

# Operation manual

PURE SINE WAVE INVERTER / UPS

sinusPRO series E and W

## Preface

Welcome to use this inverter / UPS, please read this manual for details before operation.

## Product features

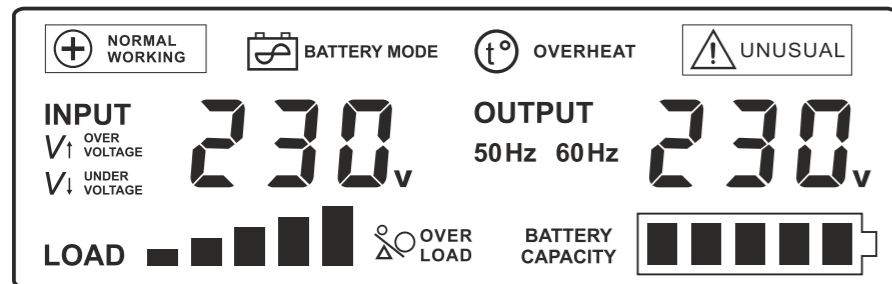
- with inverter, UPS, AVR and charger function;
- toroidal transformer design, high efficiency low static loss, much more energy-saving than old square transformer type design;
- 32-bit high speed CPU controlled, swift reponse speed, more accurate detection;
- LED colorful humanistic and friendly operation interface, displays clearly device's working status, input&output voltage, loading status, battery status, etc;
- pure sine wave output, suitable for almost all of appliance;
- high charging current
- short switchover time, guarantees the connected appliances uninterruptable usage;
- vantilation fan intelligent controlled, fan working based on the setting temperature and working status.

## Safety precautions

- this series product is designed for computer&internet devices and home appliance usage not recommended in life support system and other special important equipment application
- avoid overloading, do not use the device beyond its maximum power capacity;
- it will be a danger of high voltage in the device even all the switches are turned off, any operation to move or open the device should be performed by authorized professional personnel;
- in case of fire, use dry powder type fire extinguisher, do not use liquid type fire extinguisher;
- if the device works unusually, please switch off both power sources of battery and city power immediately, any power source exist in such case will cause danger; and please report to the distributor for professional advices.

## Display, controll and warning details

### ● normal working interface



### ● detail display

|  |  |
|--|--|
|  | city power input normal, device through AVR supplies output                          |
|  | city power input abnormal, battery through inverter supplies AC output               |
|  | temperature is too high, device cuts off output                                      |
|  | battery over voltage, short circuit, high MOSFET's temperature                       |
|  | city power input is over voltage   |
|  | city power input is low voltage  |
|  | loading exceeds device's rated power   |
|  | loading bar showing the loading situation  |
|  | battery bar showing the battery capacity, when in charging, the bar will be flashing |
|  | input voltage indication   |
|  | output voltage indication and frequency indication                                   |

## Operational description

| Name                      | Component drawing | Description   |
|---------------------------|-------------------|---|
| output switch             |                   | pushing it for more than 2 seconds, switch on/off the inverter or output  |
| AC input cord or terminal |                   | plug it or connect it to wall socket or city power when charges battery or supplies output through AVR  |
| mains switch              |                   | when connect to city power and city power is normal, turn on this switch, device will work on mains mode, charging the battery;<br>Turn off this switch, device will switchover to battery mode |
| output socket or terminal |                   | appliance connect to this socket or terminal for output<br><br>Note: The Max. power for single socket is 2000W<br>If your appliance's power is more than 2000W, please connect to terminal      |
| vantilation fan           |                   | under battery mode or charging, when the power transistor temperature higher than 45°C, fan will start  |
| battery input pole        |                   | red battery input cable for positive pole, black battery input cable for negative pole; be attention to the battery voltage must follow the device marking                                      |

## Buzzer working status description

| Working status                                     | Description          |
|--|----------------------|
| when city power abnormal swithover to battery mode | beeping one time     |
| battery working low voltage or output overload     | beeping every second |
| protection or output abnormal                      | beeping hurrily      |

## Installation and operation

### 1. installation

- 1.1 if found any damage upon package opening, please contact distributor immediately;
- 1.2 do not install the device up-side-down; not exposed to direct sunlight or heat source; out of reach from children; away from water, moisture, oil or grease and any flammable substance;
- 1.3 for better ventilation, fan outlet and device ventilation hole should have at least 10CM distance from the wall or other adjacent not heat producing equipment;
- 1.4 make sure the city power voltage and frequency matches the device rated;
- 1.5 the device should be placed in the well grounded condition to ensure the safety;

### 2. battery connection

connect the red cable to battery “ + ” pole and connect the black cable to battery “ - ” pole, device can not work under wrong connection.

## Technical parameter table

|                             |   |       |        |            |        |        |         |
|-----------------------------|---|-------|--------|------------|--------|--------|---------|
| power                       | 500VA   | 800VA | 1000VA | 1500VA     | 2000VA | 3000VA | 5000VA  |
| battery voltage             | 12VDC   | 12VDC | 12VDC  | 24VDC      | 24VDC  | 48VDC  | 96VDC   |
| charging current (max.)     | 10A   | 10A   | 20A    | 15A        | 20A    | 15A    | 15A     |
| charging voltage            | 13.8V±0.5V  |       |        | 27.6V±0.5V |        | 55V±1V | 110V±2V |
| AC input range              | it switch to battery mode when input AC voltage is less than 160V ± 5V or over than 260V ± 5V   |       |        |            |        |        |         |
| AC input frequency          | 45Hz~65Hz   |       |        |            |        |        |         |
| output range                | AVR: 204Vac-240Vac Inverter: 230V±3%  |       |        |            |        |        |         |
| inverter output frequency   | 50Hz±0.5Hz  |       |        |            |        |        |         |
| output overload protection  | battery mode: when overload 110%~130%, last 30 seconds before cut off the output; when overload 130% and above, cut off the output immediately<br>mains mode: warning till circuit breaker protects |       |        |            |        |        |         |
| working ambient temperature | 0~40°C  |       |        |            |        |        |         |
| working ambient humidity    | 10%RH~90%RH   |       |        |            |        |        |         |