

# Singo 3000

## User Manual V1.0

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## About This Manual

This manual describes the product information, installation, electrical connection, commissioning, troubleshooting, and maintenance. Read through this manual before installing and operating the product. All the installers and users have to be familiar with the product features, functions, and safety precautions. This manual is subject to update without notice.

## Peculiarity

- ① Expandable capacity up to 16Wh, home backup Portable Power Station.
- ② 0%~100%, 1.5 hours super-fast charging.
- ③ WATMAR<sup>3</sup> Waterborne Green Technology.
- ④ Battery Passport for Sustainable and Circular Battery Management.
- ⑤ LiFePO<sub>4</sub> battery cycle life of over 4000 cycles.
- ⑥ Multi-function output ports

## Applicable Model

The manual can not include complete information about the photovoltaic (PV) system, or inverter type.

This manual is only for products below:

Model	Output Power Rating	Battery Capacity
Singo 3000	3200W	2048Wh

## Target Audience

This manual applies to trained and knowledgeable technical professionals. The technical personnel have to be familiar with the product, local standards, and electric systems.

## How To Use This Manual




Read this manual and other related documents before performing any operations on the device.










The documents must be kept in a safe place and be available at all times.

The contents may be updated or revised periodically due to product development. The information in this manual is subject to change without notice.

## Symbol Explanation

Singo 3000 has been designed and tested strictly according to international safety regulations. Read all safety instructions carefully prior to any work and observe them at all times when working on or with the inverter operation and maintenance, as any improper operation might cause personal injury or property damage.

 <b>DANGER</b>	Failure to follow instructions may result in property damage, major accidents and serious injury.
 <b>CAUTION</b>	Failure to follow instructions may result in property damage and more serious injuries.
 <b>NOTICE</b>	Failure to follow instructions may result in property damage and minor injuries.

	Potential risks exist. Wear proper PPE before any operations.
	DANGER High voltage hazard. Disconnect all incoming power and turn off the product before working on it.
	High-temperature hazard. Do not touch the product under operation to avoid being burnt.
	Wait five minutes after power failure to ensure that the capacitor is discharged to a safe voltage.
	Do not disconnect under load.
	The components of the product can be recycled.
	It must not be disposed of as ordinary garbage, but recycled in a special way.
	Read through the user manual before any operations.
	CE mark.

# 1 Safety Instructions

Please strictly follow these safety instructions in the user manual during the operation.

## NOTICE

- The inverter has been designed and tested strictly according to international safety regulations. Read all safety instructions carefully prior to any work and observe them at all times when working on or with the inverter.
- Personnel who install or maintain the device must be strictly trained and learn about safety precautions and correct operations.
- Only qualified professionals or trained personnel are allowed to install, operate, maintain, and replace the device or parts.
- Appropriate methods must be adopted to protect the inverter from static electricity damage. Any damage caused by static electricity is not warranted by the manufacturer.

## 1.1 General

### DANGER

- Do not disassemble or puncture the battery with sharp objects in any way without official authorization, as we are not responsible for spontaneous combustion of the battery or any danger to persons.
- Damage to the battery may cause the electrolyte to leak. If the electrolyte leaks, do not touch the leaked electrolyte or evaporated gas and contact the after-sales service center immediately for assistance.
- If the product accidentally falls into water during use, after taking the product out of the water, place it in a safe open area until it is completely dry. After drying, the product should not be used again and should be disposed of according to the disposal method in this manual.
- In the event of a product fire, use fire extinguishing device in the following recommended order: water or water spray, sand, fire blanket, dry powder, carbon dioxide extinguisher.

### CAUTION

- This product contains batteries, do not place this product near a heat source, such as a fire source or a heating furnace, or it will cause spontaneous combustion of the batteries and may even cause an explosion.
- This product cannot come into contact with any liquid, do not immerse this product in water or get it wet. Do not use the product in the rain or in a wet environment.
- Do not use this product in an environment with strong static electricity or strong magnetic fields, as some of the protective functions of the machine may malfunction.
- Do not use unofficial parts or accessories. If you need to replace them, please check the relevant purchase information from our official sales channels.
- Do not hit, drop or step on the device. If there is any serious external impact, please turn off the power and stop using it immediately.

■ If the product is seriously damaged, please keep it away from combustible materials and people, ensure the safety of the surroundings, and scrap it according to the requirements of local laws and regulations.

## NOTICE

- Too high a temperature may cause the battery to catch fire; too low a temperature will seriously degrade the product's performance and may not meet the requirements for normal use. When using this product, please strictly follow the ambient temperature of this user manual.
- If there is any dirt on the interface of this product, please use a dry cloth to wipe it clean, otherwise it will cause poor contact, which may lead to energy loss or failure to charge.
- Prohibit stacking other heavy objects on top of this product.
- Avoid using the product in dusty places, otherwise it will cause the fan to be clogged.
- Keep the product out of reach of children and pets to prevent accidents.

## 1.2 Operation

### DANGER

- Do not disconnect under load while the unit is running.

### CAUTION

- The temperature of the inverter surface can exceed 60°C during operation. Make sure it has cooled down before touching it and make sure the inverter is out of reach of children.

## 1.3 Maintenance

### DANGER

- High voltages may cause electric shock, resulting in serious property damage, serious injury or death, or severe property damage. Before performing maintenance, turn off power to the inverter and strictly observe the safety precautions in this document.
- Turn off the power to the unit and wait at least 5 minutes before performing maintenance tasks.

### CAUTION

- Do not touch energized device when it is too hot.

## 1.4 Battery Safety Instruction

### CAUTION

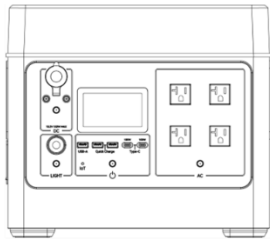
- Before use, read the user's manual of the corresponding battery to understand the product and precautions. Strictly follow its requirements.
- If the battery is fully discharged, recharge it in strict accordance with the user's manual of the corresponding model.
- Factors such as temperature, humidity, and weather conditions may limit the battery's current and affect its load.
- If the battery fails to start, contact the after-sales service immediately. Otherwise, the battery may be permanently damaged.

## 2 Product Description

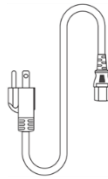
### 2.1 Unpacking Inspection

#### NOTICE

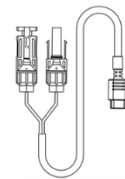
■ After receiving the outer packaging of the product, please check whether the product delivery is complete according to the packaging information. If there is any abnormality, please contact the after-sales service centre as soon as possible.



