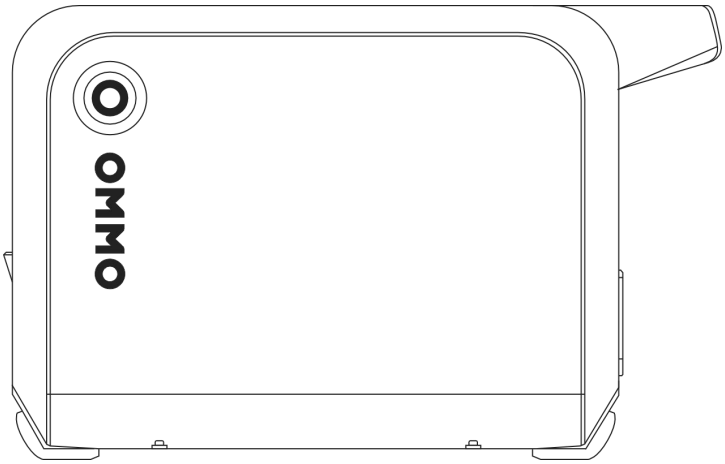
OM-600

Portable power station

User Manual



Please read this manual book and follow the instructions before using it.

Please keep the user manual properly for future reference.

DONGGUAN OMMO TECHNOLOGY Co., Ltd.

Catalogue

1. Critical Safety Note

Please note: The product is a portable energy storage power supply, please read and understand all the safety instructions before using it. If damage is happened by non-compliance with the instructions, it cannot be covered by warranty.

·Make sure to operate the product in a dry and well-ventilated environment. Please dry it thoroughly before using if in a damp environment.

·Make sure to check all materials before using it. Stop using the device immediately when it is damaged, cracked, leakage of electricity, or AC disconnection.

·Do not touch the device or plugs with wet hands, otherwise you may get an electric shock or other dangers.

·Do not touch AC interface with metal objects, otherwise it may lead to an electric shock, high temperature, fire or other dangers.

·Do not block fan openings to ensure proper ventilation while using, otherwise it may lead to permanent damage to the device.

·Do not move the device while using, as vibration and sudden impact may cause poor connection to internal hardware.

·Please read and fully understand the instructions of the connected appliances, improper operation of the electrical device may lead to accidents or injuries.

·Please use cables specifically designed for the device. Our company assumes no responsibility for damage caused by third-party equipment, which may invalidate your warranty.

·Please be careful to use the device and keep it away from children.

·Warning: Please use a dry powder extinguisher in case of fire.

·Warning: Do not insert foreign objects into any port of the device (AC, DC, or Vents). The device may produce a deadly AC that is as dangerous as a household wall outlet.

·Warning: It is dangerous for anyone other than authorized personnel to perform any service or repairing that involves replacing the internal battery or other device components.

·Make sure to keep the device away from fire and heat source.

2. Introduction

The product is a portable energy storage power supply, born from the extreme innovation and mature technology. Equipped with a 600W power inverter and a 512Wh(20Ah) Ferrophosphate battery pack, it is enough to power your essentials on the short journey or during a power outage, it measures L345mm*W215mm*H218mm and weighs 7KG. It can be charged to 80% in 1 hour with fast charging mode. In addition, the OM-600 supports a low power mode, where the AC or DC output can be automatically turned off after 10 minutes of low power or no load to save power consumption.

Overall, this product is the best choice for portable energy storage, and its powerful features are perfect for your backup or outdoor activity needs.

