硕工® 电源
SHUOGONG POWER

文件编号：SG20220518001

产品介绍

Product introduction

产品名称：Product Name：600W 户外储能电源(600W Portable Power Station)　　型号 Model：CS-600

容量 Battery Capacity：460Wh

Edition：V3.0

拟定	审核	批准
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1.产品描述

本产品为便携式储能电源，其具有 2 个交流输出口（600W 110Vac/220Vac 50Hz/60Hz）、1 个直流(9V-12.6V)/10A（DC 5.5mm*2.1mm）输出口、1 个点烟口(9V-12.6V/10A) 输出口、3 个 QC3.0 输出口、1 个 Type-C (PD2.0 45W) 输出口、内置 15W LED 灯、15W 无线充电，LCD 屏显示等功能，产品包含直流充电端口，标配 AC 适配器 29.2V/3A 对系统进行充电，也可选配直流太阳能光伏充电或车载充电。

This is a portable power station. It equips with two AC outlets (2000W 110Vac/220Vac 50Hz/60Hz), one DC (9V-12.6V)/10A (DC 5.5mm*2.1mm) outlet, one Cigarette lighter Socket (9V-12.6V/10A), and three QC3.0 USB-A outlets, one Type-C (PD2.0 45W) outlet, built-in 15W LED light,15W wireless Charging Pad, LCD display and so on. The product equips with DC charging input, standard AC charging adapter 29.2V/15A to charge, and Accessories of DC solar charging or car charging for option.

2. 便携式储能电源基本参数 Basic Parameter Of Portable Power Station

2.1 DC 输入端口参数 DC Input

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
输入电压范围 Range of input voltage	12V	30V	36Vdc	该电压范围产品可以稳定充电工作 It can be charged in this range of input voltage stably.
充电保护电流 Input Current	5A	10A	15A	电池恒流稳定充电工作时电池端输入电流范围 It can be charged in this range of input current stably.
充电保护电流 Protection Of			16A	输入超过此直流端口将关闭，系统不允许充电 If the input current is over 16A, the protection will stop the charging.

Input Current				
充电电压纹波 Ripple of input voltage	80mV	120mV	150mV	额定输入、额定负载示波器带宽设置 20MHz,测试端并联 0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.
充电转化效率 Charging conversion efficiency	80%	---	---	
输入极性反接保护 Input Reverse Protection	---	支持 Support	---	输入接反时，系统无法充电 When the input circuit is reverse , the charging is not work.
输入过压保护 Input Over-voltage Protection			40V	超过该电压系统无法充电 When the input circuit is over-voltage, the charging is not w
输入短路保护 Input short circuit protection	---	支持 Support	---	输入短路时，系统不允许充电 When the input circuit is short circuit, the charging is not work.

2.2 充电器参数（安德森接口）Parameter of Charging Adapter(Anderson interface)

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
输入电压	100Vac	220Vac	240Vac	调整范围 90-264Vac Range of

Input Voltage				Adjustment : 90-264Vac
输入电压频率 Frequency of Input Voltage	50Hz	60Hz	61Hz	
浪涌电流 Surge Current	---	---	120A	当输出为额定负载，环境温度为 25℃,输入 220Vac 冷态起机时的 最大浪涌电流小于为 120A According conditions as follow: the output loading is rated, the ambient temperature is 25℃ , the input voltage is 220Vac and equipment is cold-start. The Maximum of surge current is less than 120A.
输入电流 Input Current	---	---	15A	当输入交流电压为额定值的下限电压负载满载时，最大输入交流电流 3A When the input AC voltage is the floor level of rated voltage and the load is full, the maximum input AC current is 3A.
静态功耗 Quiescent Dissipation	---	---	0.3W	空载、额定输入 No-load or rated input
浮充电压 Float charging voltage	27Vd	29.2Vdc	31Vdc	空载输出电压范围 The range of No-load output voltage
恒流充电 Constant current charging	2.90A	3.00A	3.60A	
能效等级	---	6 级		

Energy Efficiency Grade				
工作温度 Operation Temperature	0℃	---	45℃	
工作湿度 Operation Humidity	5%	---	95%	
认证 Certification	---	UL、PSE FCC、CE	---	
输出线长 Length of output cable	---	1.5m	---	输入线插头满足美标、日标 The input plug is optional, such as American standard or Japanese standard.
充电时长 Time of a fully charging	---	---	6Hrs	给本产品从电量 0%充至 100%所需时间 The required time to charge the product from 0% to 100%.

