

Product Specification

Power Station

Item No.: 1010XXXX

Model Name: S2-E

Description: European socket,2048Wh,AC 2500W 230V ,PV
2100W,DC 120W+360W,QC3.0*4+PD100W*2 (Neutral)

Version: V0.9

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Product Introduction:

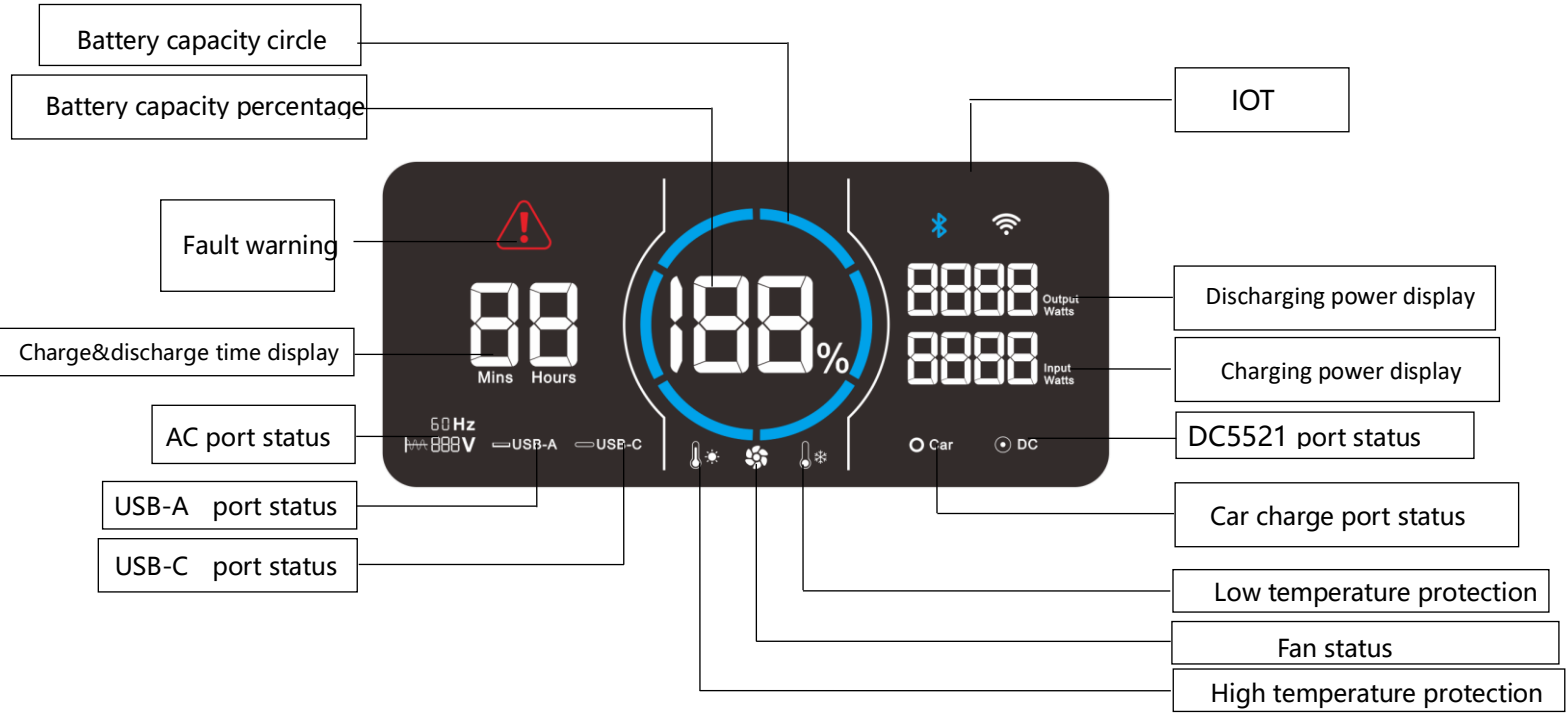
This product is a high-end fashion off-grid portable power station, independently developed by our company. Light and portable, stylish and generous, using automotive-grade LiFePO4 battery, safe, reliable, and durable; providing 230V/20V、 15V、 12V、 9V、 5V AC and DC output, suitable for various equipment such as aerial drones, portable ventilators, medical equipment, mobile phones, tablets, laptops, desktop computers, small printers, various lamps, small fish tanks, photographic equipment, electric balance wheelbarrows, etc. It’ s convenient for users to use at home, travel, outdoor work, camping picnics,mountaineering adventures, etc.

