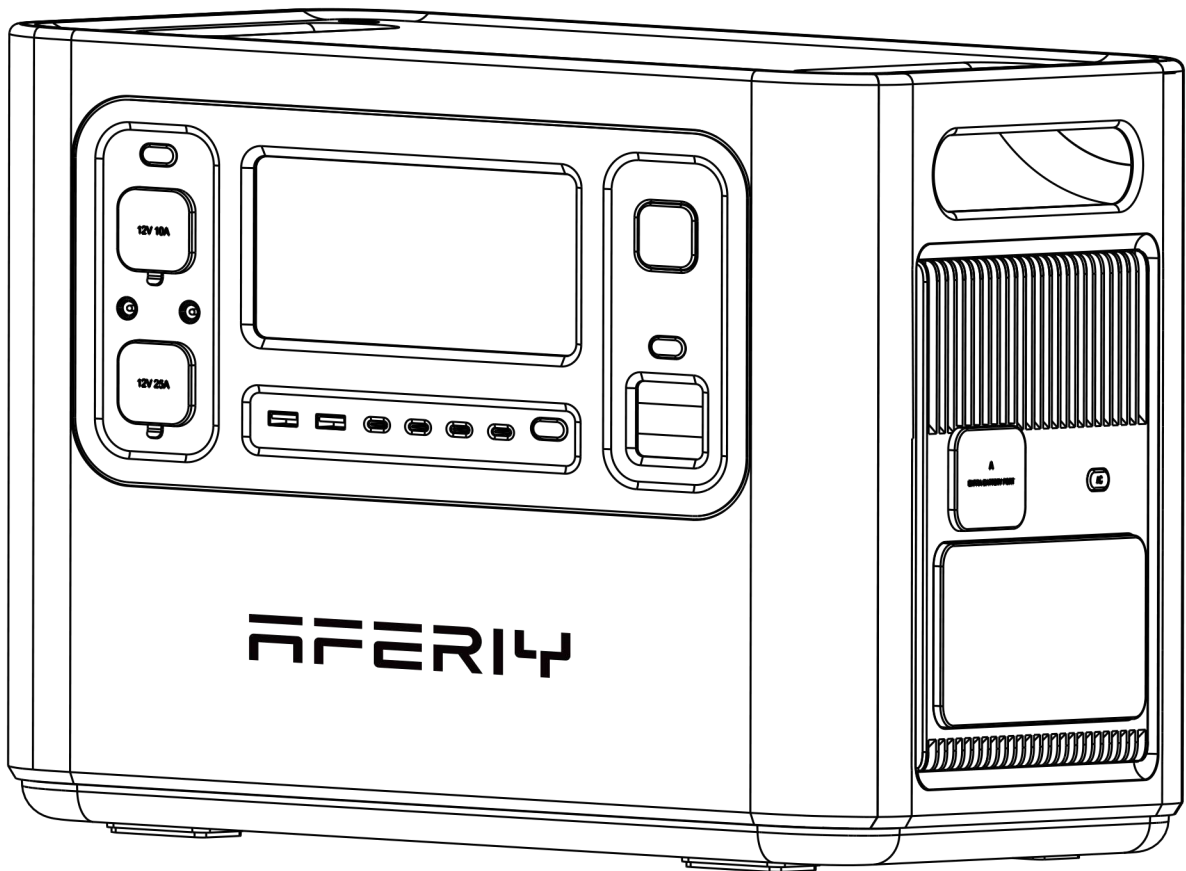# AFERIY

Portable Power Station

AF-P280 | User Manual

2800W

Hi dear, thank you very much for purchasing and experiencing the AF-P280 portable power station. Before operating this product, please carefully read the user manual for proper operation.

According to the transportation requirements of the international customs for battery products, the battery level of this product is only less than 35% when it leaves the factory. Please fully charge the product after unpacking it to start the experience tour of AF-P280.
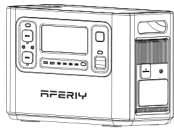
⚠ Precautions For Use

1. Please avoid long-term storage and use of this product in environ-ments with high temperature and humidity or direct sunlight to avoid shortened battery life and other failures. The product should not be close to the fire source, otherwise it may cause a major fire or accident.