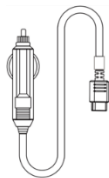
Singo 3000 \*1



AC Charging Cable \*1



Solar Charging Cable \*1



Vehicle Charging Cable \*1

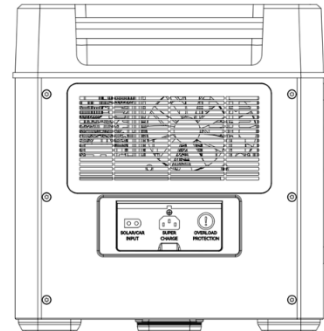
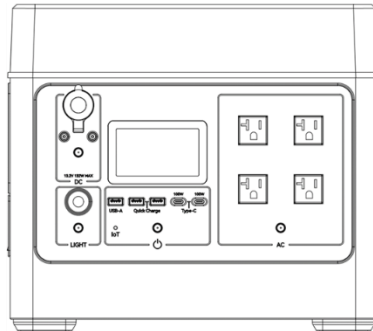
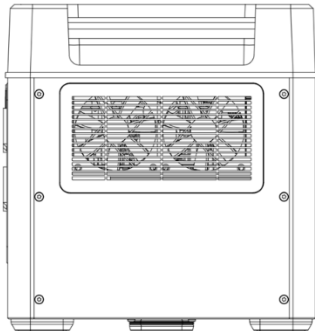


User Manual \*1



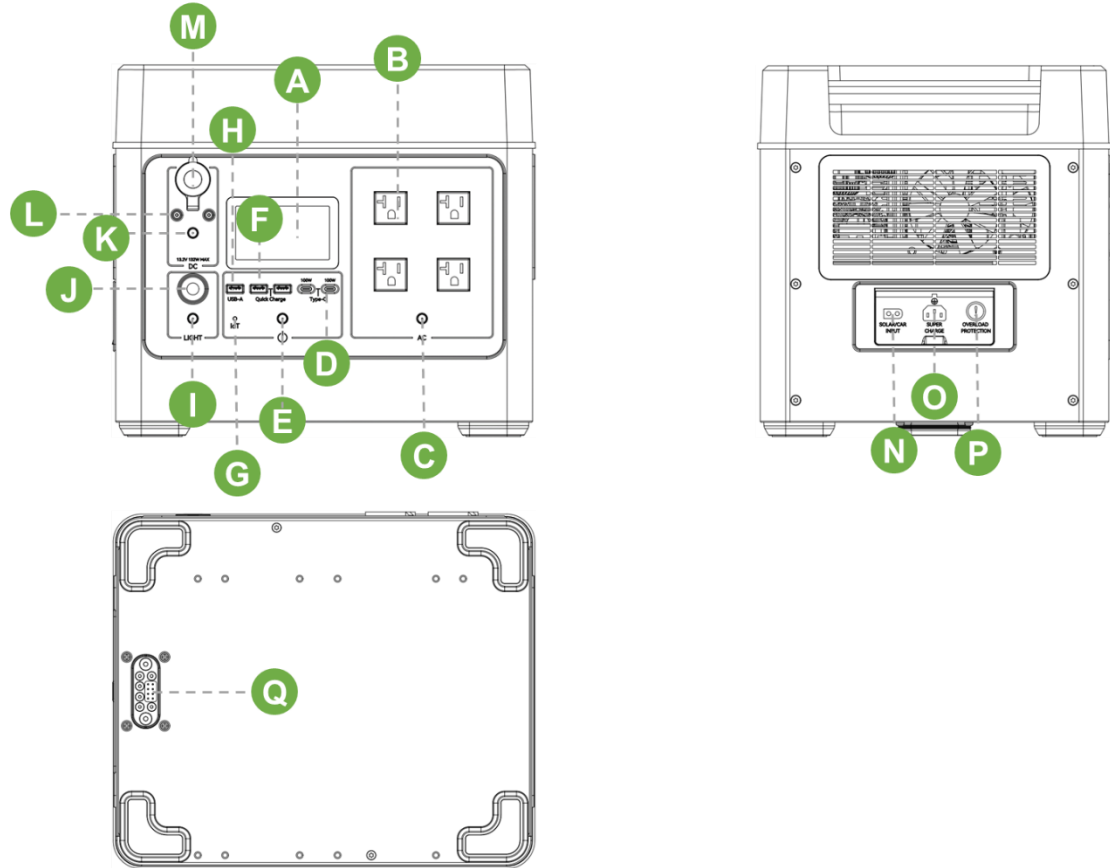
WIFI Card Pin \*1

### 2.2 Product Views



## 2.3 Operating Instruction

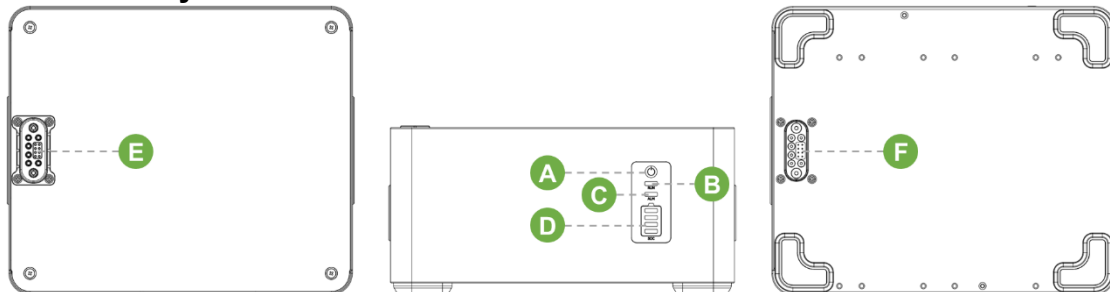
### 2.3.1 Portable Power Station



No.	Name	Description
A	LCD Display Screen	Display user interface information.
B	AC Output Ports	Provide AC output.
C	AC Power Switch	Short press to switch AC output on/off.
D	Type-C Quick Charge Port	100W Type-C Quick Charge Port.
E	Main Power Switch	Press and hold to power on/off.
F	USB-A Quick Charge Port	28W USB-A Quick Charge Port.
G	IOT Switch	Use the card pin press and hold to networking configuration.
H	USB-A Port	12W USB-A Port.
I	LED Light Switch	Short press to switch the LED indicator on and off and switches the light mode.
J	LED Light	Provision of lighting (Low light mode/strong light mode/SOS rescue beacon mode).
K	DC Power Switch	Short press to switch DC output on/off.
L	DC Output Ports	Charging of devices charged through the DC 5525 port.

