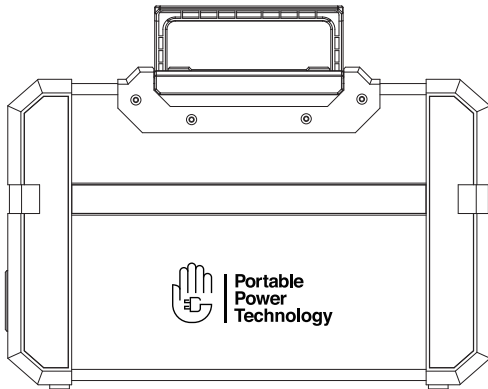




**Portable
Power
Technology**

PPT Powerpack 450+

USER MANUAL



**Please contact us
for technical support
+44 1474 761051**

ABOUT THE UNIT

Thank you for purchasing the Powerpack 450+. Designed to easily provide AC and DC back up during power failure or to power appliances off grid and remote location, the Powerpack 450+ keeps you powered for longer...wherever you are. Before using this unit, please read the user manual carefully and keep it for future reference.

ATTENTION!

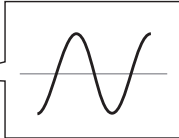
This manual is to help you use the product correctly; it does not represent any description on the hardware and software configuration of the product. About the product configuration, please refer to the contract related to this product (if there is), or consult to the seller that sells the product. Pictures in this manual is for reference only, if there are individual pictures do not match the actual, please prevail in actual products.

The unit provides Pure Sine Wave output

The unit is built-in pure-sine wave inverter, which means it produces an output that is exactly the same as supplied by an AC wall plug in your house. It produces power output that makes it compatible with almost all AC electric devices in your house. The pure-sine wave inverter allows unit to safely power almost everything under 450 watts in your house that you would normally plug into the wall. **This product is only used for emergency, it cannot replace the normal alternating current for long-term use.**



Oscilloscope display of sine wave



Sine wave graphic

【 I 】 PRODUCT PARAMETERS

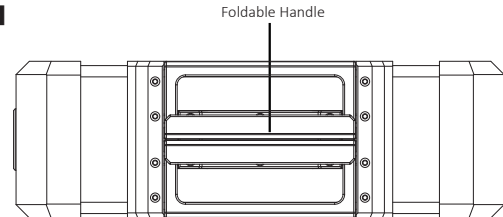
Name	PPT Powerpack 450+
Capacity	444Wh (40ah/11.1V)
Dimensions(LWH)	296x94x196mm
Weight	about 4.6Kg

Built-in Battery	High Quality Lithium Polymer Batteries
Input Charging (AC)	DC 13~25V, Up to 4A Max input charge
Input Charging (Solar)	DC 13~25V, Up to 4A Max (80 watt panel max)
Fully Charged Time	Adapter: DC 15V/4.5A; about 10~11 hours
DC Output	3xUSB 5V-3.1A; 1xUSB C(5V/9V/12V/15V/20V/2A Max); 1xUSB C 5V/3.1A; 3xDC 9-12.6V/10A(15A Max); 1x12V DC socket 9~12.6V/10A(15A Max);
AC Output	AC 230V/50Hz AC Pure SineWave Output
AC Continuous Output	450W/500W Max
Power Indicator	LED Display
Work temperature	-10°C — 40°C
Storage temperature	-10°C -45°C
Lifecycle	>500 times
Package include	1x Powerpack 450+ 1x AC Power Adapter 1x Car Charger Adapter 1x Solar cable
Contact Information	sales@portablepowertech.com

※ There may be some differences on different spare parts. Please adhere to the actual product instead.

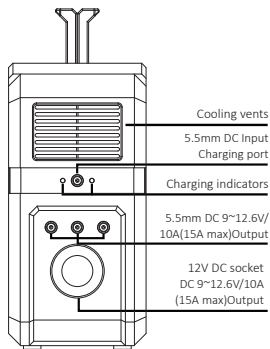
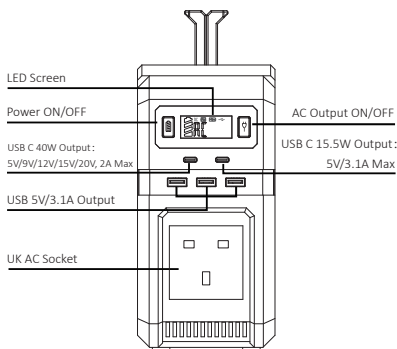
【 II 】 PRODUCT DESCRIPTION

【Front】



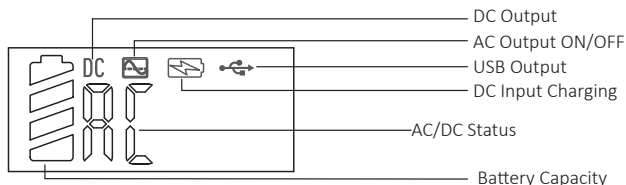
[Left]

[Right]

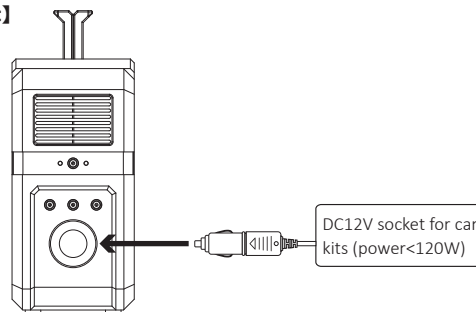


ATTENTION! AC Outlets, AC output voltage and frequency will be different according to different countries or areas. Please refer to the actual product before using.