2.3 QC3.0 -1 输出端口参数 QC3.0-1 Outlet

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
5V 空载输出电压 5V output voltage in no-load state	4.65Vdc	5.10Vdc	5.30Vdc	输出空载条件下，测量产品 USB2 输出端口电压 Measure the output voltage in output port under no-load state.
5V 满载输出电压 5V output voltage in full-load state	4.65Vdc	5.00Vdc	5.30Vdc	输出满载条件下，测量产品 USB2 输出端口电压 Measure the output voltage in output port under no-load state
输出电压纹波	---	---	200mVp-p	额定输入、额定负载示波器带宽设置 20MHz,测试端并联 0.1uF 陶瓷

Ripple of output port				与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.
5V 额定输出电流 5V Rated output current	---	3.0A	---	电子负载端测试,产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过流保护 output over-current protection	3.3A	3.5A	3.7A	超过该电流将自动关闭输出,解除后自动恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
9V 空载输出电压 9V output voltage in no-load state	8.55Vdc	9.0V dc	9.50Vdc	输出空载条件下，测量产品端口输出端电压 Measure the output voltage in output port under no-load state
9V 满载输出电压 9V output voltage in full-load state	8.55Vdc	9.0Vdc	9.50Vdc	输出满载条件下，测量产品端口输出端电压 Measure the output voltage in output port under full-load state
9V 输出电压纹波 9V Ripple of output port	---	---	200mVp-p	额定输入、额定负载示波器带宽设置 20MHz,测试端并联 0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth

				setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.
9V 额定输出电流 9V Rated output current	---	2.0A	---	电子负载端测试，产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过流保护 9V output over-current protection	2.2A	2.4A	2.7A	超过该电流将自动关闭输出，故障解除后按键恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
端口休眠检测电流 output port current in sleep state	---	---	150mA	大于等于该电流视为有负载,确保USB 端口可持续输出 If the output current is greater than this range, the output port is in load state. The output port will output continuously.
自动识别负载电流 Automatic identify load current	---	有 YES	---	根据不同负载输出电流 The output current depends on the load.
短路保护 Short-circuit protection	---	有 YES	---	USB1 输出短路时，将自动关闭输出；当短路解除后，解除后自动恢复 In short-circuit state, the output will be shut down automatically. And automatically recover after relieve the failure.

即插即用 Plug and Play	---	无 Null	---	拨动开关 OFF 档或休眠状态下 Need to press the power switch
噪声 Noise	---	-- -	---	空载、半载、满载输出，环境 30DB，离耳朵 10CM 无开关噪声 In no-load, half-load, full-load output state, and the ambient noise is 30DB, the distance from ear to portable UPS is 10CM. No noise can be hear.
项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark

2.4 QC3.0 -2/-3 输出端口参数（共口）（同时使用单个 10W）QC3.0 -2/-3 Outlet （ Combo）

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
5V 空载输出电压 5V output voltage in no-load state	4.65Vdc	5.10Vdc	5.30Vdc	输出空载条件下，测量产品 USB2 输出端口电压 Measure the output voltage in output port under no-load state.
5V 满载输出电压 5V output voltage in full-load state	4.65Vdc	5.00Vdc	5.30Vdc	输出满载条件下，测量产品 USB2 输出端口电压 Measure the output voltage in output port under no-load state
输出电压纹波 Ripple of output port	---	---	200mVp-p	额定输入、额定负载示波器带宽设置 20MHz,测试端并联 0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf

				ceramic and 10uF electrolytic capacitor.
5V 额定输出电流 5V Rated output current	---	3.0A	---	电子负载端测试，产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过流保护 output over-current protection	3.3A	3.5A	3.7A	超过该电流将自动关闭输出，解除后自动恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
9V 空载输出电压 9V output voltage in no-load state	8.55Vdc	9.0Vdc	9.50Vdc	输出空载条件下，测量产品端口输出端电压 Measure the output voltage in output port under no-load state
9V 满载输出电压 9V output voltage in full-load state	8.55Vdc	9.0Vdc	9.50Vdc	输出满载条件下，测量产品端口输出端电压 Measure the output voltage in output port under full-load state
9V 输出电压纹波 9V Ripple of output port	---	---	200mVp-p	额定输入、额定负载示波器带宽设置20MHz,测试端并联0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.

