

SPECIFICATION

PART NO.:

MODEL NO.: S3 (E)

DESCRIPTION: EU Standard, 3072Wh, AC 3600W 230V, PV
2100W, DC 120W+360W, QC3.0*2+5V2A+PD100W*2

VERSION NO.: V 0.9 Draft

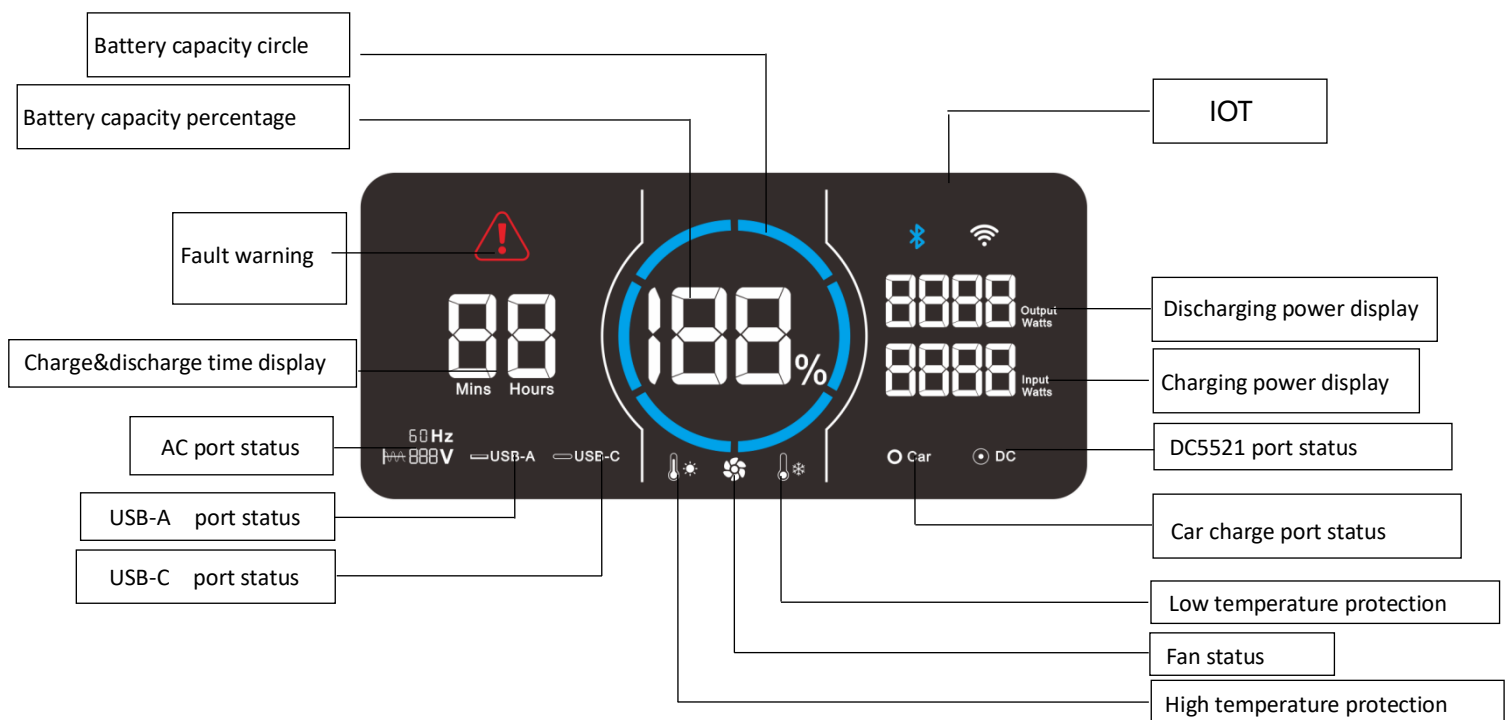
DATE: 2023-3-10

General Description :

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
S3	3600W	IFP40135 LiFePO4 20Ah/3.2V	16S3P (60Ah/51.2V)	3072WH





1、Control and display

Item	Features	Remark
Main power button	Master switch for each function (except lighting)	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 1 & DC power button 2	Control car charger DC5521, USB-A , USB-C 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 output; Press again, turn off the charger, DC5521, USB-A, USB-C 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
IoT	Control Bluetooth/WiFi on or off	Need to turn on the main switch and click the button
Battery capacity circle and battery capacity percentage	Control LED lighting on or off	When charging, the middle shows the percentage of electric quantity, and the blue circle circulates in the form of running light. When fully charged or disconnected, the electric quantity indicates to stop. According to the actual quantity of electricity display percentage and outer ring. When discharging, the percentage of electric quantity is displayed according to the actual electric quantity. The blue circle decreases in 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
Discharging power display	Display discharge power	When discharging, display the current discharging power
Remaining discharge time	Displays the remaining discharge time	The remaining discharge time is displayed in real time according to the current battery quantity and discharge power. The display logic is as follows: when the time exceeds 1 hour, it is displayed in X.Y hours; when the time is less than 1 hour, it is displayed in minutes
Fault/protection warning	Indicates that the product is in a fault state	When the output interface is overloaded, short-circuited, or the internal temperature is too high or too low, the icon will be displayed, and the icon will be closed after troubleshooting.
High temperature protection warning	Indicates that 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 that 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 goes out.
Car charger port	Indicate the working	When the car charger is turned on, the icon is displayed, when it is turned off,

