

2000W Portable Power Station

User Manual

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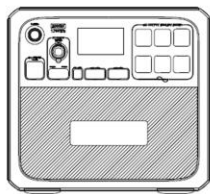
Safety instructions

1. Please read all the safety warnings before use and keep the manual. warranty does not cover damage caused by failure to follow instructions.
2. Close supervision is required when using this product near children.
3. Please check whether the appearance is in good condition, If the AC adapter is damaged, please stop using it immediately.
4. Avoid exposing the product to rain or using the product in humid environment.
5. Please confirm the rated specification of your load, and do not use it beyond the specification.
6. Do not install the product near heat sources, such as electric furnace and heaters.
7. Place and store the product in a well-ventilated place.
8. Do not move during charging or using it, because the vibration and impact during moving will lead to poor contact of output interface.
9. Wipe the product clean with a dry cloth.
10. In case of fire, use dry powder fire extinguishers for this product.do not use water fire extinguisher, which may cause electric shock.
11. Please unplug the AC adapter from the wall outlet immediately in case of lightning stroke, which may cause heating, fire and other accidents.
12. Please do not alter or disassemble this product.
13. Can not take the product on airplane. because the battery capacity exceeds 100Wh.
14. It must comply with the IATA (International Air Transport Association) regulations for package, label, etc.

1. Packing list

No.	Product	Quantity(pcs)	standard	option
1	Power Station	1	√	
2	AC adapter (including AC charging cable)	1	√	
3	MC4 Solar charging cable (MC4 to XT90)	1	√	
4	Car charging cable (car to XT90)	1	√	
5	XT90 to aviation plug (input)	1	√	
6	User manual	1	√	
7	Warranty card	1	√	
8	Certificate	1	√	
9	12V / 25A aviation plug to XT60 (output)			√
10	12V / 25A XT60 to spc45 (output)			√
11	12V / 24V lead acid battery charging cable XT90 to Red Black clamp (input)			√
12	Trolley			√
13	Carry bag			√

(1) Standard(accessories included)



①



②



③



④



⑤



⑥



⑦



⑧

(2) Options(not included, buy separately from seller)



⑨



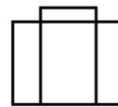
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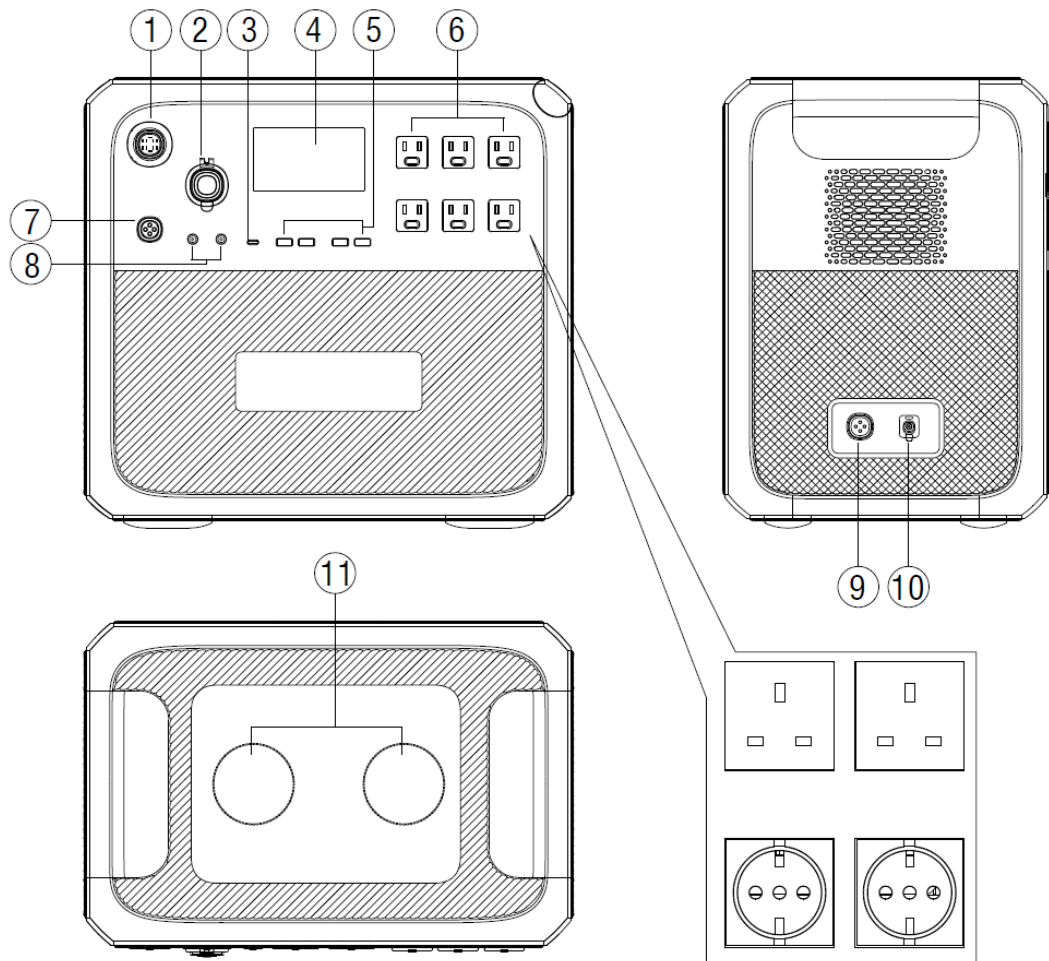
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The picture is for reference only, take the object for standard.

