

Suitcase solar power system

一、 Product features

1. This system with microprocessor and special control algorithm to make intelligent control into reality. Which is a nice power system for outdoor working, home lighting of remote and power shortage area and also travel camping activities.
2. This system circuit use high performance, high precision 10bits AD single chip as master control. Battery with over-charge, over-discharge, overload and special electron short-circuit protection, also including protection of reverse connection, ultra-low power consumption, USB output, lighting output overload protection, charging and independent discharging function.
3. This is a multifunctional system integrated with AC and DC output, 1 DC 12V output,1 car cigarette port,1 USB 5V output,1 AC 220V output, suitable for different kinds of devices.

二、 Functional characteristics

1. With single chip as master control to make realistic of battery charge and discharge intelligent control, over charge and over discharge protection, short circuit protection. When overload appear then system will automatically off, after 8s it will automatically start, this will effectively extend the battery lifetime; Battery over-discharge voltage recovery control function will can avoid twinkling lighting problem when battery in low voltage status.
2. Ultra low power consumption standby function: system will turn into ultra low power consumption status when switch turn to off position.
3. USB output : The maximum current output will be 1A when charge phones, MP3/MP4, digital camera and other digital devices, USB will automatic turn off when exceed 1A.
4. Lighting output function: when lighting output over 5A, system will turn into saturation status and with automatic protection and output will automatically close.
5. Charge and discharge independent function : Charge and discharge without interference

With each other, it can also discharge when charge the system.

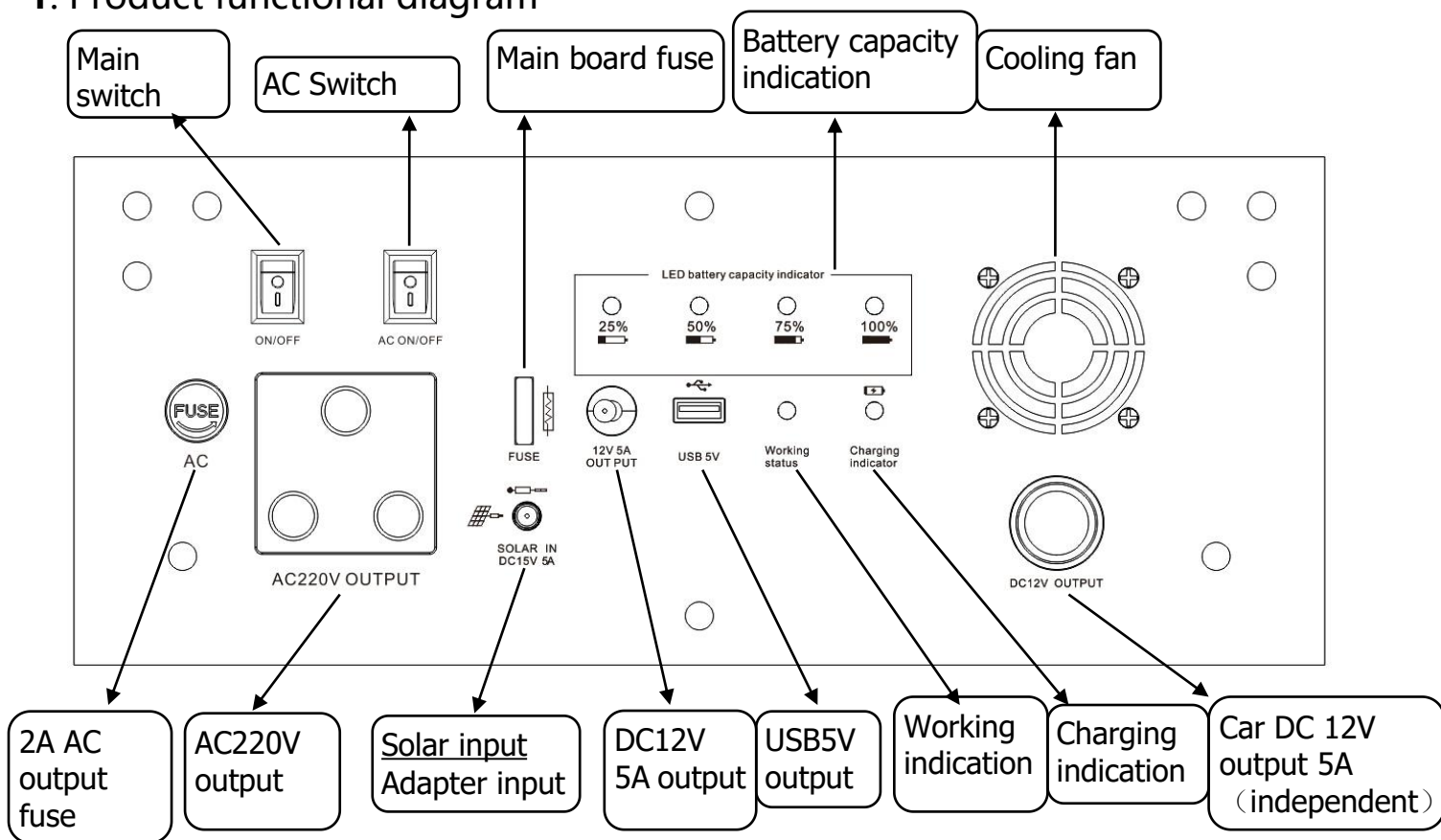
6. Charge and discharge indication function : monitor the system charge and discharge status any time. When charging, indication led turns red, it will turns blue when fully charged; working indication led will keep lighting green when system on proper working status; working indication led will keep lighting red when system on under voltage status.