status indication	status of the car charger port	the icon is off
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 goes out
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 goes out
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 goes out
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 goes out
Backlight		When there is a button operation, it is fully lit., when no button operation is detected for 1 minutes, 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 Characteristics

Parameter	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	16	
Input AC frequency	/	HZ	50/60	Low frequency protection 42HZ recovery 45HZ, high frequency protection 65HZ recovery 62HZ
Switching time	/	Ms	20	UPS Switching times≤20ms
AC input circuit breaker		A	40A	must turn on the AC IN switch when recharging
Input port	/	A	16A	IEC-C20 Male
AC Charging		W	2500W	

3、Solar Input Characteristics

Parameter	Symbol	Unit	Typical	Remarks
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 time	/	month	/	Store when the remaining power is greater than 50%
Car charging input voltage range		Vdc	12-15	

Car charging input current		A	8	
Input port	/	/	/	Anderson port, the car charger and solar charging share the input port

4、DC Output Characteristics

4.1、Car Charger Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	Vo	Vdc	12	
Output current range	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 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	/	/	/	One cigarette lighter output

4.2、DC5521 Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	Vo	Vdc	12	
Output current range	Io	A	10	Two DCs (5521) are output in parallel, and the total current together with the car charger (cigarette lighter) is less than 10A.
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 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	/	/	/	Two DC5521 parallel outputs

5、USB-A Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	Vo	Vdc	5.0	The default output is 5V, the QC protocol is automatically recognized, and output corresponding voltage, , QC3.0/QC2.0, FCP, SCP, AFC, MTKPE+2.0/1.1, Apple2.4A
			9.0	
			12.0	
Output current range	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 USB switch to restore the output.
Output port	/	/	/	Three USB-A independent outputs, one 5V 2A

6、USB-C (PD100W) Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	Vo	Vdc	5.0	Automatically recognize the PD protocol and output the corresponding voltage.PD3.0, PD2.0, QC3.0, QC2.0, FCP, SCP, AFC, MTKPE+2.0/1.1, Apple2.4A,
			9.0	
			12.0	
			15.0	
			20.0	
Output current range	Io	A	3	5V,9V,12V,15V
			5	20V
Overload protection	/	A	5.1A	If the output current exceeds this current limit point, the output will be turned off. After the over current is released, re-plug the device to restore the output.
Short circuit protection	/	/	/	If the output terminal, wire or external device is short-circuited, the output port will stop output. When short-circuit is removed, re-plug the device to resume output.
Output port	/	/	/	One USB -C output

7、DC High-current output

Output voltage range	Vo	Vdc	12	
Output current range	Io	A	30	
Overload protection	/	A	32	If the output current exceeds this current limit point, the output will be turned off. After the over current is released, re-plug the device to restore the output.
Short circuit protection	/	/	/	If the output terminal, wire or external device is short-circuited, the output port will stop output. When short-circuit is removed, re-plug

				the device to resume output.
Output port	/	/	/	Anderson output

8、AC Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	Vo	Vac	230	
Output power	Po	W	3600	
Peak output power		W	7000	Duration \leq 200mS
UPS Output	Po	W	3600	When charging and load \geq 5000W, delay 1s to report overload and close the output (discharging) but the power station still remain charging
Output AC frequency	F	Hz	50	50HZ/60HZ can be set
Switching time		Ms	20	
Output AC waveform	/	/	/	Pure Sine wave
Overload protection	/	W	102%~105 %	If the output current exceeds the current limit for 5 seconds, the output will be shut down. After the over current is removed, manually press the AC switch to restore the output
Overload protection 2	/	W	105%~111 %	If the output current exceeds the current limit for 1 seconds, the output will be shut down. After the over current is removed, manually press the AC switch to restore the output
Short circuit protection	/	/	/	If 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 AC switch to restore the output.
AC output breaker double protection	/	A	40	Must turn on the AC Output switch
Output Port	/	/	/	AC 2PIN European socket, 5 parallel output

9、Battery Pack Parameters

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
Cell model	/	/	/	/	/	IFP40135 LiFePO ₄
PACK Method	/	/	/	/	/	16S3P
Voltage	/	Vdc	/	51.2	/	/
Battery capacity	/	Ah	/	60	/	/

10、System Protection Function

Item	Symbol	Unit	Typical	Remarks
Battery under-voltage protection	Vo	Vdc	43.2	
Battery over-voltage protection	Vo	Vdc	59.2	
High temperature protection for charging	/	°C	55	

The high temperature protection of charging restored	/	°C	50	
Charge low temperature protection	/	°C	-2	
Charge low temperature protection restored	/	°C	3	
Discharge high temperature protection	/	°C	60	
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 overload protection for each ports
Short circuit protection	/	/	/	Refer to short circuit protection for each ports
Total power protection	/	W	3800	DC output is preferred when the AC and DC are loaded at the same time. If the AC load exceeds 3800VA, the AC is disconnected.

