POWEROLOGY

Powerology

640000mAh SOLAR INPUT Portable Generator

SKU: PPBCHA86

Table of Contents

Features

1. This power station can provide 128 full charges for a 15Wh camera, 64 charges for a 30Wh drone, and up to 162 charges for a 3208mAh phone, ensuring prolonged usability for various devices.
2. The LiFePO4 battery technology enhances the lifespan and energy density of the power station, making it a reliable source of power.
3. The generator offers a substantial 2400W power capacity, making it capable of running high-demand devices smoothly.
4. It includes a cooling fan controlled by linearity for low-noise operation, ensuring the unit stays cool even under heavy load.
5. An active liquid crystal display provides real-time information about the operating state and energy levels, making it user-friendly.
6. The unit features an exchange velocity of less than 10 milliseconds for UPS, ensuring minimal interruption during power transfers.
7. It produces a pure sine wave output with less than 3 % THD, offering clean and stable power, suitable for sensitive electronics.
8. Fully digital control and bi-directional efficiency of up to 92 % maximize energy conversion and reduce waste.
9. The generator is equipped with multiple safety features including low voltage alarm, output shorted protection, overvoltage protection, and more to ensure safe operation under various conditions.

Warning

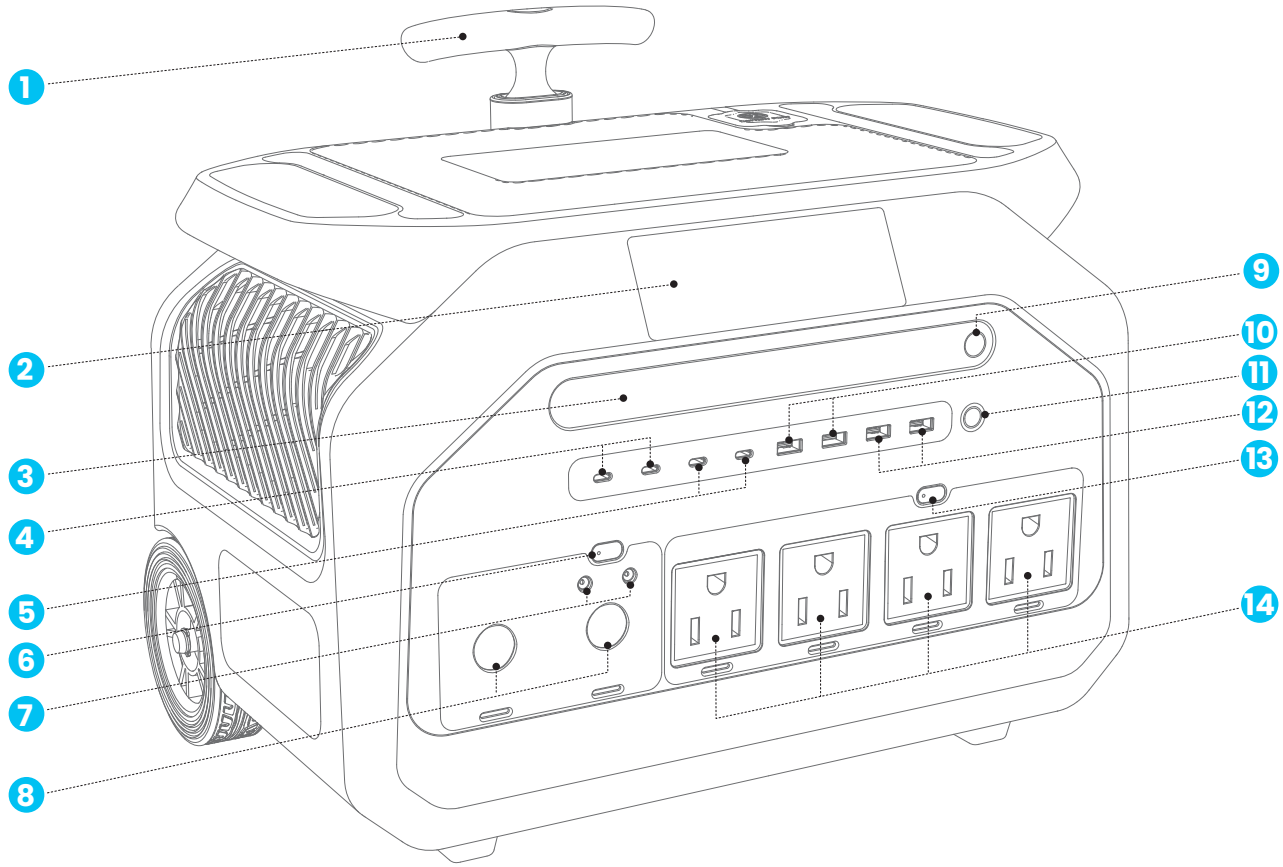
1. Please keep the device dry and avoid exposure to fire.
2. Do not disassemble, puncture, or squeeze the portable power station.
3. Recycle and dispose of the product in accordance with local laws and regulations.

