

产品规格书

Product Specification

移动储能电源 Mobile Power Station 产品型
号 Product Model: Energipak 1000

产品设计准备 Product Design Preparation	产品设计审批 Product Design Approval	销售审批 Sales Approval	项目工程审批 Project Engineering Approval	品质保证审批 Quality Assurance Approval
客户确认 Client Confirmation	签名 Signature:		公司印章 Company Seal:	
	日期 Date: 2024 年 12 月 14 日			
	客户代码 Customer Company Code:			

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1. Overview 产品概述

1.1 Product Description 产品介绍 Energizer 1000 是一款便携式多功能移动储能电源，该产品采用模块化设计，集双向逆变、PV 功能于一体，同时支持 USB/Type-c 输出功能。

Energizer 1000 is a portable and multifunctional mobile energy storage device that integrates bidirectional inversion and PV functionality, while supporting USB and Type-C output.

图 Picture :



1.2 Product Configuration 产品配置

1 输出端口 Output port

配置类型 Configuration Type	配置参数 Configuration Parameters
交流输入 AC Input	1 路电池输入口/1 battery input port
PV 输入 PV Input	1 路电池输入口/1 battery input port

交流输出 AC Output	1 路交流输出口/1 AC output port
DC 输出 DC Output	2 路 DC 输出口/2 DC output ports

2 性能参数 Performance parameters

No.	参数 Parameter	产品规格 Specification	条件 Condition / Note
1	产品尺寸 Size (L×W×H)	290×210×135mm	
2	产品重量 Weight	8.94kg	
3	认证项目 Certification	UN38.3/CE	
4	交流输入功率 AC Input Power	200W/Max	Connector ×1
5	额定交流输入电压 Rated AC input voltage	230Vac,50/60Hz AC 输入电压范围: Input voltage range 176~264 VAC	
6	AC 最大输入电流 AC Max input current	1.5A	
7	PV 输入功率 PV input power	12-36Vdc/10A Max/200W Max	Connector ×1
8	交流输出总功率 Total AC Output Power	200W Max	Connector ×1
9	交流输出电压 AC Output Voltage	176VAC~230VAC ± 5% ,50/60Hz	
10	DC 直流输出 DC Output	TYPE-C 5V3/9V2, Max18W	Connector ×1
		USB-A 5V2A, Max 10W	Connector ×2
11	逆变器保护功能 Inverter protection	输入欠压、过压、输出过载、 过温、短路保护 Input UVP, OVP, output overload, OTP, OCP protection	
12	电芯材料 Cell material	磷酸铁锂 LFP batteries	

13	循环寿命 Cycle life	≥8000 次 Times	标准循环 Standard Cycle 25±2℃, 0.5C/0.5C, 70%SOH
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15	电池电量显示 Battery level display	4 段 LED 4-segment LED	4 颗绿色 LED 显示电量 4 green LEDs show the power
16	出货 SOC Shipping SOC	50~60%	
17	充电工作温度 Charging Temperature	0~60℃	
18	放电工作温度 Discharging Temperature	-20~60℃	
19	最佳充放电温度范围 Optimum Charging and Discharging Temperature	20~30℃	
20	存储环境温度 Storage Temperature	-20~45℃	
21	散热方式 Heat dissipation	风冷 Air-cooled	
22	睡眠模式 Sleep mode	DC 耗电小于 5.2A The consumption is less than 5.2A.	30 分钟后进入休眠模式 Enter sleep mode in 30 minutes.
14	标准容量 Standard capacity	1004Wh Max	标准充放电模式测试 Standard charge/discharge mode test