2. Function Introduction



- | | |
|--|---|
| 1. Power button | 7. 12V / 25A output |
| 2. 12V / 10A cigarette lighter port | 8. 12V / 3A output |
| 3. Type-C charging port | 9. PV / car input port |
| 4. Touchable interaction LCD display | 10. AC adapter input port |
| 5. USB output x 4pcs | 11. Wireless charging x 2pcs (support Qi protocol charging) |
| 6. US AC output x 6pcs
(EU/UK AC output x 2PCS) | |

Note:

AC stands for alternating current.

DC stands for direct current.

PV stands for solar energy.

Car stands for automobile electric energy.

3. Startup and shutdown operation

(1) Start up: short press the power button, the indicator light is on, and the machine is in standby mode.

(2) Shutdown: press and hold the power button for more than 2 seconds, and the indicator light will be off and the machine shut off.

The LED indicator lamp status warning	
BMS Over current or short circuit protection	Turn off after the indicator light flashes
BMS Startup timeout	The indicator light flashes and not shut down
Normal startup	The indicator light on
Normal shutdown	The indicator light off

(3) DC power switch and AC power switch are integrated in the interaction LCD screen(Figure 1),press“DC ON/OFF”button and “AC ON/OFF”button on the screen to turn on/off the DC /AC output.

4. How to use the human-machine interaction LCD screen

Interaction LCD screen(Information Vision) supports below functions:

(1) Real time display of voltage, current, power, temperature and state of charge and discharge.

(2) The user can adjust the output voltage, frequency, charging mode, power consumption mode and time information according to the setting column.

(3) Support energy-saving, and enable Super ECO mode to save more than 30% of useless energy loss.