7. This system with a vehicle-mounted DC 12V output port, maximum current is 5A(Battery current directly out via self-recovery circuit and out of control of main switch)

8. This system with a AC 220V function(When using the AC 220V output, initial power of all devices can' t exceed maximum rated power or inverting function will be damaged.)

≡、 Operational Approach

1. Product functional diagram



2. Operating instructions

(1)When press "main switch" , "working indication led" will turn to blue, and " battery capacity indication led" will light on(If battery is fully charged, then all battery indication led are light on; if not, then one of these

3 led(25%,50%,75% led) will light on),this means the system with a normal starting.

(2) If you want to charge phones\ digital products or charge with DC 12V load, you only need to plug in “USB 5V output” or “DC 12V output” .

(3)If you want to charge with AC 220V,pls turn on the“AC output switch” first, then plug your devices into “AC 220V output” .

Note : AC 220V devices cannot exceed to maximum rated power 500W and also cannot be inductive load.

(4) System charging instruction

Plug the 18V solar panel or 15V charging adapter (AC 100V-240V input, DC15V/2A output) into the system input port, when charging indication led turns red, then means charging connection in proper status.

Note : Please put the solar panel with front side to the sun, it will be better if you can change solar panel location base on moving of the sun; solar panel charging valid time is from 10am to 3pm, solar panel must put on ground with 30-45 degree to the sunlight, even mist with influence to solar panel generating efficiency, but it can adjust to sun and rain weather, more sunlight can generate more electricity and can fix it outdoor.

(5) System protection

(5-1) When DC output is too large or the battery with short-circuit problem during you using the system, the working indication led will turn red and main board fuse will be burnt out, then all outputs will close. The system will get right after you replace the fuse.

(5-2) If AC 220V output with short-circuit or overload problem, the working indication will turn red and AC fuse will be burnt out, then all outputs will close. The system will get right after you replace the 2A fuse and turn on the switch.

(5-3) The system with over-charge and over-discharging protection.

四、 Specification parameters

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|------------------|--|
| Charging source | ≤100W 18V solar panel(No load 21.5V) |
| | ≤5A 15V adapter |
| Inverter | DC12V-AC220V , 500W pure sin wave |
| Output voltage | 1pc USB 5V 1A output;1pc DC 12V5A output; 1pc DC 12V5A cigarette lighter output; 1pc AC 220V output , maximum output current : 2A |
| Built in battery | 2 ↑ 12V/24AH (Lead acid battery) |

| | | | |
|--|--|---------------------------|-------|
| Charging time | Will depends on way of charging and power of solar panel and adapter | | |
| Discharging time | Will depends on which load power. | | |
| Rated charging current | < 10A | Rated discharging current | 5A |
| System voltage | 12V | No load loss | <50mA |
| Over pressure protection | 14.4V | Boost voltage | 15V |
| Under voltage | 11.6V | Over discharge voltage | 10.5V |
| Control mode | Charging; PWM; | | |
| Working temperature | -15°C to +65°C | | |
| Over load and short-circuit protection | 10ms response | | |
| Protection circuit: | Over load and short-circuit protection | Fuse burnout | |

Note : System configuration base on real object

五 Attention

1. Please read carefully of the manual instruction before you use this system.
2. Cannot use not standard accessories and electric appliances
3. Cannot open the system for maintaining to avoid damage problem.
4. Battery box should be waterproof and damp proof, placing in dry and ventilate position.
- 5 . Please keep this system away from fire and high temperature when using it.
- 6 . Battery must be fully charged if you are the first time to use system, no need to worry over charging will break the system cause it with built in overcharging protection and can charge for a long time.
- 7 . Please save electricity in rainy days and turn off the main switch if you do not use it.
8. solar panel charging valid time is from 10am to 3pm, solar panel must put on ground with 30-45 degree to the sunlight, even mist with influence to solar panel generating efficiency, but it can adjust to sun and rain weather, more sunlight can generate more electricity and can fix it outdoor.

9. Solar panel with tempered glass and can resist hail within 1cm diameter, please do not use stone or sharp metal to hit it.

10. Solar panel surface will rise to 60°C when you keep using it, so please keep flow clear and keep it away from those items easily affected by high temperature.

11. If you do not use this system for a long time, please make battery fully charged at least once a month to keep better lifetime for the battery and the system itself.

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