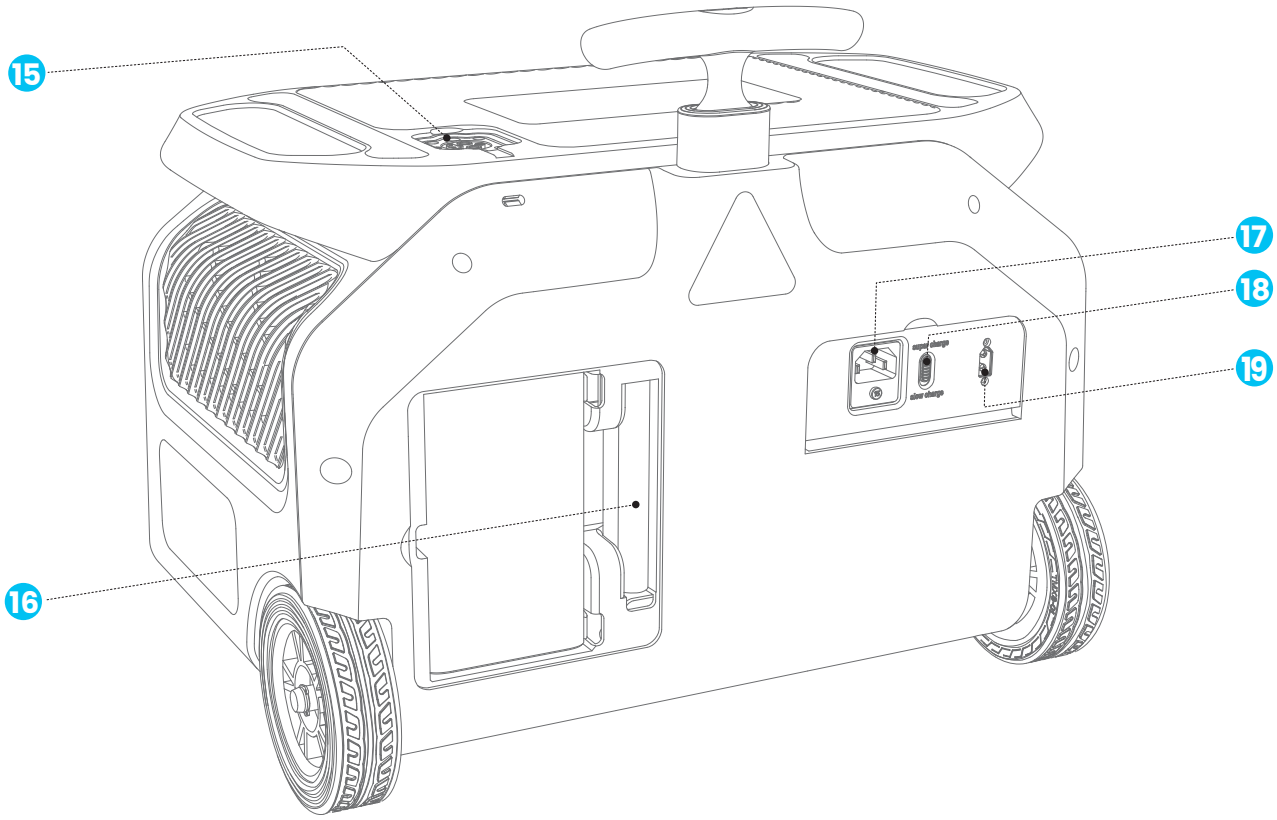
4. Hand over the portable power station to a professional recycling company for proper disposal.
5. Children and individuals with disabilities should use this product under the supervision.

Attention

1. Before using the product, please carefully read this User Manual to guarantee correct usage and keep it secure for future reference.
2. This product is designed for emergency use and is not a standard replacement for normal AC house power.
3. Fully charge the product before using it for the first time.

Schematic View





1. Tension Bar	11. Power Button
2. LCD Display	12. 18W USB-A Output Port
3. LED	13. AC ON/OFF Switch
4. PD 100W TYPE-C Output Port	14. AC Output Port
5. PD 45W TYPE-C Output Port	15. Parallel Port
6. DC ON/OFF Switch	16. 4 in 1 Data Cable
7. DC Output port	17. AC Input Port
8. Car port	18. Fast and slow charging switch
9. LED Button	19. DC Input Port
10.45W USB-A Output Port	-