Model	AC Output Power	Battery Spec.	PACK Method	Battery Capacity
S2-E	2500W	IFP40135 LiFePO4 20Ah/3.2V	16 series 2 parallel (40Ah/51.2V)	2048WH





Power pack
connection



1、Control and Display

Item	Function	Remark
Main power button	Master switch for each function	Long press for 3S to turn on or off the main power supply, when it is turned on, a circle of LED lights around the button will light up
DC power button	Control car charger DC552, USB-A, USB-C 12V30A output or turn off	Under the condition that the main power switch is on, tap the button to turn on the car charger, DC5521, USB-A, USB-C 12V30A output; Press again, turn off the charger, DC5521, USB-A, USB-C 12V30A output. Automatically turn off the output if no equipment access, overload, short circuit, over temperature protection, etc. are detected within 12 hours
AC power button	AC output control switch	When the main power switch is on, press the button lightly to turn on the AC output; press it again to turn off. After 12 hours, no device access, overload, short circuit, over temperature protection, etc. are not detected and the output is automatically turned off
Bluetooth WiFi button	Control Bluetooth/WiFi on or off	Need to turn on the main switch and click the button
Battery capacity circle and battery capacity percentage	Power display when charging or discharging	When charging, the battery capacity percentage is displayed in the middle, and the blue circle circulates in the form of marquee. When the battery is fully charged or the charger is disconnected, the battery display stops. Display the percentage and the outer ring according to the actual capacity. When discharging, the percentage of capacity is displayed according to the actual capacity. The blue circles decrease by percentage.
AC display	Display AC voltage frequency	Real-time display of AC voltage frequency
Charging power display	Display charging power	Display current charging power when charging
Discharge power display	Displays the remaining discharge time	Display current discharging power when discharging
Remaining discharge time	Displays the remaining discharge time	According to the current battery capacity and discharge power, the remaining discharge time is displayed in real time. Display logic: when the time exceeds 1 hour, it is displayed in X.Y hours, and when it is less than 1 hour, it is displayed in minutes.
Fault/protection warning	Indicate the station is in a fault state	This icon is displayed when the output interface is overloaded, short-circuited, or the internal temperature is too high or too low, and it will be closed after troubleshooting.
High temperature protection warning	Indicates the battery temperature is too high	When the internal temperature is too high, the icon will be displayed, and the icon will be closed when the temperature is restored.
Low temperature protection warning	Indicates the battery temperature is too low	When the internal temperature is too low, the icon will be displayed, and the icon will be closed when the temperature is restored.
Fan status	Indicate fan working status	When the fan is on, the icon is displayed. When closed, the icon is off.
Car charger port status	Indicate the working status of the car charger	When the car charger is turned on, the icon is displayed, when it is turned off, the icon is off

	port	
DC5521 port status indication	Indicate the working status of DC5521 port	When DC5521 turns on the output, the icon is displayed, when it is turned off, the icon is off.
USB-C port status indication	Indicate the working status of USB-C port	When USB-C turns on the output, the icon is displayed, when it is turned off, the icon is off.
USB-A port status indication	Indicate the working status of USB-A port	When USB-A turns on the output, the icon is displayed, when it is turned off, the icon is off.
AC port status indication	Indicate the working status of AC port	When AC turns on the output, the icon is displayed, when it is turned off, the icon is off.
Backlight		When there is a button operation, it is fully lit., when no button operation is detected for 5minutes, the screen backlight is off.
Power button breathing light		When charging, discharging, and standby, the breathing light flashes, and the breathing light goes out during sleep.
Note :		