2. This product must not be disassembled or modified. Improper oper-ation may cause product malfunction or even fire.

3. Be careful not to drop or drop the product from a high place, so as not to damage the product.

4. Please store or use this product out of the reach of children, other-wise the product may be dropped or collided and may cause bodily injury to children.

5. Please use our original accessories, and AFERIY will not guarantee the defec-tive products caused by the use of non-original accessories.

6. Please directly plug in the wall socket to charge the product, do not use exten-sion cords or cable taps, otherwise there is a risk of damage to the extension cords and cable taps or even a fire; If the extension socket is plugged in to charge this product, please do not connect other electrical appliances to this socket, otherwise the household meter may trip.

7. When the product is not in use or idle, please turn it off and unplug the power cable. If it needs to be idle for a long time, please consume the product from a fully charged state to an uncharged state, then recharge it to about 50% of the battery level and store it. In order to prolong the life of the product, please take three months as a cycle, operate and keep it in this way.

8. If the product reaches scrap conditions, please discard or recycle the product in accordance with local laws.
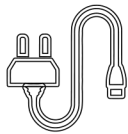
Contents

Packing List

| Portable Power Station	AC Charging Cable	User Manual	MC4-XT90

Product Introduction

This product is a portable power device with a built-in battery pack with charge/discharge function. It includes both AC output interface and DC output interface such as USB output, cigarette lighter output, DC output, etc. It also has functions such as display, interface control, protection, and alarm. Moreover, this product can be charged by mains AC, solar panels and vehicle charging.

The following are the main features of this product:

- Equipped with LiFePo4 battery, the battery capacity is as high as 2048Wh, and the safety level is extremely high.

- 2800W pure sine wave AC output can meet almost all daily electronic equipment and small household appliances.

- Two-way fast charging technology is adopted to fully charge the prod-uct within 1.5 hours.

- A great verity of output interfaces such as USB-A, Type-C PD3.0, DC5521, XT60, cigarette lighter output, etc., meet many different application scenarios.

- In UPS mode, the switchover time is less than 10ms which is truly seamless switching.

- IP54 waterproof grade, all interfaces are designed with dust-proof and water-proof.

- Multiple protection mechanisms such as battery, circuit, structure, etc., guarantee the product safety.
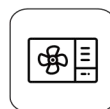
Button Function Introduction
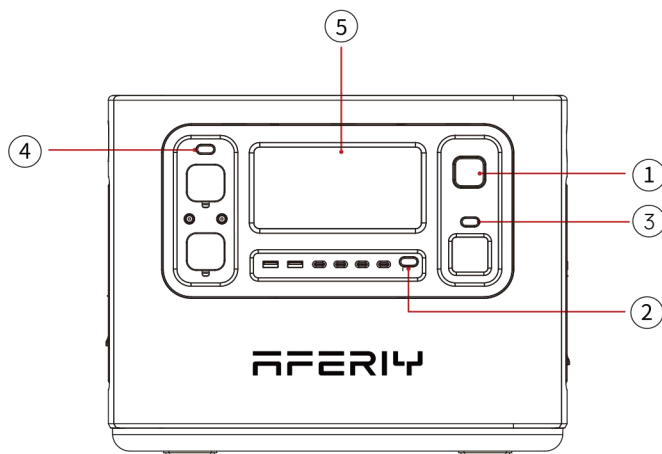
① Power ON/OFF Button
② USB ON/OFF Button
③ LED Light Button
   (Switch to different mode)
④ DC ON/OFF Button
⑤ LCD Screen
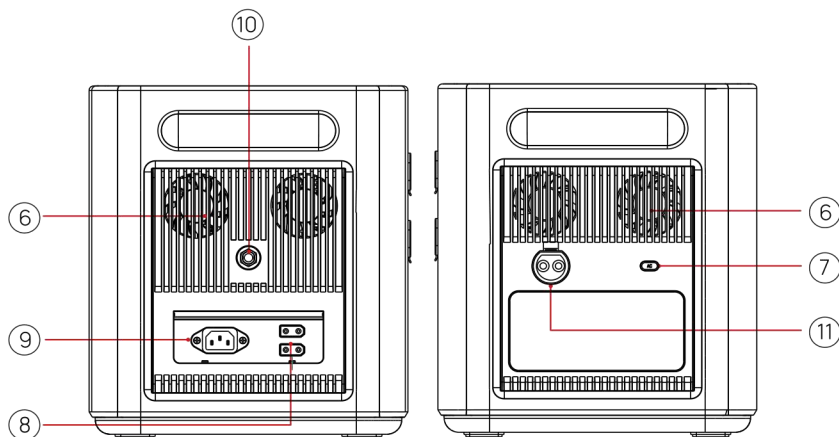
⑥ Cooling Air Duct
⑦ AC Button
   (manually switch to 50/60Hz)
⑧ XT90 Input Port (X2)
⑨ AC input
⑩ Overload Protection Button
⑪ Parallel Port