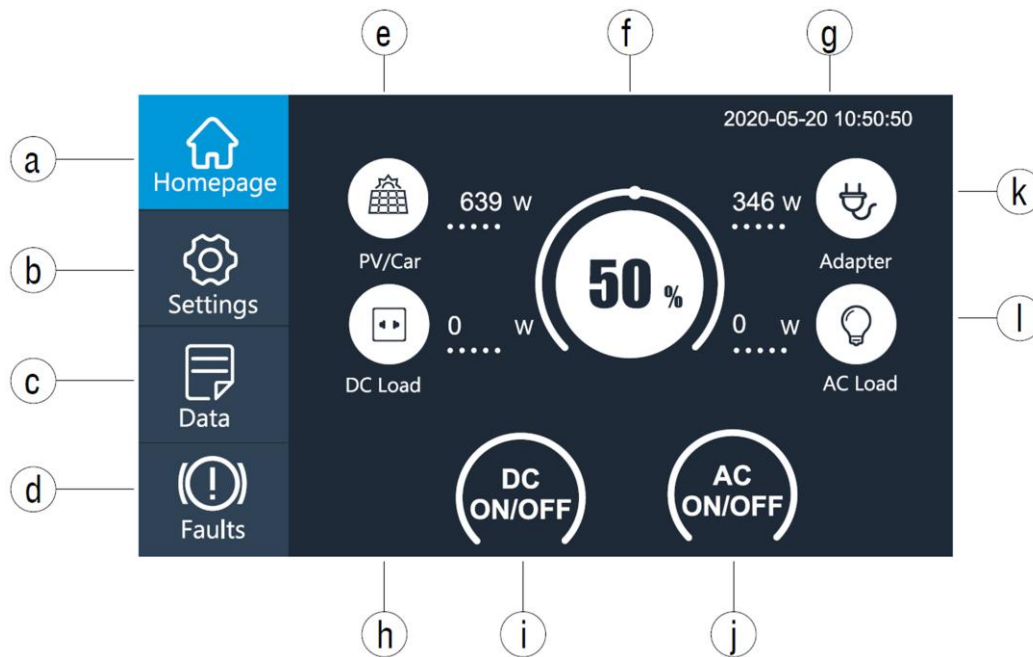
(4) Support users to view fault information, historical fault information, software and hardware version number and SN code independently.

5. The Operation steps of human-machine interaction

LCD screen

Warm tip:The touchable LCD screen is a resistance screen. we recommend to press the touch button by fingernail lightly until it "beeps".

(1)When press the power button, it will enter the main interface of the LCD display screen:



(Figure 1)

- | | |
|-----------------------------------|---------------------------------------|
| a. Homepage button | g. Date/Time |
| b. Settings button | h. DC load information display button |
| c. Data button | i. DC ON/OFF button |
| d. Faults button | j. AC ON/OFF button |
| e. PV/Car charging display button | k. Adapter charging display button |
| f. BMS information display button | l. AC load information display button |

(2) Click the settings button in the main interface (Figure 2) to enter the setting interface as follows (Figure 3) :

Warm tip: Please enter the setting interface to set the date and time according to the local time zone, and check the output voltage, frequency and other parameters for the first time.

The default:

JP output: 100V/50Hz

US output: 120V/60Hz

DC Input Source: PV (solar)

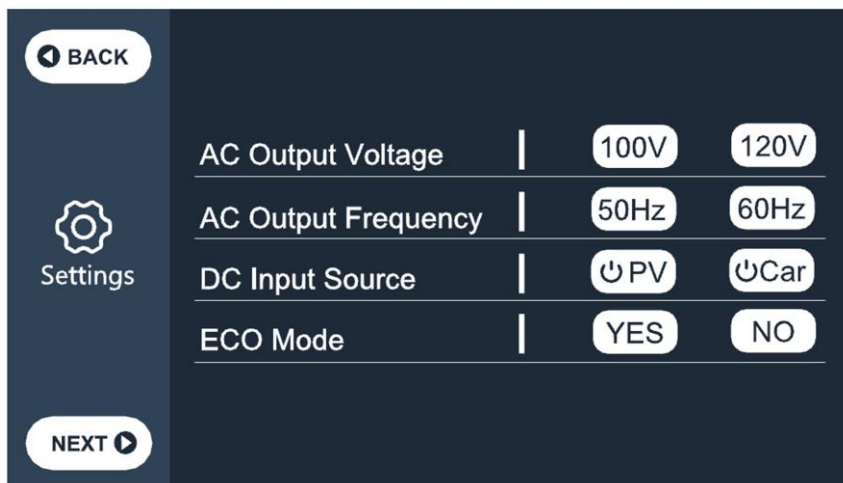
ECO Mode: NO

Press “Next” button to enter language and date setting as below (Figure 3) :

