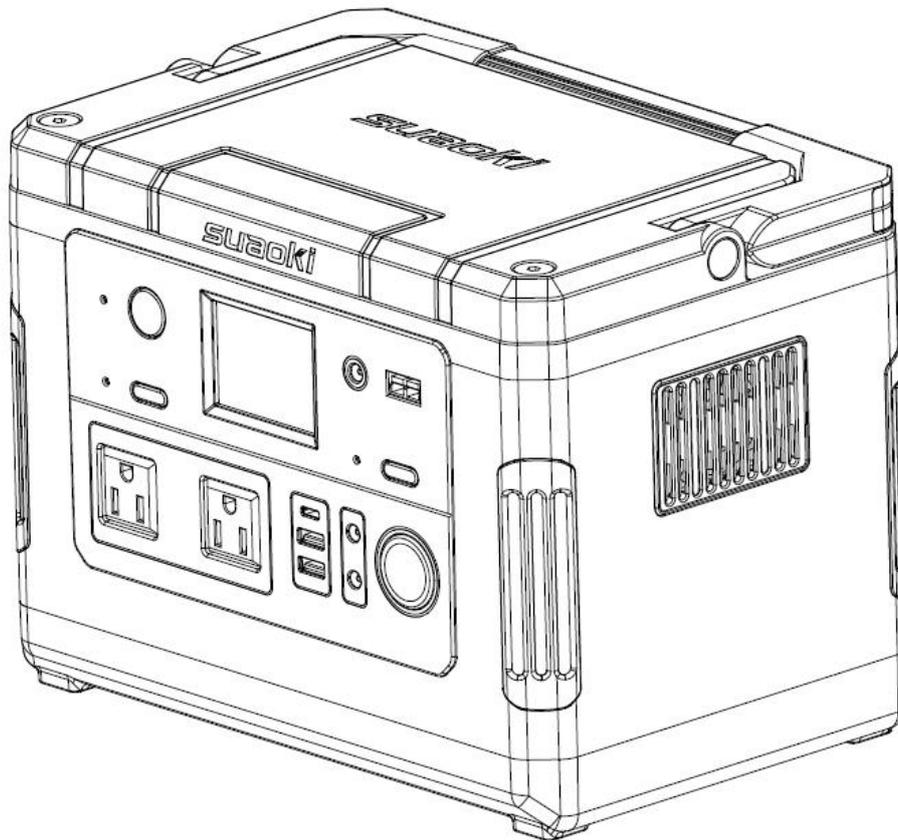


# Suaoki G500 Portable Power Supply

## User Manual



Thank you for choosing Suaoki.

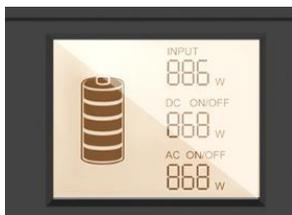
This product is designed to keep electronic devices powered on the go. Whether you're climbing a mountain, living in your van while you travel the world, or camping in the open, we will keep your electronic devices powered.

Please read the manual before use and follow the guidance. Photos are for reference only.

## Product Overview



1. Master Power Button (with Indicator Light)



2. LCD Display



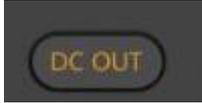
3. DC Input Port (Adapter & Car Charger)



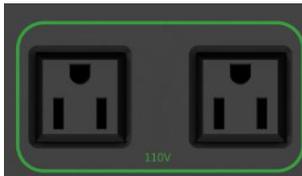
4. Solar Charging Port



5. AC Power Button (with Indicator Light)



6. DC Power Button (with Indicator Light)



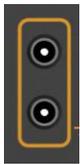
7. AC Output Port



8. Type C Output Port



9. USB Output Port



10. DC 12V/3A Output Port



11. 13V/10A Cigarette Lighter Socket

## Safety Warnings

Please read the safety warning section carefully before use. And follow the operation guidance of the user manual.

Avoid using this product when exposed to direct sunlight, rain or wet environment.

This product cannot be installed near radiator, oven or any other heat source.