9V 额定输出电流 9V Rated output current	---	2.0A	---	电子负载端测试，产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过流保护 9V output over-current protection	2.2A	2.4A	2.7A	超过该电流将自动关闭输出，故障解除后按键恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
端口休眠检测电流 output port current in sleep state	---	---	150mA	大于等于该电流视为有负载,确保 USB 端口可持续输出 If the output current is greater than this range, the output port is in load state. The output port will output continuously.
自动识别负载电流 Automatic identify load current	---	有 YES	---	根据不同负载输出电流 The output current depends on the load.
短路保护 Short-circuit protection	---	有 YES	---	USB1 输出短路时，将自动关闭输出；当短路解除后，解除后自动恢复 In short-circuit state, the output will be shut down automatically. And automatically recover after relieve the failure.
即插即用 Plug and Play	---	无 Null	---	拨动开关 OFF 档或休眠状态下 Need to press the power switch
噪声 Noise	---	---	---	空载、半载、满载输出，环境 30DB，离耳朵 10CM 无开

				关噪声 In no-load, half-load, full-load output state, and the ambient noise is 30DB, the distance from ear to portable UPS is 10CM. No noise can be hear.

2.5 TypeC 输出端口参数 TypeC Outlet

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
5V 空载输出电压 5V output voltage in no-load state	4.65Vdc	5.10Vdc	5.30Vdc	输出空载条件下，测量产品 TypeC 输出端口电压 Measure the output voltage in output port under no-load state.
5V 额定输出电流 5V Rated output current	---	3.0A	---	电子负载端测试,产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过流保护 output over-current protection	3.3A	3.5A	3.7A	超过该电流将自动关闭输出,解除后自动恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
9V 空载输出电压	8.55Vdc	9.0Vdc	9.50Vdc	输出空载条件下,测量产品 TypeC 端口输出端电压

9V output voltage in no-load state				Measure the output voltage in output port under no-load state
9V 满载输出电压 9V output voltage in full-load state	8.55Vdc	9.0Vdc	9.50Vdc	输出满载条件下,测量产品 TypeC 端口输出端电压 Measure the output voltage in output port under full-load state
9V 输出电压纹波 9V Ripple of output port	---	---	200mVp-p	额定输入、额定负载示波器带宽设置 20MHz,测试端并联 0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.
9V 额定输出电流 9V Rated output current	---	2.0A	---	电子负载端测试,产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过	2.2A	2.4A	2.7A	超过该电流将自动关闭输

流保护 9V output over-current protection				出，故障解除后按键恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
12V 空载输出电压 12V output voltage in no-load state	11.70Vdc	12.00Vdc	12.50Vdc	输出空载条件下，测量产品 TypeC 端口输出端电压 Measure the output voltage in output port under no-load state
12V 满载输出电压 12V output voltage in full-load state	11.70Vdc	12.00Vdc	12.50Vdc	输出满载条件下，测量产品 TypeC 端口输出端电压 Measure the output voltage in output port under full-load state
12V 输出电压纹波 12V Ripple of output port	---	---	200mVp-p	额定输入、额定负载示波器带宽设置 20MHz，测试端并联 0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic

				capacitor.
12V 额定输出电流 12V Rated output current	---	3A	---	电子负载端测试,产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过流保护 12V output over-current protection	3.4A	3.6A	4.2A	超过该电流将自动关闭输出，故障解除后按键恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
15V 空载输出电压 15V output voltage in no-load state	14.70Vdc	15.00Vdc	15.50Vdc	输出空载条件下,测量产品 TypeC 端口输出端电压 Measure the output voltage in output port under no-load state
15V 满载输出电压 15V output voltage in full-load state	14.70Vdc	15.00Vdc	15.50Vdc	输出满载条件下,测量产品 TypeC 端口输出端电压 Measure the output voltage in output port under full-load state
15V 输出电压纹波	---	---	200mVp-p	额定输入、额定负载示波器带宽设置 20MHz,测试端并联