3. Abbreviation

·MPPT: Maximum power point tracking

·SOC: State of charge

·UPS: Uninterruptible power supply

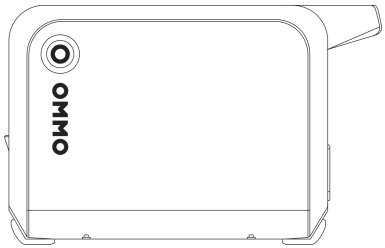
·AC: Alternating current

·DC: Direct current

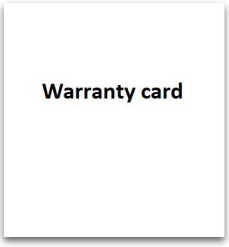
·PV: Photovoltaic

·DOD: Depth of discharge

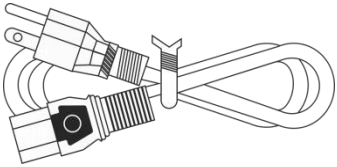
4. Packing List



600W Product Host



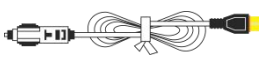
Product Warranty Card



AC Charging Cable

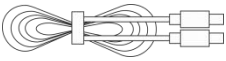
User Manual

The following accessories are not included in the standard package and can be purchased at https://www.ommo.com/



Car Charging Cable

Solar Charging Cable



TYPE-C Line

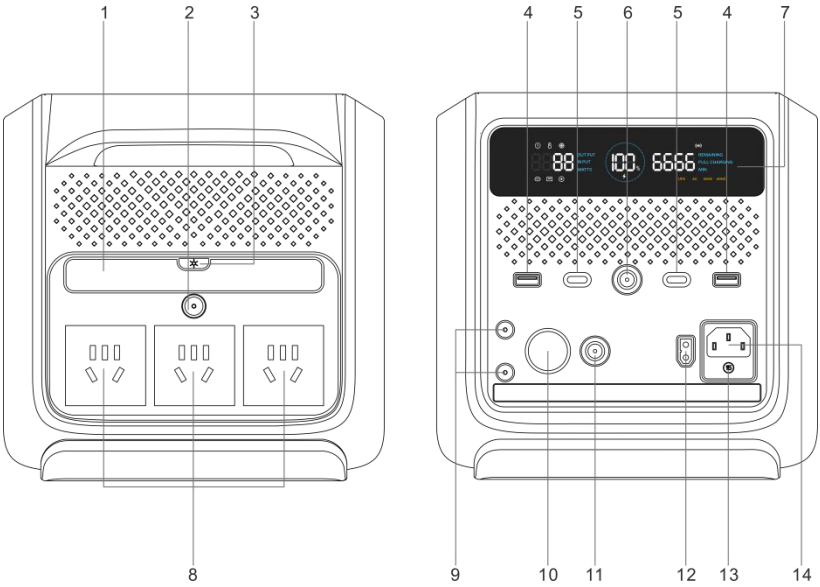
AC charging cable :16AWG, 1500mm

TYPE-C cable: 5A/100W, length 2m

Car charging cable :16AWG, 720mm

Solar charging cable :16AWG, 1500mm

5. Product Introduction



01. LED emergency light
02. AC control switch
03. LED emergency light switch
04. USB A*2
05. USB TYPE-C*2
06. USB/ wireless charging switch
07. 12VDC car charger
08. AC outlet *3
09. 12VDC 5521 port *2
10. 12VDC car charger
11. Switch the 12VDC
12. PV photovoltaic panel input port
13. Overcurrent reset switch
14. AC charging port

A circuit breaker is an electrical safety switch used to protect your equipment from damage caused by overcurrent or short circuit..

6. Key Operation Guide

The product has separate AC and DC power buttons. Press either key to start or close the specified port area.

6.1. Individual Button Guide

Any key, tap, light up for 1 minute

Press any key for about 1 second to turn on or off the corresponding function

Press any key for about 3 seconds to turn off all functions

6.2. Constant Power Mode

It will enter the constant power mode when the load output power exceeds 600W. (1.105%-130% rated load, enter constant power after 55s; 2.131%-200% rated load, enter constant power after 500ms; 3. Greater than 200% rated load, enter the constant power after 200ms.)

Note: Under voltage protection working if the voltage is lower than 80% of the rated voltage in case of constant power and output will be blocked. In this mode, appliances greater than 600W (up to 1200W) can be running, but the power will be constant at 600W output. It enables to operate high-power heating equipment such as space heaters and electric irons.

