



Lithium Battery Engineering, LLC

# User Manual



**A.L.P.H.A. 3000**

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Thank you for purchasing the Lithium Battery Engineering ALPHA 3000 Portable Power Station. Please contact LBE with any product questions or concerns.






To ensure safety and avoid any property damage, please read this manual before use, and follow all safety precautions.

## Important Safety Instructions

Please be sure to observe the following for safe use

	Indicates high temperature, fire or rupture danger while in operation.
	Prohibited activity is described with this icon or by text in or near this icon.
	Represents mandatory operational steps. Specific mandatory content is described with graphics or text in or near the figure.

### **DANGER**

	Please do not disassemble, repair or transform, may cause electric shock, heat, fire and other dangers.
	Do not put the product in fire or near heat source, may cause fire or burns and other dangers.
	Do not operate in wet conditions, rain or inclement weather. Do not use water to clean the product, it will cause electric shock, heat, fire and other dangers.
	Do not use metal to bridge AC output interface. It may cause electric shock, heat, fire and other dangers.
	Please dispose of properly. Electricity shock, heat and fire may occur if improperly disposed of.



## WARNING

	Store in a clean, dry place. Dust, powder and small metal shavings may cause short circuit, electric shock, smoke, fire and other dangers.
	Be sure to check before use. In case of any abnormality such as breakage, crack, leakage, heat and AC wire breakage, please stop using the product immediately.
	Supervise children when operating this product.
	Disconnect the AC charge cable from the outlet during lightning storms. Large current spikes from the outlet may be generated resulting in heat, fire and other damage.
	Only charge at the specified voltage range (AC 100-240V). Otherwise, heat, fire, fire and other damage may occur..



## Note

	Stop using the product immediately if any abnormality such as rusting, peculiar smell, fever, etc. exists.
	Do not allow this product or the AC cable to get wet. Electric shock, heat, fire and other dangers may occur.
	Charge product below 113°F, store product below 149°F to avoid diminished performance or heat up.
	Please carefully read the operating instructions of the electrical products to be connected.
	Be sure to turn off the main power while storing to prevent unnecessary discharge of the battery and prevent electric shock.

## About the 2560Wh Portable Power Station

1. What's in the box

ALPHA 3000 x1

AC Adaptor x1

Cigarette Lighter cable x1

Solar adapter Cable x1

User Manual x1



1




2



3



4

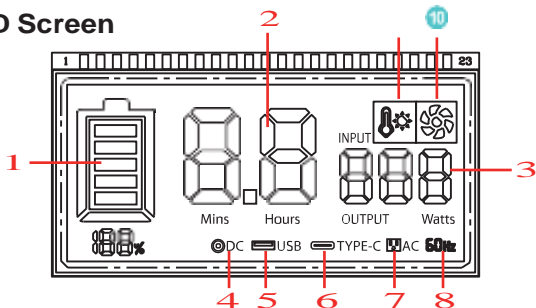
 **Note:** Pictures are only for reference only

## 2.Product Introduction



- |   |                   |
|---|-------------------|
| 1. DC Power Button                          | 8. LCD Screen     |
| 2. LED Light Button                         | 9. AC Output Port |
| 3. AC Power Button                          | 10. LED Light     |
| 4. DC 12V Car Cigarette Lighter Output Port | 11. Reset Hole    |
| 5. DC 12V Output Port                       | 12. Charging Port |
| 6. Type-C PD Output Port                    |                   |
| 7. USB Output Port                          |                   |

### LCD Screen



- |                               |                              |
|-------------------------------|------------------------------|
| 1. Battery Capacity Indicator | 6. TYPE-C ON /OFF            |
| 2. Battery Remaining Time     | 7. AC ON /OFF                |
| 3. Input/Output Power         | 8. 50/60HZ                   |
| 4. DC ON /OFF                 | 9. Overtemperature Indicator |
| 5. USB ON /OFF                | 10. Fan Indicator            |

## LCD Battery Display:

The LCD Battery Display indicates the charge level and the remaining capacity.

When charging, 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.

## Overtemperature indicator Display:


When the discharge temperature is greater than 149°F degrees, the over-temperature protection indicator will be displayed on the screen for 5 seconds.

## Radiator indicator Display:

The fan will turn on when the power supply internal temperature reaches 45 degrees.


## Using Portable Power Station

### Important Tips Before Use

 **Note:** Please charge the product to 100% before using. When charging the product, the battery capacity display icon on LCD screen will be on dynamic status, after the battery is charged fully, the display icon will switch to static status.

## 1 Charging

### (1). AC Charger Charging

 **Note:** Always use the standard AC charger that comes with the product.



- ① Connect the product and socket with the AC charger in the package.
  - ② Unplug the charger when charging is completed. (it takes about 8-10hrs to fully charge the product if using 360W AC adapter charger )
  - ③ Please use our adaptor, non-standard adaptors may cause defects in the product.
- ⚠ Note:** It is normal for this product to get hot during charging.
- ⚠ Note:** Make sure that the wiring is in good contact, otherwise the contact terminals may melt at high temperatures.

