

# Catalog

<b>一、 Product Overview</b>	<b>3</b>
1. Product Profile	3
2. Docs Release Notes	3
3. Product Design Standard Ref	3
<b>二、 Product Features</b>	<b>3</b>
<b>三、 Product Details Description</b>	<b>4</b>
1. Product Appearance Pictures	4
2. Product Process Specification	4
3. Description of Port	5
4. Display Description	6
<b>四、 Function Operating Description</b>	<b>7</b>
1. Product Charge	7
2. AC Release	7
3. DC Charge	7
4. Herts Conversion	7
5. Product Standby &Power Off	7
<b>五、 Product Electrical Performance Index&amp; Specification</b>	<b>7</b>
1. Battery Pack	8
2. Battery BMS Safety Management	8
3. Product Charge	9
4. AC Release	10
5. USB Release	10
6. TYPE Release	11
7. DC Release	11
8. Wireless Charge& Release	12
9. Display Screen	12
10. Product Safety	13
11. Temperature Environment Testing	13
<b>六、 Reliability Testing</b>	<b>13</b>
1. Testing Instrument	13
2. Testing Project	14

七、 Product Shipping Info.....	14
八、 Product Packing List.....	14
九、 Product Environment &Notice.....	15

## 一、 Product Overview

### 1. Product profile

The product defined in this specification is American standard 110V portable mobile power supply, which integrates portable energy storage power supply system with multiple functional modes. The product has built-in high-efficiency 32700 lithium iron phosphate cell, safe battery BMS management system and high-efficiency energy conversion circuit, which can be placed indoors or in cars. And can be used as home, office, outdoor emergency backup power supply. Charging can choose mains electricity or solar power to charge the product, without external adapter, the product is directly connected to the mains power supply, charging capacity can reach 98% in 1.6 hours, to achieve a real sense of fast charging. The product system can provide rated 110V 1200W AC output, and is equipped with 5V, 12V, 15V, 20V DC output and 15W wireless charging output to meet the requirements of different scenarios. Meanwhile, advanced power management system is configured to ensure long battery life and safety..

### 2. Docs Release Notes

This document is mainly used for product research and development, production, inspection, sales and product promotion. The customer acknowledges that this document is issued after review and approval. If there is any amendment, the latest version shall prevail.

### 3. Product Design Standard Ref

- 1) IEC62133 lithium battery product safety requirements.
- 2) UL1642 lithium battery pack safety requirements.
- 3) UL2743 portable power pack safety requirements.
- 4) EN55022 electromagnetic compatibility related.
- 5) IEC60950-1:2005+A1:2009+A2:2013 safety standards.
- 6) UN38.3 safety requirements for transport of lithium battery products international maritime dangerous goods code.
- 7) Ambient temperature: 25°C, humidity: 45 ~ 75% RH, air pressure 86 ~ 106 KPa.

## 二、Product Features

1. Compact, lightweight and Portability, Multiple Output Ports;
2. Support mains and photovoltaic charging modes;
3. Ac 110V, DC 5V, 9V, 12V, 15V, 20V and other voltage output;
4. High-performance, high safety and high power 32700 lithium iron phosphate cell;
5. Under voltage, over voltage, over current, over temperature, short circuit, over charge, overrelease and other system protection functions;
6. Use large LCD screen to display power and function indication;
7. Support QC3.0 quick charge function, support PD65W quick charge function;
8. 0.3s fast start, high efficiency;
9. 1800W constant power output;
10. Larger Capacity and Higher Wattages

## 二、Product Details Description

### 1. Product appearance pictures



## 2. Product Process Specification

- 1) Using engineering ABS+PC materials, rigid degree, shape the perfect curve.
- 2) The surface of the shell is clean and clean, without scratches, deformation, and no front.
- 3) Contact points of output and input interfaces have no corrosion, and the socket is suitable for tightness and smooth sliding cover.
- 4) The joints between shells should be in close contact, and the visible gap width at the joints should not be greater than 1mm;
- 5) The internal wiring layout is beautiful and neat.
- 6) Foot pad is non-slip, shockproof, prevent smooth.