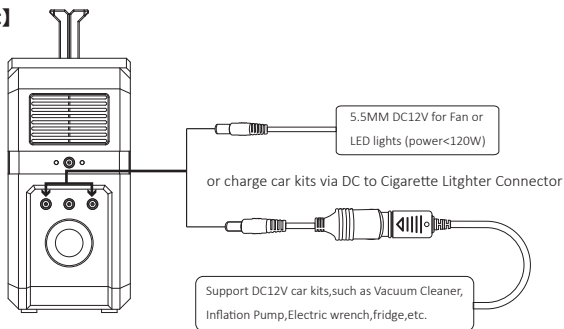
【LED Display】



[Right]



[Right]



【III】 PRODUCT INSTRUCTION

1) How to provide power for DC12V appliances (such as head lamp, fan) with this product?

The 5.5mm 12V DC output is plug and play. Plug your appliances to the DC output port to gain power. DC output rated power <120W, Max output <180W.

Notices: Please confirm whether your DC12V appliance support charging with 5.5mm DC header interface (The diameter of the DC Port of the Product is: 5.5mm), otherwise it is unable to connect with the DC output, you can consult the electrical manufacturer, buy the corresponding adapter and connect with it.

Protection Mode:

Shortcircuit/Overpower Protection: If the DC output is shortcircuited or overpowered (Load(s) power > 180W), the unit will shutdown to protect itself. Please clear the problem and recharge the unit to recover from protection mode.

※ **Note:** The 12V DC output voltage is range between 9V~12.6V, maximum output current is 15A. DC output voltage drops while battery capacity drops due to chemical characteristics of the battery. If your appliance is not built-in input voltage stabilizing function, it may shutdown when input voltage is too low, please unplug your device from the unit in time. And please charge the unit in time.

2) How to provide power for AC appliances with this product?

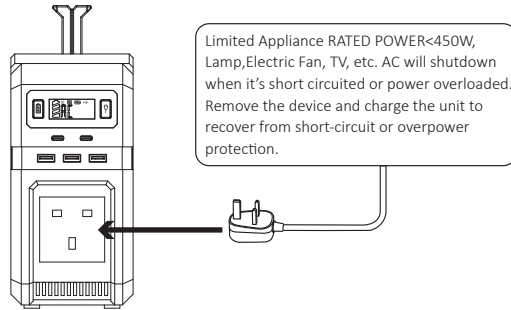
Connect the power cable plug of the electrical appliance to the AC outlet of the product, switch on the power button and the unit will start providing power to your appliances.

WARNING! The AC outlets, AC voltage and frequency are different according to different countries ; please carefully check whether the product specifications are consistent with the appliance specifications before use, otherwise it can lead to dangerous situations.

IMPORTANT NOTE:

When the AC port is not in use, turn it off to conserve battery power

[Left]



Protection Mode:

Shortcircuit/Overpower Protection: If the AC output is shortcircuited or overpowered(-Load(s) RATED POWER>500W), the unit will shutdown AC output to protect itself and will automatically recover in about 5 seconds. Please clear the problem in time.

But if the unit fail to supply power to the USB appliances automatically.

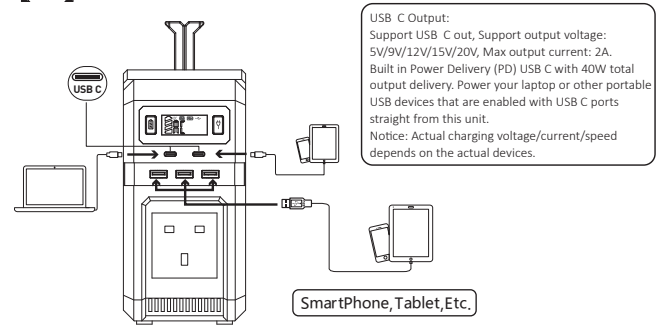
3) How to provide power for USB digital appliances with this product?

Connect the standard USB cable of digital appliance to the USB output of the unit to gain power. Then press the "USB" button switch on and the unit will start providing power to the devices. if the unit fail to supply power to the USB appliances automatically, please switch on the AC power button "⚡" to turn on USB output manually. Please SWITCH OFF the AC power output button to save power when USB appliances are fully charged.

4) How to provide power for USB TYPE C Smart Devices or Laptops with this product?

Connect the included USB TYPE C cable of smart device or laptop to the USB C output of the unit. Then press the "USB C" button switch on and the unit will start providing power to the USB TYPE C devices. If the unit fail to supply power to the devices, please switch on the AC power button "⚡" to turn on USB output manually. Please SWITCH OFF the AC power output button to save power when USB TYPE C appliances are fully charged.