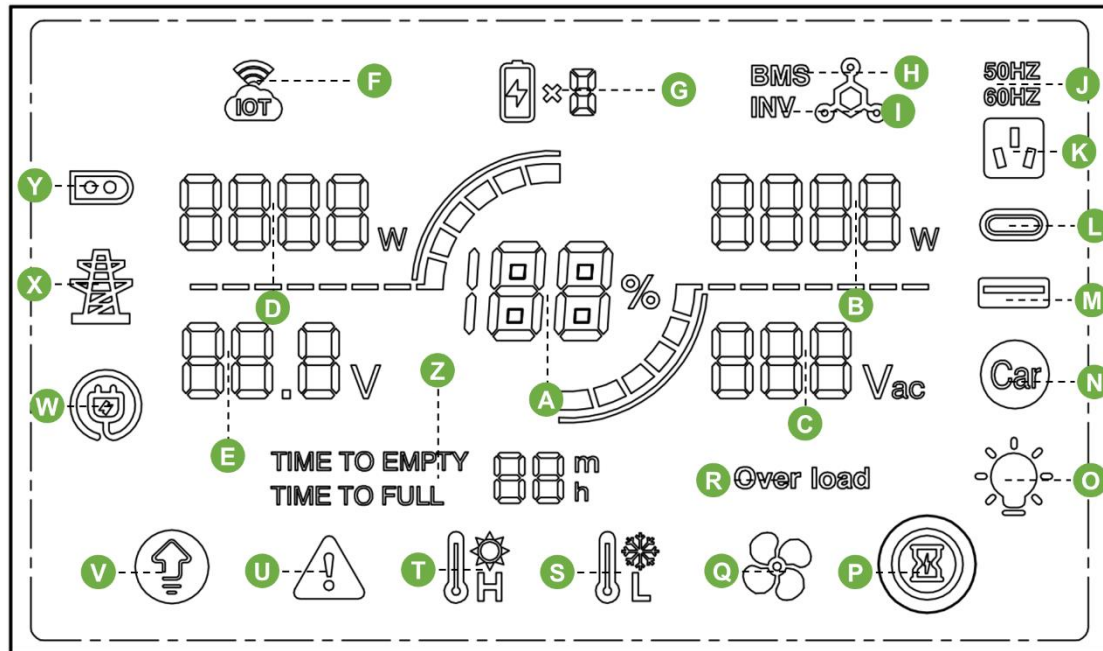
No.	Name	Description
M	Cigarette Lighter Output	Can be used for general-purpose on-board electrical appliances, and can also be used to charge 12V lead-acid batteries for small cars (please operate and use under the guidance of professionals).
N	Photovoltaic/Car Charging Port	Maximum support for 500W solar charging; car charger can support 12V/24V maximum 10A car power input (please be sure to start the car when using, so as not to cause the car battery loss of power can not start).
O	AC Charge Port	Connected to the grid for charging.
P	Overload Protection Switch	When the input current is continuously greater than 15A during charging, the AC charging port will be protected (performance: the protection button pops up), after confirming that there is no malfunction in the machine, press the protection switch to reset the charging can be resumed.
Q	Battery Expansion Port	Connect to the SLAVE UP battery expansion port of the extended battery pack.

### 2.3.2 Battery Pack
















No.	Name	Description
A	Battery Pack Power Switch	Turn on/off the portable battery pack, Press and hold 3~5 seconds ON/OFF to turn on the power, Press and hold 3~5 seconds ON/OFF to turn off the power.
B	Operation Indicator Light	Indicate normal device operation.
C	Fault Warning Light	Indicate device failure.
D	Battery SOC Value Display	Display the battery pack charge value.
E	Battery Expansion Port	Connect the last battery pack expansion port.
F	Battery Expansion Port	Connect the next battery pack expansion port.

### 2.3.3 LCD Display Instruction



No.	Icon	Description
A		Real-time battery charge value.
B		Real-time total output power.
C		Real-time AC output voltage.
D		Real-time total input power.
E		Photovoltaic input voltage.
F		Indicate networking status.
G		Number of Battery Parallel Packs.
H		Indicate BMS communication abnormality
I		Indicate inverter communication abnormality
J		Display frequency.
K		Indicate that the AC is on standby mode.
L		Indicate the status of the Type-C interface.

M		Indicate the status of the USB-A interface.
N		Indicate car charging status.
O		Indicate LED light status.
P		Indicate silent charging status.
Q		Indicate the fan status.
R	<b>Over load</b>	Indicate device overload.
S		Indicate that the temperature is too low.
T		Indicate that the temperature is too high.
U		Indicates battery failure.
V		Indicate AC constant power mode.
W		Indicate AC output status.
X		Indicate AC state of charge.
Y		Indicate PV charging/Car charging status.
Z	TIME TO EMPTY TIME TO FULL  m h	Indicate remaining battery life/battery charge time.

## 3 Instructions For Use

### 3.1 Storage And Transportation

Where storage and transport of device is required, the following requirements shall be met:

#### **DANGER**

- Do not place the product near sources of heat, such as in a car in direct sunlight, a fire source or a heating oven.
- Do not transport products with more than 30% battery power.
- Do not carry this product on board.

#### **CAUTION**

- The device should be stored in a clean and dry place and protected from dust and water vapour.
- When storing this product, seal it with an outer bag to avoid dust from entering and clogging the fan opening.
- It is prohibited to store or transport the machine with metal necklaces, glasses, watches, hairpins or other metal objects.
- If the machine is left unused for a long period of time, it will have an impact on its performance.
- Please fix the product when transporting and avoid vibration and impact.

#### **NOTICE**

- Maintain the storage temperature at -20°C to +45°C and the humidity at 5% to 95% RH without condensation.
- The height and orientation of the device should follow the instructions on the box. The device must be stacked carefully to prevent falling.
- Periodic inspections are required during storage. Replace the packing material if necessary.
- After long-term storage, the device must be inspected and tested before it is put into service. Inspections and tests must be carried out by qualified personnel.
- Keep this product out of the reach of children. If a child accidentally swallows parts, seek immediate medical attention.
- If the machine indicates a low battery at the end of use, please charge it before storing it. Otherwise, storing it in a low battery state for a long time may damage the battery inside the product. If the battery is severely low and has been idle for too long, the battery will enter deep sleep mode. If the battery enters deep hibernation mode, it is necessary to charge the battery to wake up the product to restore the function of the product from hibernation state.

## 3.2 Charging Instructions

### DANGER

- The portable energy storage power station must be charged using the officially designated charging cable. We will not be responsible for any damage and all consequences caused by charging with a charging cable that is not officially provided.