## (2) . 12V Car Charger Charging



- ① Connect the product and the cigarette lighter socket with the cigarette lighter cable in package.
  - ② Charge the product after starting the car.
- ⚠ Note:** Make sure that the wiring is in good contact, otherwise the contact terminals may melt at high temperatures.
- ⚠ Note:** The car needs to be started before it can charge the product, otherwise it may run out of battery power.

## (3) . Solar Panel Charging





**Please note:** Solar panels need to be purchased separately.

- ① Choose suitable solar panels (voltage 12~24V / Max. 200W)
- ② Use the solar panel under direct sunlight, face to the sun positively.
- ③ Connect the solar panel to the ALPHA 3000 with the Solar Charge adapter cable.
- ④ When the product is fully charged it will stop charging automatically. Please disconnect the charging cable, and turn off our product.

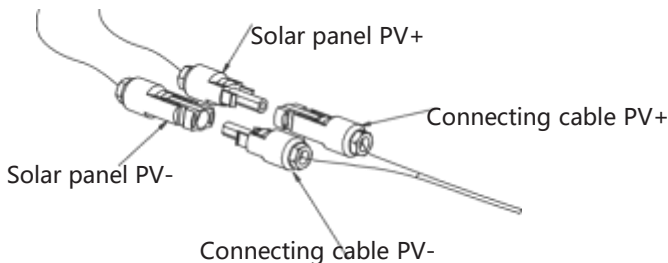
**⚠ Note:** Please make sure the cable connecting is correct and stable, or will cause the connector a high temperature status or sparking.

**⚠ Note:** Please charge the product under 32-113°F temperature environment.

**⚠ Note:** During the charging, it is normal situation if the product is getting a little bit hot.

**⚠ Note:** The charging time is different when light intensity is different.

**⚠ Note:** If you choose the solar panel which is with MC4 connector, please make sure the positive and negative poles of solar panels are connected correctly. Refer to the following connection chart.



## 2 Battery Life

The ALPHA 3000 is designed to retain up to 80% of its original capacity at 2000 complete charge cycles when operating under normal conditions.

### 3 Estimation of Backup Time


10W smartphone 217Times 10Watt load	200W LED lamp 11hours 200Watt load	500W LCD TV 4.3 hours 500Watt load
800W electric tool 2.7hours 800Watt load	900W refrigerator 2.4hours 900W load	1000W electric stewing pot 2.1 hours 1000Watt load

Q: How to calculate the working time for your devices?

A: 1. AC output working time= $2560\text{wh} * 0.85 / \text{the power of your device}$

For example, assume your power of device is 500W, working time will be  $2560\text{wh} * 0.85 / 500\text{w} = 4.3 \text{ hrs}$  (rough calculation)

2. DC and USB output working time= $2560\text{wh} * 0.95 / \text{the power of your device}$

 **Note:** The above data is for reference only. Backup time varies with the power of different loads.

## 4. Operation Instruction

### 4.1 Buttons Operation


#### ① DC Power Button


**DC power on** : Press the DC button, the LCD will display

 "DC"  "USB"  "TYPE-C".

**DC power off:** Press the DC button, and the LCD will disappear “  DC  USB  TYPE-C ”.

## ② AC Power Button

**AC power on:** Press the AC button, the LCD will display “  AC ”.

**AC power off:** Press the AC button, the LCD will disappear “  AC ”.

## ④ LED Button

**LED power on:** Press the LED button in turn, the order of LED light will be: Micro bright--half bright—full bright--turn off.


**LED power off:** Press and hold the LED button, the LED lights will be turned off.


**SOS LED power on:** Double-Press the LED button and the SOS light will be turned on.

**SOS LED power off:** Press the LED button and the SOS light will be turned off.

## ⑤ Set AC output frequency

Press and hold the 'DC' and press 'AC' button at the same time when opening AC output. After releasing the button, AC output frequency will change between 50HZ and 60HZ.

 **Note:** Turn off these buttons to save power when not in use. To prevent power consumption.

 **Note:** When no load and the power show '0', it will be closed after 4hours.

## 4.2 Output Ports(Connectible Devices)

### ① USB Output Port:

It help to eliminates the need for using multiple chargers, and can intelligently charge your smartphone, MP3 player, digital camera, electronic reader, tablet computer, etc.

Single USB port maximum output is 18W(Support the Quick Charge technology)

### ② Type-C PD Output Port:

Be used for smart phones, tablets, etc. Maximum output is 60W. Support multi-protocol mode, support multi-brand equipment.


### ③ DC 12V 5521 Output Port:

Mainly used for LED light band lighting.

Single DC output ports maximum output is 12V/4A


### ④ DC12V Cigarette Lighter Output Port:

For Vehicle Refrigerator, vehicle air pump, vehicle vacuum cleaner and other 12V equipment. Maximum power output is 12V/10A (120W)


 **Note:** DC output is suitable for most products in the market. Some products with instantaneous high current may trigger over-current protection.