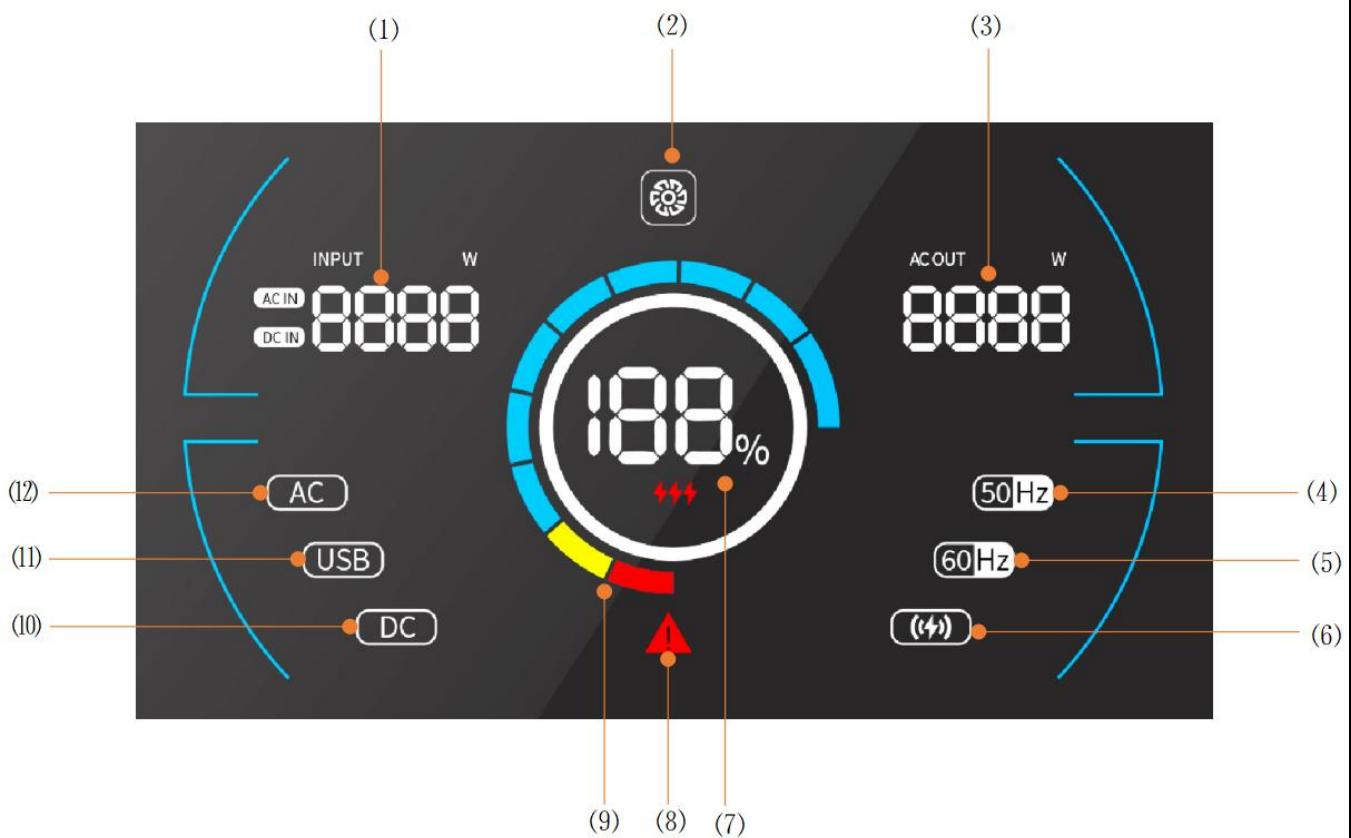
### Description of Port



No.	Item	Functional Description
1	DC ON/OFF Switch	Turn on DC function, DC Output
2	Power Button	Click second to power on and Screen light up
3	Phone wireless charge switch	Turn On the wireless charge to charge phone
4	Wireless cell phone charging pad	15W wireless cell phone pad charging

5	AC outlets protection	Slides up to open the AC outlet cover,
6	AC Outlet	12V AC Outlet, it can match Chinese, USA, Japan and European multiple standards .three pure sine wave AC outlets
7	AC ON/OFF Switch	Turn on AC function, AC Output 1200W
8	TYPE-C Output Ports	2 ports/ PD65W
9	Display Screen	Instructions follow the display screen
10	DC Car Port	12V (Max 100W Output)
11	USB Output Ports	5V 2.4A / 1 Port, QC3.0 /2 Ports
12	USB ON/OFF Switch	Turn on USB function
13	Solar Charge Port	XT60F (Port) Solar charging input ( support 26V-40V)
14	Fuse	Protector (15A overload protection)
15	AC Quick Wall Outlet	Insert AC power line , Charge time: 2.5hrs