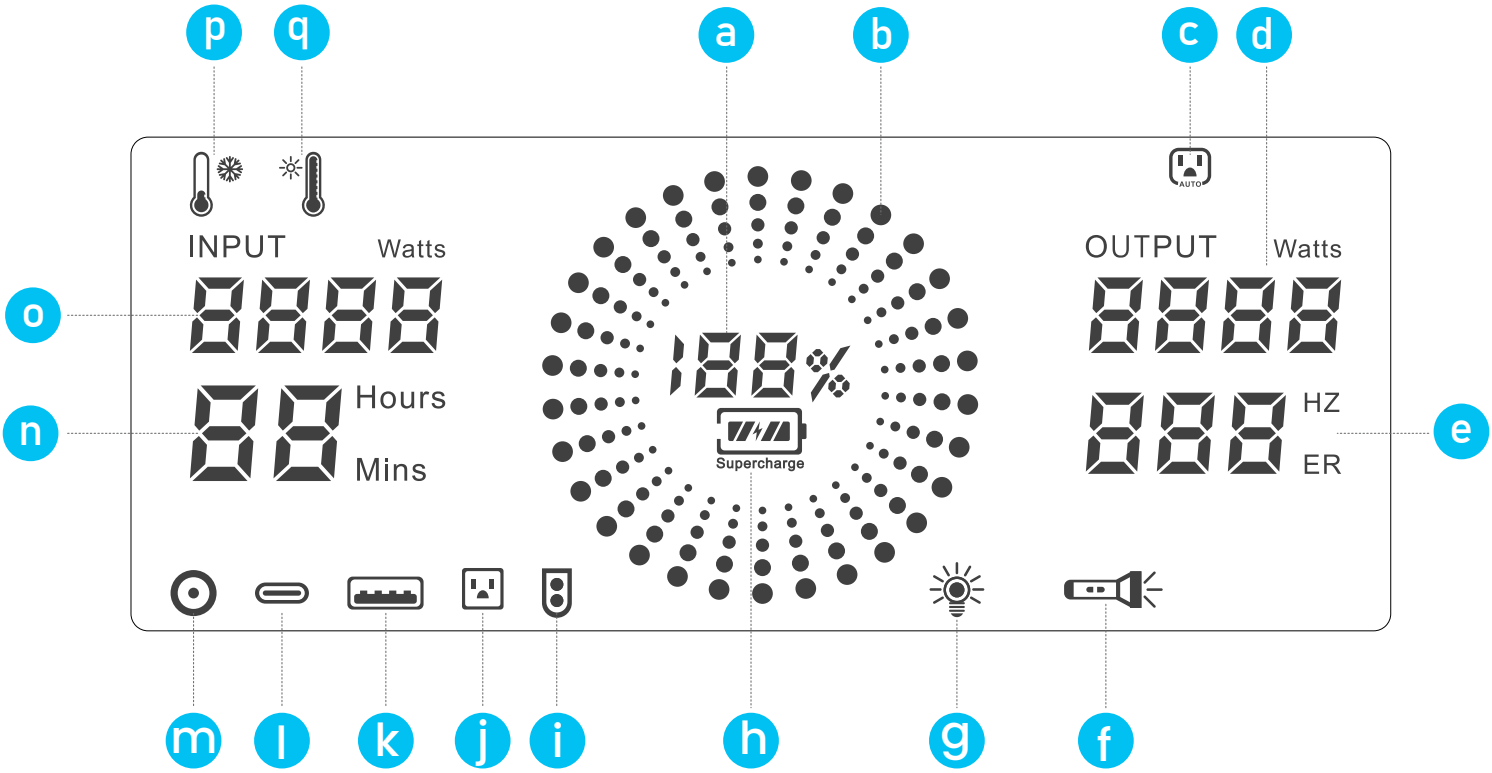
Charging

A. Attention

1. If the ambient room temperature or the battery's temperature is too high, the battery charging circuit will automatically shut down to prevent damage. Charging will resume automatically when the temperature drops below 122°F (50°C).
2. If the product is not used for a long time, it is best to fully charge it every three months before storing. If it has not been used for six months, ensure it is fully charged before use. Regular charging optimizes battery performance.

