

# SPECIFICATION

**PART NO. :**

**MODEL NO. :** UPP-2400 Series (EU)

**DESCRIPTION :** EU Standard, 2232Wh, AC 2400W 230V, PV  
220W\*4, DC 120W, QC3.0\*2+5V2A+PD60W\*2

**VERSION NO. :** V0.9

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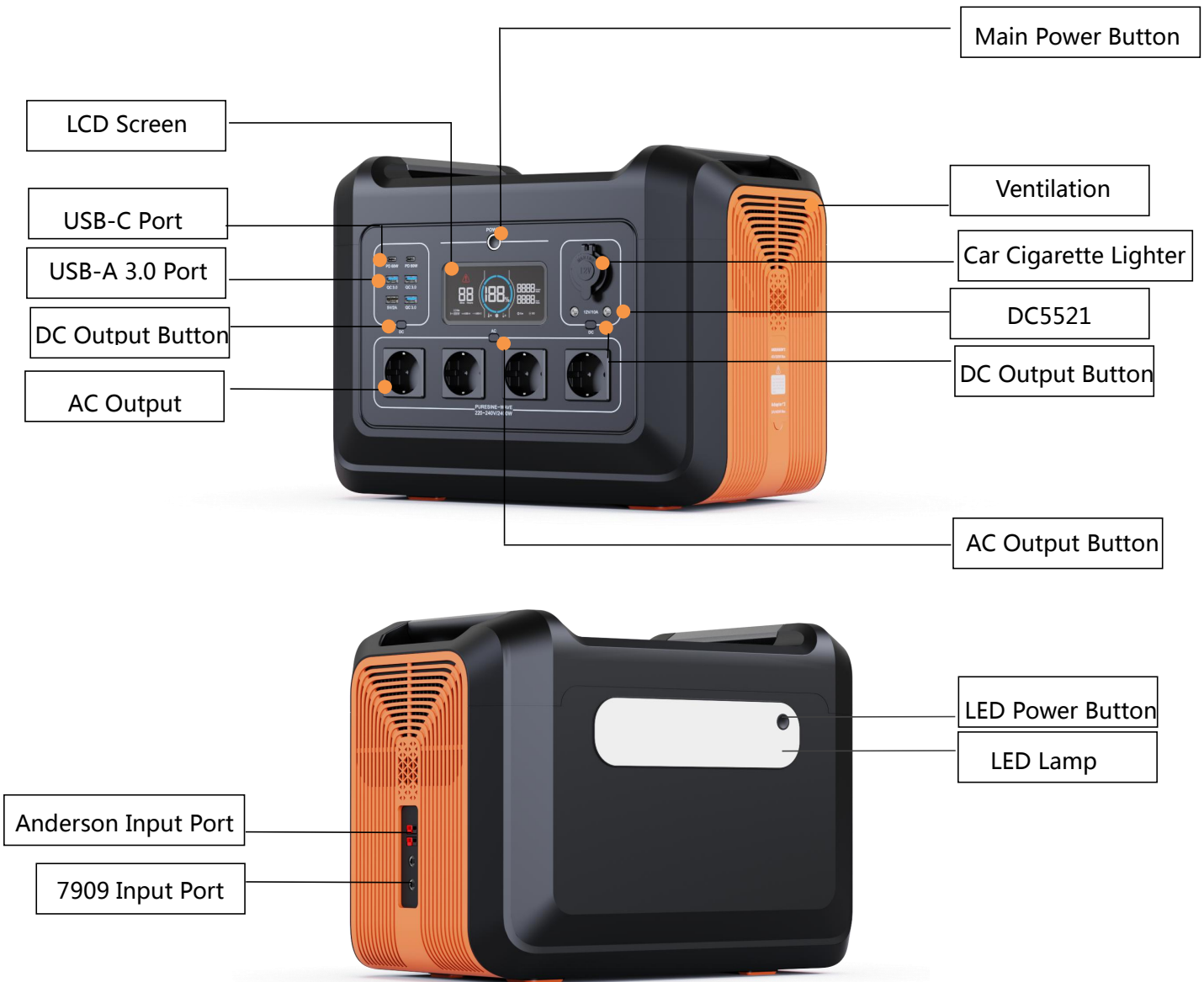
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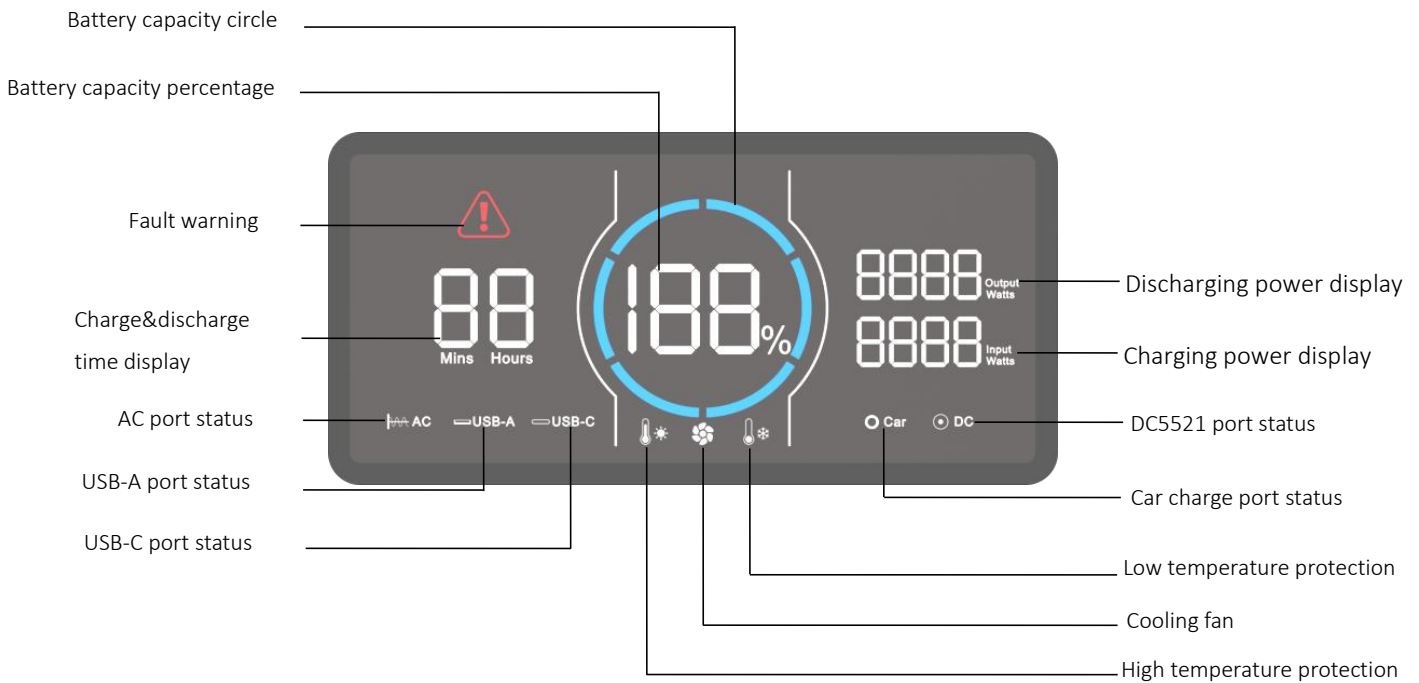
Add: Building A3, Zhengfeng Industrial Park, Fuhai Town, Bao'an District, Shenzhen, China