Do not use it to run air conditioners or washing machine.

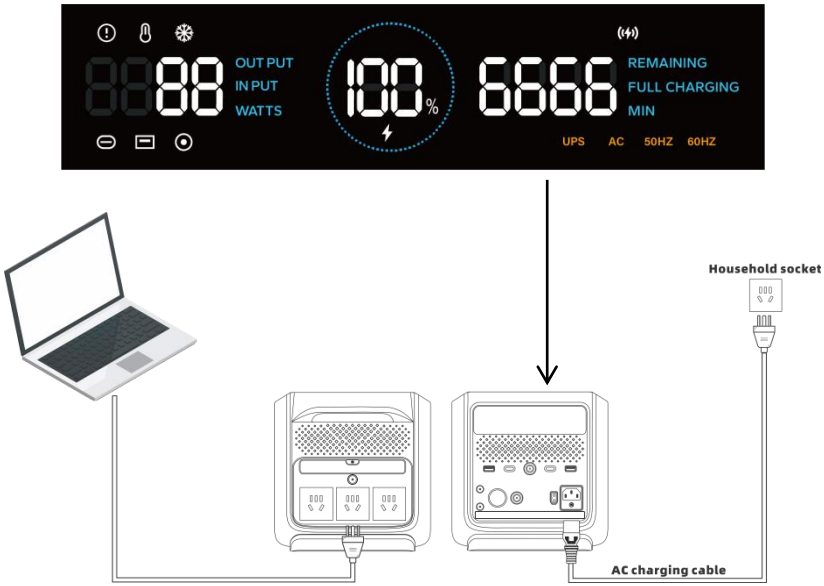
6.3. UPS Bypass Mode

Open the AC output button after the product is connected the AC power supply, “UPS” is displayed on the LCD screen and the product is outputting in bypass mode. In this mode, the AC power supply directly powers the load on the AC output port. Meanwhile, the AC power supply charges the product until it is fully charged.

Note: Maximum output power: 600W.

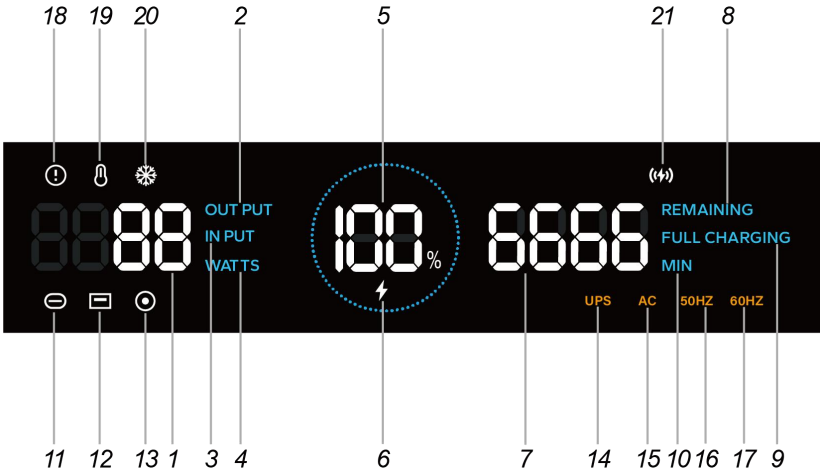
In UPS bypass mode, the AC inverter output will be shut down.

The machine will enter this mode when the AC power supply is connected and the AC output key is opened.



7. LCD Screen Guide

7.1. Introduction Screen Icon Description



1. Real-time power display
2. Output power
3. Input power
4. Watts (power unit)
5. Battery Percentage
6. Charging icon
7. Charge or discharge time remaining
8. Remaining time
9. Charging time
10. Minutes
11. USB-C icon
12. USB-A icon
13. Cigarette lighter port/5521 port icon
14. UPS active
15. AC connect active
16. 50HZ AC frequency
17. 60HZ AC frequency
18. Warning icon
19. High temperature warning icon
20. Low temperature warning icon
21. Wireless charging icon

7.2. LCD Screen Status Description

LCD Status Description	
Normal power on	The LCD screen lights up
Normal power off	LCD screen off
AC connect on	LCD screen shows "AC"
USBA, USBC & wireless charger are enabled	"  ,  "is displayed on the LCD screen.
Cigarette lighter car charge,DC5521 enabled	LCD screen displays"  "
Ac charge and discharge	"UPS" displayed on the LCD screen

Please refer to section 8 for more information on fault indication and solution.