[Left]

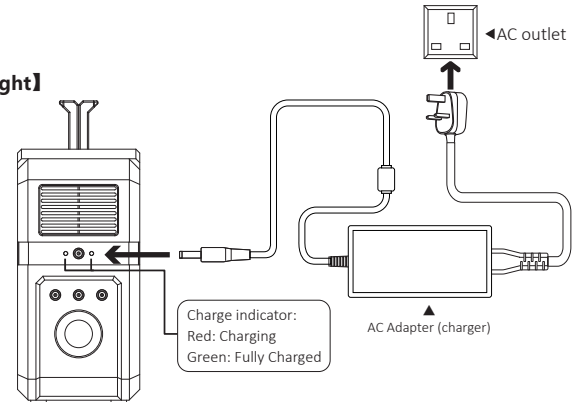


5) How to charge the unit?

a.Charge through AC Wall Charger

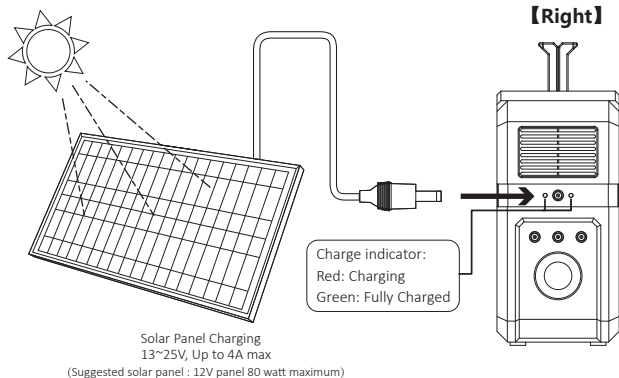
Using the included AC Wall Charger, plug the unit into any wall outlet to charge the unit. You will know the unit is charging when the blue LED battery indicators are blinking. The unit is fully charged when all battery indicators stop blinking and remain solid. The charge indicator next to the charging port will also be red during charging and will turn green when fully charged.After the unit is fully charged, please remove the AC wall charger in time.

[Right]



b. Charge from Solar panel

1. Place your solar panel where it will get as much direct sunlight as possible.
2. Plug the output of the solar panel into the input of the unit to start charging. You will know the unit is charging when the blue LED Battery Indicator lights up and blinks. The unit is fully charged when all battery indicators stop blinking and remain solid.



c. Charge from your car with a 12V DC socket.

Using the included car charger, plug the unit into the 12V DC socket in your car. You will know the unit is charging when the blue LED Battery Indicator lights up and blinks. The unit is fully charged when all battery indicators stop blinking and remain solid.

Attention: To avoid car battery power loss. Charging this unit through your car cigarette lighter is only available when your car engine is started.

【 V 】 SECURITY AND MAINTENANCE

- a) Do not short-circuit the unit. To avoid short-circuiting, keep the unit away from all metal objects (e.g. coins, hair-pins, keys, etc.).
- b) Do not heat the unit, or dispose of it in fire, water or other liquids. Keep away from high temperatures. Do not expose the unit to direct sunlight.
- c) Keep away from high humidity, dusty places.
- d) Do not disassemble or reassemble this unit.
- e) Do not drop, place heavy objects on, or allow strong impact to this unit.

- f) This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- g) Children should be supervised to ensure that they do not play with the appliance.
- h) Do not cover the device with towels, clothing and other item.
- i) The unit may become hot when charging. This is normal. Use caution when handling.
- j) Do not charge the unit over the required time.
- k) Disconnect the unit when fully charged.
- l) Use the unit properly to avoid electronic shock.
- m) Please deal with scrap products in accordance with the regulations, do not treat the built-in battery as a household garbage, so as not to cause the explosion and pollution.
- n) The product is only used for emergency situations, it cannot replace the standard DC or AC power of household appliances or digital products.

【 VI 】 PRODUCT APPLICATION SKILLS

- a) This product is built in high quality original lithium ion battery, it has no memory effect but high-capacity, and it is durable. However, we still recommend you to apply in the range of 10 °C ~30 °C, so as to obtain the optimal charging capacity.
- b) When charging, in order to avoid interference, please stay away from TV, radio and other equipment.
- c) If the device has not been used for a long time, please disconnect the cable and store.
- d) Some portable devices may need to be set in charge mode to charge, see the corresponding equipment use manual for more information.
- e) In order to extend the life of product (lithium battery), it is best to charge within 3 months, and charge at least once within 6 months.

Cold Weather Usage

Cold temperatures (below freezing) can affect the unit's battery capacity due to chemical characteristics of the battery. If you'll be living off-grid in sub-zero conditions, we recommend you keep your unit in an insulated cooler, and connected to a power source (solar panels). The natural heat generated by the unit contained in an insulated cooler will keep battery capacity at its highest.

Recycle

Always return your used electronic products, batteries, and packaging materials to dedicated collection points. This way you help prevent uncontrolled waste disposal and promote the recycling of materials.

Battery information

Your device has an internal, non-removable, rechargeable battery. Do not attempt to remove the battery, as you may damage the device.
The battery can be charged and discharged over 500 times, but it will eventually wear out.

Statement

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