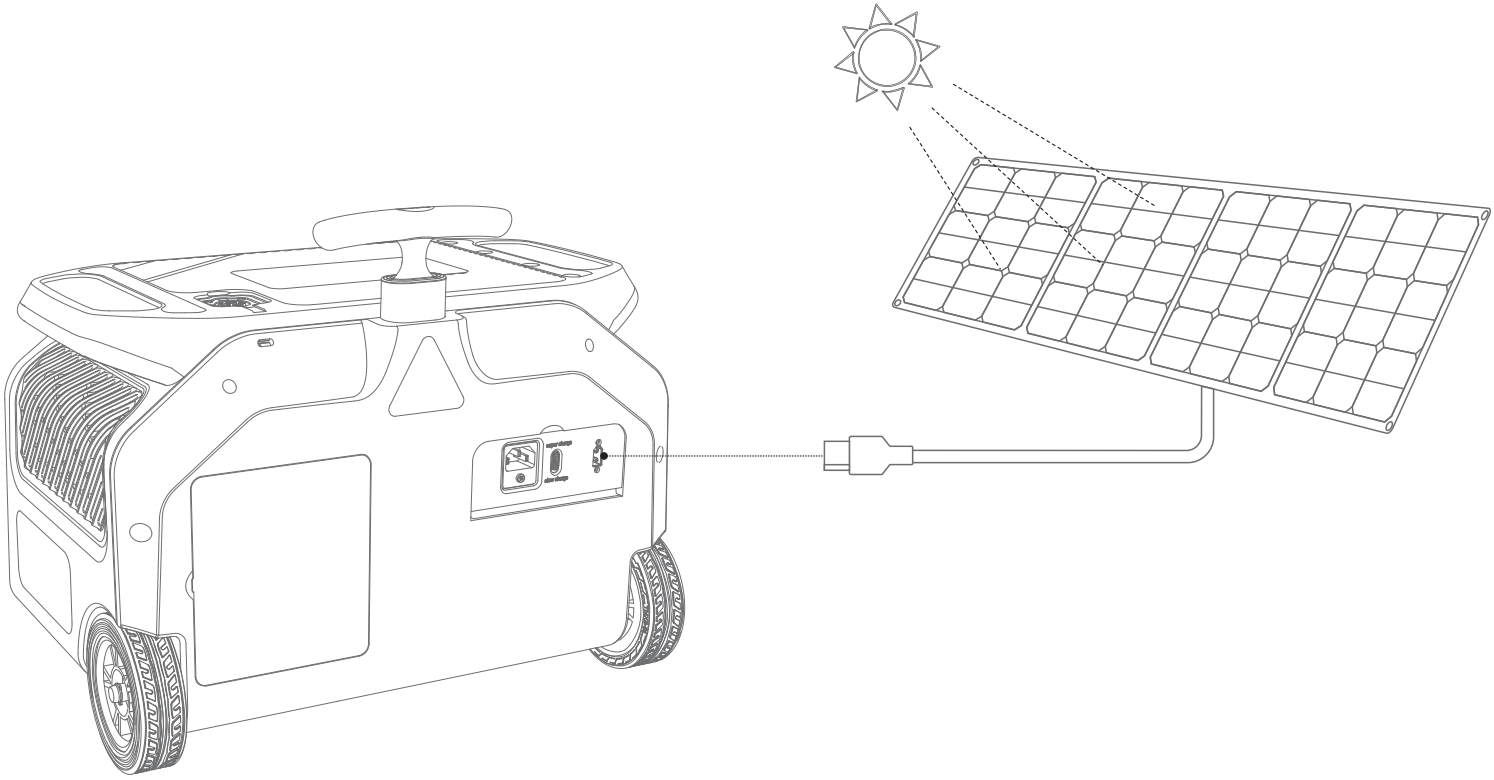
B. LCD Battery Indicator

The LCD screen displays the remaining charging time and the current battery percentage. The product is fully charged when the battery level reaches 100 % and the charging power reads as zero.



a	188%	Battery Power Level %	h	Supercharge	Fast Charging	o	INPUT Watts 8888	Power Input
b		Battery Power Level	i		Solar Panel Input	p		Low Temperature Protection
c	AUTO	AC automatically shuts off	j		AC Input	q		Over Heat Protection
d	OUTPUT Watts 8888	Output Power	k		USB-A Output			
e	888 HZ ER	AC output frequency and error codes	l		Type-C Output			
f		Flashlight	m		DC Output			
g		LED	n	88 Hours Mins	Remaining Operating Time			

1. Charging Through Solar Panel



1.1 Position your solar panel in a location where it will receive as much direct sunlight as possible to maximize energy absorption.

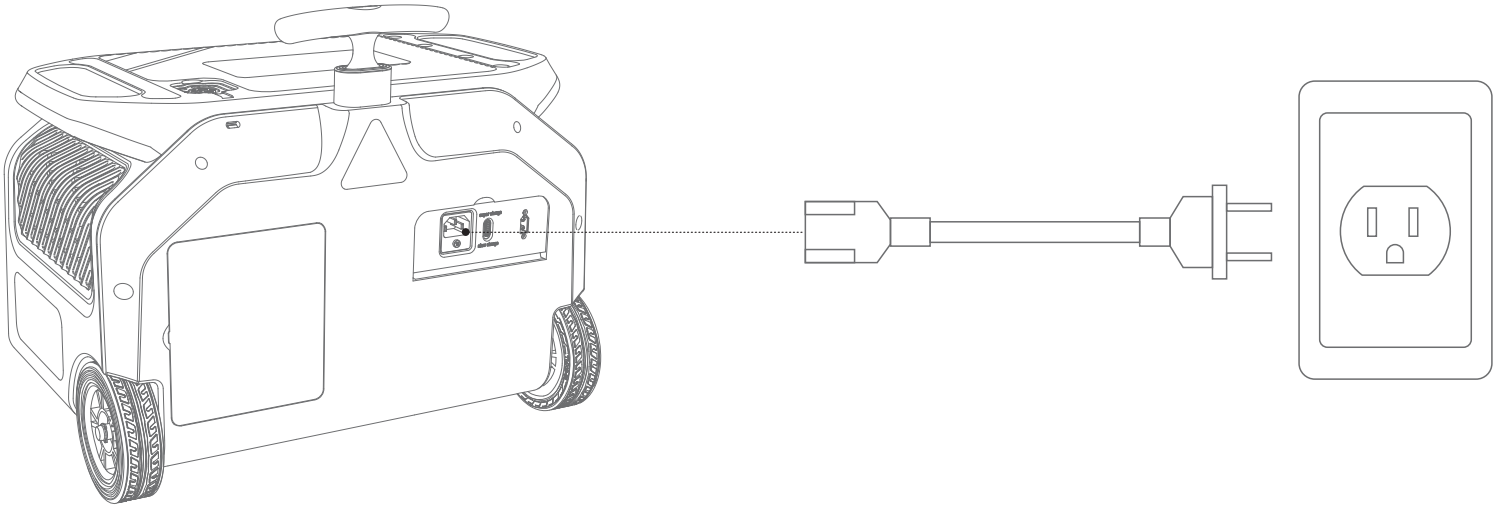
1.2 Connect the output port of the solar panel to the input port of the product to initiate charging. The charging status is indicated by the icons on the LCD display blinking.

1.3 The product is fully charged when all battery indicators stop blinking and remain solid.

Notes

1. The actual charging efficiency of the solar panel can vary significantly based on factors such as weather conditions, ambient temperature, the intensity of sunlight, and the angle of the solar panels to direct sunlight.
2. Use solar panels that have a voltage output of less than 100V for charging. The system will automatically cut off the input if it exceeds 100V to prevent damage.
3. To enhance solar chaining efficiency, it is recommended to use solar panels with an open circuit input voltage ranging from 30V to 56V.