### CAUTION

- After the machine has been continuously discharged at full capacity, if the product battery is in a high temperature state, it is recommended to wait for the product temperature to drop to room temperature before charging, otherwise the battery high temperature protection function may be triggered and charging may be prohibited. The product can be charged in the temperature range (0°C to 45°C). The ideal charging temperature range (15°C ~ 35°C) significantly extends the life of the battery.

### NOTICE

- When charging, please place the machine on a level floor and make sure there are no flammable or explosive materials around. When charging the product, please arrange for someone to be present to prevent accidents.

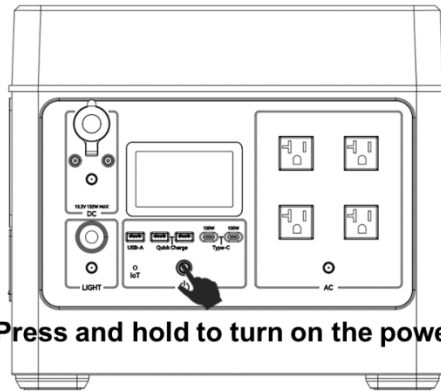
## 3.3 Battery Disposal

### DANGER

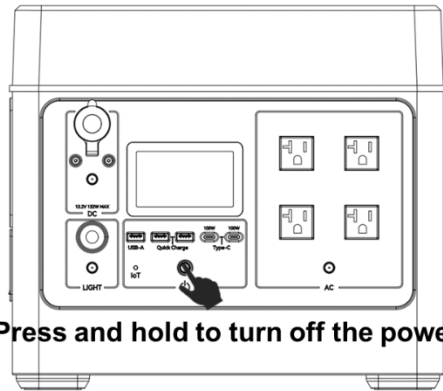
- Always place the machine battery in the designated battery recycling bin only after it has been thoroughly discharged. Batteries are hazardous chemicals and should not be placed in the general waste bin.
- Be sure to comply with local battery recycling and disposal laws and regulations.

## 4 Operating Instruction

### 4.1 Power ON/OFF



Press and hold to turn on the power



Press and hold to turn off the power

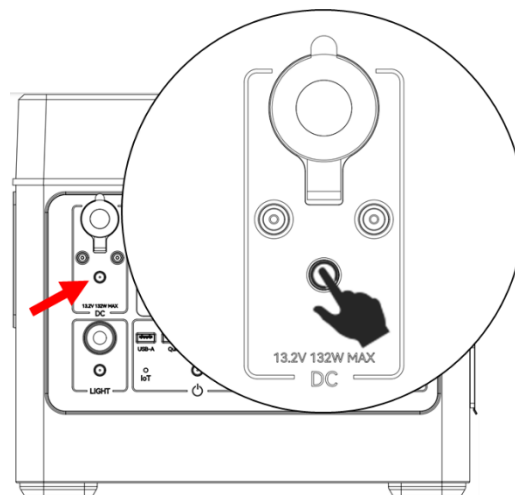
#### Power ON/OFF Ways:

- ① Press and hold the power button for 3~5 seconds to switch on.
- ② AC/Solar/Car charger charging input access, the device is automatically powered on.
- ③ Press and hold the power button for 3~5 seconds to switch off.

#### NOTICE

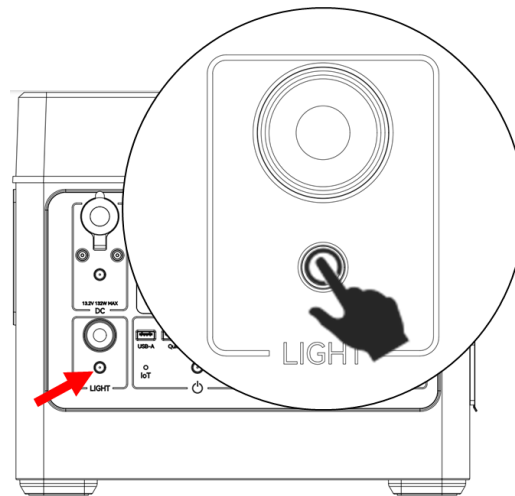
- The display will be automatically extinguished when the unit has continued for half an hour without any operation. When there is a change in operation, the display will be automatically lit.
- This product will enter sleep mode after 1 hour without input charging and without any loads connected to the device.

### 4.2 12V DC Output



- ① Short press to switch DC output on/off.

## 4.3 LED Light



- ① Short press to switch the LED on/off.
- ② Short press to switch the light mode.
- ③ Light mode: Low light mode/strong light mode/SOS rescue beacon mode.

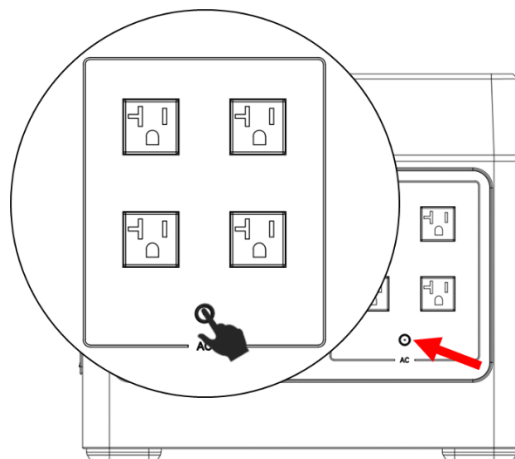
## 4.4 AC Output

### DANGER

■ AC output has two kinds of specifications: 110V/230V, specific to receive the physical shall prevail, the specifications are set in the factory to complete, high-voltage and low-voltage specifications can not be changed. Before using the device, please check the voltage level of the device in advance, and regulate the use of electrical appliances, so as not to cause harm to the device, personal injury.

### NOTICE

- When the AC output is not in use, turn it off promptly to avoid loss of battery power.
- If you want to turn off the power when the AC output power switch is on, turn off the AC output power switch first.



- ① Short press to switch AC output on/off.
- ② Press and hold to turn on/off slow charging.

## 4.5 Slow/Silent Charging



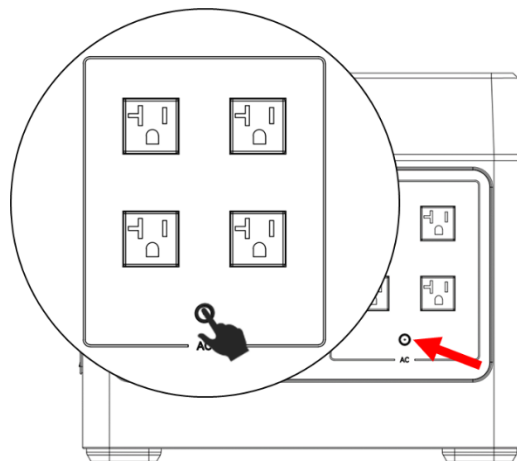
- ① Slow/Silent Charging: when this feature is on, the device will run at 0.25C charging power when charging at 500W.
- ② Press and hold the LED light switch to turn on/off slow charging.