## 2. LED Screen Description



No.	LED Screen Displays	Function Profile
1	Input Power	Display input wattage
2	Cooling System Display	Display cooling system operation
3	Output Power	Display output wattage
4/5	Hertz Display	50Hz (Click "POWER" Switch +AC Switch 3 seconds to Switch Frequency automatic)
6	Wireless Charge Display	Display the status of wireless charging
7	Battery Percentage	100% battery input
8	Alarm Display	Display the malfunction and lightflash warning
9	Power Input Display	Flashing while power charging
10	DC ON/OFF Display	Display the status of DC switch operation
11	USB ON/OFF Display	Display the status of USB port operation
12	AC ON/OFF Display	Display the status of AC switch operation

### 三、Function Operating Description

#### 1. Product charging

- 1) Plug the power cord into the AC charging input port of the host power supply, or connect the solar panel to the XT60 port, and the display panel will blink incrementally from left to right. When all the 10 panels are on and the battery percentage is 100%, it means that the product is fully charged.
- 2) When charging, pay attention to the power supply voltage must be the same as the required input voltage, otherwise it will cause overvoltage protection or mains trip.

#### 2. Ac discharge

- 1) Click the "POWER" button for 1S, and the screen lights up. Click the AC button, and the screen displays AC. At this time, insert the load line arbitrarily into the AC/110V output port (6), and the device can be used normally.
- 2) Note: Please do not exceed the maximum output power of the machine 1200W. If the load exceeds 1200W, the power supply will enter the protection state and cannot output, and the buzzer alarm will be issued, and the alarm symbol will appear on the display screen. At this time, the load device needs to be

removed, press any set of switches to remove the alarm, and the load power will be reduced to the rated power for normal use.

### 3. Dc discharge

1) Press the "POWER" button for 1S, and the screen lights up. Press the "USB" button to display USB on the screen. Click the "DC" button to display DC on the screen. If a DC or USB function is not used, press the button for 1 second to disable it.

2)QC3.0 port: it can charge devices that support fast charging.

3) Type-c port: it can support CHARGING of PD65W fast charging device.

### 4. Hertz conversion

When the AC is off, hold down the "POWER" button and the AC button for 3 seconds to automatically switch to 50Hz or 60Hz. The normal factory setting is 60Hz for the Japanese/American and 50Hz for the Chinese/European.

### 5. Product standby and shutdown

1) When all output DC/AC/USB/ wireless charging is off, the display enters hibernation mode for 50 seconds, and automatically shuts down within 1 minute, or long press "POWER" to shut down.

2) If the output AC/DC/USB/ wireless charger are all turned on or one of them is turned on, the display will enter hibernation mode within 50 seconds, and the display will enter the steady state and will not automatically shut down.

Click the "POWER" button or the indicator button to turn on, and long press the "POWER" button for 3 seconds to turn off.

## 五. Product Electrical Performance Index& Specification

### 1. Battery Pack

No.	Item	Performance Index	Note
1	Cell Type	32700	LIFEPO
2	Single Cell Capacity	6700mAh	
3	Battery Combination Mode	7P7S	7P 7S
4	Battery Rated Capacity	328300mAh	All battery pack capacity
5	Battery Rated Power	1050Wh	
6	Battery Rated Voltage	22.4V	Declared voltage 3.2V

7	Release Cut-off Voltage	19V	
8	Battery Internal Resistance	$\leq 10\text{m}\Omega$	AC testing internal resistance
9	Battery operating Temperature	-10~60°C	
10	Lifecycle	2000 cycles to 70%+ capacity	

## 1. Battery BMS Safety Management

No.	Item	Performance Index	Note
1	Series Circuit Support	7 series	
2	AC Charging Current	110V7.2A/220V/3.6A/100V/8A (MAX)	
3	AC Release Current	110V10.9A/220V/5.4A/100V/12A	
4	Monomer Overvoltage	3.7V	
5	Responsive Time	0.5S	
6	Overvoltage Reset	3.65V	
7	Monomer Undervoltage	2.2V	
8	Responsive Time	2S	
9	Undervoltage Reset	2.7V	
10	Short Circuit Protection	Its short circuit while Positive/Negative resistance less than $50\text{m}\Omega$ ,	
11	Reset	Software delete	
12	Overcurrent Protection	100A	
13	Responsive Time	1S	
14	Reset	Software delete	
15	Charging Overtemperature Protection	65°C	
16	Recovery Temperature	55°C	
17	Release Overtemperature Protection	65°C	
18	Recovery Temperature	55°C	
19	Battery Equalization	80mA	
20	Storage Temperature	One year: -20°C to 35°C,(45-85%RH)	

		Half year: -20°C to 40°C,(45-85%RH)	
		Three month: -20°C to 45°C, (45-85%RH)	
21	Static Consumption Current	<0.15mA	
22	Product Weight	14KG	
23	Operating Temperature	-10-40°C	
24	Voltage Accuracy	1%	
25	Current Accuracy	1%	
26	Temperature Accuracy	±3	
27	SOC Accuracy	8%	