2、AC Input Parameters

Parameters	Symbol	Unit	Typical	Remarks
Input voltage range	Vin	Vac	200~240	Low voltage protection 180V recovery 190V, high voltage protection 245 recovery 240V
Input current range	Iin	A	7	
Input frequency	/	HZ	50/60	Low frequency protection 42HZ recovery 45HZ, high frequency protection 65HZ recovery 62HZ
Switching time	/	Ms	20	UPS Switching time≤20ms
AC input recoverable insurance		A	15A	Requires manual recovery after protection
Input port	/	A	16A	IEC-C20 Plug
AC Charging power	/	W	1600	

3、Solar Input Parameters

Parameters	Symbol	Unit	Typical	Remarks
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Input voltage range	Vin	Vdc	12-150V	High voltage protection 150V ,Low voltage protection 11V
MPPT voltage range	Vin	Vdc	18-140V	
MPPT Input Current	/	A	15A	
Solar panel charging time	/	Hour	/	The maximum charging time depends on the light intensity and solar panel power
Maximum charging interval	/	month	/	Store when the remaining power is greater than 50%
Car charger input voltage range		VDC	12-15V	
Car charger input current		A	8A	
Input port	/	/	/	Anderson port, the car charger and solar energy share the input port

4、DC Output Parameters

4.1、Car Charger Output Parameters

Parameters	Symbol	Unit	Typical	Remarks
Output voltage	Vo	Vdc	12	
Output current	Io	A	10	
Overload protection	/	A	11	When the output current exceeds this current limit, the output will be turned off. After the overload is released, the output must be restored by pressing the DC switch manually.
Short circuit protection	/	/	/	If the output terminals, wires or external equipment are short-circuited, the output port will stop outputting. When the short-circuit is removed, the DC switch needs to be manually pressed to resume output.
Output port	/	/	/	One cigarette lighter output

4.2、DC5521 Output Parameters

Parameters	Symbol	Unit	Typical	Remarks
Output voltage	Vo	Vdc	12	

Output current	Io	A	10	Two DCs (5521) are output in parallel, and the total current with the car charger (cigarette lighter) < 10A.
Overload protection	/	A	11	When the output current exceeds current limit, the output will be turned off. After the overload is released, the output must be restored by pressing the DC switch manually.
Short circuit protection	/	/	/	If the output terminals, wires or external equipment are short-circuited, the output port will stop outputting. When the short-circuit is removed, the DC switch needs to be manually pressed to resume output.
Output port	/	/	/	Two DC5521 parallel outputs

Note:

4、USB-A Output Parameters

Parameters	Symbol	Unit	Typical	Remarks
Output voltage	Vo	Vdc	5.0	The default output is 5V, automatically recognizes the QC protocol, and outputs the corresponding voltage QC3.0/QC2.0, FCP, SCP, AFC, MTKPE+2.0/1.1, Apple2.4A
			9.0	
			12.0	
Output current	Io	A	3	@5.0V
			2	@9.0V
			1.5	@12.0V
Overload protection	/	W	18	When the output power exceeds the maximum power, the output will be turned off. After the over-power state is released, you need to manually press the USB switch to restore the output.
Short circuit protection	/	/	/	When the output terminal, wire or external device is short-circuited, the output port will stop output. When short-circuit is removed, you need to manually press the DC switch to restore the output.
Output port	/	/	/	Four USB-A independent outputs

5、USB-C (PD100W) Output Parameters

Parameters	Symbol	Unit	Typical	Remarks
Output voltage	Vo	Vdc	5.0	Automatically recognize the PD protocol and output the corresponding voltage. PD3.0, PD2.0, QC2.0/3.0/
			9.0	

			12.0	4/4+,FCP, SCP, AFC, MTKPE+2.0/1.1, Apple2.4A,PPS
			15.0	
			20.0	
Output current	Io	A	3	5V
			3	9V
			3	12V
			3	15V
			5	20V
Output current	/	A	5.1A	If the output current exceeds this current limit point, the output will be turned off. After the overcurrent is removed, the DC switch needs to be manually pressed to resume the output.
Short circuit protection	/	/	/	When the output terminals, wires or external equipment are short-circuited, the output port stops outputting, and when the short-circuiting is removed, the output will automatically resume.
Output port	/	/	/	Two USB-C output

