wave   |   |
| Output harmonic component     | THDV<4% (pure resistance load)   |   |
| Load power factor             | 0.2-1 (load power ≤ output continuous power)   |   |
| Rated input voltage           | 12VDC  |   |
| The input voltage ranges      | 10.8 to 16.0VDC  |   |
| Rated output efficiency       | >89.0%   |   |
| Maximun output efficiency     | >92.0% (30% load)  |   |
| Standby/ECOcurrent            | <0.2A  | OFF mode                                  |
| No-load current               | <0.1A  | ON mode,no-load                           |
| RS485 coumunication           | Non-isolated RS485 communication,<br>power supply5VDC/200mA, interface<br>set remote switch and CAN commu-<br>nication function (optional) |   |
| USB port                      | Double USB output, 5VDC/2A   |   |
| ON\0FF\ECO Mode               | 10.8~16.0VDC<br>ON - AC normal output<br>OFF - no AC output, standby<br>ECO - energy-saving mode, auto<br>switch                           |   |
| Eco startup power             | <30W   | 30-100W (adjustable)                      |
| ECO interval time             | 1 min  | 30s-30min (adjustable)                    |
| TTL interface                 | Non-isolated TTL communication, power supply 12.5V/200mA   |   |
| Indicator                     | Green - Operating normally; Red<br>-Fault  |   |

| Product Model                     | IU12-2KW  | Note  |
|-----------------------------------|---|---|
| External switch contact interface | Can be switched on and off by external relays, mechanical   | When this function is used, it is necessary to switch ON mode |
| Protection function               | Input over-voltage/over-discharge protection, output overload/short-circuit protection, and device overtemperature protection | No input reverse connection protection!                       |
| Operating ambient temperature     | -20°C - 60°C / -4°F - 140°F   |   |
| Storage environment temperature   | -35°C - 80°C / -31°F - 176°F  |   |
| Relative humidity                 | ≤95%  |   |
| Protection level                  | IP20  |   |
| Heat dissipation mode             | Natural heat dissipation & intelligent air cooling  |   |
| Noise                             | ≤60dB   |   |
| Product size                      | 409*249*120mm/16.1*9.8*4.7in  |   |
| Installation dimensions           | 374*141*φ5mm/14.7*5.6*φ0.2in  |   |
| The net weight of the product     | 6.5kg/14.3lb  |   |

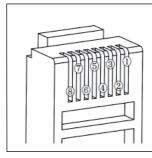


## Interface Function Description

#### 1 RS485 communication

- 1) The default baud rate is 9600kps; Check digit: None; Data bit: 8bit; Stop bit: 1bit
- 2) Interface type RJ45, communication power output specification: 5V/200mA
- 3) RS485 communication line sequence is defined as follows. The interface integrates remote switch interface (SW1/SW2) and CAN communication interface

When the port (SW1/SW2) is suspended in open circuit=OFF mode; Switch interface (SW1/SW2) is short circuited=ON mode.



| Switch position | Switch position           |
|-----------------|---------------------------|
| 1               | Positive terminal 5.0 VDC |
| 2               | D+                        |
| 3               | D-                        |
| 4               | Power ground              |
| 5               | SW1                       |
| 6               | SW2                       |
| 7               | CANH                      |
| 8               | CANL                      |

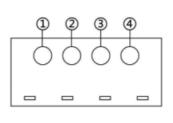
#### 2 USB interface

Dual USB output interface with a total output capacity of 5V 2A is capable of charging mobile phone/ PAD and other mobile devices, and no output when the battery is over-discharged or with over-voltage.

| S/N | Definition |
|-----|------------|
| 1   | USB+5.0VDC |
| 2   | NC         |
| 3   | NC         |
| 4   | USB-       |

#### 3 TTL communication interface

- 1) The default baud rate is 9600kps; Check digit: None; Data bit: 8bit; Stop bit: 1bit
- 2) Output specification of communication power supply: 12.5V/200mA



| S/N | Description                           |
|-----|---------------------------------------|
| 1   | VCC communication power supply output |
| 2   | RX - inverter data receiving end      |
| 3   | TX - inverter data sending end        |
| 4   | GND - power ground                    |