15V Ripple of output port				0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.
15V 额定输出电流 15V Rated output current	---	3A	---	电子负载端测试,产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过流保护 15V output over-current protection	3.4A	3.6A	4.2A	超过该电流将自动关闭输出，故障解除后按键恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
20V 空载输出电压 20V output voltage in no-load state	19.70Vdc	20.0Vdc	20.50Vdc	输出空载条件下,测量产品 TypeC 端口输出端电压 Measure the output voltage in output port under no-load state
20V 满载输出电压	19.70Vdc	20.00Vdc	20.50Vdc	输出满载条件下,测量产品 TypeC 端口输出端电压

20V output voltage in full-load state				Measure the output voltage in output port under full-load state
20V 输出电压纹波 20V Ripple of output port	---	---	200mVp-p	额定输入、额定负载示波器带宽设置 20MHz,测试端并联 0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.
20V 额定输出电流 20V Rated output current	---	2.25A	---	电子负载端测试,产品可以长期稳定工作 In load state, output port supply power for devices stably for a long time.
输出过流保护 20V output over-current protection	2.7A	2.8A	3.10A	超过该电流将自动关闭输出，故障解除后按键恢复 If the current is exceed the range, the output will be shut down automatically. Press the button to recover after relieve the failure.
端口休眠检测电流	---	---	150mA	大于等于该电流视为有负载,确保 USB 端口可持续输出 If the output current is greater than this range, the output port is in load

output port current in sleep state				state. The output port will output continuously.
空载维持时间 No-load holding time	15s	20s	25s	产品空载开机或卸载后的电压输出维持时间 The holding time in No-load state
自动识别负载电流 Automatic identify load current	---	有 YES	---	根据不同负载输出电流 The output current depends on the load.
短路保护 Short-circuit protection	---	有 YES	---	USB1 输出短路时,将自动关闭输出;当短路解除后，按键恢复 In short-circuit state, the output will be shut down automatically. Press the button to recover after relieve the failure.
即插即用 Plug and Play	---	有 YES	---	
噪声 Noise	---	---	---	空载、半载、满载输出，环境 30DB，离耳朵 10CM 无开关噪声 In no-load, half-load, full-load output state, and the ambient noise is 30DB, the distance from ear to portable UPS is 10CM. No noise can be hear.

2.7 DC12V（5.5*2.1mm）输出端口参数 DC 12V（5.5*2.1mm）Outlet

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
输出电压范围 The range of output voltage	9Vdc	---	12.6Vdc	电池模组额定输入 9V-12.6Vdc The rated input voltage of battery pack is 9V-12.6Vdc
输出电压纹波 Ripple of output port	---	---	150mVp-p	额定输入、额定负载示波器带宽设置 20MHz,测试端并联 0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.
额定输出电流 Rated output Current	0.2	10A	12A	电池模组额定输入 9V-12.6Vdc The rated input voltage of battery pack is 9V-12.6Vdc
输出最小负载 Min of output loading	---	---	300mA	大于该电流视为有负载,端口可持续输出 If the output current is greater than this range, the output port is in load state. The output port will output continuously.
空载维持时间 No-load holding time	15s	20s	25s	产品空载开机或卸载后的电压输出维持时间 The holding time in No-load state
额定输出功率 Rated output power	95%	---	---	额定输入、额定负载 测试要求：带载电流 25%、50%、75%、100%四个点的平均效率 Testing requirement of Rated input、Rated load: In load state , the percentage of battery capacity is 25%、50%、75%、100%, the average

				efficiency is the average data in above four states.
过流保护 Over-current protection	---	---	12A MAX	超过该电流将自动关闭输出，故障解除后按键恢复 In over-current state, the output will be shut down automatically. Press the button to recover after relieve the failure.
短路保护 Short-circuit Protection	---	有 YES	---	输出端子、线材或外部设备短路，输出口停止输出，当短路解除需按键恢复输出，在短路过程产品不造成恶性事件. In short-circuit state, the output will be shut down automatically. Press the button to recover after relieve the failure.Ultra Safe.
噪声 Noise	---	---	---	空载、半载、满载输出，环境 30DB，离耳朵 10CM 无开关噪声 In no-load, half-load, full-load output state, and the ambient noise is 30DB, the distance from ear to portable UPS is 10CM. No noise can be hear.