11、Environmental Requirements

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
Working temperature (ambient 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			forced cooling by Fan			

12、Other Characteristics

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
The life time	Lf	year	3			
Mean interval failure time estimation	MTBF	hours	200000			Ta 25°C (MIL-HDBK-217F)
Weight	N.W	g		37800		
Dimension	DIM.	mm (inch)	L*W*H 25.2*11.9*17.2in (641.5*304.5*437.5mm)			

Remarks: Unless otherwise specified, all the above parameters are measured under the fully loaded state of the product and at 25°C.

13、Safety Regulation

Certification Safety	Safety standard	Status	Remarks
UL	UL2743	pending	












14、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

15、Safety Test Projects

Safety test	Technical requirement	Remarks
Surge	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

16、Fault code

Fault code	Fault information	Status	Remarks
E000	AC output short circuit protection	 +  Flashing, no output	Press the AC output power on/off button for recovery
E001	Output overload protection	 +  +  Flashing, no output	Flashing icons indicates which circuit overload, Overload protection needs to be restored manually, UPS function overload 5000W 1s
E002	AC Battery low voltage protection	The corresponding port has no output	After protection, restart corresponding function keys to restore functions, and recharge it timely
E003	AC input over-voltage and low voltage protection	 Flashing, no output	Automatically recover when voltage is normal
E004	Abnormal AC input frequency	 Flasing, no AC input	Automatically recover when frequency is normal
E005	High and low bus voltage, over-current	 Flashing, no output	You need to manually press the AC power button to recover
E006	Inverter over-temperature charging over-temperature protection	 +  +  Flashing, no output	Temperature lower down to normal level, it will recover automatically
E007	PV input low-voltage/ over-voltage protection	Photovoltaic without charging	It will recover automatically when input voltage adjust to the input voltage range

E008	12V30A overload / short circuit protection	 +  Flashing, no output	You need to manually press the DC power button to recover
E009	24V auxiliary power overload short circuit alarm	The DC board reports an error but output is normal	Reduce the load on the DC port
E010	Cigarette lighter port overload and short circuit	 +  Flashing, no output	You need to manually press the DC power button to recover
E011	USB-A port overload and short circuit	 +  Flashing, no output	You need to manually press the DC power button to recover
E012	USB-C port overload and short circuit	 +  Flashing, no output	You need to manually press the DC power button to recover
E013	Battery low voltage protection under DC discharge	 Flashing, no output	After protection, restart corresponding function keys to restore functions, and recharge it timely
E020	BMS communication failure	 Flashing, no output	Check BMS communication cable
E021	Battery cell high voltage alarm	Battery capacity percentage flashing	Set the device aside and wait for the battery voltage to recover automatically
E022	Battery cell low voltage alarm	Battery capacity percentage flashing	Connect the AC charging cable and keep charging until the voltage is normal
E023	Total battery voltage is too high	E23 code flashing but output is normal	Set the device aside and wait for the battery voltage to recover automatically
E024	Total battery voltage is too low	 Flashing, no output	Connect the AC charging cable and keep charging until the voltage is normal
E025	Battery high temperature	 +  Flashing, no output	Automatically recover when temperature cooling down
E026	Battery low temperature	 +  Flashing, no output	Automatically recover when temperature going up
E027	System overload	The AC icon flashes, AC output close, DC output is normal, the AC load is higher than 5500VA or AC+DC load is higher than 5500W	You need to manually press the AC power ON/OFF button to recover
E028	Charging over temperature	 +  Flashing, device stop charging	Automatically recover when temperature cooling down

17、Accessories List

No.	Accessory name	Quantity	Remarks
1	S3	1	
2	AC Cable	1	
3	Anderson to car charger adapter 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	

18、Packaging

- Net weight: 37.5Kg±0.5
- Quantity: 1PCS
- Package size: L*W*H=763*414*600 mm
- Package size with pallet: L*W*H=785*455*640mm
- N.W./G.W with pallet: 37.5/45Kg



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



It is suitable for transportation by car, ship, and airplane. During transportation, it should be covered; sun protected and civilized loading and unloading.

Storage



Product storage should comply with GB 3873-83.



When storing for a long time, it is recommended to charge it every six months to avoid damage to the battery due to over-discharge.

RoHS:



Products comply to the European Standard 2011//65/EC

Change Record

Version	Change content	Date	Remark
V0.9	Draft Version	2023/03/10	