#### 4 Operating mode switch

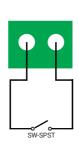
With a 3rd position boat switch, the inverter has 3 operating modes including OFF, ON, and ECO when the external switch contact is closed.

| Switch position | Definition of mode                                   | Description of mode   |
|-----------------|--|---|
| OFF             | Idle mode, no AC output                              | Device is in standby idle state, indicator, communication function, USB output and other functions are normal, no AC output   |
| ON              | Normal mode with AC output                           | Device is in normal working state with AC output  |
| ECO             | Energy-saving mode<br>with Intermittent AC<br>output | Device with the detected output load power lower than the ECO starting power (default 30W) will automatically close the AC output, enter idle mode, and re-start the AC output after ECO interval time (default 1min). And the AC will continuously output if the load power is larger than the ECO starting power (+10 W); |

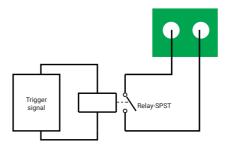
Remark: When using an APP or other communication devices to switch the working mode, the current actual working mode will be inconsistent with the boat switch position. The working mode of the inverter is based on the last adjusted position at the APP or communication device or the boat switch.

#### 5 External switch contact interface

2P switch interface: Inverter can work when the interface is short-circuited; Inverter fails to work when the interface is open. The interface can be connected to a mechanical switch or relay to control the inverter to start/stop (this application requires keeping the mode switch in the ON or ECO mode position) in practical application.



Application drawing 1: external mechanical switch



Application drawing 2: external relay switch

#### 6 Bluetooth module

Built-in Bluetooth communication function can monitor the operation data, fault status and adjust the operation parameters of the inverter in real time through mobile APP.

#### **Download**

Scan the QR code on the right to download the application;





IOS & Android

#### **Pairing with You Phone**

- 1. Turn on the Bluetooth and GPS on your phone to enter the 'Index' interface 1,
- 2. After clicking the ' (1) ', search for Bluetooth through ' (2) Add Device ' and then ' (BTTH-300F624D
- 3. Or click the ' Add it now ' to connect
- 4. Enter interface 2 after the connection is successful

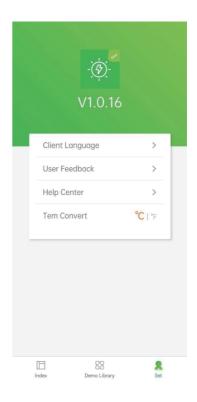




#### set

Learn about software versions and change settings

| Device Information | User Setting                  |
|--------------------|-------------------------------|
| 1. Client Language | Change for English or Chinese |
| 2. User FeedBack   | Share Your Advice             |
| 3. Help Center     | Help to Connect               |
| 4. Term Convert    | For °C / °F                   |



#### **APP main interface**

| Real-time status      |  |  |
|-----------------------|--|--|
| 1. Percentage         | The ratio of inverter output power to the maximum power of the inverter. For example, when the output power is 500W, the display value is 25%. |  |
| 2. 'ON'State          | Running Mode   |  |
| 3. 'OFF'              | Idle Mode  |  |
| 4. 'ECO'              | Energy Saving Mode   |  |
| 5. Voltage            | AC Output Voltage  |  |
| 6. Current            | Operating Current  |  |
| 7. Frequency          | AC Frequency   |  |
| 8. Power              | Output Power   |  |
| 9. Battery Voltag     | The Battery Voltage Read by the inverter   |  |
| 10. Equipment<br>Temp | Internal Temp of Inverter  |  |



#### History



The usage data of a week can be viewed and the accumulated electricity consumption needs to be counted for 24 hours, and the electricity consumption of the day is normally displayed according to the date.

Historical data can be shared in multiple ways or cleared

#### **Basic info**



Know the inverter's serial number software version, and check for updates.