❶ Power ON/OFF Button

Instructions: Press and hold the power button for 3S to wake up the system, turn on the LCD display, and press and hold again for 3S to turn it off.

❷ USB ON/OFF Button

Instructions: Short press the USB button to turn on the USB output port, and short press again to turn it off.

USB-A X 2	TYPE-C X 2	TYPE-C X 2
5V 2.4A	PD-20W	PD-140W

❸ Light Button

Instructions: Short press the Light button, the LED lights are all on;short press again, the LED light enters the SOS mode, short press in turn, enter the strobe mode, and finally the LED light turns off (LED in any mode , long press the light button for ≥ 1 second directly turn off the LED light).

2

❹ DC ON/OFF Button

Instructions: Short press the DC button to turn on the DC output port, and short press again to turn it off.

◎	⊕	▣
Dcoutput X 2	Cigarette port X 1	XT60 X 1
12V/3A	12V/10A	12V/25A

❺ LCD Screen

Display the product's battery level and usage status tips.

❻ Cooling Suction/Exhaust Port

When the product reaches the temperature threshold set by the system, the cooling fan will automatically run, accompanied by a cert-ain fan noise (fan noise below 60dB is normal). Do not block the cooling suction/exhaust port during use of this product, and do not place any object within the range of 30CM.

❼ AC Button (AC output port, the sum of electrical load power should be < 2800W)

Tap the AC button to enable the AC output function.
The needed AC input power may vary in different time periods. If the input power needs to be switched, the operations are as follows: Press and hold AC button for 10s to enter the power switching mode, the display screen will show the input power setting interface in which the switched input power can be set; stay at the input power interface of current settings for 5s, the system will automatically save the input power of current settings and go to the main interface. The input power can be set at 5 grades: 600W/900W/1200W/1500W/1800W.

❽ XT90 Port

This interface supports solar panel input or car charger input. For details, please refer to "Solar Panel Connection" on page 9 of this manual and "Car Charging" on page 10.

❾ AC Input

To charge the product by a household socket can achieve 1800W fast charging. It only takes 1.5 hours to fully charge from 0 to 100%. When charging in this way, please pay attention to the following points:

※ Please directly plug in the wall socket to charge the product, do not use extension cords or cable taps, otherwise there is a risk of damage to the extension cords and cable taps or even a fire.
※ If the extension socket is plugged in to charge this product, please do not connect other electrical appliances to this socket, otherwise the household meter may trip.

⑩ Overload Protection Button

When the power supply current is unstable due to lightning or other reasons, and there is a large current input at the AC Input, in order to protect the product, the overload protection function (safety circuit breaker) will activate and cut off the AC input port.

Please follow the sequence below to restore the AC input function:

1) Turn off the power button and unplug all ports.

2) After confirming that there is no abnormality in each part, turn on the power button.

3) Press the overload protection button, connect the AC Cable to restore the AC input.

⑪ Parallel Port

Capacity expansion can be achieved by connecting parallel cables to the portable power station. This interface supports a maximum input/output power of 4608W.