6、DC High-current Output

Output voltage	Vo	Vdc	12	
Output current	Io	A	30	
Overload protection	/	A	32	If the output current exceeds this current limit point, the output will be turned off. After the overload is removed, the DC switch needs to be manually pressed to resume the output.
Short circuit protection	/	/	/	If the output terminals, wires or external equipment are short-circuited, the output port will stop outputting. When the short-circuit is removed, the DC switch needs to be manually pressed to resume output.
Output port	/	/	/	Anderson port output

7.AC Output Parameters

Parameters	Symbol	Unit	Typical	Remarks
Output voltage range	Vo	Vac	230	
Output Power	Po	W	2500	
output peak power		W	5400	Duration $\leq 200\text{ms}$
UPS output	Po	W	2500	Charging and load $\geq 2550\text{W}$ delay 1s to report overload

				and close the output to charge the machine
Switching time		Ms	20	
Output AC frequency	F	Hz	60	50HZ/60HZcan be set
Output AC waveform	/	/	/	sine wave
Overload protection	/	W	102%~105%	If the output current exceeds this current limit point for 5 seconds, the output will be turned off. After the overcurrent is released, the AC switch needs to be manually pressed to resume the output.
Overload protection 2	/	W	105%~110%	The output will be turned off if the output current exceeds this current limit point for 1S continuously. After the overcurrent is removed, you need to manually press the AC switch to resume the output.
Short circuit protection	/	/	/	If the output terminals, wires or external equipment are short-circuited, the output port will stop outputting. When the short-circuiting is removed, the AC switch needs to be manually pressed to resume outputting.
Output port	/	/	/	AC European socket 5 parallel outputs

8、Battery Pack Parameters

Parameters	Symbol	Unit	Mini	Typical	Max	Remarks
Cell model	/	/	/	/	/	IFP40135 LiFePO ₄
PACK Method	/	/	/	/	/	16 series 2 parallel
Voltage	/	Vdc	/	51.2V	/	/
Battery capacity	/	Ah	/	40	/	/

9、System Protection Function

Item	Symbol	Unit	Typical	Remarks
Battery under-voltage protection	Vo	Vdc	43.2	
Battery over-voltage protection	Vo	Vdc	59.2	
Charging high-temperature protection	/	°C	55	
Charging high temperature protection restored	/	°C	50	

Charge low temperature protection	/	°C	-2	
Charge low temperature protection restored	/	°C	3	
Discharge high temperature protection	/	°C	60	中颖 63
Discharge high temperature protection restored	/	°C	55	
Discharge low temperature protection	/	°C	-20	
Discharge low temperature protection restored	/	°C	-5	
Overload protection	/	W	/	Refer to each port overload protection
Short circuit protection	/	/	/	Refer to the short circuit protection of each port
Total power protection	/	W	2600	AC and DC load at the same time priority DC output, if the AC load is greater than 2600VA, the AC will be turned off.

10、Environmental Requirements

Parameter	Symbol	Unit	Mini	Typical	Max	Remarks
Working temperature		°C	0	25	40	
Working humidity			10%	--	90%	
Storage temperature		°C	-20	25	60	
Storage humidity			5%	--	95%	
Altitude		m	-50	--	3000	
Cooling method			Fan forced cooling			

11、Other Parameters

Parameter	Symbol	Unit	Mini	Typical	Max	Remarks
Life time	Lf	year	3			
Mean interval failure time estimation	MTBF	hours	200000			Ta 25°C (MIL-HDBK-217F)
Weight	N.W	g		21800		
Dimension	DIM.	mm (inch)	L*W*H 460*270*305mm			

Remarks: Unless otherwise specified, all the above parameters are measured under the fully loaded state of the

product and at 25°C.