You could also perform factory reset operations in the interface

Click on it ③ on the main interface to enter the parameter modification interface

Click to ④ save the current parameter settings, and then click here ④ to view the saved data



| Parameter Set                         |   |  |
|---------------------------------------|---|--|
| Voltage of<br>System                  | Rate input voltage.<br>The default value is 12V, which can not<br>be changed  |  |
| Overvoltage                           | Battery overvoltage protection voltage<br>Default 16V, adjustment range is<br>12-16V  |  |
| overvoltage<br>recovery<br>voltage    | Battery overvoltage recovery voltage.<br>Default 15V,adjustment range is<br>11-15V  |  |
| Over-dis-<br>charge<br>voltage        | Overdischarge protection voltage.Default is 10.8 V, the adjustment range is 10-15V  |  |
| Over-dis-<br>charge return<br>voltage | overdischarge return<br>voltage. Default is 15V, the adjustment<br>range is 11-15.5 V   |  |
| AC voltage                            | Inverter AC rated output voltage,<br>default 120V; can be changed to 110V   |  |
| Frequency                             | Inverter AC rated output frequency,<br>default 60hz; can be changed to 50HZ   |  |
| Fan start-up<br>temp                  | Inverter internal cooling fan start-up<br>temp.Can be customized. The<br>temperature range is 40 ° C-65 ° C OR<br>104 ° F-149 ° F. Temperature units can<br>be switched at home   |  |
| ECO mode<br>startup<br>power          | In energy-saving mode, if the intermittent AC output is detected with an output load power less than the set ECO start power (30W by default), the AC output is automatically turned off and put into idle mode. After the ECO interval (default is 1 |  |
| ECO interval time                     | minute), start the AC output again. If the load power is greater than (ECO start power + 10W), AC output start on. Default interval of 60S with an adjustable range of 30S-1800S and a default power of 30W with an adjustable range of 30-100W       |  |

#### note:

After turning on the phone's Bluetooth and positioning the connection display connection timeout, please check the battery voltage, if the battery voltage is lower than the minimum input voltage, it cannot be connected. If the battery is dormant, please activate the battery and reconnect it.



#### 1. Input overvoltage protection

When the battery voltage is higher than the input overvoltage protection voltage, the AC output is turned off, and the fault indicator light and buzzer prompt; when the battery voltage is lower than the input overvoltage protection voltage -1V, the AC output is restored

|   | 12V system | 24V system |
|---|------------|------------|
| Input voltage of over-voltage protection          | 16.0V      | 32.0V      |
| Input recovery voltage of over-voltage protection | 15.0V      | 31.0V      |



Although the inverter has an input of voltage protection, the input voltage of the 12 V system shall not be higher than 20 V; The 24 V system input voltage shall not be higher than 35 V, otherwise, the inverter may be damaged.

#### 2. Input low voltage protection

When the battery voltage is lower than the input low-voltage protection voltage, the AC output will be turned off, and the fault indicator light and buzzer will prompt; when the battery voltage is greater than

When the low voltage protection recovery voltage is input, the AC output is restored.

|  | 12V system | 24V system |
|--|------------|------------|
| Input voltage of over-voltage protection         | 10.8V      | 21.6V      |
| Input recovery voltage of low-voltage protection | 12.0V      | 24.0V      |

#### 3. Output overload protection

When the AC load is greater than the rated output power, corresponding protection is provided according to different overload levels, as follows:

| Load power       | Possible duration |  |
|------------------|-------------------|--|
| 102% ≤ Po ≤ 120% | 1 min             |  |
| 120% < Po ≤ 150% | 30s               |  |
| Po > 150%        | 10s               |  |



When the inverter is under overload protection, the AC output has 3 automatic recovery functions (the first delay is 5s, the second delay is 10s, and the third delay is 15s). It will not recover automatically for the fourth time. Check the equipment and restart the inverter after troubleshooting to restore the AC output.

#### 4. Output short circuit protection

When the AC output L/N is short-circuited, the inverter will automatically shut down the AC output, and the fault indicator and buzzer will prompt.