**General Description**

This product is a high-end and fashionable off-grid portable power station, independently developed by Shenzhen Pordie Energy Technology Co., Ltd., using automotive-grade LiFePO4 battery which is safe, reliable and durable. It provides 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. Furthermore, it's convenient for people to use at home, travel, outdoor working/performances, camping/picnics, mountaineering and adventures, etc.

Model#	AC Output Power	Battery	Pack Way	Battery Capacity
UPP-2400	2400WMax	32135 LiFePO4 15.5Ah/3.2V	15S3P ( 46.5Ah/48V )	2232Wh





## 1、 Control and display

Item	Features	Notes
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	Control car charger and DC5521 output or turn off	When the main power switch is turned on, lightly press the button to turn on the car charger and DC5521 output; press it again to turn off. 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	Battery level 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 a marquee. When the product is fully charged or the charger is disconnected, the battery indicator stops. The percentage and outer circle are displayed according to the actual battery.. When discharging, the battery capacity percentage is displayed according to

		the actual power. The blue circle decreases in percentage accordingly.
Charging/discharging power display	Display charging/discharging power	If the charging power is greater than the discharging power, the charging power is displayed; if the discharging power is greater than the charging power, the discharging power is displayed.
Remaining charge/discharge time	Display remaining charge/discharge time	Real-time display of remaining charge/discharge time according to current battery capacity and charge/discharge power. Display logic: when the time exceeds 1 hour, it is displayed in X.Y hours, and 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 on indicator	Indicate fan working status	When the fan is on, the icon is displayed. When closed, the icon goes out.
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 of Buttons	/	Will be off after 1 minutes without any operation.
Power button breathing light	/	When charging, discharging, and standby, the breathing light flashes, and the breathing light goes out during sleep.