3 系统 system

No.	项目 Item	功能说明 Function Description	备注 Remarks
1	开机 Power On	满电全绿在关机状态下，按 2S 开机按键，此时电量指示灯点亮，打开逆变输出 When fully charged, all LEDs are green. In the off state, press and hold the power button for 2 seconds to turn on the power. The battery indicator lights up, and the inverter output is activated.	
2	开机按键功能 Power On Button Function	1、无 AC 输出状态下按 2S 开启 AC 输出， 2、有 AC 输出状态下按 2S 关闭 AC 输出 1.In the absence of AC output, press and hold for 2 seconds to activate AC output. 2. When AC output is active, press and hold for 2 seconds to deactivate AC output.	
3	LED 显示 LED Display	从左到右，共 4 颗绿色 LED 指示电量，分别为 LED1，LED2，LED3，LED4 电量指示灯，和最左侧的绿色 LED1 同一指示位置的还有一颗红色 LED0 作为故障指示 From left to right, there are four green LEDs indicating the battery level: LED1, LED2, LED3, and LED4. The leftmost green LED1 shares the same position with a red LED0, which serves as a fault indicator.	
4	放电指示灯显示 Discharge Indicator Display	1) 电量 $\leq 25\%$，只亮 LED1 When the battery is greater less than or equal to 25%, only LED1 lights up. 2) 电量 $> 25\%$ 且 $\leq 50\%$，同时亮 LED1、LED2 When the battery is greater than 25% but less than or equal to 50%, both LED1 and LED2 light up 3) 电量 $> 50\%$ 且 $\leq 75\%$，同时亮 LED1、LED2、LED3 When the battery is greater than 50% but less than or equal to 75%, LED1, LED2, and LED3 all light up. 4) 电量 $> 75\%$ 且 $\leq 100\%$，同时亮 LED1、LED2、LED3、LED4 When the battery is greater than 75% but less than or equal to 100%, LED1, LED2, LED3, and LED4 all light up.	

5	充电指示灯显示 Charging Indicator Display	1)电量小于 25%，只闪 LED1 When the battery is less than 25%, only LED1 blinks. 2)电量$\geq 25\%$且 $< 50\%$，亮 LED1 和闪 LED2 When the battery is greater than or equal to 25% but less than 50%, LED1 lights up and LED2 blinks 3)电量$\geq 50\%$且 $< 75\%$，同时亮 LED1、LED2、闪 LED3 When the battery is greater than or equal to 50% but less than 75%, LED1 and LED2 light up, and LED3 blinks 4)电 量 $\geq 75\%$ 且 $< 100\%$，同 时 亮 LED1、LED2、LED3、闪 LED4 When the battery is greater than or equal to 75% but less than 100%, LED1, LED2, LED3 light up, and LED4 blinks 5)电 量 100% 同 时 亮 LED1、LED2、LED3、LED4 When the battery is 100%, LED1, LED2, LED3, and LED4 all light up.	充电的时候（只要有 PV 或者 AC 充电，不管有无输出，都按充电态显示） When charging (as long as there is PV or AC charging, regardless of output, it will display the charging state)
6	故障状态 Fault Status	LED0 红灯常亮（其余灯不亮） LED0 Red Light Always On (Other LEDs Off)	在没有任何充电情况下，按键 1.5S 关闭放电 When there is no charging input, press and hold the button for 1.5 seconds to turn off the discharge.
7	关机 Power Off	指示灯全部熄灭 All Indicators Off	
8	AC 充电激活整机 AC Charging Activates the Whole System	在待机或者休眠状态 AC 输入，产品开机及电量指示灯点亮 When in standby or sleep mode ,AC input powers On the system and lights up the battery indicator.	
9	PV 充电激活整机 PV Charging Activates the Whole System	在待机或者休眠状态 PV 输入，产品开机及电量指示灯点亮 When in standby or sleep mode, PV input powers on the system and lights up the battery indicator.	
10	复充 Recharge	电池在 PV/AC 充满后，如输入一直在线，需电芯电压降到 3.2V 及以下重启充电 After PV/AC charging is complete, if the input remains online, the battery will restart charging when	