Download Method
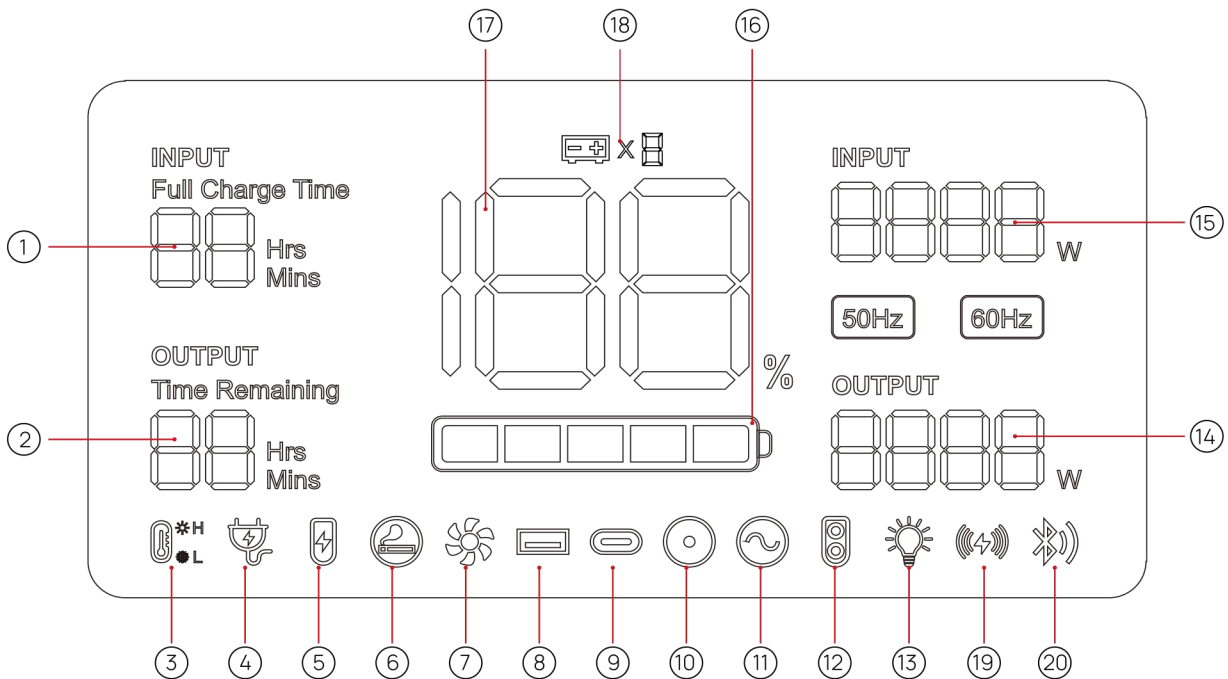
Method 1:

Scan the QR code on the right.

Method 2:

Search for "BrightEMS" in the App Store (iOS) or in other mobile app stores.

Method 3:

Open a browser and search for the website: "https://www.abisda.com/supportidownload"

Introduction of Display Interface

① Recharging Time
② Remain Using
③ High/Low Temperature Protection
④ Connected to the AC Mains
⑤ XT90 Input
⑥ Cigar Lighter (12V) Output

⑦ Fan Status
⑧ USB Output
⑨ PD3.0 Output
⑩ DC (12V) Output
⑪ AC Output
⑫ XT60 (12V) Output
⑬ LED Light

⑭ Output Power in Total
⑮ Input Power in Total
⑯ Battery Progress Bar
⑰ Battery Level Percentage
⑱ Parallel Operation Quantity
⑲ Wi-Fi Connection
⑳ Bluetooth Connection

Screen Display Description

Battery power display: When the product is in charging state, the battery progress bar jumps while displaying the battery power level, and the percentage gradually increases; when the product battery power is 0, the battery percentage icon flashes.

Input and output status: When the product is working, the total input power, total output power and the cursor corresponding to the working area will be displayed on the screen.