## ⑤ AC Output Port:


For Laptop, Camera, TV, monitor, power tools, breathing machine, electric blanket and other AC power working equipment. Single AC port maximum power output is 1500W

 **Note:** AC output uses electrical products with power below 1500W or peak power below 3000W equipment.

### Other Considerations:


 **Note:** Please make sure that the connected electrical products can work properly before using this product.

 **Note:** The output will stop automatically if overload occurs.

 **Note:** If the output stops repeatedly, stop using immediately. Not to be used until the problem is solved.

## Product Storage and Maintenance

1. Full charge the machine before storage.
2. Switch off the all button.
3. If there is any dirt, soak and wring out the cloth to wipe it clean.
4. Please do not use gasoline, volatile oil, thinner, kerosene, etc. which have the function of dissolving the resin.
5. Keep it in dry and less dusty place. Temperature within 14°F-149°F , avoid direct sunlight.
6. Please full charge the product at least once every three months.

 **Note:** Please do not keep it long time in the car, trunk, loading platform or other hot place under direct sunlight. It may cause the product failure, degradation or thermal problem. When not in use, please turn off all output, otherwise the internal circuit is still in power consumption.

When applying inverters, consumers are requested to use electrical and electronic equipment that is officially certified and approved.

## Troubleshooting

If the product cannot charge or power other devices, please check according to following steps:

1. Make sure the AC and DC USB buttons are on.
2. Check the battery capacity, if it's lower than 10%, please recharge the product as soon as possible.
3. Make sure the load power connected didn't exceed the limit power of this product, each port has a limit for the power connected.

If you can't clear the trouble after above steps, please contact our after sale service center.

## Frequently Asked Questions and Answers

- **How to check the state of charge?**

The battery icon display on the LCD display shows the battery level and charge status.

- **How to calculate how long it will work?**

AC output working time= $2560\text{wh} * 0.85/\text{the power of your device}$

For example, assume your power of device is 500W, working time will be  $2560\text{wh} * 0.85/500\text{w}=4$  hrs (rough calculated)

DC and USB output working time= $2560\text{wh} * 0.95/\text{the power of your device}$

- **What kind of a "mini cooler" or "mini-fridge" could this unit power?**

There are two output port to power these devices.

1) AC output ports can be used to power the device which power less than 1500W.

2) DC output is Max 120W, It could power the device which power less than 120W . It is better to choose DC port power supply refrigerator, and the output without power consumption maintains more power.

- **Can you use this battery to jump start your cars battery?**

No, it could not be used to jump start car battery.

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

Recommend to turn off its humidifier, heater, and set a lower pressure. If there is a DC cable, well use the 12v plug. Because DC output without power consumption maintains more power.

- **How long does it last on a single charge?**

It will last about 3-5 years if you do not use it after a full charge. But the battery needs to be recharged at least once every three months to maintain its performance

- **Can you charge the battery using solar while charging your phone at the same time?**

Yes, you can. It is not recommended to use high power appliances when recharging.

- **Does the battery user replaceable by himself?**

No, it doesn't.

- **Can the AC output carry a Household refrigerator or air conditioner?**

Yes, it can carry some refrigerators and air conditioners.

- **50Hz/60Hz frequency switching**

How to set up: Then Press and hold the DC button or press AC button at the same time to select 50Hz and 60Hz. The frequency displayed on the LCD will change accordingly.

- **How do you reset factory Settings (reboot system)?** Please insert the reset hole with a toothpick to restore the factory setting (reboot system).



## Specification

Output		
AC Output	Rated Voltage	AC110V±10% or AC220V±10%
	Rated Power	1500W
	Peak Power	1750W
	Overload Capability	3000W≤load<4200W
	Frequency	50/60Hz(Adjustable)
DC12V Output (Cigarette Lighter)	Rated Voltage	12V
	Rated Current	10A
DC12V Output (5521)	Rated Voltage	12V
	Rated Current	4A
USB Output	Quick Charge Technology	Suitable for most mobile phones
	Rated Voltage	5V,9V,12V
	Rated Current	Max18W
Type-C Output	Charging Agreement	PD (60W)
	Rated Output	5V, 9V ,12V, 15V, 20V
LED Lighting	While the 'POWER' button is on, press the LED light button in turn, the order of LED light will be: Micro bright--half bright--fullbright--turn off SOS Light : Double-Press the LED button and the SOS light will be turned on.	
Input		
DC/Solar panel Input	12-24 VDC	
DC/Solar Input Power	200W MAX	
Battery		
Rated Capacity	2560Wh	
Rated Voltage	25.6 V	
Battery Cell Type	Lithium iron phosphate (LiFePO4)	
Voltage Range	22.0V-29.2V	
BMS Safety System	Yes	
General		
Storage Enviroment	14°F-149°F	
Working Temperature	32°F-113°F	

Product Size	420x300x330mm(LxWxH)
Product Net weight	27KG

**Note:**

Solar controller: MPPT

## Warranty (2-Year-Limited)

The manufacturer's warranty is void under the following circumstances but not limited to:

- Improper or inadequate maintenance or modification.
- Accident, misuse, abuse, contamination, or other external causes.
- The use of unspecified adapter and accessories.
- Damages may occur as a result of one's failure to follow the instructions.



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