8. Troubleshooting

The display screen shows the fault code, and the corresponding fault type and recovery method are as follows:

Fault Description	Fault display	Troubleshooting
USBA1 alarm	E61	Remove abnormal load, and the system will automatically recover after the load returns to normal.
USBA2 alarm	E62	Remove abnormal load, and the system will automatically recover after the load returns to normal.
USBC alarm	E71	Remove abnormal load, and the system will automatically recover after the load returns to normal.
Wireless charging alarm	E81	Automatic recovery after load returns to normal.
Cigarette lighter alarm	E51	Automatic recovery after load returns to normal.
Battery charging high temperature	E11	The battery temperature will automatically recover after it drops below 45°C.
Battery charging at low temperature	E12	The battery temperature will automatically recover after it returns to above 5°C.
Battery discharge high temperature	E13	The battery temperature will automatically recover after it drops below 45°C.
Battery discharge low temperature	E14	The battery temperature will automatically recover after it returns to above -10℃.
Battery communication timeout	E15	Restart the machine to see if it can be restored. If not, please contact after-sales personnel.
Output alarm	E16	Please contact after-sales support.
Input alarm	E17	Please contact after-sales

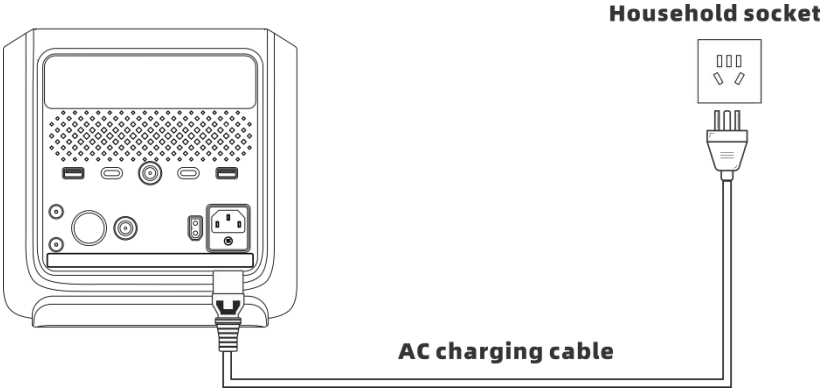
Motherboard high temperature	E21	The motherboard temperature will automatically recover after it drops < 45°C.
Inverter overload	E41	Remove abnormal load and restart the machine to recover
Abnormal battery voltage	E42	Remove the power device and restart the machine to see if it can be restored. If no, please contact after-sales personnel.
Inverter failure	E43	Remove high-power devices and restart the machine to see if it can be restored. If it cannot be restored, please contact after-sales personnel (for the power limit of electrical appliances in constant power mode, please refer to the introduction of constant power function)
Abnormal AC input frequency	E44	Please confirm whether the local voltage and frequency are consistent with the product manual. If they are consistent and there is still an abnormality, please contact after-sales personnel
Abnormal AC input voltage	E45	Please confirm whether the input voltage is consistent with the product manual. If it is consistent and there is still an abnormality, please contact after-sales personnel
Abnormal AC output voltage	E46	Remove the abnormal load and restart the machine to see if it can be restored. If it cannot be restored, please contact after-sales personnel
Inverter overload short circuit	E47	Remove the abnormal load and restart the machine to see if it can be restored. If it cannot be restored, please contact after-sales personnel
AC high temperature	E48	Restart the machine to recover.
PV overcurrent	E31	Remove the solar charging cable and restart the machine to recover.
PV overvoltage	E32	Remove the solar charging cable and restart the machine to recover.