Troubleshooting Table

| Phenomenon	Cause	Processing method
🔋〰️⏻💡▭▢ The above output icon flashes and beeps.	The output exceeds the standard and it's short-circuited.	Remove the load, and then short press the switch in the area corresponding to the icon to remove the alarm
🔋*H 🔋•L The temperature warning iconflashes and beeps.	The temperature of the prod-uctis too high or too low.	Take the product out of the charging state remove all loads, turn the power off, wait for the device to reach a suitable working temperature, then the alarm is removed .
🔌 The icon of connecting to the AC mains flashes and the product cannot be charged.	The charging cable is poorly connected.	The overload protection function is enabled
	The overload protectionfunction is activated	1.Turn off the power button and unplug all ports 2.After confirming that there are no faults ineach part, turn the power switch back on. 3. Press the overload protection button, connectthe AC cable to restore the AC input
	The charging voltage is insufficient.	Press the power button to use the device normally.However, if you need to charge the product, please check that the input voltage is within the specified range of the charging port.
🔋 Parallel System Flashing	Parallel Operation Failure	Charge products with low battery capacity, or discharge products with high battery capacity (until the SOC difference is below 80%), then reconnect them.
🔋 The screen displays "180%"	BMS communication error.	Please try restarting it, or it may need to be sent to an after-sales service point for inspection.
The screen displays "181%"	Photovoltaic panel communication error.	
The screen displays "182%"	AC control board communication error.	

Notes:

1. The inadequate light at sunrise or sunset will cause the output voltage to rise or fall suddenly, which may lead to the relay repeatedly switching between the "ON" and "OFF' states until the sunlight recovers its intensity. it is recommended to actively disconnect the solar energy input after sunset and manually connect the solar energy input after sunrise. This operation can both avoid the trouble of the relay continuously making the "ON" sound and reduce the power consumption of the product.Meanwhile, weak photovoltaic conditions may cause screen flickering issues.

2. When the relay is turned on, a blue LED indicator will be "ON" in the product, of which the blue light will penetrate through the ventilation opening at night. This is a normal phenomenon.

3. The long transportation may lead to deviation of displayed battery capacity with actual battery capacity at the first application. Before normal use of the product, you need to charge the product to 100% battery capacity, then discharge the product to automatically turn off and recharge to 100% battery capacity.

4. The product has low-temperature charge and discharge protection functions. At the environments below $0°C$, the product will stop charging and continue the normal charging until its temperature recovers.

5.Energy-saving mode" is enabled by default: If there is no input or output, the product will automatically turn off all switches after a set time (AC and DC switches are set to 8H, USB switches to 3min, and the main switch will turn off after 5min if none of the three switches are activated).The power consumption of the product itself may cause error in power collection if the output power is small, as a result, the displayed output power is 0, and automatic shutdown may occur after a period of application.To disable "Energy-saving mode" and enable "Always-on mode", press the DC button 10 times consecutively. To restore "Energy-saving mode", press the DC button 10 times again or restart the product.

6. The product has smart charging protection function. If the battery capacity reaches 70% in the process of charge, the charging power will automatically decline, which can raise service life of its battery.

UPS Mode

• UPS Feature

This product has the function of backup uninterruptible power supply. The usage and operation precautions are as follows:

As shown in Pic 1 below, when the product is connected between the wall socket and the electrical appliance, and the power supply and AC switch of the product are in the ON state, the product enters the UPS working mode. The AC mains in the socket supplies power to the electrical appliance through the bypass circuit, and also charges the product. In this operating state,the rated power of the appliance must be below 1500W (only 100V,JP),1800W (only 110V-120V,US),2400W (only 220V-240V),otherwise overload protection may be triggered.
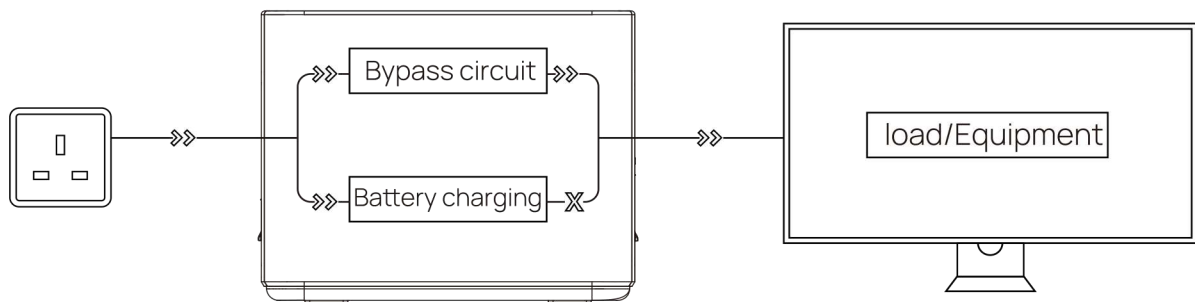

(Pic 1)