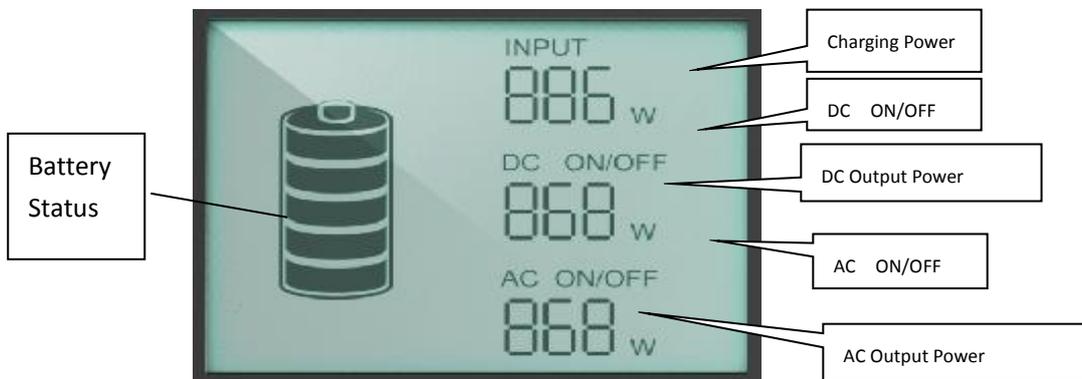
Make sure that this product is put in a well-ventilated area and properly spaced.

Please use dry cloth to clean this product.

During a fire incident, please use dry powder fire extinguisher. Do not use water fire extinguisher as it may lead to electric shock.

Please do not alter or disassemble this product.

## LCD Display



### ■ Power Display

#### 1) Input Power

Input Power: < 100W, Accuracy: +/-5W

Input Power: 100W~150W, Accuracy: +/-10W

#### 2) AC Output Power

AC Output Power: < 100W, Accuracy: +/-5W

AC Output Power: 100W~150W, Accuracy: +/-10W

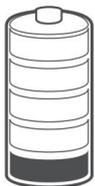
#### 3) DC Output Power

DC Output Power: < 100W, Accuracy: +/-5W

### ■ LCD Battery Display

The LCD Battery Display indicates the charge level. There are 5 segments of the battery, approximating 20%~40%~60%~80%~100% capacity. During using, segments will disappear from the display, indicating the remaining capacity. When charging it, you will notice a battery segment blinking with 1 second interval. This indicates the current charge status and the number under INPUT shows the real-time charging power. Once it is fully charged, all battery segments will be lit and remain solid.

**Charge it when there is only a battery segment!**



Note:

1. When the machine malfunctions, the error code would display at places where 'Charging Power', 'DC Output Power' and 'AC Output Power' are displayed.

2. Backlight of the LCD display would turn off automatically after a long time of inactivity.  
Click on any button and the backlight would be on.

### ■ Depth of Discharge (DOD)

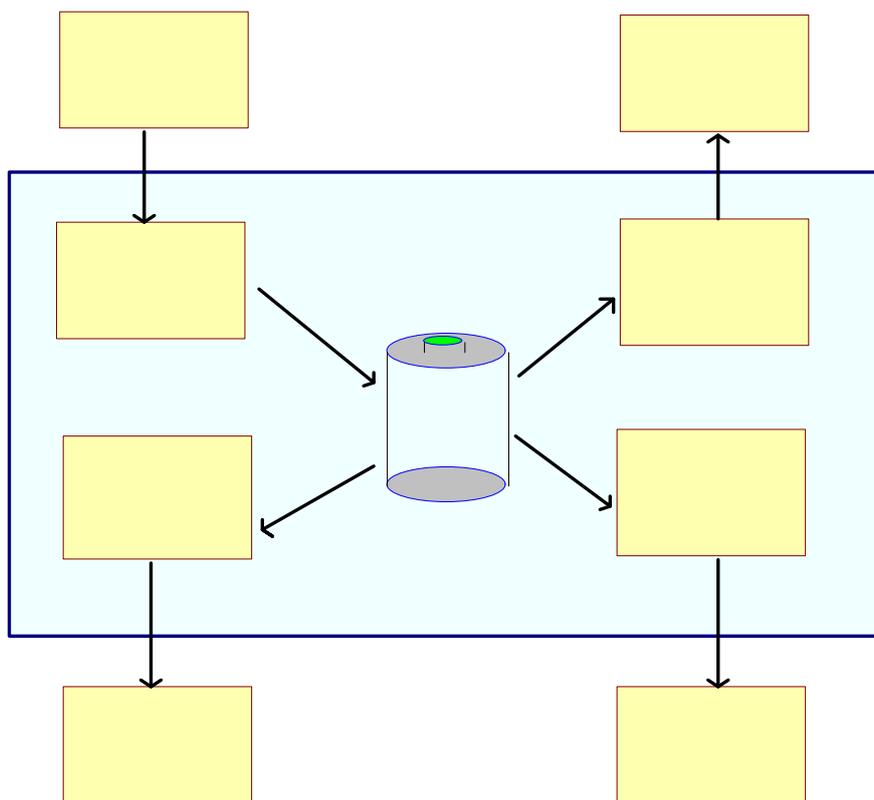
To prolong battery life, we set a DOD of 90% for this portable power supply, which means only 90% of 500Wh can be discharged. 10% of power is reserved to make up to the energy losses (in transmission). **The DOD of low-powered electronics may be larger than 90%, but we would recommend 90% as the best DOD.**