9. AC Charging

This product supports AC, solar, automotive, generator four charging methods.

9.1. Charge With A Wall AC Outlet

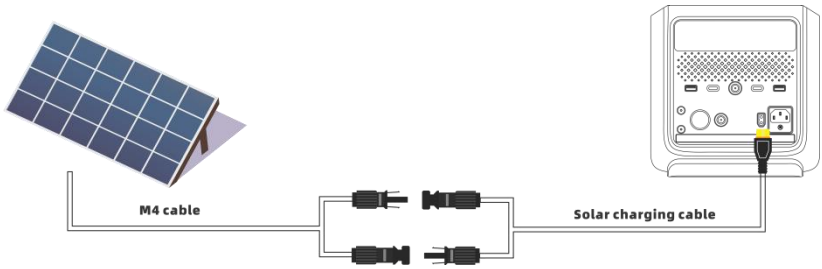
Connect the AC power cord input plug to the wall outlet and the other end to the product's AC charging input port Advanced control circuitry is built into the control circuit. When fully charged (approximately 1.5 hours), charging stops automatically.



9.2. Solar Panel Charging

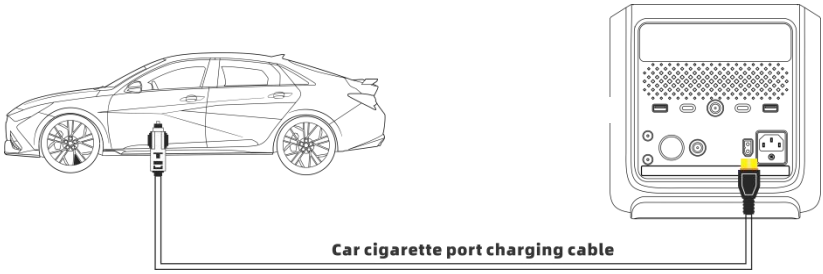
Connect solar panels (series or parallel), open circuit voltage range :12-80V. Then connect the solar panel to the product via the solar charging cable.

When charging with solar panels, the maximum input current and power are 24.7A and 1200W, respectively. In addition, when it is fully charged (about 2 hours), it will stop charging automatically.



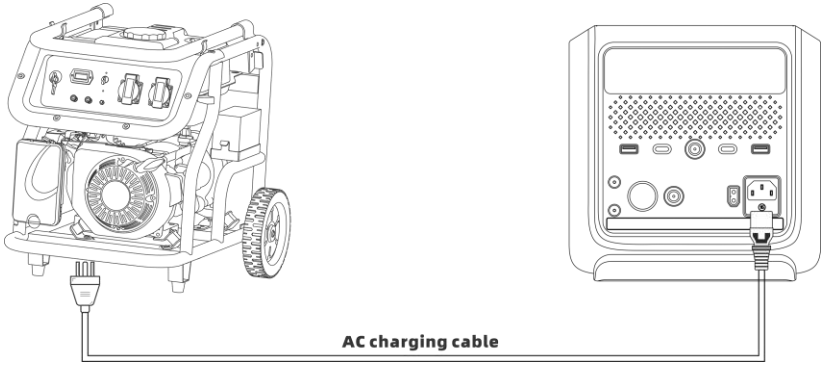
9.3. Vehicle Charging

Connect the product to the vehicle 12V cigarette lighter socket via the vehicle charging cable. When the device is fully charged (about 3-4 hours) it will automatically stop charging.



9.4. Generator Charging

Connect the AC adapter input plug to the generator and the output plug to the AC charging port of the product. When fully charged (about 1-2 hours), it will automatically stop charging.