2.8 点烟口输出端口参数 Cigarette Lighter Socket Output

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
输出电压范围 The range of	9Vdc	---	12.6Vdc	电池模组额定输入 9V-12.6Vdc The rated input voltage of battery pack

output voltage				is 9V-12.6Vdc
输出电压纹波 Ripple of output port	---	---	150mVp-p	额定输入、额定负载示波器带宽设置 20MHz,测试端并联 0.1uF 陶瓷与 10uF 电解电容 According conditions as follow: In Rated input state, rated loading,Oscilloscope bandwidth setting is 20MHz. The test terminal connects in parallel with 0.1uf ceramic and 10uF electrolytic capacitor.
额定输出电流 Rated output Current	0.2	10A	12A	电池模组额定输入 9V-12.6Vdc The rated input voltage of battery pack is 9V-12.6Vdc
输出最小负载 Min of output loading	---	---	300mA	大于该电流视为有负载,端口可持续输出 If the output current is greater than this range, the output port is in load state. The output port will output continuously.
空载维持时间 No-load holding time	15s	20s	25s	产品空载开机或卸载后的电压输出维持时间 The holding time in No-load state
额定输出功率 Rated output power	95%	---	---	额定输入、额定负载 测试要求：带载电流 25%、50%、75%、100%四个点的平均效率 Testing requirement of Rated input、Rated load：In load state , the percentage of battery capacity is 25%、50%、75%、100%, the average efficiency is the average data in above four states.
过流保护 Over-current protection	11A	12A	13A	超过该电流将自动关闭输出，故障解除后按键恢复 In over-current state, the output will be shut down automatically. Press the

				button to recover after relieve the failure.
短路保护 Short-circuit Protection	---	有 YES	---	输出端子、线材或外部设备短路，输出口停止输出，当短路解除需按键恢复输出，在短路过程产品不造成恶性事件. In short-circuit state, the output will be shut down automatically. Press the button to recover after relieve the failure.Ultra Safe.
噪声 Noise	---	---	---	空载、半载、满载输出，环境 30DB，离耳朵 10CM 无开关噪声 In no-load, half-load, full-load output state, and the ambient noise is 30DB, the distance from ear to portable UPS is 10CM. No noise can be hear.
短路保护 Short-circuit protection	---	有 YES	---	USB1 输出短路时，将自动关闭输出；当短路解除后，解除后自动恢复 In short-circuit state, the output will be shut down automatically. And automatically recover after relieve the failure.

即插即用 Plug and Play	---	无 Null	---	拨动开关 OFF 档或休眠状态下 Need to press the power switch

2.8-1 无线充电 Wireless Charging Pad

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
系统效率 System Efficiency	82%			1、测试方法：接入直流电源，输入电压调到 5V，接收端的输出接到负载仪，负载仪以恒流的方式输出，以 100mA 为一个档位调整输出直到 1A。 注意事项：直流电源到产品输入端的接线尽量短且粗，以减小直流损耗，测量输入电压点应该放在产品 接口处，以实际输入电压为准。同样，输出端到负载仪的接线尽量短且粗，输出电压以接收 端输出端口电压为准。发射板和接收器之间的有效距离保持在 3mm 左右，以达到佳测试效果。 Test method: connect the DC power supply, adjust the input voltage to 5V, and connect the output of receiving terminal to the load meter.Adjust the output current to 1A step by step (per step is 100mA.) Note: the connection between the DC power supply and the testing input device would better as short and thick as possible to reduce the DC loss. The measuring data is the actual input voltage which receive at the testing input device.The effective distance between the transmitter and receiver should be kept at about 3mm to achieve good test results.
最大输出测试 Max of output testing	1.1A		3A	Testing conditions: QC2.0 supply the power , output voltage is 9V and the distance is 3mm. The result is output current>2A.
耦合距离测试 Coupling distance	3mm		6mm	