Therefore, to calculate the time it takes to charge a electrical device **correctly**. You need to follow this equation:

$$\text{Loading time} = 500\text{Wh} \times 90\% \div P$$

(P: Power of the connected device)

### Photovoltaic Power Storage System



充电控制器- Solar Charger Controller  
逆变器-Inverter  
小功率家电照明-Small Household Appliances (Low Power)

电池系统-Battery System

照明车载冰箱-Car Refrigerator  
12V/6A, 12.6V/10A  
5V/USB  
手机充电-Cell Phone Charging

## Operation Guidance

### Attention:

1. Installation environment should meet our requirements.
2. Make sure that the air inlet/outlet of this product is not blocked.

### ■ How to charge this product

#### Charge with Solar Charging Cable

1. Place your solar panel (We recommend Suaoki 50W/100W Semi Flexible Solar Module) where it can get as much direct sunlight as possible.
2. Connect the solar panel by solar charging cable, then insert the Anderson plug of the cable into the solar charging port. You can know the charging state from the LCD display.
4. It is capable of taking in **150W** of solar charging power. The open-circuit voltage of the solar panel should be from **14V (15? ) to 40V**.
5. With the built-in advance system control circuit module, it will stop being charged when the battery is fully powered.

#### Note:

Check to make sure that you have connected the solar charging cable correctly. Red terminal of solar charging cable for positive battery terminal. Black terminal of solar charging cable for negative battery terminal.

You cannot charge this product using solar charging cable and adapter at the same time.

#### Charge with Adapter

Plug the adapter into wall outlet, then attach the other side to the input port of the portable power supply, you can know the charging state from the LCD display. It will take around **8 to 10 hours** to charge the portable power supply with the adapter. With the built-in advance system control circuit module, it will stop being charged when the battery is fully powered. The adapter comes in two pieces. Connect the two pieces by plugging the cable into the box.

**Note:** You cannot charge this product using solar charger and adapter at the same time.

#### Charge with Car Charger

It's a good choice to charge it when you drive all the way. Plug one end of the car charger to

your portable power supply, plug the other end to car cigarette socket of your car. You can know the charging state from the LCD display.

**Note:** Car cigarette socket of 12V vehicle can't charge the portable power supply fully, but the 24 vehicle can.

To charge the portable power supply with car charger, you need to start your car first.

### ■ How do you know if your portable power supply is charged?

To check the charging state of your portable power supply, refer to the LCD Battery Display. When lit up, you will see a battery outline with five segments, indicating the current charge level. You can turn on the Battery Display by pressing the Master Power Button. It is OK to use your PS5B even when it's not fully charged.

### ■ How do you know if your device will work with this product?

First, you need to determine the amount of power your device requires. This may require some research by yourself, examining the user guide for your device should suffice.

Second, you will need to check the capacity for the individual output ports. For example, the AC port is monitored by an inverter that allows for 300W of continuous power. This means if your device is pulling more than 300W for an extended period of time, the portable power supply will shut off.

### ■ Output Ports

#### AC Output

The maximum output current is 10A. The power rate is under 300W. During usage, please make sure that this product is in contact with earth or ground.

#### 13V/10A Cigarette lighter socket

Maximum output current is 10A.

#### 12V/6A Output

There are two output ports. The output current of a single port is 3A.

#### USB QC3.0 Output

There are two output ports. The maximum output power is 18W(5A3A, 9V2A, 12V1.5A). Output Voltage is 3.6V-12V(Adjustable).

#### TYPE-C QC3.0 Output

The maximum output power is 18W(5A3A, 9V2A, 12V1.5A). Output Voltage is 3.6V-12V(Adjustable).

### ■ How to charge your electronic devices

#### Step 1: Turn on the portable power supply

Long press the master power button for 2 seconds to turn on the product. The corresponding indicator light and the LCD display would be on.

**Step 2: Turn on AC/DC output**

Long press the AC/DC power button for 2 seconds to turn on. The corresponding indicator light would be on and the LCD display would show 'AC ON'/'DC ON'.

**Note:** You need to long press the master power button first before using DC Power Button and AC Power Button. DC Power Button and AC Power Button cannot work when the product is not turned on.

When not using certain ports, make sure to turn off the output to conserve power.