10. Discharging

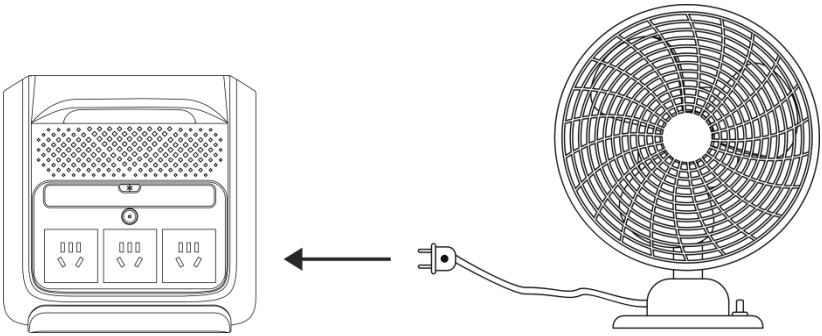
System runtime will be determined by a variety of factors such as ambient temperature, discharge rate, battery capacity, altitude, and other factors.

10.1. Output Port

10.1.1. AC Outlet

This product is equipped with 2 AC output ports for Japanese and American models, and 3 AC output ports for European, British, Australian and New National Standard high voltage versions. The maximum total output power up to 600W, instantaneous power up to 1200W, please ensure that the load power connected to the device does not exceed 600W.

When the load output power exceeds 2400W, it will enter overpower protection mode and “E41” is displayed on the screen. (1.105%-130% rated load, enter overpower protection mode after 55s; 2.131%-200% rated load, enter overpower protection mode after 500ms; 3. More than 200% of rated load, enter overpower protection mode after 200ms.



10.1.2. DC Output

12V/10A cigarette lighter output port

12V/10A5521 output port (traditional jack for routers/cameras, older laptops, etc.)

USB-C Output Port (PD 100W)

USB-A Output Port (5V3A)

Wireless charging (If your phone supports wireless charging, please place your phone on the top of the product and turn on the DC to start wireless charging)

10.2. Estimated Operation Duration

Please note: All statistics below are based on estimates. Actual results may vary depending on the environment, usage, and firmware version.

Iphone 13 Por 12Wh/36 times	MacBook Air 50wh/8 times	Game machine 16W/27 times	Digital camera 8W/54 times
Fan 40W/ 10h	Projector 65W/6 hours	Drone 41Wh/10 times	Smart speaker 12W/36 hours
USB/DC indicator 10W/43 hours	Car refrigerator 60W/7 hours	recharger 40W/ 10h	TV set 110W/4 hours
Electric cooker 400W/1 hour	Kettle 500W/0.8 hours	Power tool 450W/1 hour	Ventilator 90W/4 hours

512Wh*DOD* Conversion efficiency/Load power = Running time (unit: hour)

If you want to calculate how many hours can an electric tool run with a rated power of 450W?

That is: 512Wh * 90% * 90%/450W=approximately 1 hour.

What is battery discharge depth (DOD)?

In order to extend the lifespan of the battery, the system sets the battery discharge depth of 90%, which means that the battery can only discharge 90% of its capacity and reserves 10% to prevent over discharge.

DOD=80% to 90% (determined by ambient temperature and discharge rate)

Note: Under the low temperature environment and large load, the discharge capacity of the battery cell will be greatly affected, the performance of the product will be seriously degraded, the load carrying time will be shortened, and it may not be able to meet the requirements of normal use.

11. Technical Specification

No.	OM-600
Weight	7Kg
Dimension	345*215*218
Charging temperature range	0~50℃
Discharge temperature range	-15~60℃
Storage temperature range	0~40℃
Operating humidity range	10~90%
Safety certification	UN38.3,MSDS and RoHS
Battery capacity	512Wh(20Ah)
Battery type	LiFeP04
DC Input	
Interface type	XT60-Bus bar
Input power	MAX 200W/ 3 hours full / @0~40℃
Input voltage range	10~60V DC
Input current	8.5A MAX
Solar MPPT DC Input	
Interface type	Solar interface to XT60 bus
Input power	Max 200W / 3 hours full / @0~40℃
Input voltage range	12~60V DC
Input current range	0~12A