When short-circuit protection occurs in the inverter, the AC output has 3 automatic recovery functions (the first time delay is 5s, the second time delay is 10s, and the third time delay is 15s). It will not recover automatically the fourth time, and the AC output can only be restored by restarting the inverter after troubleshooting.

#### 5. Equipment over-temperature protection

The device has multi-channel temperature detection inside. If any temperature is higher than the over-temperature protection value of the device, the AC output will be automatically turned off, and the fault indicator light and buzzer will prompt; when the temperature is lower than the recovery value of the device's over-temperature protection, the AC output will be automatically restored.

#### 6. Fan failure protection

When the fan is blocked or other reasons cause the fan not to run, the AC output of the inverter can only work at less than 30% of the rated output power

When the load power is greater than 30% of the rated power, the AC output will be turned off.



To ensure that the inverter can run reliably and stably at full power for a long time, please keep a good installation environment to avoid fan blocking by oil and wire. And check the fan operation regularly.

## Common Problems and Solutions

| NO. | Symptom  | Cause of failure                                    | Possible cause   | Solution   |
|-----|--|---|--|--|
| 1   | The red light flashes slowly,the green light is off, the buzzer sounds, there is no AC output.                 | The input voltage of<br>the battery is too<br>low.  | 1. The battery wiring diameter is too small to cause a large voltage drop; 2. The battery power is insufficient. | 1. Select the appropriate wire, 2. After charging the battery in time to the low voltage recovery, the output can be restored by itself. |
| 2   | The red light<br>flashes quickly,the<br>green light is off, the<br>buzzer sounds,<br>there is no AC<br>output. | The input voltage of<br>the battery is too<br>high. | The voltage of battery is not compatible with voltage of the equipment system.                                   | Overvoltage protection voltage,it can be recover automatically after adjusting the input voltage.  |

| NO. | Symptom  | Cause of failure                           | Possible cause   | Solution  |
|-----|--|--|--|---|
| 3   | The red light flashes once, the green light is always on, the buzzer sounds, there is AC output.   | Load overload                              | The power of the load equipment is greater than the rated output power.  | Check whether the AC load is within the rated power range of the inverter.  |
| 4   | The red light flashes<br>once, the green light<br>is off, the buzzer<br>sounds, there is no<br>AC output.  | Load overload                              | The power of the load equipment is greater than the rated output power.  | Check whether the AC load is within the rated power range of the inverter; Clear the load overload fault, restart the inverter to resume normal operation.  |
| 5   | The red light is<br>always on, the green<br>light is off, the<br>buzzer sounds, and<br>there is no AC<br>output.                                 | The load is short-circuited.               | 1. The AC output<br>terminal of the<br>inverter is short-cir-<br>cuited.<br>2.AC equipment L/N<br>short circuit. | Check whether there is a short circuit in the AC load wiring: clear the load short circuit fault, restart the inverter to resume normal operation.  |
| 6   | The red light flashes twice, the green light is off, the buzzer sounds, and there is no AC output.   | The temperature of the device is too high. | The internal temperature of the machine is higher than the set over-temperature protection temperature.          | Improve the ventilation quality, do not block the vents, and reduce the temperature around the inverter. Restart the device after the depression is reduced. If the fault still cannot be eliminated, please derate it. |
| 7   | The red light flashes single, the green light flashes single, the buzzer sounds, there is AC output or the rated power output cannot be reached. | Fan failure                                | The fan is blocked<br>by foreign objects.  | Check whether the fan is running normally.  |