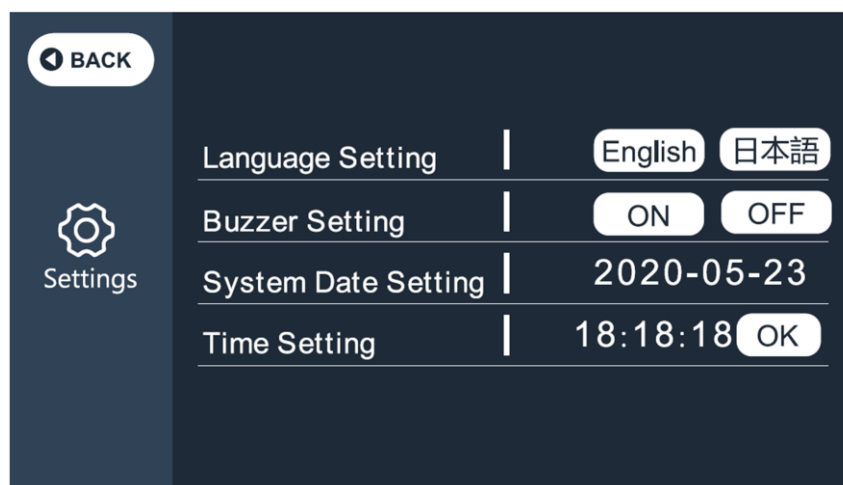
Language: Japanese, English

Date and time: 2000-00-00、00: 00: 00

Press to configure it.



(Figure 2)

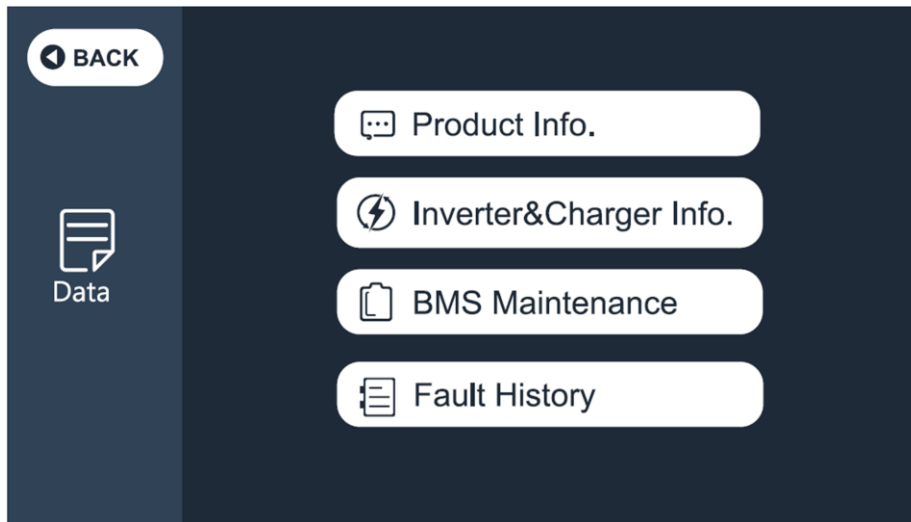


(Figure3)

(3) Return to the main interface (Figure 1), click the “Data” button to enter the page (Figure 4) :

- Click the “Product Info” button, you can view the product model, SN code, control software version, monitoring software version, BMS monitoring software version and display software version in turn;
- Click the “ Inverter & Charger Info” button, you can view the PV / Car operation and the adapter operation status ,DC out operation and AC out operation in turn, which can also be accessed directly from the shortcut key on the main interface;
- Click the “BMS Maintenance” button, you can view the operation information of BMS, and this part can also be accessed directly from the shortcut key in the main interface;

- Click the “Fault History” button, you can view all the fault information generated by the machine. All the fault codes recorded here. According to the fault codes, return to the main interface and click the fault button to view the corresponding fault information. If this guarantee information is not cleared, it can be retained for more than ten years.



(Figure4)

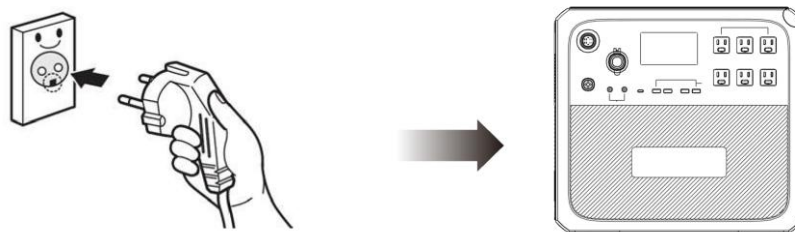
(4) Return to the main interface and click the fault button (Figure 1) to view the current fault information: the fault button will display red if there is a fault, click to enter the corresponding fault information, then the green dot will turn into red dot.