As shown in Pic 2 below, when the AC mains at the socket end is disconnected, the bypass output inside the product stops working, the product switches to a bidirectional inverter circuit within 10ms, and the circuit outputs supply power to the electrical appliance to ensure that the electrical appliance is uninterrupted and works normally during the process.
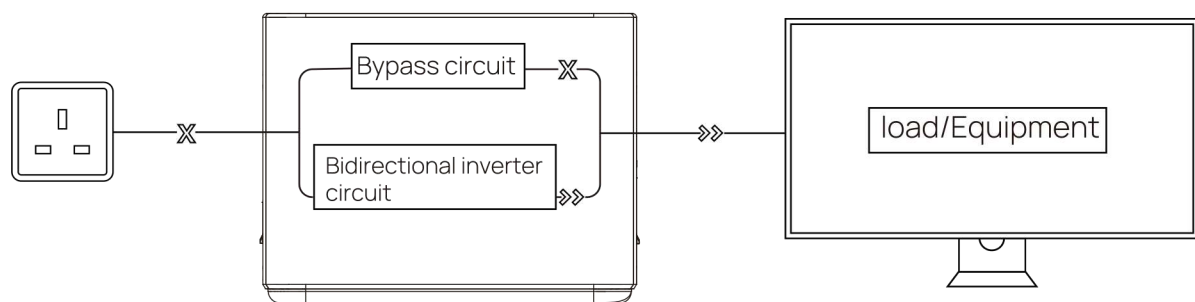
(Pic 2)

Battery Pack Connection Instructions
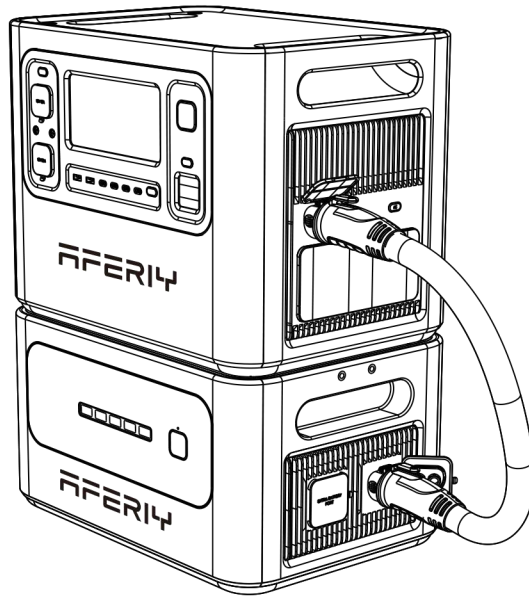
Portable Power Station (Base Capacity: 2048Wh) can be expanded by connecting up to 4 additional battery packs via parallel cables, with a maximum expansion capacity of 8192Wh. The total system capacity thus reaches 10240Wh.

Connection Procedure:

1.Ensure both the power station and additional battery packs are powered OFF before connection.
2.After connection, S1 and S2 icons will appear on the display.
3.The system will automatically initiate charge/discharge once successfully connected.

Power Distribution Logic:

- During charging: Units with lower State of Charge (SOC) receive reduced charging power.
- During discharging: Units with higher SOC deliver greater output power.
- Energy may transfer between units without external power input.
- Charging terminates when SOC levels equilibrate, with real-time SOC displayed.

Precautions

- Please do not insert or remove the connection cable during product use; connect or disconnect while both products are turned off.
- Do not short-circuit the connection ports of the portable power station.
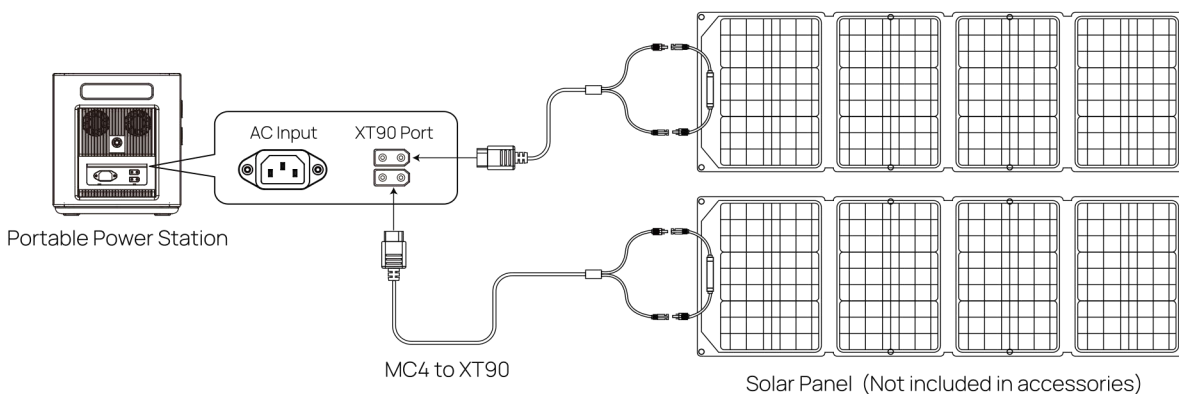
Connection of Solar Panels