**Step 3: Charge your electronic device**

Connect your device to the portable power supply.

You will know if it's powering your electronic devices when the numbers on the LCD changes. The numbers indicate the amount of power your devices gets from the portable power supply.

**Step 4: Turn off AC/DC Output**

Press the AC power button, DC power button, master power button for 2 seconds to shut down the AC output, DC output and main power supply respectively.

**Step 5: Turn off the portable power supply**

Turn off manually:

Long press the master power button for 2 seconds to turn off the product. Hold the button until the LCD display lights off. Release the button and the indicator light would be off.

Turn off automatically:

When the product is turned on while the DC and AC power output are off, **main power supply will shut down automatically in 10 minutes of inactivity.**

**The portable power supply will shut itself down when the battery capacity is lower than 10%.**

Note:

Keep in mind to turn off the product when you don't need it.

When you are not going to use this product for a long time, it is best to fully charge it before storing it away.

**50Hz/60Hz Frequency Selection (英语日文里面加, 其他语种不加)**

1. Long press the master power button for 3 seconds to turn on the product. The default setting is 60 Hz.
2. With AC output and DC output turned off, long press AC Power Button and DC Power Button for 3 seconds at the same time. You could then select frequency.
3. Click on AC Power Button or DC Power Button to select. You can discover that the AC output power displayed on LCD would change accordingly.
4. Once you have made your selection, press both AC and DC power button to confirm your choice and exit.

**■ Cold Weather Usage**

**Cold temperatures(below freezing) can impact the battery capacity of the portable power**

supply.

If you are living in sub-zero conditions, you can drain power from it. NEVER charge it in the sub-zero conditions, which will damage the lithium-ion battery and battery capacity may not be recovered.

**Low Temperature Charging Protection:** In the sub-zero condition, the portable power supply would stop being charged automatically. It starts being charged again when temperature is over 5°C.

**Low Temperature Discharging Protection:** When temperature reaches -20°C, it would stop AC and DC output, then shut itself down in 15 seconds automatically. The output would turn on when the temperature is over -15°C.

## ■ Storage and Downtime Maintenance

### Battery Charge

Failure to maintain your portable power supply by following steps can result in battery damage which will void the product warranty.

1. Please charge your portable power supply before storage and fully recharge it **every 3 months**. Store it in a cool, dry place.
2. If the main power supply shuts down automatically because of **low** battery capacity(10%), **please recharge it in 2 months**. Otherwise, the battery capacity would **fade**.

### Installation Environment

Operating and storage environment may influence the consistency of performance and product lifetime. To maintain this product, there are several requirements:

#### Operating environment

- Avoid overly hot/cold, humid environments. Ideal environmental conditions for this product: Operating temperature: 0°C ~40°C. Relative humidity: 5%~90%.
- Avoid places where the product may be hit or shaken constantly.
- Avoid places where filings, corrosive material, salt and explosive gas exist.

#### Storage environment

- Store it in a dry area where the storage temperature falls within -25°C to +55°C.
- Before turning on the product, you need to make sure that the air temperature would be above 0°C for a while.

## Trouble-shooting

If your device can be charge with this portable power supply, follow these steps:

1. Make sure the Master Power Button is turned on.
2. Ensure the output port has been turned on. The green LED light indicating its state should be lit up.
3. Check the battery capacity display. If it's at 20% or below,you need to charge the portable power supply.
4. Verify your device is suitable to be charged with this product. All the output ports have their own max power capacity. Check them to ensure your device is compatible.

<b>Failure Code</b>	<b>Failure Cause</b>	<b>Troubleshooting</b>
E01	System over-temperature protection	Check the ambient temperature if higher than 45 °C . Output will start again, if the product cools down.
E02	Battery Over Voltage Protection	Disconnect the charger and restart it
E03	Battery Damage Protection	Contact US
E04	1 <sup>st</sup> Battery String Over-Voltage	Disconnect the charger and restart it
E05	2 <sup>nd</sup> Battery String Over-Voltage	Disconnect the charger and restart it
E06	3 <sup>rd</sup> Battery String Over-Voltage	Disconnect the charger and restart it
E07	1 <sup>st</sup> Battery String Low Voltage	Charge it in time and restart it after fully charged
E08	2 <sup>nd</sup> Battery String Low Voltage	Charge it in time and restart it after fully charged
E09	3 <sup>rd</sup> Battery String Low Voltage	Charge it in time and restart it after fully charged
E10	Low Temperature Discharging Protection	Check if the ambient temperature is lower than -20°C
E11	Battery Low Voltage Protection	Charge it in time and restart it after fully charged
E12	Inverter Over Current Protection	Check if the AC output overload or short-circuit
E13	Inverter Over Load Protection	Check if the AC output overload
E14	Inverter Short-circuit Protection	Check if the AC output overload or short-circuit
E15	Inverter Over Voltage Protection	Check if the inverter output voltage is abnormal and restart the product.
E16	Charging Over Voltage Protection	Check if the input voltage exceeds the maximum input voltage.
E17	Low Temperature Charging Protection	Check if the ambient temperature is lower than 0°C
E18	Short-circuit Protection	Check if the Adapter is broken. Replace the adapter.
E19	13V/6A Cigarette Lighter Socket Over Current Protection	Check if the output port overload or short-circuit
E20	13V/6A Cigarette Lighter Socket Over Load Protection	Check if the output port overload
E21	12V/10A DC Output Over Current Protection	Check if the output port overload or short-circuit