test				
动态负载测试 Dynamic load test	---	不能断充 Keep charging		测试条件及要求：电压动态捕捉，读取设备：示波器，电子负载设为动态负载模式：200mA to 500mA 和 800mA to1000mA 跳变时间设定为 500msec Test conditions and requirements: voltage dynamic testing, to read the device-oscilloscope, electronic load set up to dynamic load mode: 200mA to 500mA and 800mA to 1000ma jump time set up to 500msec.
异物检测（FOD） Foreign object detection (FOD)		有异物检测 Foreign object check		1、 金属板直接覆盖到无线充电线圈：能快速保护；最大扫描电流：300MA; 2、线圈和手机之间放上一元金属异物：FOD 动作，停止充电； 1. The metal plate place and cover on the wireless charging coil directly: it can provide fast protection; Maximum of scanning current: 300MA; 2. Put a single metal foreign object between the coil and the cellphone: FOD action, it will stop charging.
放偏测试 Offset place charging test				无烧机，温度不能超过 66℃ No burning phenomenon , and the temperature must not exceed 66℃
温度发热测试 Temperature heating test			55℃	1、产品表面温度(满负荷烧机 2 小时）上升到最高：55°C； 2、老化测试（满负荷充电 3 小时）：正常； 3、最大负载能力测试（ 限流效果）：1A 负载输出 1. The product surface temperature (2 hours at full load) rises to the highest: 55° C; 2. Aging test (keep charging for 3 hours in full power state) : normal; 3. Maximum load test (current

				limiting effect) : 1A output in load state.
待机电流 standby current			50mA	
快充手机测试 Quick charge test of cellphone		支持 available		三星 NOTE5、S7、S8、S8+、NOTE8 是否支持快充 Samsung NOTE5、S7、S8、S8+、NOTE8
短路保护 short-circuit protection	---	有 Yes	---	输出短路时，将自动关闭输出；当短路解除后，解除后自动恢复 In short-circuit state, the output will be shut down automatically. Press the button to recover after relieve the failure.
即插即用 Plug and Play	---	无 No	---	拨动开关 OFF 档或休眠状态下 switch the master switch to OFF or sleep state
噪声 Noise	---	---	---	空载、半载、满载输出，环境 30DB，离耳朵 10CM 无异声 In no-load, half-load, full-load output state, and the ambient noise is 30DB，the distance from ear to portable UPS is 10CM. No noise can be hear.

2.9 AC 交流输出端口参数 AC Outlets

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark

额定输出电压 Rated output voltage	90Vac	110Vac/ 220v	240Vac	电池模组额定输入 20.8V-28.8Vdc，额定负载 Rated input voltage of battery pack: 20.8V-28.8Vdc，Rated loading.
输出波形 output wave frequency	50Hz	55Hz	61Hz	
输出波形 Output wave form	---	正弦波 Sine wave	---	额定负载 Rated loading
额定输出功率 Rated output power	---	2000W	---	电池模组额定输入 28.8Vdc，额定负载,2000W 持续时间 50-55 分钟 The rated input Voltage of Battery Pack is 28.8Vdc, The Rated load is 2000W in 50-55 minutes duration.
输出电压波形失真度（THD） Total Harmonic Distortion(THD)	---	---	3%	线性负载，额定输入满载时 In full load rated input, linear load.
	---	---	8%	非线性负载，额定输入满载时 In full load rated input, nonlinear load.
电流峰值比 Ratio of peak current	3:1	---	---	电池模组额定输入 20.8V-28.8Vdc，RCD 负载 Rated input voltage of battery pack:20.8V-28.8Vdc，RCD loading

输出功率因数 Output power factor	0.8	---	---	电池模组额定输入 20.8V-28.8Vdc，额定 R 载 Rated input voltage of battery pack:20.8V-28.8Vdc，R rated loading
输出电压动态瞬间范围 Real time Range of output voltage	---	±15%	---	
瞬态响应 Transient Response	---	---	60ms	测试条件：负载为 100%线性，投载/卸载瞬间，输出 Test condition: load is 100% linear, load/unload moment, output
时间 Time	---	---	---	电压恢复至 90%时的时间 The time when the voltage is restored to 90%
效率 Efficiency	85%	---	---	测试要求：带载电流 25%、50%、75%、100%四个点的带 R 载平均效率。 Testing requirement: In R load state, the percentage of battery capacity is 25%、50%、75%、100%, the average efficiency is the average data in above four states.
短路保护 Short-circuit	---	有 YES	---	输出端子、线材或外部设备短路，关闭逆变输出，解除后自动恢复 If Output terminal, wire or external