## 4.6 Smart Drive Mode

### NOTICE

When using the Smart Drive Mode, please note the following:

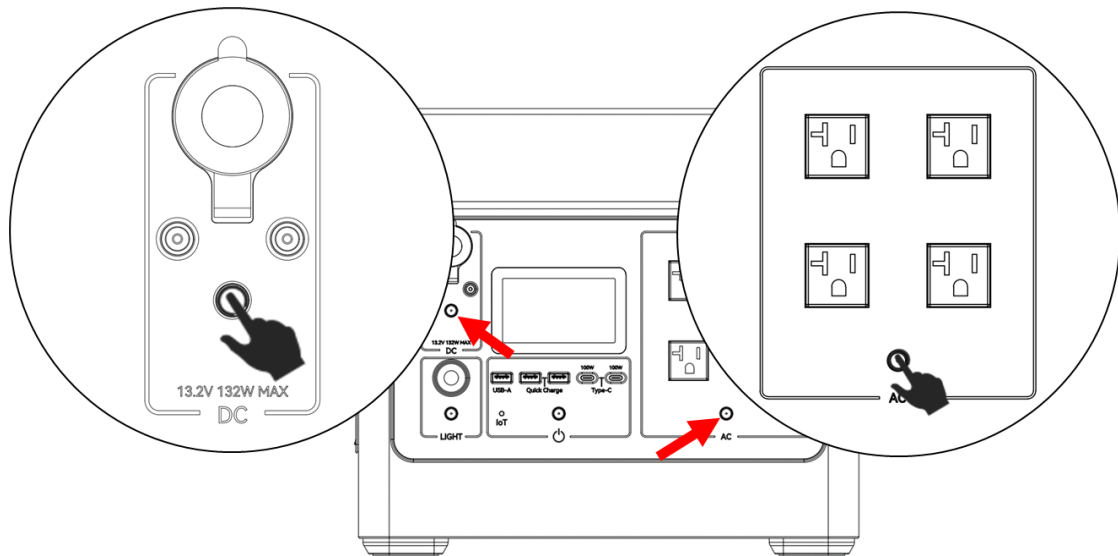
- This product cannot be grid-connected.
- Smart Drive Mode is not available in charging status.
- Smart Drive Mode is designed for resistive loads, applicable to heating device, not applicable to all electrical appliances, recommended to use heating electrical device, such as hair dryers, electric kettles, electric heaters, electric saws, induction cookers and other device. Some electrical appliances with voltage protection (such as precision instruments, etc.) are not suitable for Smart Drive Mode.



- ① When the load power is higher than the rated output power, Smart Drive Mode will be activated. When the portable power station recognises that the power required by the load is higher than the rated output power, it can still station power to the load. This allows you to use more types of electrical appliances, so that you can get an extraordinary experience.
- ② This product is enabled in Smart Drive Mode by default.
- ③ Press and hold the AC output switch to turn Smart Drive Mode on/off.

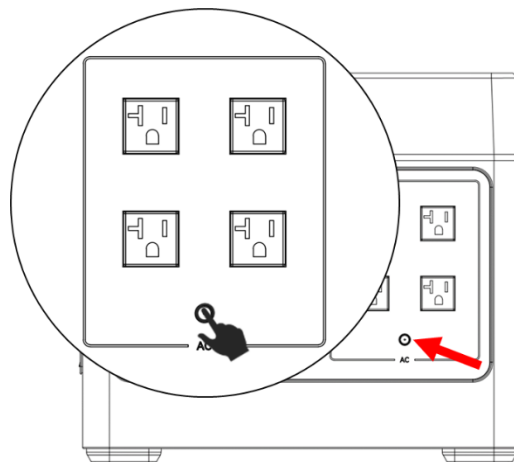
## 4.7 Other

### Switching frequency:



Press and hold the AC output switch and DC output switch simultaneously to switch the frequency 50Hz/60Hz.

### Switching Voltage:

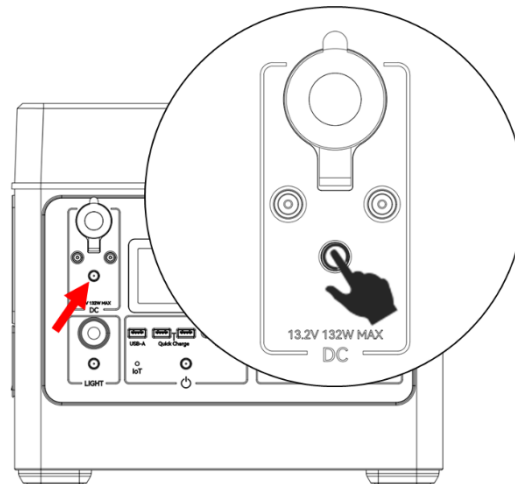


Press the AC output switch continuously to switch the voltage.

110V specification device, switchable voltage: 100V/110V/120V.

220V specification device, switchable voltage: 220V/230V.

**Viewing device version number:**



Press and hold the DC output switch to view the current device version number.

## **4.8 Uninterruptible Power Station (UPS)**

- ① The device has a UPS function, when the device is connected to the grid for normal power station (at this time the AC power comes from the grid, not the battery), the portable power station acts as a bridge, the grid supplies power to the load through the bypass relay, and at the same time it can charge the battery of the portable power station. When the battery is fully charged, charging is automatically terminated.
- ② In the event of an abnormal interruption of the power grid, the battery output will be automatically activated to continue powering the load. The switching time between grid and off-grid is only 10 milliseconds, ensuring uninterrupted power station to the load.

