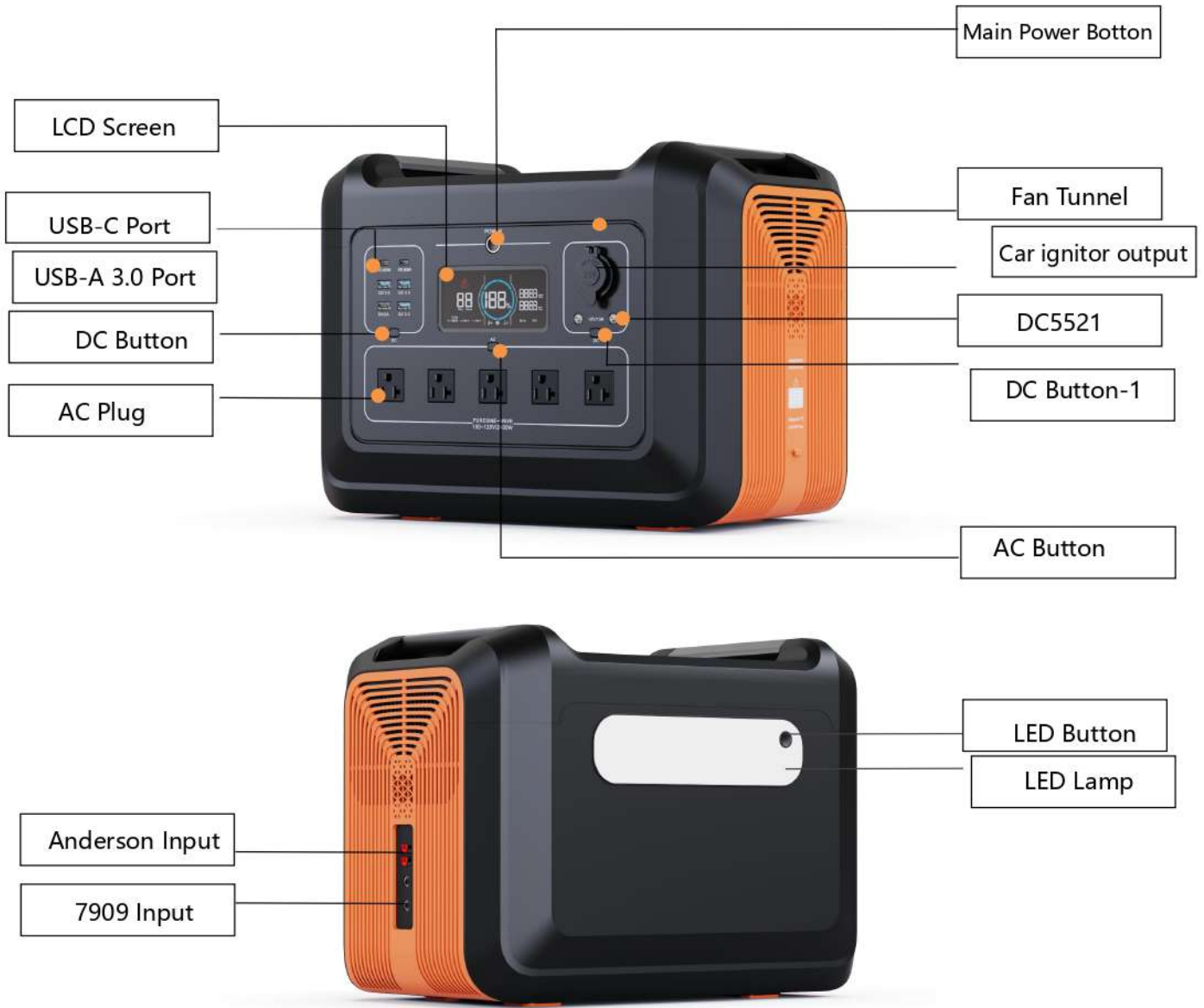


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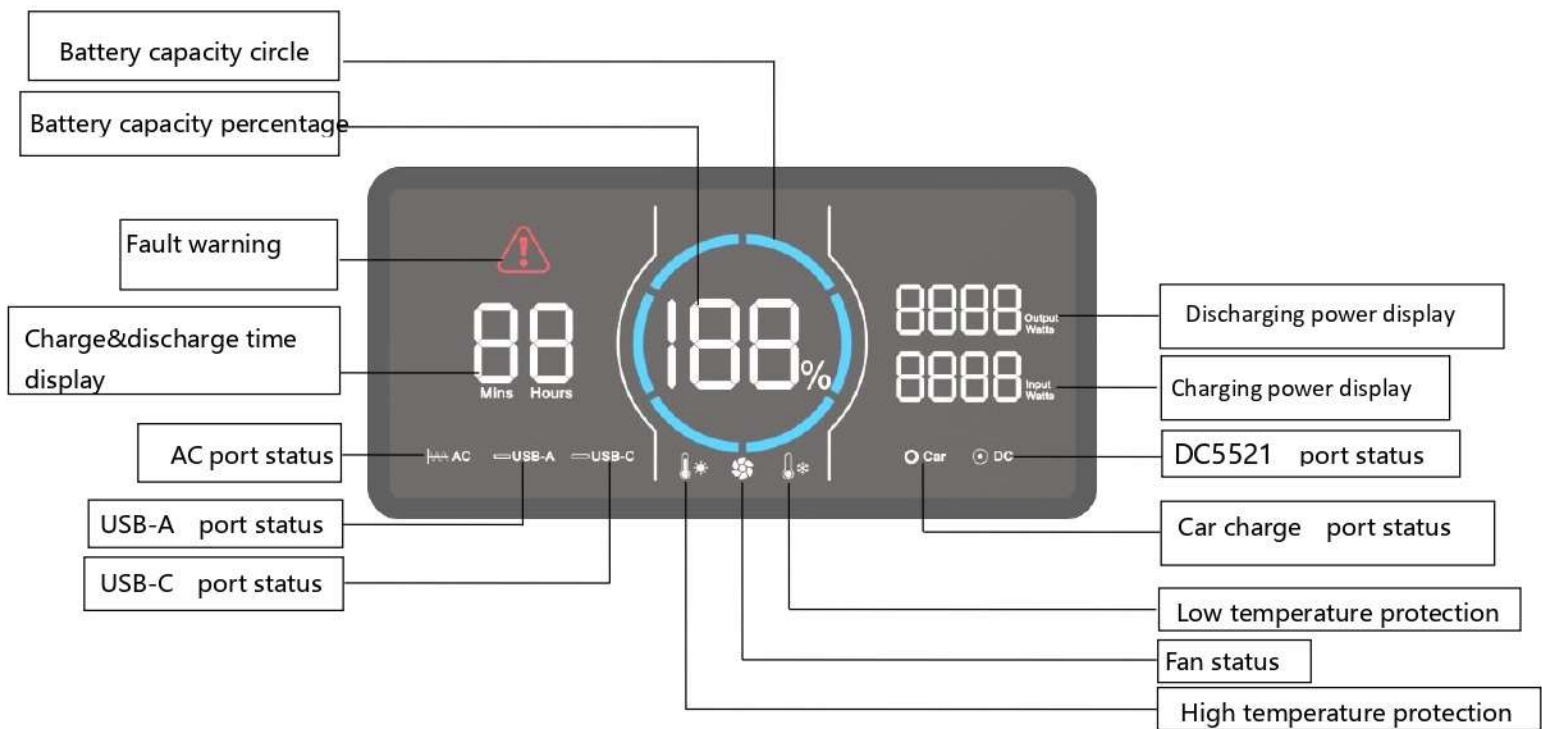
General Description:

This product is a high-end fashion off-grid portable power station, independently developed by Shenzhen Kerui Power Storage Technology Co., Ltd. Light and portable, stylish and generous, using automotive-grade LiFePO4 battery, safe, reliable, and durable; providing 110V /12V/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
UPP-2400	2400W	32135 LiFePO4 15.5Ah/3.2V	10S3P (46.5Ah/48V)	2232WH



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1、Control and display

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Item	Features	
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&DC power button-1	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
LED lamp power button	Control LED lighting on or off	Press the button once (no need to turn on the main switch), the LED brightness is 50%, press again to be 100%, press again to SOS signal, press again to turn off, and then cycling in turn. The LED lighting module is not controlled by the main switch
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.
Charging power display	Display charging power	Display current charging power when charging
Discharge 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	When the fan is on, the icon is displayed. When closed, the icon goes out.

	status	
Car charger port status indication	Indicate the working status of the car charger port	When the car charger is turned on, the icon is displayed, when it is turned off, 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 5 minutes, the screen backlight is off. When charging, it is fully lit, and if no button operation is detected for 5 minutes, the screen backlight is off. When the charge is removed, 30% brightness, it will go out automatically without operation after 5 minutes.
Power button breathing light		When charging, discharging, and standby, the breathing light flashes, and the breathing light goes out during sleep..
Note:		

2、2、 DC Input Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Input voltage range	Vin	Vdc	12~45	The product is equipped with a standard 24V/ 8.3a charger, intelligent identification of MPPT, photovoltaic panel input can support the maximum open circuit voltage 45V current 12A, two independent MPPT
Input current range	Iin	A	0~8.3	
Adapter charging time	/	Hour	5~7	2 chargers charging
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%
Input port	/	/	/	DC7909 female end, middle and inner ring are positive, outer ring is

				Negative Two independent Anderson interfaces, the Anderson interface and DC7909 are in parallel
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3、DC Output Characteristics

3.1、Car Charger Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	V_o	Vdc	12	
Output current range	I_o	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

3.2、DC5521 Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	V_o	Vdc	12	
Output current range	I_o	A	10	Two DCs (5521) are output in parallel, and the total current 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

4、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	/	/	/	Two USB-A independent outputs

5、USB-C (PD60W) 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	
Overload protection	/	A	3.3A	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.