2. Charging Through AC

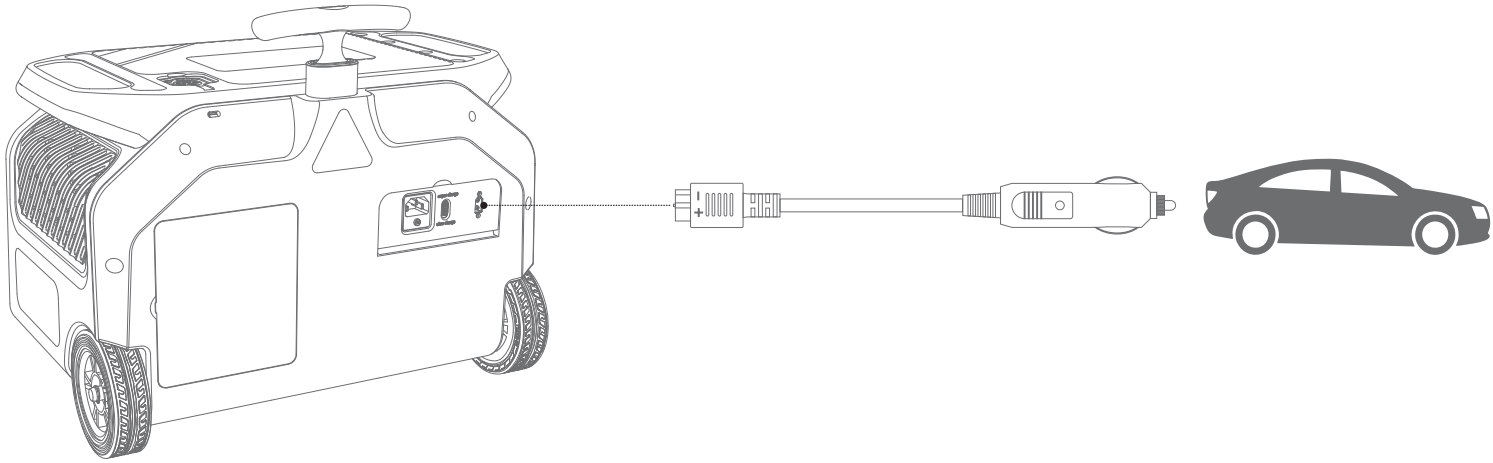


Connect the AC outlet to the device’s AC input port using the original AC charging cable. This setup allows you to monitor the battery's charging status, input power, remaining charging time, and current battery power level.

Notes

The battery is considered fully charged when the battery percentage reaches 100 % and the input power is zero, as indicated by a solid LED indicator. Although the battery is designed to prevent overcharging, it is advisable to disconnect the charging cables once fully charged to ensure optimal battery health.

3. Charging Through Car



3.1 Plug the car charging cable that comes with the battery into your car's cigarette lighter socket. Then connect the other end of the cable to the DC input port of the battery.

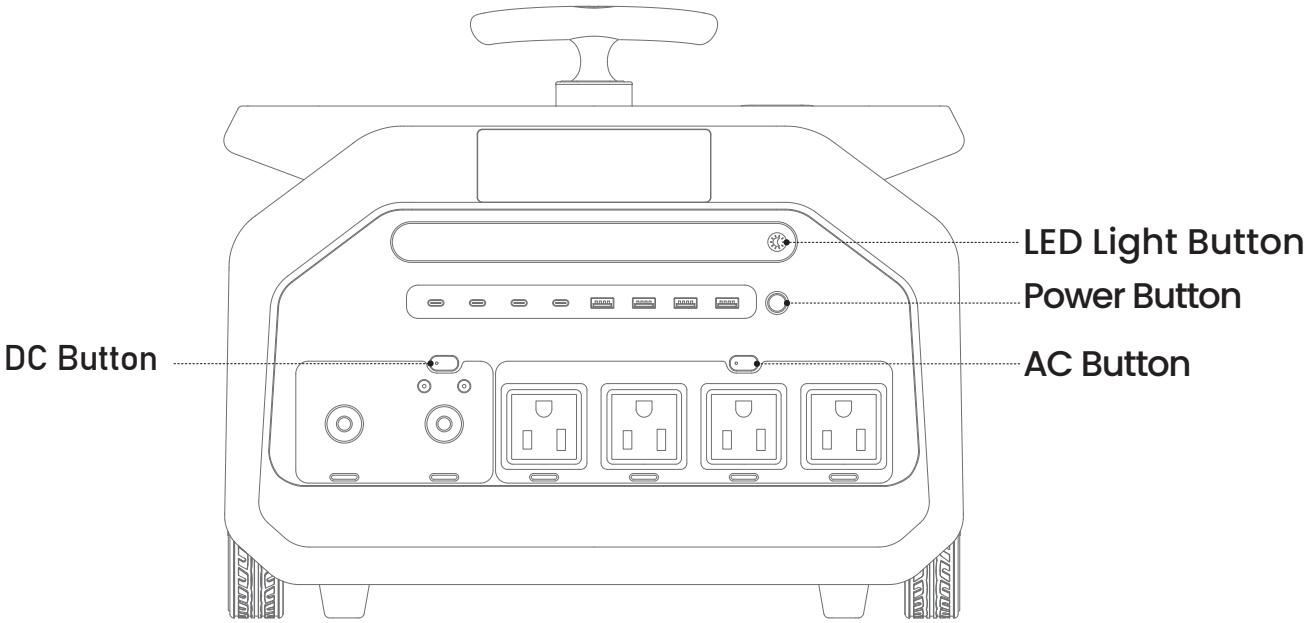
3.2 The car charger cable is equipped with a 10A protection fuse to safeguard your vehicle.

3.3 The display will show the input power and the remaining recharge time while the battery is charging.

Notes

To prevent draining your car’s battery, only charge this product through your car's cigarette lighter socket when the engine is running. This functionality is suitable for both 12V and 24V vehicles.

Instructions for Use



A. Button Guide

A.1 Power Button

a. Activation/Deactivation: Hold the power button for 3 seconds to turn the device on or off.

b. The device will automatically shut down after 1 minute in standby mode to conserve energy.

c. After use, hold the power button for 3 seconds to power down the device.