12、Safety Regulation

Certification	Safety standard	Status	Remarks
UL	UL2743	pending	








13、Electromagnetic Compatibility




















EMI/EMS Item	Standard	Criterion
Conduction CE	FCC part 15	Class B
Radiation RE	FCC part 15	Class B
Harmonic	IEC/EN 61000-3-2	Class C





14、Safety Test Projects

Safety test	Technical requirement	Remarks
Resisting Voltage	1500Vac/5mA/60S	AC output-ground, no breakdown, no arcing
Insulation resistance	≥100Mohm	AC output to ground, test voltage 500Vdc
Leakage current	≤0.75mA	230Vac

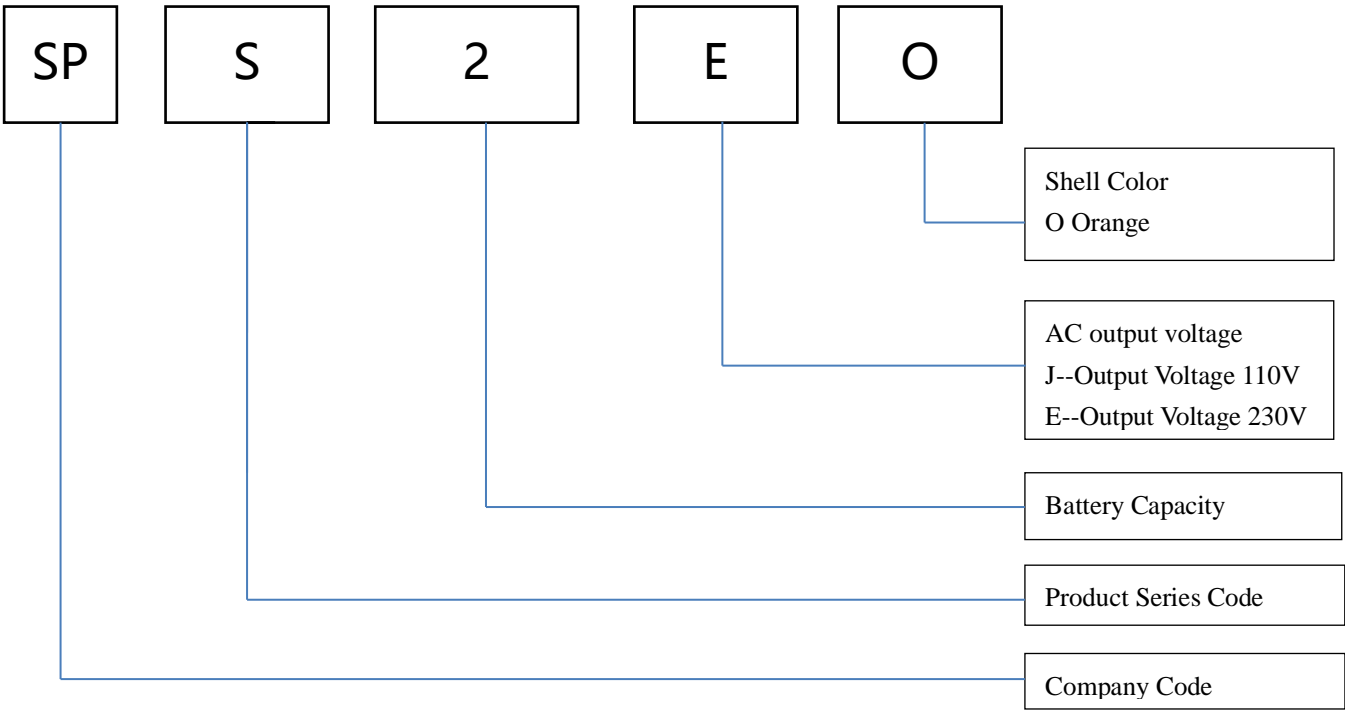
15、Error Code

Error code	Error information	Status	Remarks
E000	AC short circuit protection	 +  Flashing, no output	Manually press the AC switch button to restore
E001	AC short circuit protection	 +  +  no output	The function icon represents which circuit is overloaded. Overload protection needs to be manually restored, and the UPS function is overloaded for 3600W for 1 second
E002	AC battery low voltage protection	The corresponding function icon flashes, and the corresponding port has no output	After protection, restart the corresponding function button to restore the function and charge in time
E003	AC Output over voltage and low voltage protection	 Flashing, AC no output	Manually press the AC switch to restore
E004	Abnormal AC input frequency	 Flashing, AC no input	Frequency auto recovery

