



Digital Home Inverter

2000VA-5000VA

USER MANUAL

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Notes:

Please check the notes and follow up carefully, otherwise there is possibly harm to people and equipment. Please keep the user manual for further reference.

- Please make sure to connect the positive and negative poles of the battery correctly.
- Please do not make the positive and negative poles of the battery short circuited.
- Please use the inverter indoors and keep it away from humidity, direct light, hot objects and electrified objects.
- Please keep the inverter 10cm away from other objects in four directions and keep good ventilation.
- Please do not put any articles on the inverter.
- Please do not pour any liquid or sundries into the inverter.
- Please let the inverter work in UPS mode when there is computer load, but some kind pc may not be protected from restart when utility off.
- The charging current depends on battery capacity, temperature and so on . For details please refer to the use manual of battery manufactory
- It is not suggested to use the inverter in the life support system as its failure will do harm to the security and effectiveness of such equipment.
- 4K-5K must connect the battery to boot, if not connected battery machine could not be started.

ALARM!!!

- The inverter must be grounded. Please make the inverter grounded reliably when connect AC mains.
- The internal voltage of the inverter is dangerous potentially. Please do not open the cabinet. The maintenance must be handled by qualified technicians certified by the manufacturers.
- There is high voltage danger between the battery terminals and the ground as the battery circuit and input circuit are not insulated. Please check if there is any voltage before do any maintenance.
- There is circuit connection between inverter internal parts and the battery even if the inverter input power supply is disconnected. So there is potential danger. Please make sure to disconnect the battery before do any maintenance and repair job.

| | |
|-----------------------|----------------|
| Noise | ≤55dB(1m) |
| Insulation resistance | > 2MΩ (500Vdc) |
| Insulation strength | 2820Vdc |

Battery

| Item | Model | | | |
|------------------------|---|--------|--------------|--------|
| | 2000VA | 3000VA | 4000VA | 5000VA |
| Rating battery voltage | 24V | | 48V | |
| Charge voltage | 27.6V±0.6V | | 55. 2V±1. 2V | |
| Charge current | 20A/40A optional | | | |
| External interface | RED with cabinet (Battery Anode) 、 BLACK (Battery cathode cable) | | | |

5.2 Dimension

| Item | Model | | | |
|-------------------------------|----------------|--------|-------------|--------|
| | 2000VA | 3000VA | 4000VA | 5000VA |
| Machine Size L x W x H(mm) | 390. 5*220*358 | | 490*260*418 | |
| Packing Size L x W x H(mm) | 435*306*448 | | 535*346*510 | |
| N.W (KG) | 26 | 28 | 38 | 48 |
| G.W (KG) | 27 | 29 | 39. 5 | 49. 5 |

5.3 Operating environment

| | |
|-----------------------|---|
| Operation temperature | 0°C-40°C |
| Storage temperature | -25°C-55°C |
| Relative humidity | 20%-95% (Non-condensing) |
| Altitude | <1000m, if over 1000m, refer to IEC62040 Lower Rating |
| Cooling | Wind |

6. Packing list

| | |
|------------------------|-------|
| Inverter | 1 pcs |
| User manual | 1 pcs |
| Spare fuse | 1 pcs |
| Electrical source line | 1 pcs |

5. Specification

5.1 Electrical Performance Input

| Items | | Parameters | | |
|-----------------------|-----------------|------------------------|-------------|-------------------------|
| | | 2000VA / 3000VA | | 4000VA / 5000VA |
| | | Inverter mode UPS mode | | |
| Rating | Input voltage | 220VAC | | |
| | Input frequency | 50Hz | | |
| | Input phase | Single phase | | |
| Input voltage range | | 120V~300VAC | 145V~285VAC | 160V~265VAC 190V~260VAC |
| Input Frequency range | | 38~70HZ | | |