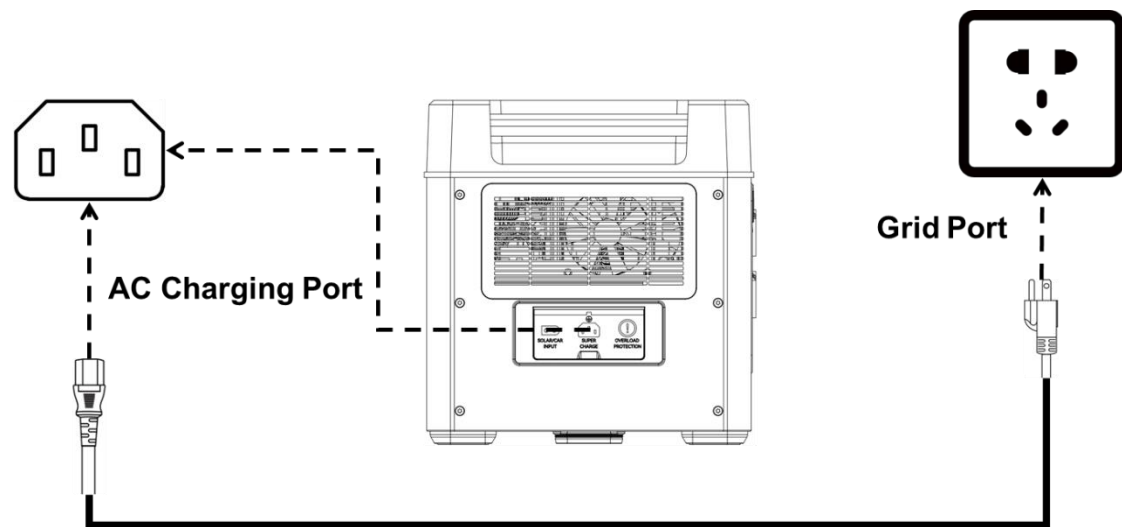
## 4.9 Device Charging

### NOTICE

- The charging process equipment determines the size of the charging power according to the temperature of the battery cell, battery capacity and other factors to ensure that the battery is in an optimal state.

### AC charging

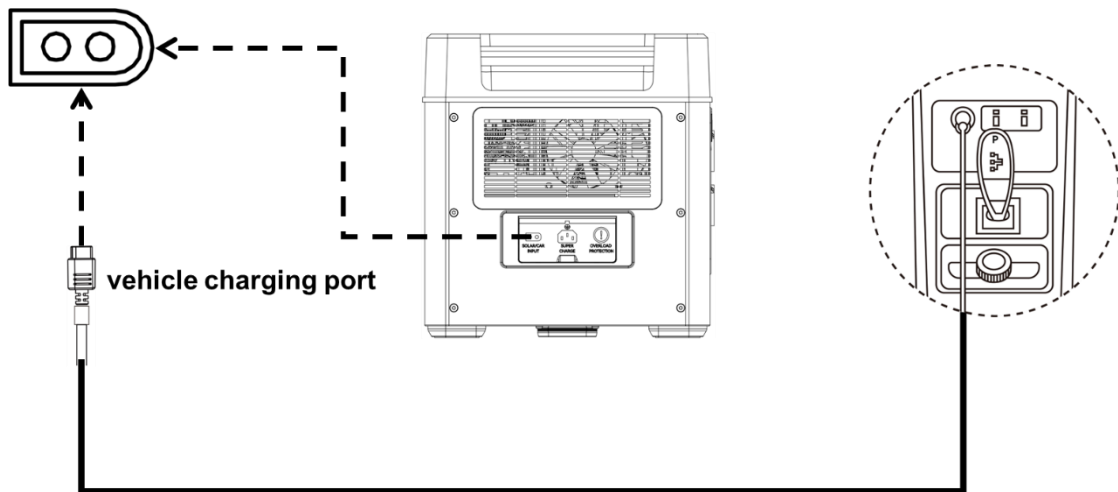
The inverter has a bi-directional current converter, which can either output AC power or charge the battery from the grid. The connection is shown in the figure below.



### Car charging

### CAUTION

- This product can be charged by the cigarette lighter in your car. The connection method is shown in the instruction below. You need to use the car charger to charge the car after the ignition is turned on, so as not to cause the car battery to lose power and unable to start. Meanwhile, please make sure that the cigarette lighter plug of the car ignition port and the input cable of the car charger are in good contact. We will not be responsible for any damage caused by non-compliance with the specification.

