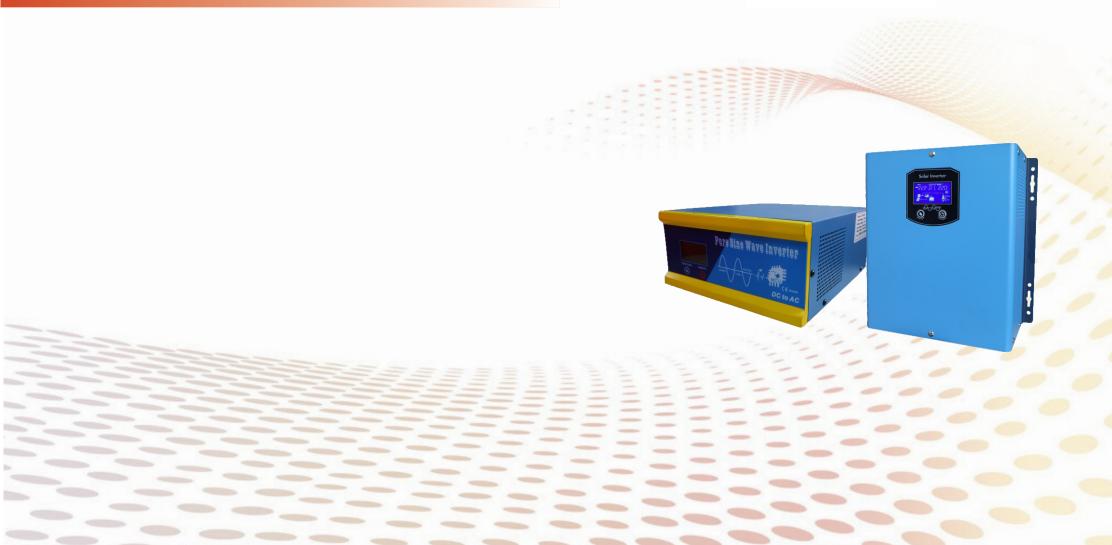# Pure Sine Wave Inverter

Operational Manual

Content

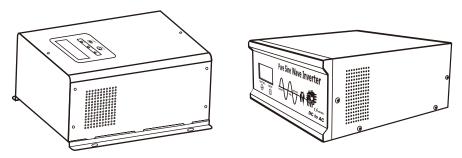## Ⅰ. Operating Instruction

1-1. Open-package inspection

1). After opening the package, please check the attached parts and components, including operation manual and checking whether the inverter is in good condition? If found any inverter broken or components missing, do not turn on the machine , feedback to the carrier or supplier.
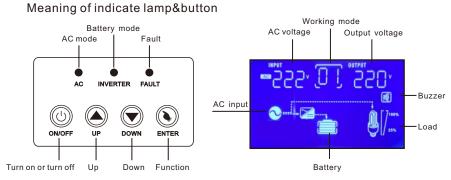
Note:
  1). Please keep the box and packing materials in case the use in future.
  2). The product is very heavy (check attachment as reference), please be careful to carry.
1-2. Installation notice:
  1). The products should be well-ventilated, away from water and the corrosive and combustible gases.
  2). Do not set it in a corner, ensure the bottom of the front panel, the rear panel fan outlet and the side of the machine are well-ventilated.
  3). The environment temperature should remain −0− 40 ℃.
  4). If the machine operates under low temperature environment, it would cause water condense, only in a absolute dry condition can the machine would work normal, otherwise there will be a electric shock.
  5). Install the inverter near the mains input socket or nearby the switch, to draw out plugs then cut off mains supply once there is an emergency.
 Attention:
  1). Load should be turned off before connecting to inverter and turned on one by one after connecting completed.
  2). The inverter should be connected to a socket with a corresponding current protection.
  3). All power sockets should link with ground protection.
  4). No matter input power cable inserts to mains socket or not, the inverter will also continue outputing possibly, turning off the inverter can not guarantee there is no current inside the machine. In order to make sure to cut off the output of inverter, you should turn off all the switches then turn off the main supply.
  5). To load inductive appliances such as electromotor, displayer and laser printer, inverter capacity should be twice as loading machine's rated power at least.
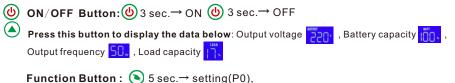
Ⅱ. Outlook drawing of inverter
1. 350W/500W/700W/1000W/1200W Series

Ⅲ. Description of front board

Meaning of indicate lamp&button

AC mode   Battery mode   Fault
AC   INVERTER   FAULT
ON/OFF   UP   DOWN   ENTER
Turn on or turn off   Up   Down   Function

Working mode
AC voltage   Output voltage
INPUT   OUTPUT
222ᵥ   01   220ᵥ
AC input   Buzzer
Load
Battery

Ⅳ. Function setting and meaning of the button

ON/OFF Button: 3 sec.→ ON 3 sec.→ OFF

Press this button to display the data below: Output voltage `220ᵥ` , Battery capacity `100%` , Output frequency `50ᵤ` , Load capacity `17%`

Function Button : 5 sec.→ setting(P0),
→ (P1 Working mode, P2 Battery type choose, P3 Charging current adjust, P4) →OK
or press two times can back to the main interface.