## 1. Power Charging Supply

No.	Item	Performance Index	Note
1	Multiple Input Ports	AC input/solar power input/Type-c input	
2	Recharge Mode Supply	Support wall input, Solar power input, PD-65W input	
3	Input Voltage Range	Wall input 110V, Solar power input 26V~40V , PD3.25A	
4	Max Input Voltage	Wall input 110V, Solar power 26V~40V , PD20V	
5	CV Voltage	16.8V	
6	AC Max Charging Current	110V/7.2A	
7	Max Charging Power	800W	
8	Charging Time	110V/2.5hrs wall input , 3hrs solar power input	

## 2. AC Release

No.	Item	Performance Index	Note
1	Operating Mode	Click AC Switch (1S) ON/OFF	
2	Output Port	3 Circuits in Parallel	
3	Output Wave	Pure sine wave	
4	Output Rated Voltage	110V	
5	Output Rated Frequency	50Hz/60 Hz±1HZ(transformation)	

6	Output Voltage Range	110~115V/ 10.9A MAX	
7	Output Rated Power	1200W around 50mins	
8	Overpower Protection	1800W	
9	Inversion Efficiency	>90%	
10	Output Short Circuit Protection	Available	
11	No-load Power Off	50s go into sleep mode , 60s power off	
12	Overtemperature Protection	Temperature more than 65° ,85°C overtemperature protection	
13	Overtemperature Protection Reset	When temperature less than 60°C to remove protection	

### 3. USB Release

No.	Item	Performance Index	Note
1	Operating Mode	Click USB switch (1S) ON/OFF	
2	Charging protocol	QC3.0	Only 3.0 port support
3	Port No.	2 * QC3.0 ports 1* 18W/5V2.4A port	
4	Port Type	Type-A	
5	Output Power	QC3.0 18W	
6	Output Voltage/ Current	5V/2.4A; 5V/3A, 9V/2A, 12V/1.5A	
7	Efficiency	≥90%	
8	Output Voltage Wave	< 200mV	
9	Output Overcurrent Protection	3.25±0.2A	
10	Output Short Circuit Protection	Available	

### 4. TYPE-C Release

No.	Item	Performance Index	Note
1	Operating Mode	Click USB switch (1S) ON/OFF	

2	协议	PD3.0	
3	Port No.	2	
4	Port Type	USB-C	
5	Output Power	65W MAX	
6	Output Voltage/ Current	5~20V/3. 25A	
7	Efficiency	>90%	
8	Output Voltage Wave	<200mV	
9	Output Overcurrent Protecion	3. 3±0. 2A	
10	Output Short Circuit Protection	Available	

## 5. DC Release Performance

No.	Item	Performance Index	Note
1	Operating Mode	Click DC switch (1~2S) ON/OFF	
2	协议	/	
3	Port No.	1	
4	Port Type	/	
5	Output Power	100W	
6	Output Voltage/ Current	12.5V 8A	
7	Efficiency	>90%	
8	Output Voltage Wave	/	
9	Output Overcurrent Protecion	Available	
10	Output Short Circuit Protection	Available	

## 6. Wireless Release

No.	Item	Performance Index	Note
1	Operating Mode	Press key (1S) ON/OFF	

2	协议	/	
3	Port No.	1	
4	Port Type	/	
5	Output Power	15W	
6	Output Voltage/ Current	15V/1. 25A	
7	Efficiency	>90%	
8	Output Voltage Wave	/	
9	Output Overcurrent Protecion	/	
10	Output Short Circuit Protection	/	

## 7. Display Screen

No.	Item	Performance Index	Note
1	Display Content	Details please reference point 4	
2	Display Type	LCD color screen 25*30mm	
3	ON/OFF Mode	60s automitic	
4	Warning Tone	Available	

## 8. Product Safety

No.	Item	Performance Index	Note
1	Port- Shell Insulation Resistance	$\geq 2M \Omega$ 500Vdc	
2	AC Port-Shell Voltage Resistance	2KVAC/50HZ 1min	
3	Other Ports -Shell Voltage Resistance	500VAC/50HZ 1min	

## 9. 产品环境特性

No.	Item	Performance Index	Note
1	Heat dissipation	Bidirectional Air cooling	

2	Operating Noise	≤5dB	
3	IPX Level	IP53	
4	Operating Environment Temperature	Charge : 0°C~40°C	
		Discharge: -10°C~40°C	
5	Storage Environment Temperature	-20~20°C (12 months)	Keeps battery power between 45%~55% before storage, Please charging power in time after power off.
		-20~40°C (3 months)	
		-20~60°C (1 month)	
6	Operating Environment Humidity	65±20%RH	
7	Operating Environment Humidity	65±20%RH	

