

1、这是一款适用于以下国家地区的 16.8V2A 电源适配器充电器。This is a 16.8V2A power adapter charger for the following countries.

1.1、安规标准/ SAFETY STANDARD:

本电源应符合下列的标准：The green mode power supply shall be certified by the following international regulatory standards:

地区/Area	认证 Certificate	标准/Standard
中国 /CHINA	CCC	GB 17625.1-2022;GB4943.1-2022;GB/T 9254.1-2021
中国 /CHINA	CQC	GB 17625.1-2022;GB/T 17625.2-2007;GB 4343.1-2018;GB/T 4343.2-2020;GB 4706.1-2005

电磁兼容性标准/EMC STANDARDS:

1.2 EMI 标准/EMI STANDARDS:

本电源供应器符合辐射及传导要求，满足 GB/T9254-2021，GB17625.1-2022

The power supply met the radiated and conducted emission requirements for GB/T9254-2021，GB17625.1-2022

1.3 EMS 标准/EMS STANDARDS:

本电源供应器满足 EMS 标准:GB4943.1-2022 /GB 4706.1-2005

The power supply meets EMS standards: GB4943.1-2022 /GB 4706.1-2005

2、INPUT CHARACTERIST / 输入特性:

2.1 输入电压范围可以从 90Vac 到 264Vac. INPUT VOLTAGE RANGE: 90Vac to 264Vac.

2.2 额定输入电压从 100Vac 到 240Vac. RATED INPUT VOLTAGE: 100Vac to 240Vac.

2.3 输入频率范围从 47Hz 到 63Hz. INPUT FREQUENCY RANGE: 47Hz to 63Hz.

2.4 额定输入频率从 50Hz 到 60Hz. INPUT FREQUENCY RANGE: 50Hz to 60Hz.

2.5 最大输入电流不超过 1.0A (输入条件 100-240Vac) INPUT CURRENT: 1.0Amax.
(I/P100-240Vac).

2.6 在标准开机条件下, 最大浪涌电流不超过 30A (输入条件 100-240Vac).

INRUSH CURRENT: 30A max. (at 100-240Vac input for a cold start at 25°C.)

3、Output Characteristics / 输出特性

测试项目 Test Item	指示灯 LED	电压范围Voltage Range	电流范围 currentRange	峰值电流 peak current	转灯电流 Turnlamp current
空载测试 No-load test	绿灯/G	16.8-13.1V	0-300mA	N/A	N/A
负载测试 Load test	红灯/R	9-16.8V	120-2000mA	≦2200mA	120-300mA

模式 mode	电压范围 Voltage Range	电流范围 currentRange	指示灯LED
恒流模式 CC mode	9-16V	2200-1950mA	红灯/Red Light
恒流恒压模式 CC-CV mode	16-16.3V	1950-1400mA	
	16.3-16.6V	1400-1000mA	
	16.6-16.8V	1000-300mA	
涓流模式 Trickle mode	16.8-13.1V	300-0mA	绿灯/Green light

3.1 纹波和噪音 Ripple and Noise:

测试条件:在额定电压及额定负载条件下,使用示波器带宽为 20MHz 连接到充电器的输出端,同时输出端并联一个 47uF 的电解电容和一个 0.1uF 的瓷片电容. Under nominal voltage and nominal load, the ripple and noise are as follows when measure with Max. Bandwidth of 20MHz and Parallel 47uF/0.1uF, crossed connected at testing point.

电压 / <u>Voltage</u>	最大纹波/最大噪音 / <u>Ripple and Noise(Max.)</u>
9-16.8VDC	≤200mV p-p

3.2 启动延迟时间/Turn on delay time:

当输入 115Vac 和输出最大负载时,最大启动时间为 3S.

3Second Max. at 115Vac input and output Max. load.

3.3 保持时间/Hold up time:

当输入 115Vac 和输出最大负载时,最小保持时间为 5 mS .

5 mS Min. at 115Vac input and output Max. Load.

3.4 绝缘介电强度 (耐压) / ELECTRIC WITHSTANDING STRENGTH(HI-POT)

一次侧对二次侧: AC3000V/5mA 标准测试 1 分钟, 量产测试 3 秒钟

Primary toSecondary AC3000V/5mA , 1 minute for type test. 3 second for production.

3.5 过冲/Overshoot:

在电源开启或关闭的时候,最大 10%. ; 10% Max. When power supply at turn or turn off.

4、保护特性/PROTECTION FEATURE:

4.1 过电流保护 / OVER—CURRENT PROTECTION:

在任何时候任何输入条件, 当输出操作在超载条件最大电源的 (5~10%) 时, 电源供应器将进入打嗝模式, 当故障被移走后, 电源要能自动恢复到正常。

The green mode power supply shall be hiccupped when any output operating in overload condition(set@ Max load5~10%) under any line condition for an indefinite period of time. The power supply shall be self — recovery when the fault condition is removed.