| Working status  | Running indicator<br>Run-green  | Fault indicator Fault-red | Buzzer   |
|---|---|---------------------------|----------|
| Idle mode   | Single flash  | Off                       | No sound |
| Normal mode   | Steady on   | Off                       | No sound |
| ECO mode  | Slow flashing   | Off                       | No sound |
| Battery over-discharge  | Off   | Slow flashing             | 1HZ beep |
| Battery overvoltage   | Off   | Fast flashing             | 1HZ beep |
| Device over-tempera-<br>ture protection   | Off   | Double flash              | 1HZ beep |
| Load overload operation   | Steady light  | Single flash              | 1HZ beep |
| Load overload protection  | Off   | Single flash              | 1HZ beep |
| Load short-circuit protection   | Off   | Constantly on 1HZ bee     | 1HZ beep |
| Other faults (bus overcurrent/inverter overcurrent/abnormal output voltage, etc.) | Off   | Constantly on             | 1HZ beep |
| Fan failure - with output   | Slow flashing   | Slow flashing             | No sound |
| Fan fallure -without output   | off   | single flash              | 1HZ beep |
| Definition of flashing lights:  |   |                           |          |
| Slow flashing   | 1s on, 1s off, cycle<br>2s  |                           |          |
| Single flashing   | 0. 1s on. 1.9s off,<br>cycle 2s                                       |                           |          |
| Double flash  | for 0.1s, off for 0.1s, then on for 0.1s, then off for 1.7s, cycle 2s |                           |          |
| Fast flashing   | 1s on, 0.1s off, cycle 0.2s   |                           |          |

## System Maintenance

In order to maintain long-term working performance, it is recommended to check the following items twice a year.

- 1. Check exposed wire insulation damage due to sun exposure, friction with other surrounding objects, dry rot, insect or rodent damage, etc. And then repair or replace wires as needed.
- 2. Verify whether the indicator light and display are consistent with the actual operation of the equipment. Please note that inconsistencies or errors need to be corrected.
- 3. Inspect terminals for signs of corrosion, damaged insulation, high temperature, or burning/discoloration, and tighten terminal screws.
- 4. Check for dirt, nesting insects, and corrosion, clean as required.
- WARNING: Danger of electric shock! When performing the above operations, confirm that the inverter power supply is disconnected, discharge the power in the capacitor, and then perform the corresponding check or operate!
- 5. If the arrester has failed, replace the failed arrester in time to avoid lightning damage to the inverter or even other equipment of the user.

▶ Danger of electric shock! Make sure that the inverter power is disconnected and the power in the capacitor is discharged before carrying out the corresponding checks or operations!



| Q1: | Why is there no green light flashing in the standby state of the |
|-----|--|
|     | inverter after the inverter is connected to the battery?         |

A1: There is a problem with the line contact, reconnect the battery and the inverter.

#### Q2: Can this inverter be connect with a 24V battery system?

Q2: No. This model can only work with 12V battery system.

#### Q3: How to check the power consumption of this inverter?

Q3: This inverter has a built-in Bluetooth module, and parameters can be set and viewed on the mobile APP.

#### Q4: Can the inverter carry 1500W electrical appliances?

A4: Yes. The maximum power it can carry is 2000W, and the instantaneous maximum power it can carry is 4000W.

#### Q5: Why does the inverter suddenly disconnect during work?

- A5: 1. The battery voltage is low, start the over-discharge protection, and it can work normally after recharging the battery;
  - 2. Battery overcurrent. Most batteries are discharged at 1C(1C discharge refers to:The max discharge current of a 100AH battery is 100A, and the max discharge current of a 50AH battery is 50A.), and a 1500W electrical appliance connected to a 2000W inverter connected to 12V 100AH will cause overcurrent.

Because after connecting a 1500W electrical appliance, the inverter needs to get 1500W/12.8V=117.19A>100A from the battery. In this case, the battery will start protection and disconnect from other devices

Connecting batteries in parallel to increase the current can solve this problem

3. The power of the electrical appliance is greater than the rated output power of the inverter. For example, using the 2000W inverter to carry a 2500W high-power electrical appliance cannot work. At the same time, the inverter can withstand a maximum instantaneous impact power of 4000W. This means that even if the rated power of the electrical appliance is less than 2000W, excessive instantaneous power will cause abnormal operation and even damage the inverter.

BougeRV Provides 1-on-1 Solar Solution.

If you have any questions during use, please feel free to contact us:



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**OUTDOOR APPLIANCES** 