Output

| Items | Parameter | Model | | | |
|------------------|--------------|-------------------------------------|----------------|----------------|----------------|
| | | 2000VA | 3000VA | 4000VA | 5000VA |
| Output voltage | Utility mode | UPS: 190V~260V / INV: 160V~260V | | | |
| | Battery mode | 220V±10% | | | |
| Output frequency | Utility mode | Same as Utility | | | |
| | Battery mode | 50HZ±1HZ | | | |
| Wave | Utility mode | Tracking Utility | | | |
| | Battery mode | Sine wave | | | |
| PF of output | | 0.8 | | | |
| Output Power | | 2000VA / 1600W | 3000VA / 2400W | 4000VA / 3200W | 5000VA / 4000W |
| Protection | | Overload / short circuit / overheat | | | |

Overload capability

Utility mode:

- 1) Inverter to normal operation, when 100% load
- 2) over load (100~120%), 3 minute the inverter shut down, after shut down, then restart automatically after 30 seconds. Automatic restart 3times, if the inverter still overload, the inverter will enter the fault mode, next restart by people.
- 3) over load (120~130%), 30 sec the inverter shut down, after shout down, then restart automatically after 30 seconds. Automatic restart 3times, if the inverter still overload, the inverter will enter the fault mode, next restart by people.
- 4) overload ($\geq 130\%$), the inverter immediate closure of the output, then restart automatically after 30 seconds. Automatic restart 3times, if the inverter still overload, the inverter will enter the fault mode, next restart by people.

Battery mode:

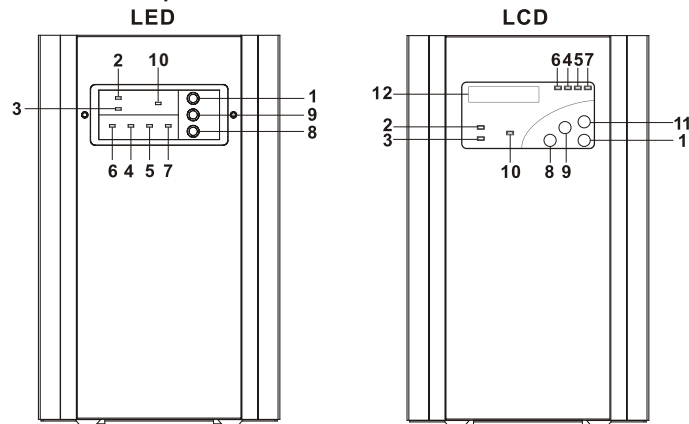
- 1) Inverter to normal operation, when 100% load.
- 2) over load (100~110%), 10 sec the inverter shut down, after shout down, then restart automatically after 30 seconds. Automatic restart 3times, if the inverter still overload, the inverter will enter the fault mode, next restart by people.
- 3) overload ($\geq 110\%$), the inverter immediate closure of the output, then restart automatically after 30 seconds. Automatic restart 3times, if the inverter still overload, the inverter will enter the fault mode, next restart by people.

1. Introduction

This series inverters are intelligent one phase in/one phase out sinewave output inverter power supplies. It is specially designed to meet the requirements of those family and office environment with unstable utility, frequent power down. It features CPU intelligent control, wide input voltage range, fast battery charge speed, good appearance and high reliability, etc. It is widely used with appliance and office equipment such as TV set, DVD player, electric driller, refrigerator, recorder, water machine, fan, lighting, switchboard, servers, etc. The capacity range is from 2000VA to 5000VA.

2. Parts names and functions

2.1 Front panel

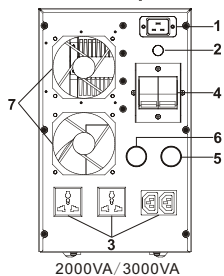


Description:

| No | Function | Description | Remark |
|----|--|--|--|
| 1 | power on/off | inverter is power on when switch button is "on", inverter is off when switch button is "off" | Battery mode works when switch button is "on" and battery is in normal condition |
| 2 | utility indication LED light | LED is on, which means input is normal, load is powered by utility | |
| 3 | inverter indication LED light | LED is on, which means load is powered by battery through inverter | LED light is on, beep once every 10 seconds, beep is stopped after 3 minutes |
| 4 | battery charge indication LED light | LED is on, which means system is charging battery | |
| 5 | battery charging full indication LED light | LED is on, which means battery charging is finished | |