E22	12V/10A DC Output Over Load Protection	Check if the output port overload
E23	USB1 Output Over Current Protection	Check if the output port overload or short-circuit
E24	USB2 Output Over Current Protection	Check if the output port overload or short-circuit
E25	Fan	Check if the fan is broken
E26	Type C Output Over Current Protection	Check if the output port overload or short-circuit
E27	Total Output Over Current Protection	Check if the total output exceeds 500W
E28	Over Temperature Protection (Charging)	Check if the product is being charged at an exceedingly high temperature.
E29	Over Temperature Protection (Discharging)	Check if the product is being discharged at an exceedingly high temperature.
E30	Total USB Power Overload	Check if the output port overloads.

## Product Specifications

Specifications	G500-P1	G500-P2
AC Output		
Continuous Output Power	300W	300W
Peak Output Power	600W	600W
Continuous Output Voltage	110Vac (US, JP)	220Vac (EU)
Continuous Frequency	60/50Hz	50Hz
Power Factor	1	1
THDV	<3%	<3%
Overload	116%<Load<150%@2min; 150%<Load<200%@10s	116%<Load<150%@2min; 150%<Load<200%@10s
Power Loss (No Load & Turned-off)	<7W	<10W
Max Efficiency (>70% Load)	91%	92%
13V (Cigarette Lighter Socket)		
Output Voltage	13.0±0.3V	13.0±0.3V
Continuous Output Current	10A	10A
Overload Current	>11A	>11A
12V (DC Output)		
Output Voltage	9.6~12.6V	9.6~12.6V
Continuous Output Power	72W	72W

Overload Power	>75W	>75W
USB		
Communication Protocol	QC3.0	QC3.0
Output Voltage	3.6~12V(Default 5V)	3.6~12V(Default 5V)
Continuous Output Current	5V3A, 9V2A, 12V1.5A	5V3A, 9V2A, 12V1.5A
Overload Current	>3.3A	>3.3A
Solar Charging Port		
Max Output Power	150W	150W
Input Voltage Range	12.6~40Vdc	12.6~40Vdc
MPPT Voltage Range	15-40Vdc	15-40Vdc
Max Input Voltage	40Vdc	40Vdc
MPPT Efficiency	99.50%	99.50%
Max Efficiency	>96%	>96%
Solar Charging Mode	MPPT	MPPT
Battery		
Battery Material	Lithium-ion	
Battery Model	INR18650-29E	
Battery Voltage	11.1V (3S17P)	
Battery Capacity	500Wh (45.9Ah*11.1V)	
Max Voltage	12.6V	
Min Voltage	9.0V	
Max Operating Temperature	45°C	
Min Operating Temperature	0°C	
Main Unit		
IP Rating	IP21	
Relative temperature	0-40°C	
Relative humidity	5%-85%	
Cooling Technique	Air Cooling	
Dimensions	L282*W189*H210mm (Product size)	
	L365*W275*H370 (Box size)	
Net Weight	8.0Kg	

## **Package Contents**

- 1 x Suaoki G500 Portable Power Supply
- 1 x Adapter
- 1 x Solar Charging Cable
- 1 x Car Charger
- 1 x User Manual
- 1 x Thank You Card

## **Warranty**

The Suaoki portable power supply is covered by Suaoki warranty for 12 months from the date of purchase. Please email [support@suaoki.com](mailto:support@suaoki.com) with your order number for technical assistance and warranty claim.

## **Contact US**

Website: [www.suaoki.com](http://www.suaoki.com)

E-mail: [support@suaoki.com](mailto:support@suaoki.com)

We strive to offer exceptional customer support. If you are having a problem, we want to know about it so we can improve the products and your experience.

We strive to respond to all issues as soon as possible.