protection				equipment is in short circuit state, please shut off the invert output at first. Automatically recover after relieve the failure.
过载保护 Over load protection	2300W	---	---	负载功率大于 2300W 后触发过载保护 When the load power exceeds 2300W, the overload protection is triggered
噪声 Noise	-- -	-- -	---	空载、半载、满载输出，环境 30DB，离耳朵 10cm 无异声 In no-load, half-load, full-load output state, and the ambient noise is 30DB, the distance from ear to portable UPS is 10CM. No noise can be hear.
逆变过温 Over heat invert protection	95 ℃	-- -	---	保护之后停止逆变输出，当温度低于 85℃后按键恢复输出 After the protection stop the inverter output, Until the temperature is below 85℃, press the button to restore the output.

2.10 LED 灯参数 LED Light

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	
照明灯功率 Power	8W	12W	15W	
工作模式 Operation Mode	长按 KEY 打开暗光，再按强光模式，再按 SOS 模式，再长按关闭 Press and hold “KEY” button in second to turn on the light on gentle bright mode, then short press to switch to Strong bright mode, then short press again to switch to SOS			

	mode, then press and hold to turn off.

2.11 储能电池组参数

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
电池类型 Type of Battery	18Ah	18.1Ah	18.2Ah	1、指在 25℃±2 ℃环境下，1C 恒定的电流充电至 25.6V，再以 28.8V 恒压充电至电流。恒流放电至 20.8V。According the ambient temperature in 25℃±2 ℃ , Deliver 1C constant current to charge battery pack to 25.6V, and then keep 28.8V constant voltage to charge in full. Keep Constant current to discharge to 20.8V.
额定电压 Rated voltage	20.8V	25.6V	28.8V	3.2V*8=25.6V
电池容量 Capacity of Battery	---	460Wh	525Wh	24*6*3.2V
电池内阻 internal resistance of cell battery	---	---	20mΩ	
电芯放电允许温度范围 Temperatu	-10℃	---	70℃	超过此环境温度范围使用，电芯过温保护，保护需要按键激活

re Range of cell battery discharge				If ambient temperature is excess this range, the cell battery over-heat protection will be open, and you need to click the button to restore.

2.13 保护板性能（保护板需带 NTC 和保险丝）Protective PCB performance(Protective PCB must equip with NTC and Fuse.)

项目 Item	最小值 Min.	标准 Std.	最大值 Max.	备注 Remark
过充电压保护 Overcharge voltage protection	3.7V	3.65V	3.8V	单节电芯过充保护电压 Cell battery overcharge voltage protection
过充解除电压 Over charge release voltage	2.5V	3.0V	3.1V	单节电芯过充保护恢复电压 Cell battery overcharge protection recovery voltage
过放电压保护 Over-press voltage protection	3.7V	3.65V	3.8V	单节电芯过放保护电压 Cell battery over-discharge voltage protection
过放解除电压 Over-discharge release voltage	2.9V	2.85V	2.8V	单节电芯过放保护恢复电压 Cell battery over-discharge protection restore voltage

电池充饱电压 Full charged battery voltage	27.8V	28.0V	28.8V	搁置 1 小时后的电池电压 Battery voltage after full charge 1 hour
输出过流保护 Output over-current protection	110A	120A	135A	在保护板输出端出现过流保护时，保护板关闭输出；过流解除后可充电激活 In output over-current state, the output over-current protection will shut down the output , until the over-current state is over. After that you need to recharge the product to restore it.
最大充电电流 Max.input current	---	100A		超过此电流 BMS 将进行保护,不允许充电 While input current exceed the Max.value, BMS will start up the protection and stop the charging process.
主回路电阻 Main circuit resistance	--	--	150mΩ	
短路保护 Short-circuit protection	---	有 YES	---	在保护板输出端出现短路时，保护板关闭输出；短路解除后可充电激活。 In output Short-circuit state, the output short-circuit protection will shut down the output , until the

				short-circuit state is over. After that you need to recharge the product to activate it.
静态功耗 Quiescent Dissipation	---	---	300uA	

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显示屏功能图标 LCD Display Demo

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