## 2、DC Input Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Input voltage range	V <sub>in</sub>	V <sub>dc</sub>	12-45	The product comes standard with 2 pcs 24V/8.3A adapters, intelligent recognition MPPT, PV input can support 45V/12A Max open circuit voltage, two independent MPPT(Max240W*4)
Input current range	I <sub>in</sub>	A	0-8.3	
Adapter charging time	/	Hrs	5-7	2*standard 24V/8.3A adapter

Solar panel charging time	/	Hrs	/	The maximum charging time depends on the light intensity and solar panel power
Maximum charging interval time	/	month	/	Store power $\geq 50\%$
Input port	/	/	/	Dual independent DC7909 ports, DC7909 female end, middle and inner ring are positive, outer ring is negative Dual independent Anderson ports, in parallel with DC7909

### 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 DC (5521) outputs are 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	$V_o$	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	$I_o$	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	Io	A	3	
Overload protection	/	A	3.3	If the output current exceeds this current limit point, the output will be turned off. After the overcurrent 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

### 6、AC Output Characteristics

Parameter	Symbol	Unit	Typical	Remarks
Output voltage range	Vo	Vac	230	/
Output power	Po	W	2400	
Peak output power	/	W	5000	Duration ≦ 200mS
Output AC frequency	F	Hz	50	50/60Hz can be switched
Output AC waveform	/	/	/	Pure Sine wave
Overload protection	/	W	100-110%	If the overload last for 1 minutes, the output will be turned off. After the over current is released, you need to manually press the AC switch to restore .
	/	W	110-135%	If the overload last for 20s, the output will be turned off. After the over current is released, you need to manually press the AC switch to restore.
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.
Output port	/	/	/	AC 2-PIN EU socket, 4 parallel outputs

## 7、LED Lighting Output Characteristics

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
Output power	/	W	3.5	7	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
Cell model	/	/	/	/	/	32135 LiFePO4
Pack method	/	/	/	/	/	15 series 3 parallels
Voltage	/	Vdc	/	48	/	/
Battery capacity	/	Ah	/	46.5	/	/

## 9、System Protection Parameters

Parameter	Symbol	Unit	Typical	Remarks
Battery under-voltage Protection	Vo	Vdc	40.5	
Battery over-voltage Protection	Vo	Vdc	55.5	
Charging high temperature protection	/	°C	60	
Charging high temperature protection recovery	/	°C	55	
Charging low temperature protection	/	°C	-10	
Charging low temperature protection recovery	/	°C	0	
Discharging high temperature protection	/	°C	65	
Discharging high temperature protection recovery	/	°C	55	
Discharging low temperature protection	/	°C	-20	
Discharging low temperature protection recovery	/	°C	-10	
Overload protection	/	W	/	Refer to the overload protection of each ports
Short circuit protection	/	/	/	Refer to the short circuit protection of each ports
Overall power protection	/	W	2600	AC and DC load simultaneously, prior to DC output The AC would be turned off when its power is higher than 2600W

## 10. Environmental Requirements

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
Working temperature (ambient temperature)	°C	degree	0	25	40	/
Working humidity	/	/	10%	--	90%	/
Storage temperature	°C	degree	-20	25	65	/
Storage humidity	/	/	5%	--	95%	/
Altitude	m	meter	-50	--	3000	/
Cooling method	/	/	--			Cooling fan forced heat dissipation

## 11. Other Characteristics

Parameter	Symbol	Unit	Min.	Typical	Max.	Remarks
Warranty	Lf	year	2			--
Estimated mean time between failures	MTBF	hours	200000			Ta 25°C (MIL-HDBK-217F)
Weight	N.W	g		20700		--
Dimension	DIM.	mm (inch)	L*W*H 420*270*313mm (16.5*10.5*12.3 inch)			--

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
FCC			
CE			
ROHS			
UN38.3			
UL	UL 2743	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
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

## 15. Error Code and Trouble Shooting

Error Code	Reason	Status	Remarks
E00	AC Short Circuit Protection	AC+ Red Warning icon flashing, no output	Long press the AC Main Power Button to restore
E01	Output Over-Load Protection	AC+DC function icon+Red Warning icon flashing, no output	The function icon represents which area is overload. Reduce the output power and Long press the AC Main Power Button to restore
E02	Battery Low Voltage Protection	Area function icon flashing, related ports no output	Long press the AC Main Power Button to restore
E03	AC&DC over-load	AC Icon flashing , AC 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 Error	AC+Red Warning icon flashing, no output	The inverter temperature is too high or too low. Or the load current is abnormal. Or the hardware sampling bias is abnormal
E05	BMS Error	Red warning icon flashing, other area function icon go out, no output	The communication between the charge protection board fails, or the battery temperature is too high

## 16. Accessories List

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

## 17. Packaging

- Net weight : 20.7kg+/-0.5
- Quantity : 1pc
- Package size : L\*W\*H=520\*370\*435 mm (20.5\*14.6\*17.3inch)
- Gross weight : 23.7kg



## Precautions

- If the product package 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 once every 3 months to avoid damage to the battery due to discharge.

## RoHS:

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

### Change Records

Version No.	Change Content Description	Date	Remarks
V0.9	Initial Draft	2021/08/04	