Under the condition of light, this product can be connected to the solar panel and getting charged. The charging power is determined according to the conditions of light and weather.

In this charging mode, each XT90 port supports a maximum of 600W. The two ports collectively support up to 1200W input from solar panels. The input voltage must not exceed 55V, otherwise any resulting equipment malfunction will not be covered under warranty.

● **We recommend the following two charging schemes:**

Scheme One

Portable Power Station Charging Area

AC Input   XT90 Port

Portable Power Station

MC4 to XT90

Solar Panel (Not included in accessories)

Scheme Two

Portable Power Station Charging Area

AC Input   XT90 Port

Portable Power Station

MC4 to XT90

solar panel Ⓐ
(Not included in accessories)

solar panel Ⓑ
(Not included in accessories)
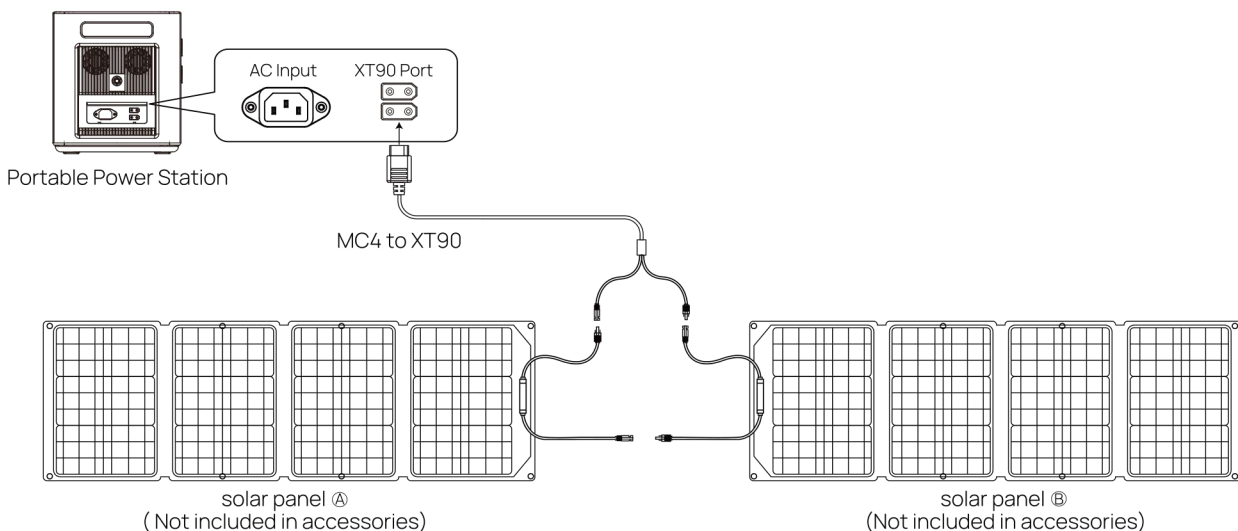
Car Charging

When the car is in the process of starting, connect the car charging port on the car and the product through the car charging cable to charge the product. The connection method is shown in the picture below:

This product supports 12V/24V car charger charging, please pay attention to the following two points when using this method to charge:

※ Please use it when the car started, otherwise the car battery may be exhausted.