Notes

1. To enable or disable the AC automatic shutdown function, double-click the power button. The icon 

will illuminate when activated. If you are using the device with appliances that do not continuously draw power, it is advisable to disable this function.

2. The AC will automatically turn off after one hour if the load on the AC port is below 5W. This helps in saving energy when the connected appliances are not actively using power.

A.2 AC On/Off Button

a. Briefly press the AC button to turn on the AC function; the AC icon  will be displayed on the screen simultaneously.

b. Briefly press the AC button again to turn off the AC function.

Note: After activating the AC function, hold the AC button to switch between 50Hz and 60Hz frequencies.

A.3 DC On/Off Button

To activate the DC function (USB-A/USB-C), briefly press the DC button. The DC icon will appear on the screen. To deactivate, press the DC button again.

Attention: To disable the buzzer, press and hold the DC button for 2 seconds, then briefly press the AC button to toggle the buzzer on or off.

A.4 LED Light Button

a. LED Light at 50 % Brightness: Press and hold the light button for at least 2 seconds.

b. LED Light at 100 % Brightness: Click on the light button.

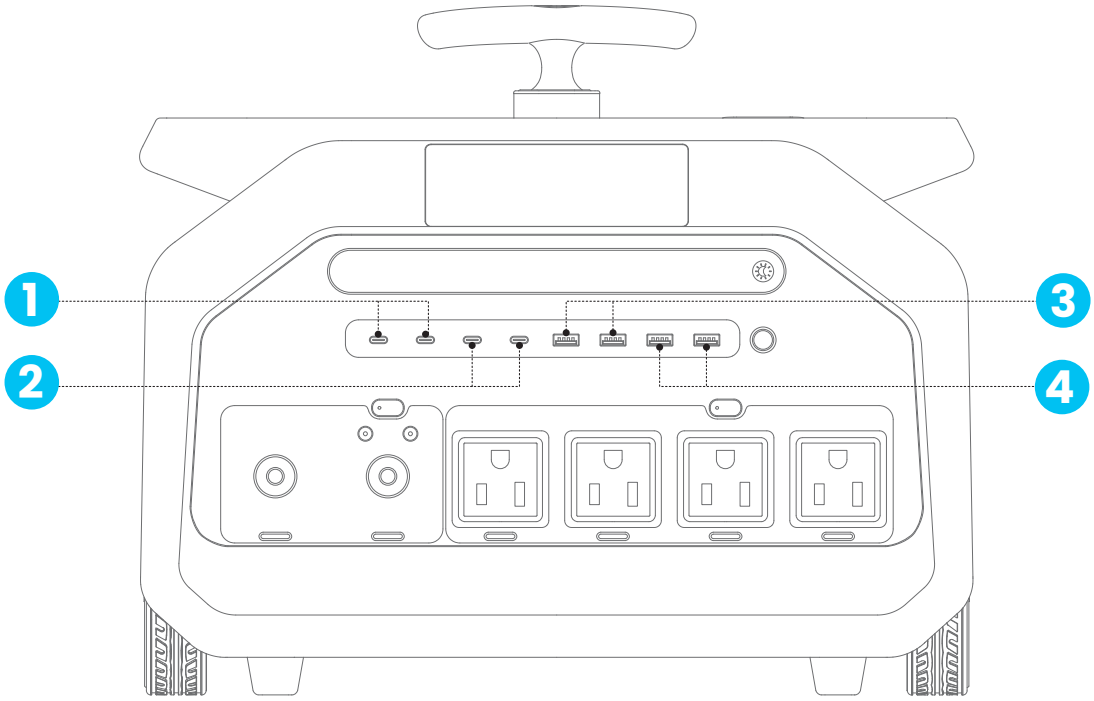
c. LED Flashing Mode: Click on the light button.

d. SOS Mode: Click on the light button.

e. To turn off the LED Light, press and hold the Light button for 2 seconds.

Warning: DO NOT stare directly at the light.

B. USB Function



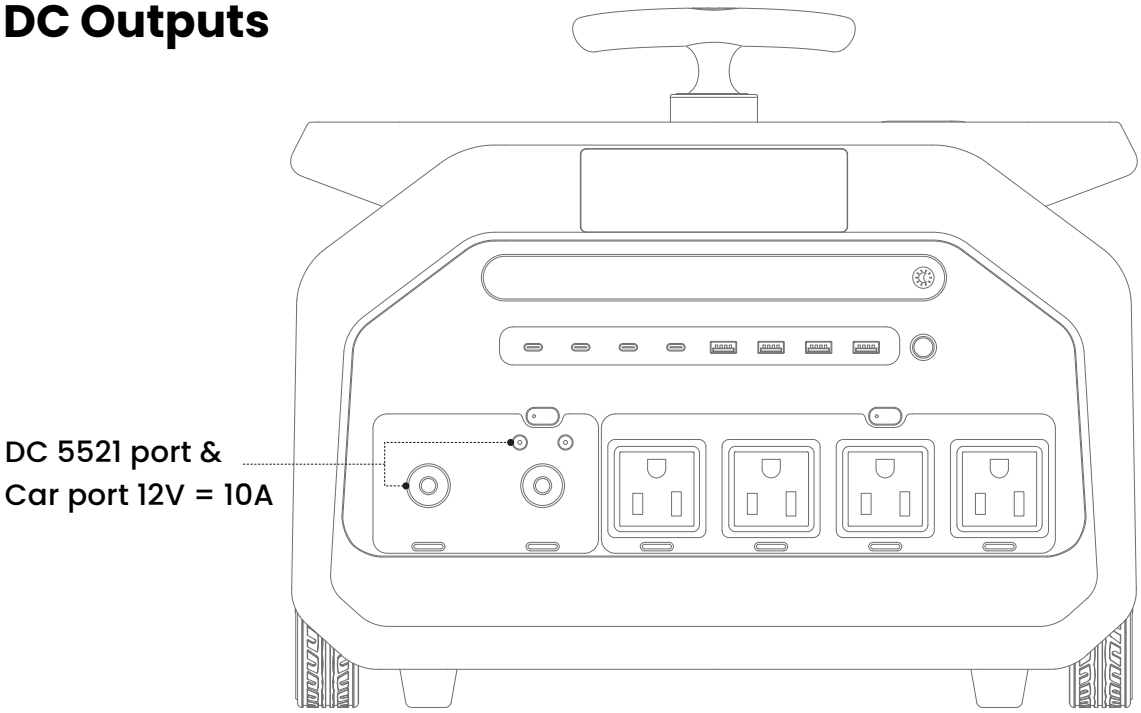
1. Type-C1 and Type-C2 Output Specifications: 5V = 3A, 9V = 3A, 12V = 3A, 15V = 3A, 20V = 5A