6. Charging the product

This product has 5 charging modes:

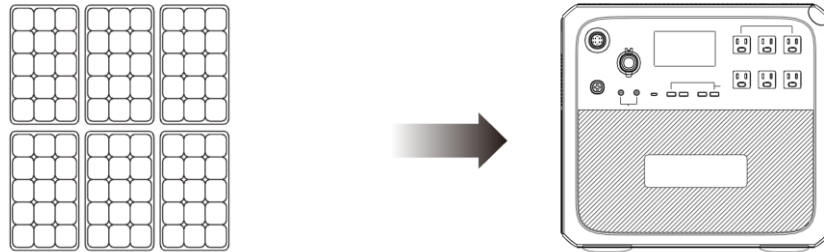
(1) Charging mode 1: From AC Wall outlet

- Press the main power button to start charging after connecting the product to the AC wall outlet, and the battery SOC will be automatically disconnected when it reaches 100%.



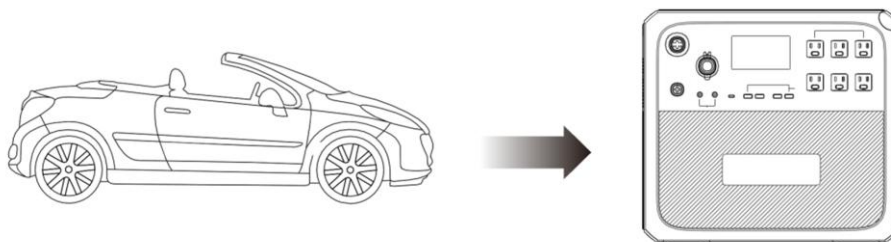
(2) Charging mode 2: From the solar panels

- Choose the solar panel with working voltage DC 35V-150V.
- Connect the solar panel to the product via solar charging cable included.
- Plug and play charging: it will start charging automatically after connecting the solar panel to the product even it is off status.
- Max. current of the solar is 12A.



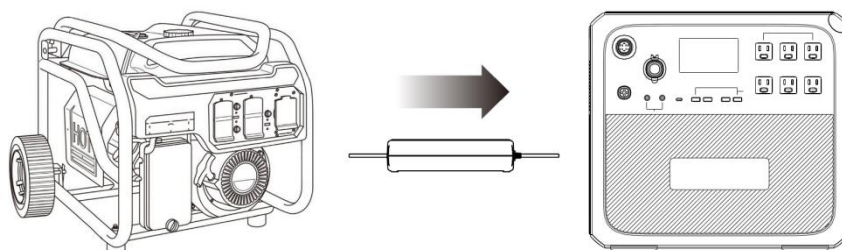
(3) Charging mode 3: From the car lighter port

- Press the power button and connect it to the cigarette lighter port through the car charging cable.
- Enter the setting interface as shown in (Figure2) through the display screen to set DC input source to car mode; The product can be charged with 8.2A maximum current.



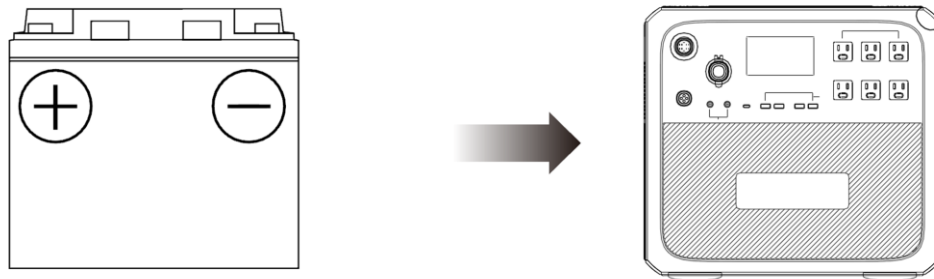
(4) Charging mode 4: From the diesel engine(gas generator)

- Connect the AC adapter input to the diesel generator /gas generator and the output port to the AC charging port of the machine.
- Press the power button, the product will be charged, and the battery SOC will be automatically disconnected when it reaches 100%.