※ Vehicle charging power is usually in the range of 90W-120W, and the charging time is long.If fast charging is required, the AC mains charging is recommended.
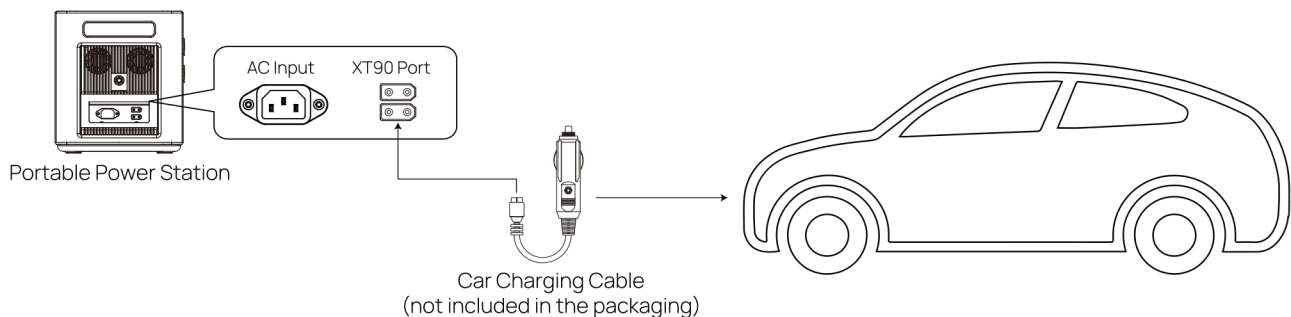
AC Input   XT90 Port

Portable Power Station

Car Charging Cable
(not included in the packaging)

If you have any questions, please feel free to contact us.
Email address: support@aferiy.com.
Sincerely.

Disclaimer

Before use, please read the user manual of this product to ensure full understanding and correct use. After reading, keep the user manual properly for future reference. If you do not operate this product correct-ly, you could cause serious injury to yourself or others, or result in damage to the product and property. Once you use this product, you are deemed to have understood, recognized and accepted all terms and content of this document. Users undertake to be responsible for their own actions and all consequences arising therefrom. AFERIY is not responsible for all losses caused by the user's failure to use the product in accordance with the User Manual.

In compliance with the law, the company has the final right to interpret this document and all related documents of the product. If it is updated, revised or terminated without prior notice, please visit the AFERIY official website for thelatest product information.

Product Parameter

Product Name	2800W Portable Power Station
Dimension	L*W*H=398X280X315mm
Weight	21.6kg
Capacity	2048Wh
AC Charging	AC Mains Input, 1800W max
MPPT Input	(11.5-55V 20A below 600W max)×2
AC Output	50/60Hz (switchable), rated 2800W, pure sine wave with overload, short circuit protection
USB-A	(5V 2.4A)X 2
Type-C ①	(PD20W) X 2
Type-C ②	(PD140W)X 2
DC 5521	12V/3AX2
XT-60 Output	12V/25A
Car Charging Output	12V/10A
Shutdown Current	‹500uA
Working Temperature	-10~40℃
Environment Humidity	≤90%RH
Cycle Times	› 4000 times

Battery Specifications

Cell type	40135 LiFePo4
Rated voltage of single battery	3.2V
Rated capacity of single battery	20Ah
Rated voltage of battery pack	51.2V
Output voltage range of the battery pack	43.2-57.6V
Rated capacity of battery pack	2048Wh

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Warranty Card

Warranty Card	
Model	
Name	
Address	
Tel	
Mail	
Name of the store	
Buying date	
What is the product failure	
Please fill in all the above items.	

This product provides a 24-month warranty service from the date of purchase

- If there is a quality problem within the range of normal use, we provide warranty service.

- After purchasing our company's products, please keep this product together with invoices and other items. When maintenance services are needed, please provide information according to our company's request.

- In the case where the warranty is damaged or altered，and no stamp of the sales store on the warranty, the warranty service may not be provided.

- Damage caused by use beyond the normal range of use is not covered by the warranty service.

- The content of the warranty scope shall be subject to the content recognized by the company.

- Even within the scope of the warranty, sometimes it will be exchanged for products with the same function. The shipping and repair fees for products outside the warranty range shall be paid by the customer.

- Sometimes the specifications and functions of the product will be updated without prior notice.