		the charge level drops to 3.2V or lower.	
11	低电量 Low Battery	1. 电流小于 5.2A, 若无市电、无光伏输入, 半个小时后关闭逆变输出, 会立即进入休眠 2. 电池电压$\leq$2.8V, 整机立即下电休眠 1.The consumption is less than 5.2A., if there is no mains, no photovoltaic input, turn off the inverter output after half an hour, it will immediately go to sleep 2. If the battery voltage is less than or equal to 2.8V, the system powers off immediately and goes to sleep	
12	光伏与市电同时输入 Simultaneous Input from PV and Grid	PV 和 AC 同时有输入, PV 优先充电, PV 输入功率低于 60W, 充电 60S 切换到 AC 充电, AC 充电 20 分钟再切换到 PV 充电, 此时 PV 充电功率在 60W 以上, 维持 PV 充电, 否则充电 60S 切换到市电充电; PV and AC have input at the same time, PV is charged first, the PV input power is lower than 60W, 60S of charging switch to AC charging, AC charging for 20 minutes and then switch to PV charging, when the PV charging power is above 60W, maintain PV charging, otherwise 60S of charging switch to mains charging.	

2. 输入特性 Input Electrical Characteristics

DC 输入特性 DC output characteristics			
项目	技术要求	单位	备注
输入额定电压	3.2	V dc	
输入电压范围	3.7	V dc	软件设置点 3.7V, 误差 $\pm$ 0.05V
输入欠压保护	2.8	V dc	误差 $\pm$ 0.1V (SOC0%禁止放电), 系统进入深度休眠
低压返回点	3.0	V dc	

3. 输出特性 Output Electrical Characteristics

AC 输出特性 AC output characteristics			
项目 Item	指标要求 Specification	单位 Unit	备注 Remarks
额定输出电压 Rated Output Voltage	220	Vac	电池电压 $\geq 3.3V$ Battery Voltage $\geq 3.3V$
输出电压范围 Output Voltage Range	230	Vac	随负载波动, $\pm 10\%$ 范围波动 Fluctuates with load, within $\pm 10\%$ range
输出最大功率 Maximum Output Power	200	W	
动态电压瞬变范围 (%) Dynamic Voltage Transient Range (%)	± 15		0%-100%-0%负载 0%-100%-0% Load
电压瞬变恢复时间 Voltage Transient Recovery Time	60	ms	0%-100%-0%负载 0%-100%-0% Load
THDV	3	%	3-3.6Vdc 输入, 带额定阻性负载 3-3.6Vdc Input, with Rated Resistive Load
	10	%	3-3.6Vdc 输入, 带非线性负载 3-3.6Vdc Input, with Non-linear Load
输出频率 Output Frequency	50/60	Hz	50/60Hz $\pm 1Hz$ 频率输出自适应, 下电要保持 (默认 50Hz) 50/60Hz $\pm 1Hz$ Adaptive Frequency Output, retains setting when powered off (default 50Hz)
效率 Efficiency	≈ 85.5	%	输入 3.2V, 阻性满载; 不带风扇 Input 3.2V, Resistive Full Load; without Fan
输出波形 Output Waveform	正弦波 Sine wave		

4. 保护功能 **Protection**

输入保护特性		
Input Protection Features		
保护类别 Protection Category	额定值 Rated Value	备注 Remarks
输入过压保护 (Vac) Input Over voltage Protection (Vac)	265	软件值: 265Vac Software Value: 265Vac
输入欠压保护 (Vac) Input Under voltage Protection (Vac)	175	- 软件值: 175Vac Software Value: 175Vac
输入过压恢复 Input Over voltage Recovery	263	- 软件值: 263Vac Software Value: 264Vac
输入欠压恢复 Input Under voltage Recovery	177	软件值: 177Vac Software Value: 177Vac
输出保护特性		
Output Protection Features		
保护类别 Protection Category	额定值 Rated Value	备注 Remarks
输出过压保护 Output Over voltage Protection	150V(min)	