(5) Charging mode 5: from lead acid battery

- Connect to the positive and negative poles of the battery through the provided solar charging cable(pay attention to distinguish the positive and negative poles of the battery, the red head is the positive pole, and the black head is the negative pole) .
- Enter the setting interface as shown in (Figure 2) through the display screen to set DC input source to “car mode” .The product can be used for car charging mode, with the maximum current of 8.2A. The product has the function of anti over discharge for lead-acid battery.



7. Discharging

(1) Turn on 12V / 25A, 12V / 3A, cigarette lighter port, USB and type C output: first ,press the power button, then enter the main interface through the human-machine interaction LCD display screen, click the DC ON/ OFF button and confirm , Turn off these output, and also click the DC on / off button and confirm.

(2) Turn on AC output: first, press the power button, then enter the main interface through the human-machine interaction LCD display screen, click the AC ON/ OFF button and confirm. Turn off these AC output ports, and also click the AC ON/ OFF button and confirm.

8. Application scenario

(1) **Outdoor**

Car equipment: car fridge, car vacuum cleaner and other car equipment;

Camping equipment: garden electric tools (power tools such as blowers, lawn mowers, electric drills, electric saws), BBQ grills, LED lights, etc.

(2) **Indoor:** Refrigerator, kitchen devices such as kettle, toaster, blender, coffee maker, rice cooker, laptops, phones, lighting, etc.

9. Examples of loads

(1) 12V / 25A, 12V / 3A, cigarette lighter port, USB and type C output port are suitable for most products in the market, but some products may trigger overcurrent protection if there is a large current impact at the moment of starting.

(2) The power of electrical products used for AC output should be less than 2000W. According to the different electrical products, when the rated power is less than 2000W, some air conditioners, motors and other devices that need instantaneous high current when starting may trigger overcurrent when the ratio of peak value of rated current exceeds 3:1. At this time, we recommended that you select the electrical appliances with lower power rate.

(3) When the output is overload, over-current or short circuit, the product will turn off the corresponding output, and then it will automatically start twice (at an interval of 20s). If there is still an overload, over-current or short circuit alarm, the output will be locked, and it needs to be manually troubleshooting and then restart. If the output stops repeatedly after restart, please stop using it immediately (only after troubleshooting) or contact the seller or maintenance agent for help.

(4) When the battery power is discharged to 0% SOC, the DC and AC output will automatically turn off. Only when the battery power is charged to more than 5% SOC, the DC and AC output can be turned on, which is to protect the battery and enhance its cycle life.

(5) This machine supports charging and discharging simultaneously.

10. Estimation of charging time

Smartphone 25pcs 5-6hrs 10WH	LED lamp 65-70hrs 20WH	TV 35inch 18-20hrs 75WH
Electric Tool 17-18 80WH	Fridge 15-16hrs 90WH	Electric Cooker 7-8hrs 200WH

$1700Wh \times DOD \times \eta \div (\text{load } W) = \text{charging time (unit: h)}$

Note: DOD is the battery discharge depth, η is the local inverter efficiency,
DOD=90%, η =88%。

11.Specification

Output		
AC output	Rated output power	2000W
	Low rated voltage	100-120Vac
	High rated voltage	220-240Vac
	THD	< 5%
	Efficiency	> 88% (R load)
	Overload capacity	2000W<load<2500W,2min; 2500W<load, immediately
	Short circuit protection	yes
	Over temperature protection	yes
	Noise	load<1500W,Max.45dB; load>1500W,Max.54dB
DC12V/25A	Rated voltage	12V
	Rated current	25A
	Overload power	330W<load, 2S
	Short circuit protection	yes
DC12V/10A output	Rated voltage	12V
	Rated current	10A
	Overload power	>120W,2s
	Short circuit protection	yes
DC12V/3A output	Rated voltage	12V
	Rated current	3A
	Overload power	>40W, 2S
	Short circuit protection	Yes
USB output	Rated voltage	5V
	Maximum current	3A
	Short circuit protection	Yes
Type-C output	Fast charging type	PD2.0 (60W Max)
	Rated output	5V/3A, 9V/3A ,12V/3A ,15V/3A , 20V/3A
	Short-circuit protection	Yes
Wireless charging	standard	Qi
	power	15W * 2