## 四、Reliability Testing & Standard

### 1. Testing Instrument

No.	Instrument Name	Equipment Standard	Note
1	Electronic load meter	Accuracy: Voltage 0.01V/ Current 0.01A	
2	DC 直流电源	Accuracy: Voltage 0.01V/ Current 0.01A	
3	Humidity& Constant	Accuracy: Temperature deviation: +/-5°C	

### 2. Testing Project

No.	Testing item	Testing Request& Standard	Note
1	Room temperature charge-discharge performance testing	According to the requirements of charging voltage and charging current in the specification, each function should meet the requirements of the specification after two cycles of charging and discharging	
3	Overdischarge safety performance testing	Use 110V port to discharge, the power is 1200W, from 100% electric discharge to automatic shutdown of the product, and then charge the product to 100% electric, the function should be consistent with the specification.	
4	Overcharge safety performance test	After charging the product to 100% with AC power cord or solar energy board, continue charging for 12 hours, product functions should be consistent with the	

		specification.	
5	Low temperature charge-discharge performance test	Under 0°C, according to the specification of charging voltage and charging current requirements, charge and discharge two cycles, the function should meet the specification requirements.	
6	High- temperature charge-discharge performance test	In the environment of 40°C, according to the specification of charging voltage and charging current requirements, charge and discharge two cycles, the function should meet the specification requirements.	
7	High and low temperature storage performance testing	After 7 cycles of low temperature -5 °C and high temperature 35 °C, the function of the product should meet the requirements of the specification	

## 五、Product Transportation Info

No.	Item	Performance Index	Note
1	Net Weight	14KG	
2	Product Size	366*235*266 mm	
3	Total Weight		
4	Packing Size	450*320*350	
5	HS code		
6	Container Qty		20GP

## 六、Product Packling List

No.	Item	Accessories	Note
1	Power station	1pc	
3	Wire	Adaptor wire * 1	
4	Specification	Operation guide and warranty card	

## 七、Use Environment& Note

No.	Item	Technical Index	Unit	Note

1	Operating Temperature	0~40	°C	1. Do not work in an environment higher than 40 ° C 2. It is recommended not to work in an environment lower than 0°C
2	Storage Temperature	-5~35	°C	Do not be used for a long time above 35 °C ambient temperature
3	relative humidity	20%~90%		
4	Heat dissipation	Air cooling		If the temperature of the product is too high, it will work normally after cooling down

1. Please pay attention to the input and output voltage range when using this product. The input voltage and power range required by your device is not within the range of the energy storage power supply.
2. The connection cables must be matched, because different load cables correspond to different equipment. Therefore, in order to normally use the energy storage power supply for your equipment, please use the original connection cable 3 with guarantee.
3. The energy storage power supply needs to be stored in a dry environment. Proper storage method can prolong the service life of the energy storage power supply.
4. If you do not use the product for a long time, please charge and discharge the product once a month to improve the service life of the product.
5. Do not place the product in a place where the temperature is too high or too low
6. High or too low ambient temperature will shorten the service life of electronic products and seriously damage the product shell
7. Do not use corrosive chemical solvent to wipe the product surface stains can be swab with a small amount of anhydrous alcohol to scrub
8. Please handle the product gently when using, do not fall down or disassemble violently
9. There is high pressure in the product, do not disassemble by yourself, lest it may cause safety accident
10. It is recommended that the device be fully charged for the first time to avoid inconvenience caused by low power. After the device is fully charged, the fan will continue to work for 2-5 minutes after the charging power cable is removed for standby heat dissipation (the specific time may vary with the scene temperature)
11. When the fan is working, prevent dust particles or foreign matters from being inhaled into the device. Otherwise, the device may be damaged.
12. After the discharge is terminated, the fan continues to work to lower the temperature of the device to a proper temperature for about 30 minutes (the time may vary with the scene temperature). When the current exceeds 15A or the temperature of the device is too high, the automatic power-off protection is triggered.
13. During the charging and discharging process, connect the device to the charging and discharging device properly before starting the charging and discharging device; otherwise, sparks may occur, which is a normal phenomenon

## **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.

To assure continued compliance, any changes or modifications not expressly approved by the party.

Responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices).

This equipment 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.

## **Radiation Exposure Statement**

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. During the operation of device a distance of 15 cm surrounding the device and 20 cm above the top surface of the device must be respected.

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