2. Type-C3 and Type-C4 Output Specifications: 5V = 3A, 9V = 3A, 12V = 3A, 15V = 3A, 20V = 2.25A

3. USBA1 and USBA2 :5V = 3A, 9V = 3A, 12V = 3A, 15V = 3A, 20V = 2.25A

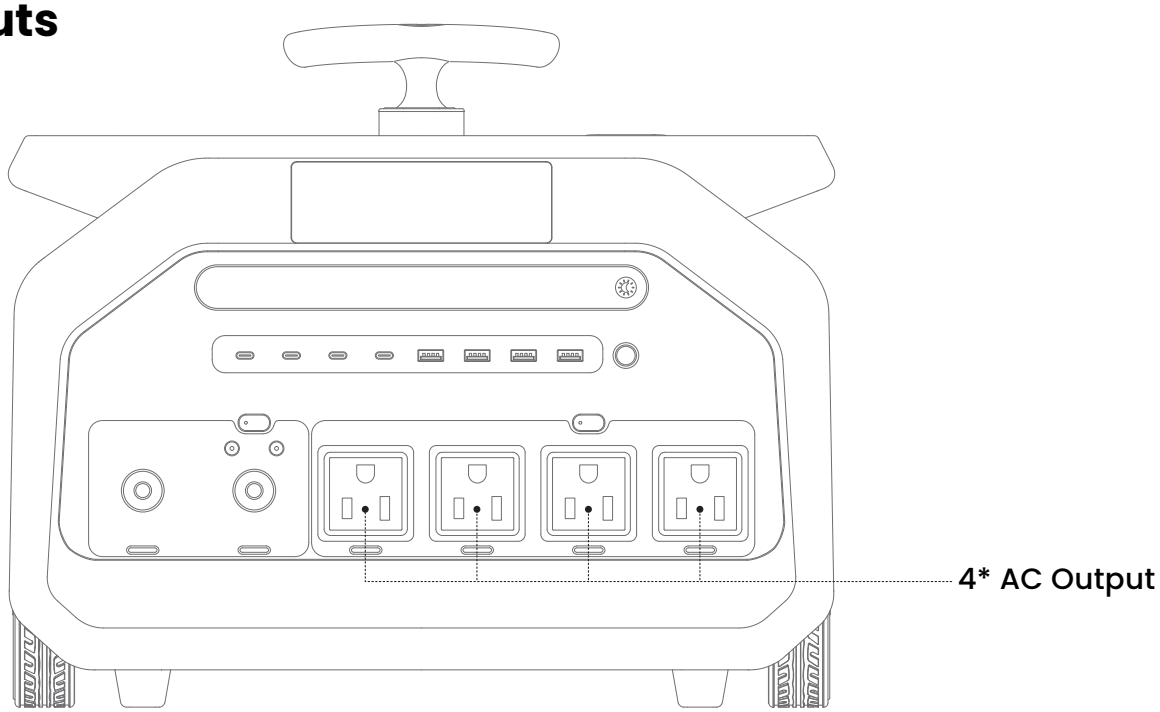
4. USBA3 and USBA4 :5V = 3A, 9V = 3A, 12V = 3A

C. DC Outputs



a. Two DC5521 (5.5 mm diameter) 12V ports are available, each capable of delivering up to 10A of current.
b. These ports automatically adjust the current output based on the requirements of connected devices, ensuring optimal charging efficiency.
c. These ports can be connected using a cigarette lighter cable, though the total output is capped at 120W to prevent overloading.
d. Notes on Protection Modes (DC Outputs):
1. Overcurrent Protection: If an overcurrent condition is detected, the system will alert with a buzzing sound and the DC icon will blink on the display. To reset, remove the overloaded device and press the DC button to restore normal operation.
2. Short-Circuit Protection: In the event of a short circuit, disconnect and then reconnect the affected cable to reset the device and resume normal function.