E005	Bus high and low voltage, over current	 Flashing, No output for each function	Manually press the AC switch to restore
E006	Inverter over-temperature Charging over-temperature protection	 +  +  Flashing, No output for each function	Normal automatic recovery after temperature recovery
E007	Photovoltaic input over voltage and low voltage protection	Photovoltaic charging without input	After the photovoltaic input voltage is normal, it can be charged normally
E008	12V30A Overload short circuit protection	 +  Flashing, No output for each function	Manually press the DC button to restore
E009	24V Auxiliary power overload short circuit alarm	The DC board reports a fault, but does not turn off the output	Reduce the load on the DC port
E010	Cigarette lighter port overload and short circuit	 +  Flashing, No output for each function	Manually press the DC switch button to restore
E011	USB-A port overload and short circuit	 +  Flashing, No output for each function	Manually press the DC switch button to restore
E012	USB-C port overload and short circuit	 +  Flashing, No output for each function	Manually press the DC switch button to restore
E013	DC discharge battery low voltage protection	 Flashing, No output for each function	After protection, restart the corresponding function button to restore the function and charge in time
E020	BMS communication fail	 Flashing	Check the BMS communication line
E021	High battery cell alarm	Capacity percentage flashing	Put the device aside and wait for the battery voltage to recover automatically
E022	High battery cell alarm	Capacity percentage flashing	Connect the AC charging cable and charge until the voltage returns to normal
E023	Total battery voltage is too high	E023 Code flashing, not turn off output	Put the device aside and wait for the battery voltage to recover automatically
E024	Total battery voltage is too low	 Flashing, No output for each function	Connect the AC charging cable and charge until the voltage returns to normal
E025	Cell high temperature	 +  Flashing, No output for each function	Automatic recovery after temperature recovery
E026	Cell low temperature	 + 	Automatic recovery after temperature recovery

		Flashing, No output for each function	
E027	System overload	The AC icon flashes to turn off the AC function, the DC output is normal, the AC is greater than 4000VA or the AC+DC is greater than 4000W	Manually press the AC switch button to restore
E028	Charging overheating	 +  Flashing, the device stops input	Automatic recovery after temperature recovery
E029	MOS tube overheating	 +  Flashing, the device stops input	Automatic recovery after temperature recovery
E030	Abnormal battery pack connection	Battery pack connection error	

Product Model Naming Rules:



16、Accessories List

No.	Accessory name	Quantity	Remarks
1	S2	1	
2	power cable	1	
3	Car charger to Anderson charging cable	1	
4	Anderson to 7909 adapter cable(Female)	1	
5	Anderson to MC4 adapter cable	1	
6	Anderson adapter cable	1	
7	User manual	1	
8	Warranty card	1	

17、Package

- Single product N.W.: 21.6Kg±0.5
- Quantity: 1PCS
- Package Dimension: L*W*H=460*270*305mm
- N.W./G.W.: 21.6/25Kg



Precautions:

- If the product packaging is damaged, please confirm whether the appearance of the product is complete, and the external structure of the product is not allowed to have cracks.

Transportation :

- Suitable for transportation by car, ship and plane. During transportation, it should be covered with awnings, protected from the sun, and handled in a civilized manner.

Storage:

- Product storage should comply with the provisions of GB 3873-83.
- For long-term storage, it is recommended to charge the battery every 3 months to prevent the battery from being damaged due to overcharging.

RoHS:

- The product complies with European Directive 2011/65/EC.

Version	Change Content Description	Change Date	Remark
V0.9	Initially drafted	2023/03/02	