DC Output Parameter			
Cigarette lighter X 1	12VDC/10A		
DC5521X2	12VDC/10A		
USB-A X 2	5V/2.4A ， 9V/2A ， 12V/1.5A ， MAX18W , 36W in total		
USB-C(Type-C)x 2	5/9/12/15/20VDC,3A; 20VDC/5A (Embedded identification chip)		
Wireless charge X 1	15W/7.5W/10W/15W		
Note: Cigarette lighter port is in parallel with DC5521, sharing 10A current. When the USB-C 1.2 port outputs at the same time, no fast charge is triggered.			
Standard	EU	US	JP
AC Input			
Rated input voltage	220~240Vac	120Vac	100Vac
Maximum input	2A	3.4A	4A
Input frequency	50Hz	60Hz	50Hz/60Hz
UPS function	Yes,≤20ms		
Charging power	MAX 400W / 1.5 hours full / @0-40℃		
AC Output Parameter			
Rated output power	600W Total	600W Total	600W Total
Rated output	220~240Vac	120Vac	100Vac
Rated output	2.6A	5A	6A
Rated output	50Hz	60Hz	50Hz/60Hz
Peak output power	630W		

12. Instruction

12.1. Usage Method

·Most electrical appliances on the market are suitable for 5521 interface, cigarette outlet, USB-A, USB-C outlet specifications of this product. Largely transient current generated by some appliance when charging may activate over current protection

·It is suitable for household appliances with output power below 2400W. However, overload protection is still activated, though rated power is below 2400kwh. Just apply the product to electrical equipment with low power rating.

·Though output overcurrent, overload, or short circuit, the product will close the corresponding output port. If above situations exist, turn off the device, press a button to restart. Seek help from supplier and professors

·Straight-through charging been supported. Please keep the device flat during use, charging, and discharging.

·The AC and DC outputs automatically turn off when the product power level drops to 0%. Check the battery level before using the AC/DC output to maintain a long battery life. Be better to recharge it when battery capacity drops to 20% or less.

·Whether this product can be charged or discharged depends on the actual temperature of the battery pack.

12.2. How To Maintain

·Be better to use or store the product at environment with temperature from 20℃to 30℃, away from water, heat sources, or metal objects.

·Be better to recharge and discharge it once per month that is, discharge the product to 30% and then charge to 80%;No guarantee if product not been charged or discharged for more than 6 months.

·Do not store it in temperature over 45℃ or lower than -10℃ for a long time)

·Recharge to 80% before storage,if the power of this product is less than 1% after use)

·Irreversible damage and shorter longevity will be caused in terms of server shortage and long time disuse of battery. When into the deeper sleep, recharging is necessary to second)

13. FAQ

Q1: What devices can the product charge/power?

A: The maximum output power of the product is 2400W, so please make sure that the total power of your device does not exceed this power, otherwise the inverter will shut down the DC output automatically, with AC output in priorit).

Tips: For some equipment with built-in motor/compressor, the instantaneous starting power may be 2-4 times the rated power, which may exceed the upper limit of the product.

Q2: How can solar panel charge the whole system?

A: Solar panels must meet:

(1) Open circuit voltage (OCV) between 12V-80V;

(2) Equipped with XT60 connector. If your panel has Anderson connectors buy Anderson Turn XT60-female cable.

Note: The actual charging time depends on the weather, solar conditions and the Angle of the solar panel.

Q3: Can I charge and discharge at the same time?

A: Yes, the product supports simultaneous charging and discharging. It uses premium LiFePO4 batteries and an advanced battery management system, so feel free to use it in a way that better suits your needs.

Q5: How to clean the product?

A: Be better with dry and non-abrasive cloth. The multi-functional product need to be cleaned to keep its good state in simple method.

14. Statement

·Without notice through in development of specifications and appearance.

·No guarantee to any damage caused by some force majeure(fire, typhoon, flood, earthquake) and abnormal circumstances (as user's intentional negligence, misoperation)

·No guarantee to any accident or damage resulting from failure to comply with the precautions in the instructions.

·No guarantee to any failure caused by the use of unauthorized parts.

·No use to some appliance with special demand on reliability and safety to battery.