Input		
AC charging	input voltage	100-240VAC
	Maximum charging voltage	58.8 VDC
	maximum charging power	500W
Car input	input voltage	11.5V-14.4V/23V-28.8V
	Input current	8.2A
Solar panel	input voltage	35V-150V
	Input current	12A (only 12A will be received When the current exceeds 12A)
	Input maximum power	700W
<p>Remarks:</p> <p>1. PV charging has automatic activation charging function(plug and play): when PV is connected with the product, it will automatically activate the device for charging as long as the sun has energy; if you do not want this function, please unplug the PV charging head after full charge.</p> <p>2. It supports charging while discharging, and does not support UPS function.</p>		
Battery Pack		
Rated capacity	1700Wh,33.1Ah	
Voltage	42V-58.8V	
Short circuit protection	yes	
Output overcurrent protection	70A	
Discharge high temperature protection	65°C	
Recovery of discharge high temperature protection	55°C	
Charging high temperature protection	55°C	
Charging high temperature protection recovery	45°C	
Charging low temperature protection	0°C	
product		
Product size	420*280*386mm(16.5*11*15.2inch)	
Net weight	26Kg(57lbs)	
Working environment temperature	0°C-40°C	
Storage ambient temperature	-10°C-45°C	
Working environment humidity	10-90%	

12.Storage and maintenance instructions

- (1) Please fully charge the machine before storing it.
- (2) Turn off all power buttons.
- (3) Please wring the cloth with water and wipe it clean In case of dirt.
- (4) Please keep it in a dry place with less dust (temperature 0-40 °C , avoid direct sunlight).
- (5) Please charge at least once every 6 months.
- (6) When the temperature is lower than 0°C , put the equipment in a ventilated place for more than 2 hours before starting the machine.
- (7) If the generator needs maintenance, please contact the seller for help.

13.Declaration

- Some changes may be made to the appearance and specifications without prior notice due to the improvement of the product.
- Our company shall not be liable for any damage caused by force majeure such as fire, typhoon, flood, earthquake or the user's intentional negligence, misuse or other abnormal conditions.
- No compensation shall be made for the failure of non standard connector/accessories.
- Our company will not bear all responsibilities if the damage is caused by not operating the product according to the use method in the operation manual.
- This product is not suitable for use on the relevant equipment or machines involving personal safety, such as atomic energy devices, aerospace devices, transportation devices, medical devices, etc., or the equipment or machines that must be highly reliable in electricity. If we use this product on the above-mentioned equipment or machine, we will not be responsible for personal accident, fire accident or wrong action of the machine and equipment caused by the failure of this product.

14.Common faults and troubleshooting

If this product is unable to charge or power other equipment, please check according to the following steps.

- (1) Ensure that the power button is on and the power button light is always on(green).
- (2) Make sure the DC ON / OFF button and AC ON / OFF button are on.
- (3) Check whether the SOC of battery is more than 5%. If the SOC of battery is less than

5%, please charge as soon as possible.

(4) Ensure that the load equipment meets the power limit of the product, that is, the load power is within the maximum input range of each output interface;

If the above steps still do not solve the problem, please contact the seller for help.

15.FAQ(Frequently Asked Questions)

- **What is the depth of discharge (DoD)?**

To extend battery life, the portable power station has a DOD setting of 90%, which means that only 90% of the battery capacity can be discharged. Reserve 10% of the energy to avoid damage to the battery due to over discharge.

- **Can it be charged and discharged at the same time?**

Sure. However, in order to better protect the cycle life of the battery, it is not recommended to charge and discharge the battery at the same time.

- **How to extend the use time of CPAP?**

It is recommended to turn off the humidifier and heater, and set a lower pressure to obtain a longer CPAP ventilator use time.

- **Can AC output charge refrigerator, air conditioner or electric drill?**

Lower power for those devices can be charged . It is not recommended to use more than 1400W power. The starting power of refrigerator, air conditioner and electric drill is generally 5-7 times of the nominal power, which is easy to trigger AC overload.

- **Can two products be used in parallel?**

No.