输出过载保护 Output Overload Protection	/	输出功率 210W-250W 延时 60S 限制功率到 205W，输出功率 250W-270W 延时 30S 限制功率到 205W，输出功率 270W-280W 延时 3S 限制功率到 205W，输出功率 280W 以上立即限制功率到 205W AC 旁路输出过功率：输出功率 230W-250W 延时 60S 过功率 1 保护，输出功率 250W-300W 延时 50S 过功率 2 保护，输出功率高于 300W 延时 0.5S 报 AC 输出过流保护 Output power 210W - 250W, delay 60 seconds, limit power to 205W; output power 250W - 270W, delay 30 seconds, limit power to 205W; output power 270W - 280W, delay 3 seconds, limit power to 205W; output power above 280W, immediately limit power to 205W. AC bypass output over-power: output power 230W - 250W, delay 60 seconds, over-power 1 protection; output power 250W - 300W, delay 50 seconds, over-power 2 protection; output power above 300W, delay 0.5 seconds, report AC output over-current protection.		
输出欠压保护 Output Under voltage Protection	-	-	2.8	
过温保护 Over-temperature Protection	电池：60℃ Bat：60℃ DCDC：115℃	-	-	温度下降恢复，继续上升锁住 Recovery occurs when the temperature decreases; locks again if it continues to rise.

5 贮存与运输 Storage and transportation

1 贮存 Storage

如果要长时间存放(超过 3 个月)，应存储在温度范围为 -10~35℃@85%RH Max，不含腐蚀性气体的环境中，建议每隔 3 个月充放电一次，SOC 保持在 40-50%之间。电源应贮存在清洁、干燥、通风良好的仓库内，避免与腐蚀性物质接触，远离火源及热源。产品应避免机械冲击或其它重物的重压。

If it needs to be stored for a long time (more than 3 months), it should be stored in an environment with a temperature range of -10~35 °C @ 85% RH Max and free of corrosive gases. It is recommended to charge and discharge it every 3 months, and keep the SOC between 40-50%. The power supply should be stored in a clean, dry, and well ventilated

warehouse, avoiding contact with corrosive substances and keeping away from sources of fire and heat. The product should avoid mechanical impact or heavy pressure from other objects.

2 运输 Transport

电源运输过程中电池荷电状态应处于 30~60%，在运输中不得受剧烈机械冲撞、暴晒、雨淋、倒置。在装卸过程中，应轻搬轻放，严防摔掷、翻滚和重压。

During the transportation of the power supply, the battery should be charged at 30-60% and should not be subjected to severe mechanical impact, exposure to sunlight, rain, or inversion. During the loading and unloading process, handle with care and strictly prevent throwing, rolling, and heavy pressure.

6 使用注意事项 Precautions for use

为防止产品可能发生泄漏、发热、爆炸，请注意以下预防措施：

To prevent possible leakage, heating, and explosion of the product, please pay attention to the following preventive measures:

6.1 请将电源置放在孩童无法够触的区域。

Please place the power supply in an area out of reach of children.

6.2 严禁将电源正负极短路，安装中请勿将正负极接错（红线为正极，黑线负极）。

It is strictly prohibited to short-circuit the positive and negative poles of the power supply. During installation, do not connect the positive and negative poles incorrectly (the red line is positive, the black line is negative).

6.3 电源充电必须使用不能超过限定参数。

Power charging must not exceed the specified parameters.

6.4 请在环境温度-20℃~60℃内使用，在环境温度 0℃~55℃内进行充电，严禁在 0℃以

下进行充电。

Please use within the ambient temperature range of -20 °C~60 °C, and charge within the ambient temperature range of 0 °C~55 °C. Charging below 0 °C is strictly prohibited.

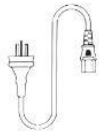
6.4 当电压降至大于截止电压时，请及时充电，充电不得超过 12 小时。

When the voltage drops below the cut-off voltage, please charge it in a timely manner, and the charging time should not exceed 12 hours.

6.5 请严格按照操作规范使用，选择通风开阔地点充电，并远离易燃易爆物品。

Please strictly follow the operating procedures, choose a well ventilated and open area for charging, and stay away from flammable and explosive materials.

7 包装清单 Packing list

Energipak 1000 And Accessories	
	Energipak 1000 Station ×1
	交流充电线缆×1，0.75A，1.5 米，通过墙上插座充电 AC Charging Cable ×0.75 A, 1.5m, Charge via Wall Socket