

Instruction Manual For 15W Ultra-thin portable solar system



1) product features

1.This system adopted microprocessor and special control algorithm, realizing the intelligent control.It is a DC power supply system, designed especially for users in remote and power shortage area, working at field, home lighting,travel camping, etc.

2.The circuit of this system adopted high performance, high precision 12 digit AD processor operating as main controller. The unit is equipped with various functions such as overcharging protection, over discharging protection; standby low power consumption function; USB output and overload protection; independent charging and discharging, etc.

3.This system is a pure DC output system,with a DC12 output,a car cigarette lighter output,a 5V USB output and a AC 220V(Maximum 150W) outputs,which can meet various needs.

2) Function & feature

1.With the monolithic processor as the major controller, this system can achieve intelligent controls like charge and discharge control , overcharge & over discharge control,short circuit control.When overloaded , the system will be shut down automatically and restart 8 seconds later,which extends the service life of battery effectively.When the battery is over discharged,the voltage of battery will

be low,there will be a supplementary lift on the voltage,which will avoid light flickering .

2.Standby low consumption function:put the on/off switch on off,the system will enter into low consumption state.

3.USB output : The USB output will be shut down automatically if the maximum output current exceeds 1000mA when charge mobiles, MP3, and digital camera etc.

4.lighting output function:when led lighting output exceeds 4A,the system is run on its maximum load,the system will enter into automatic protection,which means cut down of the led output.

5.Independent Charging & Discharging: The system can charge and discharge independently.

6.Charge and discharge indicate function: Real time monitoring the charge and discharge of the system.When charging,the red charge indicator will be on.When full charged,it will turn green light.When discharging,the work indicator will turn green.When the system is in low voltage protection,the work indicator will turn on red.

7.Battery capacity indicator:When the battery capacity lower than 50%,the red battery capacity indicator will flash,which indicates the system needs to be charged.When battery capacity lower than 25%,the system will be cut down automatically.

8.This system can power AC220V (maximum load 150Watt) devices.(the start power of the device should be lower than 150watt or the function of the inverter will be cracked down).

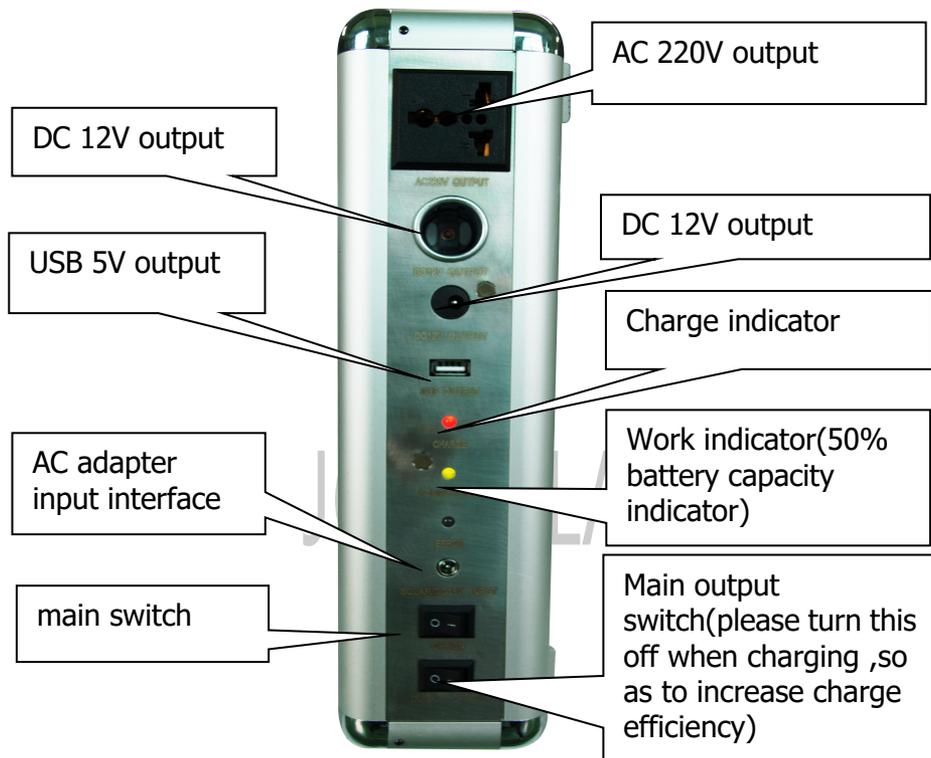
9.When the system is under solar panel charging or AC charging,please turn off the ON/OFF output switch to enhance the operating efficiency.