D. AC Outputs



a. Plug the power cable of the AC appliance into the AC outlet of the device and press the AC power button to activate AC mode.
b. Ensure that the connected AC appliance's power consumption does not exceed 2400W.
c. Notes:
1. Avoid placing this product near heat sources such as fires or heaters while it is operational.
2. Do not expose this product to liquids; avoid immersing it in water or operating it in rainy or humid conditions.
3. Do not disassemble or puncture the product with sharp objects.
4. Avoid using metallic objects like wires which may cause short circuits.
5. Adhere strictly to the ambient temperature guidelines specified in this manual. Excessive heat may cause battery failure or fire, and extreme cold could impair product performance.
6. Avoid placing heavy objects on this product to prevent damage.
7. Ensure not to block the fan or place the product in poorly ventilated or dusty areas during operation.
8. Avoid impacts, drops, and severe vibrations. In case of significant external impact, turn off the power immediately, cease usage, and

ensure it is securely packed during transportation to avoid further damage.

9. If dirt accumulates on the interface, clean it using a dry cloth.

10. Carefully position this product to prevent it from tipping over and causing damage. If the product is severely damaged due to a fall, shut down the power immediately, relocate the battery to a ventilated, open area away from combustible materials, and dispose of it according to local regulations.

11. Keep this product out of reach of children and pets to prevent accidents and misuse.

12. Ensure that this product is stored in a dry and well-ventilated area to maintain its integrity and prevent damage.

Specifications

Battery Type	LFP 40135
Battery Capacity	640000mAh (3.2V) 2048Wh
AC Input	180V-264VAC, 60-50Hz 1800W
MPPT Solar Input	12-80V/16A Max 1000W
AC Output	x4 2500W, 5000W Peak
DC5521x2 Output	12V/10A
Power Cord	UK 3pin Plug
Car Charger Output	12V/10A
USB-C 2&1 Output	PD100W
USB-C 4&3 Output	PD 30W
USB-A Ports	30W
Light Output	3W
Product Weight	23.75 kg
Product Size	466x333×303mm

Generator Troubleshooting

Error Code	Possible Cause	Solution
E01	AC short circuit/over current	Disconnect any devices and restart the unit to reset its functions.
E02	AC over heated	Disconnect any devices and restart the unit to reset its functions.
E03	Short circuit/over current between DC5521 and car charger door	Disconnect any devices and restart the unit to reset its functions.
E04	Battery over heated	Detach all devices, power off the power station, and allow it to cool down before reusing.
E05	Battery low temperature	Relocate the power station to an indoor setting for continued operation.
E06	DC or solar charging input under voltage	Disconnect any devices and restart the unit to reset its functions.
E07	DC or solar charging input over voltage	Disconnect any devices and restart the unit to reset its functions.

Warning: Do not attempt to remove the battery as this may cause damage to the device.

Package Contents

1. Power Station	4. AC charging cable
2. Startup power	5. Solar charging cable
3. 4-in-1 data cable	6. Car charging cable

Caution

1. Do not short-circuit the product. To prevent short-circuiting, keep the product away from all metal objects.
2. Do not heat the product, or expose it to fire, water, or other liquids. Avoid placing it in high ambient temperatures or direct sunlight.
3. Keep the product away from humid or dusty environments.
4. Do not disassemble or reassemble this product.
5. Avoid dropping, placing heavy objects on, or exerting strong impacts on this product.
6. This product is not suitable for individuals with reduced physical, sensory, or mental capabilities.
7. Keep this product out of reach of children.
8. Do not cover the product with towels, clothing, or other items.
9. Avoid overcharging the product.
10. Once fully charged, immediately disconnect the product from the power source.
11. If you do not intend to use this product for an extended period, please fully charge it before storing.
12. When charging portable electronic devices, you may need to set those devices in charge mode first. Refer to the corresponding user manuals of those devices for confirmation.

Cold Weather Usage

Cold temperatures can affect the product's battery capacity due to the chemical and physical characteristics of the battery. If you plan to live off-grid in sub-zero conditions, it is advisable to keep your product in an insulated cooler, connected to a power source (12V/24V car/wall outlet/solar panel). The natural heat generated by the product within an insulated cooler will help maintain the battery's capacity at its optimal level.

Disposal Instructions

This product and the battery inside should not be disposed of with household waste. Please ensure you dispose of or recycle them in accordance with local rules and regulations.

Disclaimer

1. Our company cannot be held liable for damages caused by fire, earthquakes, actions by third parties, intentional misconduct by customers, or other extraordinary circumstances.
2. Do not attempt to repair any damage to the AC plug or power supply on your own.
3. The warranty covers all stated terms and conditions. Any issues not specified in the warranty terms are beyond our responsibility.
4. Our company assumes no liability for damages resulting from incorrect use or non-compliance with this user manual.

Intended Use

A portable power station is designed to be a power source for electronic devices. It is not suitable for devices that are critical to personal safety or rely heavily on electricity, such as medical devices,

equipment or air and spacecraft manufacturing, etc. We accept no liability for accidents involving personal safety, fires, or equipment failures when our product is used with these devices.

Warranty

Products that you buy directly from our **Powerology** website or shop come with a 24-month warranty.

The 24-month warranty applies to products purchased directly from our **Powerology** website or store. If **Powerology** products are bought from any of our verified retailers, then the product is eligible for only a 12-month warranty. To extend your product's warranty, visit our website **powerology.me/warranty** and fill in your details in the provided form along with an uploaded picture of the product to process your request. Once approved, you will receive a confirmation email of the extended product warranty. Upload the required information within 48 hours of purchase to be eligible for a 24-month warranty period.

For more info, please check:
powerology.me/warranty

If you have any questions about this Privacy Policy, please contact us at: **hey@powerology.me**
Website: **powerology.me**
Instagram: **powerology_official**
Facebook: **powerology.ME**