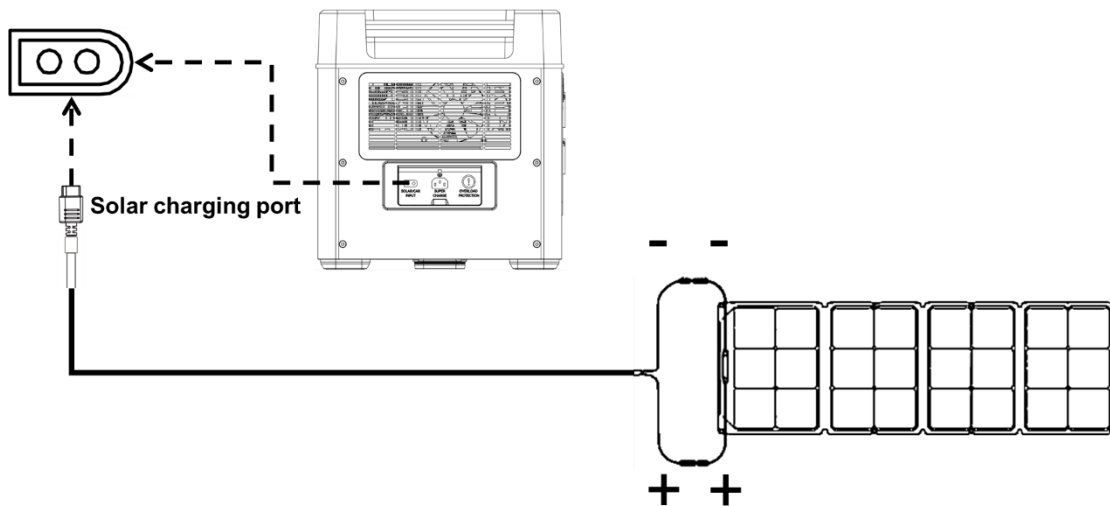


## Solar charging

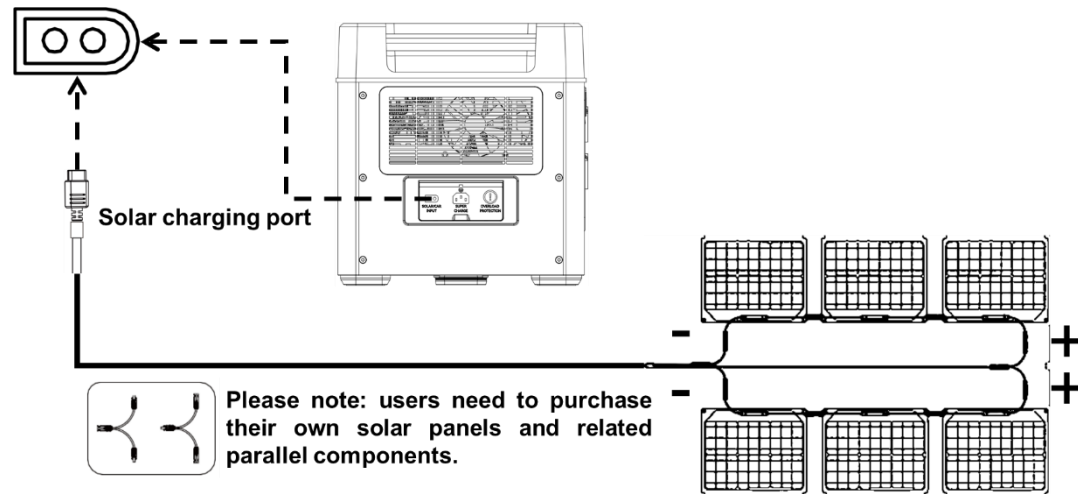
### **⚠ DANGER**

- Users can use the universal solar panel with MC4 interface standard to power the portable power station, as long as the voltage and current meet the requirements (12-85V 16A MAX) can power the product.
- The use of solar panels that do not comply with this standard will cause irreversible damage to the equipment.
- Please pay attention to the connection order of positive and negative poles of the interface, wrong connection will make the device at risk of damage.

### Solar charging single photovoltaic panel connection diagram



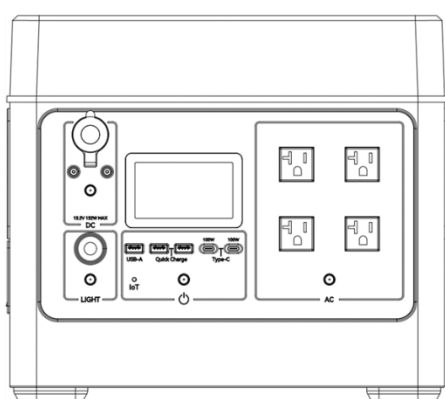
## Schematic diagram of the connection of two photovoltaic panels for solar charging



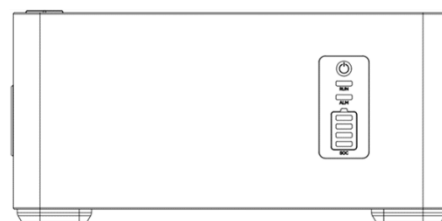
## 5 Installing The Battery Pack



- If you need to extend a new battery pack, please purchase the official designated battery pack, it is prohibited to use the unofficial designated battery pack for extension, otherwise the company will not be responsible for the damage caused to the device.
- Make sure that the portable power supply and the battery pack are switched off before proceeding with the battery pack extension, otherwise damage to the device may occur.
- When expanding the battery pack, please follow the connecting instructions in the figure below.

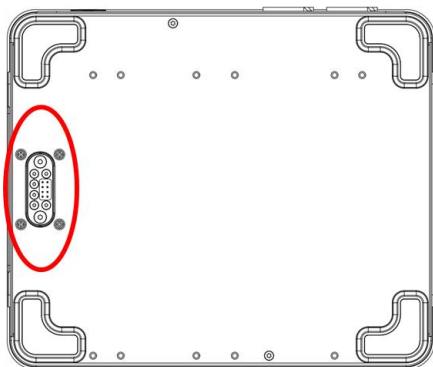


**Portable Power Station**

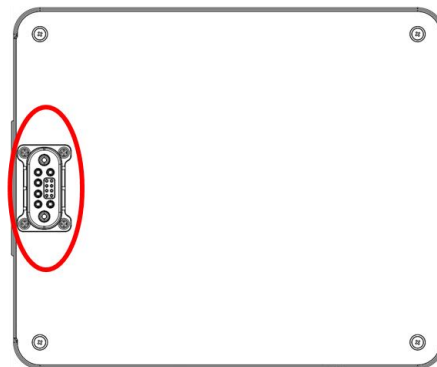


**Battery Pack**

**Extended wiring diagram:**

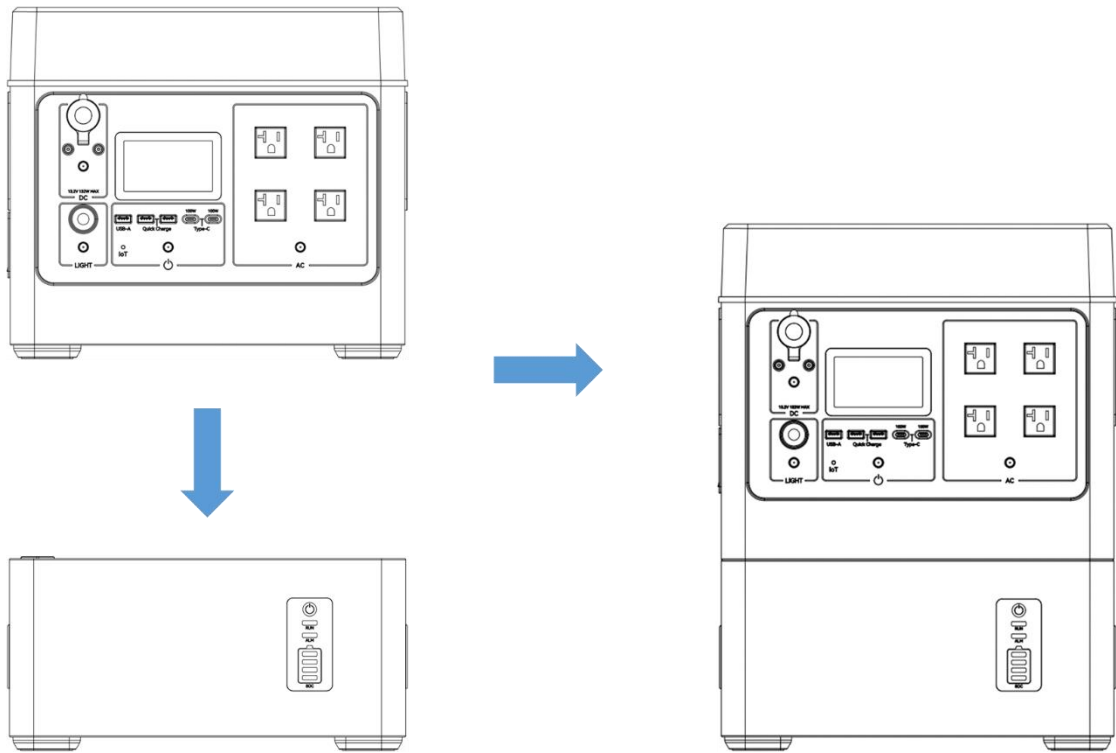


**Portable Power Station  
Battery Expansion Port**









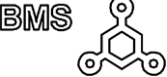
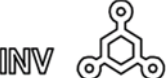



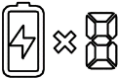
**Battery Pack  
Battery Expansion Port**

After the connection is completed, Press and hold the device power switch, Portable Power Station and Battery Pack will be switched on/off at the same time, there is no need to manually switch Battery Pack on/off.