| | | | |
|----|---|--|--|
| 6 | Battery low indication LED light | LED is on, which means battery is low. | |
| 7 | Trouble/ overload/ overheat/ low battery indication LED light | LED is on ,which means inverter does not work normally, telling the states of inverter is Trouble/ overload/overheat/ low battery according to the audible alarm | Beep 2 times every 1 second means low battery; beep 4 times every 2 seconds means overload, beep 3 times every 1 second means inverter is overheat, keeping beep means ups has trouble ,for example, output short circuit, inverter trouble, hardware trouble. |
| 8 | switch button for ups and inverter option | Choose to work in UPS or inverter mode | When choosing UPS mode , typical transfer time is 10ms , all is less than 15ms, some kind pc load may not be protected from restart when utility off. |
| 9 | charging current option switch button | charging current is set according to battery capacity | Charging current setup according to manufacturer parameter |
| 10 | Output indication LED light | LED is on, output ingear. | |
| 11 | PAGE | | |
| 12 | LCD | | |

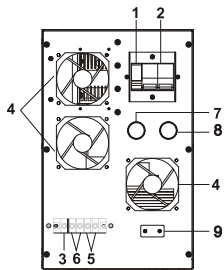
2.2 Back panel



2000VA/ 3000VA

Explanation:

- 1--- utility input seat
- 2--- utility input fuse
- 3--- output socket
(the socket type is optional, subject to the actual machine)
- 4--- battery switch
(work status is switch on)
- 5--- battery negative junction pole (black)
- 6--- battery positive junction pole (red)
- 7--- fan(work automatically when the temperature within equipment is over 50°C)



4000VA/ 5000VA

Explanation:

- 1---input switch
- 2---Battery switch
- 3---GND
- 4---Fan
- 5---Output
- 6---Input
- 7---Battery positive junction pole (red)
- 8---Battery negative junction pole (back)
- 9---RS232 reserved

| OUTPUT SOCKET TYPE | |
|--------------------|-------------------------|
| | IEC SOCKET |
| | CHINESE STANDARD SOCKET |
| | UNIVERSAL SOCKET |
| | GERMANY STANDARD SOCKET |

3. Installation and operation

3.1 Unpack

When open the pack, please check the appearances of packing and inverter, If there are damage, please inform reseller immediately and keep packing for future delivery.

3.2 Location

The inverter should be put on flat ground where is dry without direct light and corrosive air. Please keep at least 10cm distance from the inverter to other articles in 4 sides to achieve good thermal dissipation. Please do not put anything on the inverter.

3.3 Wiring

(1). Connect battery with inverter input terminals correctly; Positive line(red) should be connected with battery positive pole, battery negative line(black) should be connected with battery negative pole, Please note battery voltage should match with the unit's rate voltage.

(2). Switch off the battery.

(3). Put the inverter input plug into the utility socket.

(4). Put load power cable plug into the inverter output socket.

Please note the total load capacity must be less than unit's rate capacity.

3.4 Switch on

When all cable connections are confirmed correct, please press the power button, unit could work. When utility is normal, utility indication LED light and battery charging indication LED light are ON; When utility is abnormal, utility is off(utility input plug is not in place), then inverter indication LED light is ON.

3.5 Switch off

1). Switch off all loads

2). Power button on front panel is off

3). Plug off utility socket

4). Battery switch is off

4. Audible Alarm Instruction

| Sounds | Indication |
|--|---|
| Once/10sec, auto-eliminated after 3 minutes. | Battery mode |
| Twice/2sec | Low battery |
| Continually 4 times/2sec | Output overload |
| Continually sounds/2sec | UPS On |
| 3 times/1sec | Inverter over temperature |
| Continually Ringing | Output short circuit//Inverter damaged, abnormal/hardware failure, etc. |