Model P1: →(01, 02, 03) first 01: AC 02:Auto 03: Battery →OK

01 Normal Mode - AC input priority to supply the load and batteries, battery supply the loads without AC input.

02 Saving Mode - AC input advanced to supply the load and the battery, battery supply the loads without AC input. But the load must >5% of the inverter capacity. otherwise the machine will continue to startup and shutdown.
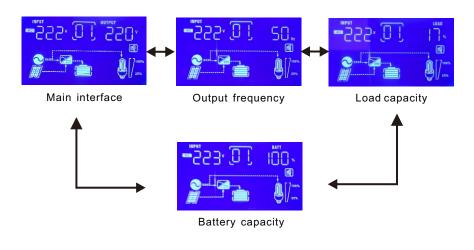
03 Battery Mode - Battery priority to supply the load, when battery is low of power or voltage, will automatically switch to AC mains supply, when the battery full of charge, automatically transfer to the battery supply.

Model P2: → Type →OK

Battery type	Charging current (24V*2;48V*4;96V*8;108V*9;120V*10)
GEL U. S. A.	13. 7V
A. G . M. 1	13. 4V
A. G . M. 2	13. 7V
Sealed Lead Acid	13. 6V
Gel European	13. 8V
Open Lead Acid	13. 8V
Calcuim（Open）	13. 6V
De sulphation cycle	14. 5V

Model P3: → 0-15A →OK

Note:（The Max. charging current is 15A, from 0% to 100%）

Model P4: → or →OK

Note: Restart the inverter after each setting.

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1. Main interface data:

Main interface   Output frequency   Load capacity

Battery capacity

Note：Inverter without the data of the solar panels.

2.Function setting interface:

Back to interface   Working mode   Battery type

Buzzer   Charging current

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Ⅴ. Connection way of input & output

Connect with AC input and load output by connecting terminal, load output can connect both by terminal blocks and output plug.
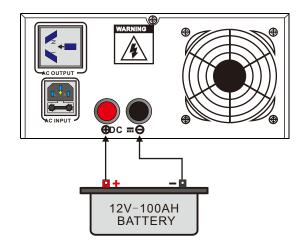
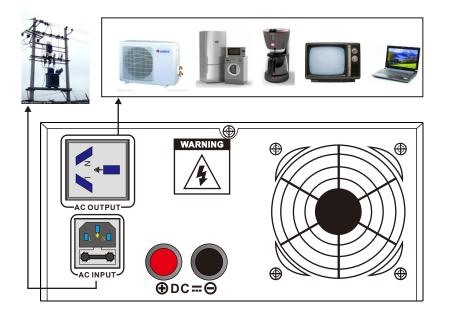Note : Output plug only can connect with each load less than 1500W.

Back panel desctription

DC⊖	Battery negative polarity connection
DC ⊕	Battery positive polarity connection
AC INPUT	AC input connection
AC OUTPUT	Universal socket output pr connection terminal output
USE ONLY WITH 250V FUSE	AC input and output over current protection

1. 350W/500W/700W/1000W/1200W series wiring diagram

Ⅵ. Battery wiring diagram

1. 12V series battery and solar panel wiring diagram

2. 24V series battery wiring diagram

Ⅶ. Care and maintenance

1). This inverter is low in repair rate. Battery of standard model is
    valve adjusting, low maintenance, ensuring better life only by charging often.
    when connecting to mains supply, no matter inverter on or off, it still keeps
    charging for battery, and provide over charge, over discharge protection.
2). If there has been long time no using, please discharging then charging the
    inverter each 4-6 months
3). Usually, the life span of battery is 3-5 years. If any wrong with it, please ask
    professionals for changing. And do not change it by yourself.
4). Don't change the single battery , changing the battery should according to
    the suppliers instructions.
5). Normally, the battery should discharge then recharge every four
    or six months , charging for it more than 12 hours after discharging.
6). At high temperature area, the battery should be discharging and charging
    every 2 months and the standard charging time is 12hours at least each time.

Note:
1). Before changing battery, must turn off inverter and disconnect the
    mains supply.
2). Remove metal object like ring, watch etc.
3). Please don't put the metal objects on the battery.
4). This is the normal phenomenon, when connecting the battery wire, the wiring
    will appear at a small spark.
5). Be attention to connecting between anode and cathode.

Ⅷ. Convenient method of maintenance & fixing :

Fault	Cause	Solution
No city power input	Recoverable fuse popup	Press fuse back
Terminal heating	Fault or loose connection	Fasten again
Switch off with loads	Battery no energy or overload	Charge battery or reduce loads
Switch on failure	Fault connection with city power or battery	Check connection with battery or connect again
Alarm when switch on	Battery no energy or overload	Charge battery or reduce loads
Buzzer scream 2 secs every 1 sec stop	Over temperature alarm (85 alarm-90 shut down)	Check if fan heat dissipation hole jammed
Fan twirls sometimes fast as well as slowly	Fan twirls fast when inside temperature reaches 45 degree, twirls slowly when 42 degree	Normal phenomenon, fan is under intelligent control

Ⅸ. Technical Data

Model		350W	500W	700W	1000W	1200W	
Rate power		350W	500W	700W	1000W	1200W	
input	voltage	(75-135)VAC (145-265)VAC					
	frequency	45-65Hz					
output	voltage	AC220V±2%(battery mode）					
	frequency	50/60Hz±1%（battery mode）					
output waveform		Pure sine wave					
Efficiency		>85%					
Battery		optional					
Battery rated voltage		12/24VDC					
Max AC charging current		0--15A					
Protection		Overload, short circuit, battery high and low voltage and AC input high and low voltage protection					
Conversion way		Interactive					
Capacity of overload		110%~120%turn to bypass after 30 secs, 160% maintain 300ms and then shut down					
Communication port		RS-232					
Envir-onment	Temperature	-10-+75℃					
	Humidity	10%-90%					
Size L*W*H(mm)		290*258*125mm					
N. W/G. W(kg)		5.8kg	6.3kg	6.9kg	7.8kg	8.4kg	

Above parameter revision change without notification.