## 6 Fault Diagnosis And Solutions

Icon	Fault Analysis	Solution
	Indicate a BMS or battery failure.	Restart the machine if it does not recover, please contact us through the after-sales service centre.
	Indicate charge/discharge over-temperature.	Please switch off the device and wait for the device to cool down properly to return to normal.
	Indicate a low charge/discharge temperature.	Please switch off the device and place it in a warm place and wait for the device to warm up properly to return to normal.
 <b>Over load</b>	Indicate AC output overload.	Remove the load, reboot the unit, and then reconnect the load. If recovery is not possible, please contact us through the after-sales service centre.
 <b>Over load</b>	Indicate Type-C output overload.	
 <b>Over load</b>	Indicate USB output overload.	
 <b>Over load</b>	Indicate car charger output overload.	
 <b>Over load</b>	Indicate AC input overload	Remove the AC input, reboot the unit, and then reconnect the AC input. If it cannot be restored, please contact us through the after-sales service centre.
	Indicate a communication failure between the BMS module and the AC module	Restart the machine if it does not recover, please contact us through the after-sales service centre.
	Indicate a communication failure between the DC module and the AC module	
	Indicate solar input overvoltage	Remove the solar input, reboot the unit, and then reconnect the solar input. If it cannot be restored, please contact us through the after-sales service centre.

Icon	Fault Analysis	Solution
	Indicates battery pack paralleling fault	Switch off the device and the battery pack, reconnect the battery pack and restart the machine. If it cannot be restored, please contact us through the after-sales service centre.
F01.	Inverter BUS soft start fault	<p>There are two ways to solve the problem when the output voltage displays this fault icon:</p> <ol style="list-style-type: none"> <li>1. Wait for five minutes without any operation, then it will be back to normal.</li> <li>2. Long press the main power to switch off the machine, wait for one minute and then start it again, then it will be back to normal.</li> </ol> <p>If the problem still can't be solved, please contact us through the after-sales service centre.</p>
F02.	Inverter output short circuit fault	
F03.	Inverter BUS undervoltage fault	
F04.	Inverter BUS overvoltage fault	
F05.	Inverter BUS short circuit fault	
F06.	Inverter output overcurrent fault	
F07.	Inverter DC component too high fault	
F08.	Inverter over temperature fault	
F09.	Inverter discharge overcurrent fault	
F10.	Inverter charging overcurrent fault	
F11.	Inverter current sensor fault	
F12.	Inverter output over-undervoltage/over-frequency faults	
F13.	AC load short-circuit	
F14.	Inverter mains relay fault	
F15.	Inverter fan fault	
F16.	Inverter DSP and master MCU communication fault	

## 7 Specification

Model	Singo 3000	
	120Vac	230Vac
Battery Parameters		
Cell Type	LiFePO <sub>4</sub>	
Battery Capacity (Wh)	2048	
Battery Input Nominal Voltage (V)	51.2	
Battery Input Voltage Range (V)	40 ~ 60	
Nominal Charging Current (A)	50	
Nominal Discharging Current (A)	70	
Max Discharging Current (A)	90	
Life Cycles(@25°C, 0.5C Discharge, DOD80%)	4000+	
AC Input		
AC Charging Power (W)	Single:1600 Parallel:1800	Single:1600 Parallel:2500
Nominal Voltage (Vac)	100/110/120	220/230/240
Voltage Range (V)	90~140	180~260
Frequency (Hz)	60	50
Frequency Range (Hz)	55~65	45~55
Power Factor (@Max. Charging Power)	>0.99	
DC Input		
Max. Car Charging Input Power (W)	120	
Max. Solar Charging Input Power (W)	1000	
DC Input Voltage Range (A)	12 ~ 85	
Max. DC/PV Input Current (A)	16	
AC Output		
Nominal AC Power (W)	3200	
Surge Power (W)	6400	
Nominal Grid Voltage (Vac)	120	230
Nominal Grid Frequency (Hz)	60	50
Nominal AC Current (A)	26.5	14
THDv (@Nominal Power) (%)	<1.5%	
DC Output		
USB-A (×1)	12W, 5V, 2.4A	
Quick Charge 3.0 (×2)	18W each, (5V/3A, 9V/2A, 12V/1.5A)	
USB-TypeC (×2)	100W each, (5V, 9V, 12V, 15V/3A, 20V/5A)	
Car Port + DC Port Total Max. Output Power (W)	132W	
Car Port (×1)	132W, 13.2V, 10A	

Model	Singo 3000	
	120Vac	230Vac
DC Port (×2)	132W each, (13.2V, 10A)	
Wireless Charging (Optional)	10W	
Efficiency		
Battery To AC Max. (%)	92.0	93.0
AC To Battery Max. (%)	93.0	
Protection	AC output overcurrent, AC output short circuit, AC charging overcurrent; AC output overvoltage/undervoltage, AC output overfrequency/underfrequency, inverter overtemperature; AC charging overvoltage/undervoltage, battery overtemperature/undervoltage, battery overvoltage/undervoltage.	
General Parameters		
Dimensions (W*H*D) (mm)	355*312*299	
Weight (Kg)	25	
LCD (mm)	97*48	
Cooling	Forced Air Cooling	
Operation Temperature Range (℃)	0~40℃(Charging), -20~40℃(Discharging)	
Operation Relative Humidity [RH(%)]	0~95%, Non condensation	
Ingress Protection	IP20	
Noise (dB)	<65 dB	
Communication Interface	WIFI / Bluetooth (Optional)	
LCD Light (W)	3W	

Model	P2000
<b>Battery Parameters</b>	
Cell Type	LiFePO <sub>4</sub>
Battery Capacity (Wh)	2048
Life Cycles(@25°C, 0.5C Discharge, DOD80%)	4000+
<b>General Parameters</b>	
Dimensions (W*H*D) (mm)	355*224*299
Weights (Kg)	20.3
Operation Temperature Range (°C)	0~40°C (Charge), -20~40°C (Discharge)
Operation Relative Humidity [RH(%)]	0~95%, Non condensation

### FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### RF Exposure Considerations

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.