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Output port	/	/	/	One USB -C output
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6、AC Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	Vo	Vac	110	
Output power	Po	W	2400	
Peak output powe		W	5000	Duration $\leq 200\text{ms}$
Output AC frequency	F	Hz	60	50HZ/60HZ can be set
Output AC waveform	/	/	/	Sine wave
Overload protection	/	W	100%~110%	If the output current exceeds the current limit for 1min, 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	110%~135%	If the output current exceeds the current limit for 20 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.
Output port	/	/	/	AC 2PIN American socket, 3 parallel output

7、LED Lighting Output Characteristics

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
Output power	/	W	3.5	5	8	/
Luminous flux	/	lm	/	700	/	/
Color temperature	CCT	K	3850	4000	4150	/
CRI	CRI		80	/	/	/

8、Battery Pack Parameters

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
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Cell model	/	/	/	/	/	32135 LiFePO ₄
PACK Way	/	/	/	/	/	15 series 3 parallel
Voltage	/	Vdc	/	48	/	/
Battery capacity	/	Ah	/	46.5	/	/

9、System Protection Function

Item	Symbol	Unit	Typical	Remarks
Battery undervoltage protection	Vo	Vdc	40.5	
Battery overvoltage protection	Vo	Vdc	55.5	
High temperature protection for charging	/	°C	60	
The high temperature protection of charging restored	/	°C	55	
Charge low temperature protection	/	°C	-10	
Charge low temperature protection restored	/	°C	0	
Discharge high temperature protection	/	°C	65	
Discharge high temperature protection restored	/	°C	55	
Discharge low temperature protection	/	°C	-20	
Discharge low temperature protection restored	/	°C	-10	
Overload protection	/	W	/	See overload protection for ports
Short circuit protection	/	/	/	See short circuit protection for ports
Total power protection	/	W	2600	DC output is preferred when the AC and DC are loaded at the same time. If the AC load exceeds 2600VA, the AC is disconnected.

10、Environmental Requirements

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
Working temperature (ambient temperature)		°C	0	25	40	
Working humidity			10%	--	90%	

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Storage temperature		°C	-20	25	65	
Storage humidity			5%	--	95%	
Altitude		m	-50	--	3000	
Cooling method			Fan forced cooling			

11、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		20700		
Dimension	DIM.	mm (inch)	L*W*H 16.5*10.6*12.3in(420*270*313mm)			

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	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

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Harmonic	IEC/EN 61000-3-2	Class C
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14. Safety Test Projects

Safety test	Technical requirement	Remarks
Surge	1500Vac/5mA/60S	AC output-ground, no breakdown, no arcing
Insulation resistance	$\geq 100\text{Mohm}$	AC output to ground, test voltage 500Vdc
Leakage current	$\leq 0.75\text{mA}$	110Vac

15. Fault code

Fault code	Fault information	Status	Remarks
E00	AC short circuit protection	AC+ Red Warning icon blinking, no output is displayed	You need to manually press the AC power button to recover
E01	Output overload protection	AC and DC ICONS plus red warning ICONS blink, and no output is displayed	The function icon represents where to overload. The overload protection needs to be manually restored
E02	Battery low voltage protection	The function icon blinks, and the corresponding port has no output	After protection, restart corresponding function keys to restore functions
E03	System overload when AC and DC are used at the same time	The AC icon blinks, and the AC has no output	When the system concurrently uses more than 2000W, turn off the AC output or reduce the AC load to ensure that the DC output power supply is preferred
E04	Inverter fault	AC+ Red Warning icon blinking, no output is displayed	The inverter voltage is too high or too low. The load current is abnormal. Hardware sampling bias is abnormal
E05	BMSfault	The red warning icon blinks. Each function icon cannot be on, and no output is generated for each function	The communication between the charge protection board fails, and the battery temperature is too high

16. Accessories List

No.	Accessory name	Quantity	Remarks
1	UPP-2400N-O	1	
2	Adapter 24V/8.3A	2	
3	Car charger to DC7909 charging cable	1	
4	User manual	1	
5	Warranty card	1	