3) Specifications

Charge source	Solar panel:15W/18V monocrystalline solar panel cable :5meters		
	output: DC 16V/800mA		
Output voltage	DC outputs: 1pcs DC12V out put, 1pcs car cigarette lighter output,1pcs 5V USB output,maximum current output:1A,1pcs AC 220 150W output		
Built-in battery	2sets 6V/12AH maintenance free lead acid battery		
Charge time	Solar panel:15W/18V,Specific charge time depends on the intensity of the sunshine.		
Discharge time	Depends on the power of the device		
rated charge current	5A	Rated discharge current	3A
System voltage	12V	Off load consumption	<500uA
Over voltage protection	17V	Lift charge voltage	14.6V
Under- voltage voltage	10.5V	over-discharge voltage	11.1V
temperature compensation	-4.0mv/0C/2V (lift charge、direct charge,float charge,charge voltage recover compensation)		
control ways	Charge:PWM (pulse width modulation)		
work temperature	-35°C to +65°C		
overload short circuit protection	1.25 times rated current 30 seconds overload protection 1.5 times rated current 5 seconds over-load protection; ≥3 times rated current short circuit protection		
Protect circuit	Overcharge,over discharge,over load,short circuit protection	All protection do no harm to any parts,do not burn fuse.Fuse serves as final protection.	
	Solar panel ,battery reverse polarity protection		
Panel charge extensibility	The system can be charged more rapidly by increasing the solar panel size such as 30W/18V or 40W/18V but not exceeding 90W/18V.		

4) Operating method

1. Front picture of the product



2. operating instruction

Connecting the plug of solar panel (18V/15W) or the AC charging adapter (input AC100-240V,output DC16V/2A) to the Charging Input Interface of the system, the indicator will turn red when charging is in progress, it will turn green when the battery is fully charged.

3.Charging for cell phone and other digital product

Connecting a cell phone or digital product to the USB output on the cabinet ,it will automatically supply power to the USB interface. The output voltage is DC5V. The maximum output current is not permitted to exceed 1000 mA. The USB output will be shut down automatically if charge current output is more than 1000mA.

5) FAQ and handling methods

1) Solar charging indicator does not on when there is sunshine	Check whether the connection to the Solar Panel is correct and the electrical contact is reliable.
2)No DC 12V output	Check whether the LED light plugs are loose. Check whether the switch of the LED Light is “ON”. Check if the system is in low voltage. Check whether the line connection is correct.
3.) DC output fails while the low voltage indicator lights	The system is in the low voltage protection , Please charge to full power before use again.
4) The system is fully charged in a short time after long-term use, but it can operate only a short time	Replace the system battery
5) The system can not be used to charge or led light can not shine	Please check if the plug is well connected.

6) Cautions

1. Place the battery cabinet in dry and well ventilated place, take caution of water and wet.
2. Do not disassemble or dismantle any part of the system in avoid of any damage to the system.
3. Do not use near fire or in high temperature environment.
4. Make sure the built-in battery is fully charged before using it the first time.

5. Do not put the system into water.

6. The effective charge time is during 10am to 3pm. Please ensure the solar panel is in the right direction of the sun. Clouds and fog have some influence on the charging, but the solar panel can adapt to tough sun and rain weather. Long time under sunshine can store more energy. You can mount the panel outdoor, please ensure the panel is in the right direction.

7. The panel is made of tempered glass. Do not strike with stone or metal stuff. It can stand impact by hailstone with India 10mm.

8. Please save electricity on rainy or cloudy days and make sure the mains with is turned off when it is not used..

9. Some devices such as TV, monitor, motor will reach their peak power when starting. Although the inverter can be two times of its rated power, some devices can still exceed its peak output power and lead to over load protection and cut down of the inverter. At the same time, several devices work all at once can lead to this case. In this way, please start the high peak power device first.

10. During the use, the voltage of the battery will drop. When it reaches 10.4V to 11V, the alarm will beep. At this time, please turn off computer and some other sensitive devices. If ignore the alarm, the inverter will be turned off when the voltage reaches 9.7-10.3V. This function can avoid over discharging. Under this circumstance, red indicator will be turned on.