4.2 输出短路保护/ SHORT CIRCUIT PROTECTION:

在任何时候, 任何输入条件下, 当输出操作在短路情况下, 电源供应器将进入打嗝模式, 当故障消失后, 电源要能自动恢复正常。The power supply shall be hiccupped and no damage shall occur when any output operating in a short circuit condition under any line condition for an indefinite period of time. The power supply shall be self—recovery when the fault condition is removed.

5、环境条件/ENVIRONMENTAL CONDITIONS:

5.1 操作条件/ OPERATING: 在下列环境条件下, 电源供应器要能够连续操作在各种模式, 且不能造成性能的退化。The power supply shall be capable of operating continuously in any mode without performance deterioration in the following environmental conditions.

5.1.1 环境温度: $-10^{\circ}\text{C} \sim 35^{\circ}\text{C}$ 。Ambient Temperature: $-10^{\circ}\text{C} \sim 35^{\circ}\text{C}$

5.1.2 相对湿度: 10%~80%Relative Humidity: 10%~80%

5.2 振动/Vibration

测试标准: 国际电工电子委员会

Operating: IEC 721-3-3 3M35~9Hz, A=1.5mm 加速度: (9~200Hz, Acceleration 5m/S²)

5.3 冷却/Cooling: 电源供应器将操作在自然对流冷却的环境下, 即使将通风口阻塞电源也不允许有任何损伤发生。The power supply will operate with convection cooling .Blocking of vents must not cause damage to The power supply.

6、储存条件/Storage conditions: 电源供应器要能够长期的经受下列的环境条件, 且不允许有电气级机械方面的损伤和并发的操作的缺失。The power supply shall be capable of withstanding the following environmental conditions extended periods of time, without sustaining electrical or mechanical damage and subsequent operational deficiencies:

6.1.1 储存温度: $-10^{\circ}\text{C} \sim 35^{\circ}\text{C}$ 。Storage Temperature: $-10^{\circ}\text{C} \sim 35^{\circ}\text{C}$

6.1.2 相对湿度: 10%~80%。Relative Humidity: 10%~80%

6.2.3 振动和冲击/Vibration and Shock: 电源供应器装配及出货的包装设计, 均要能承受正常运输的振动, 并符合 MIL-STD-810D 方法 514 和程序 X。The power supply shall be designed to withstand normal transportation vibration per MIL-STD-810D, method 514 and procedures X, as it is mounted in the chassis assembly and packed for shipping.

7、可靠性及质量控制/RELIABILITY AND QUALITY CONTROL:

7.1 MTBF 平均无故障时间: 在 25°C 条件下, 平均无故障时间 20000 小时。

20,000 hour Power on at 25°C

7.2 老化/BURN-IN

电源应在 $35^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 和满载条件下老化 2-4 小时。The power supply shall undergo a minimum of 2-4 hours Burn-In test under full load at $35^{\circ}\text{C} \pm 5^{\circ}\text{C}$

7.3 组件温度要求/COMPONENT DERATING: 半导体结温不允许超过其制造商要求的最大温度值。The temperature of the semiconductor junction is not allowed to exceed the maximum temperature required by its manufacturer.

8、符合节能 6 级以上标准, 测试标准如下/ Energy Saving (Level VI) :

平均效率高于 87.5 % (输入 100-240Vac, 输出 (25%, 50%, 75%&100%负载)); Higher than 87.5 % at 100-240Vac (Input and output (25%, 50%, 75%&100% load.))

8.1 CEC Test Report (CEC Table U-2 Standards for Power Supplies Effective July 1, 2008)

8.2 EUP Test Report (COMMISSION REGULATION (EC) No 278/2009)

8.3 MEPS (AS/NZS 4665.2-2005)

9、绝缘阻抗/INSULATION RESISTANCE:

输入对输出 100 M 欧姆 (500VDC) Input to output: 100M Ohm(500VDC)

10、漏电流/LEAKAGE CURRENT: 当电源供应器操作在最大输入及最大负载情况下, 其漏电流应小于 0.25mA, 满足 Class II 等级。The leakage current shall be less than 0.25mA for ClassII when power supply is operated maximum input voltage and maximum load.

11、主要测量设备 /MAJOR MEASURE EQUIPMENT:

序号	设备名称	型号	本次使用
1	AC SOURCE / 交流输入电源	AFC - 500W	√
2	POWER METER / 电源功率计	JK-8731	√
3	ELECTRONIC LOAD / 电子负载仪	JT6111	√
4	OSCILLOSCOPE / 存储示波器	DS2072A	√
5	DIGITAL MULTIMETER / 数字式万用表	Fluke 15B	√
6	HI - POT TESTER / 耐压测试仪	RK2670A	√

产品外观尺寸 / PRODUCT OUTLINE DIMENSION

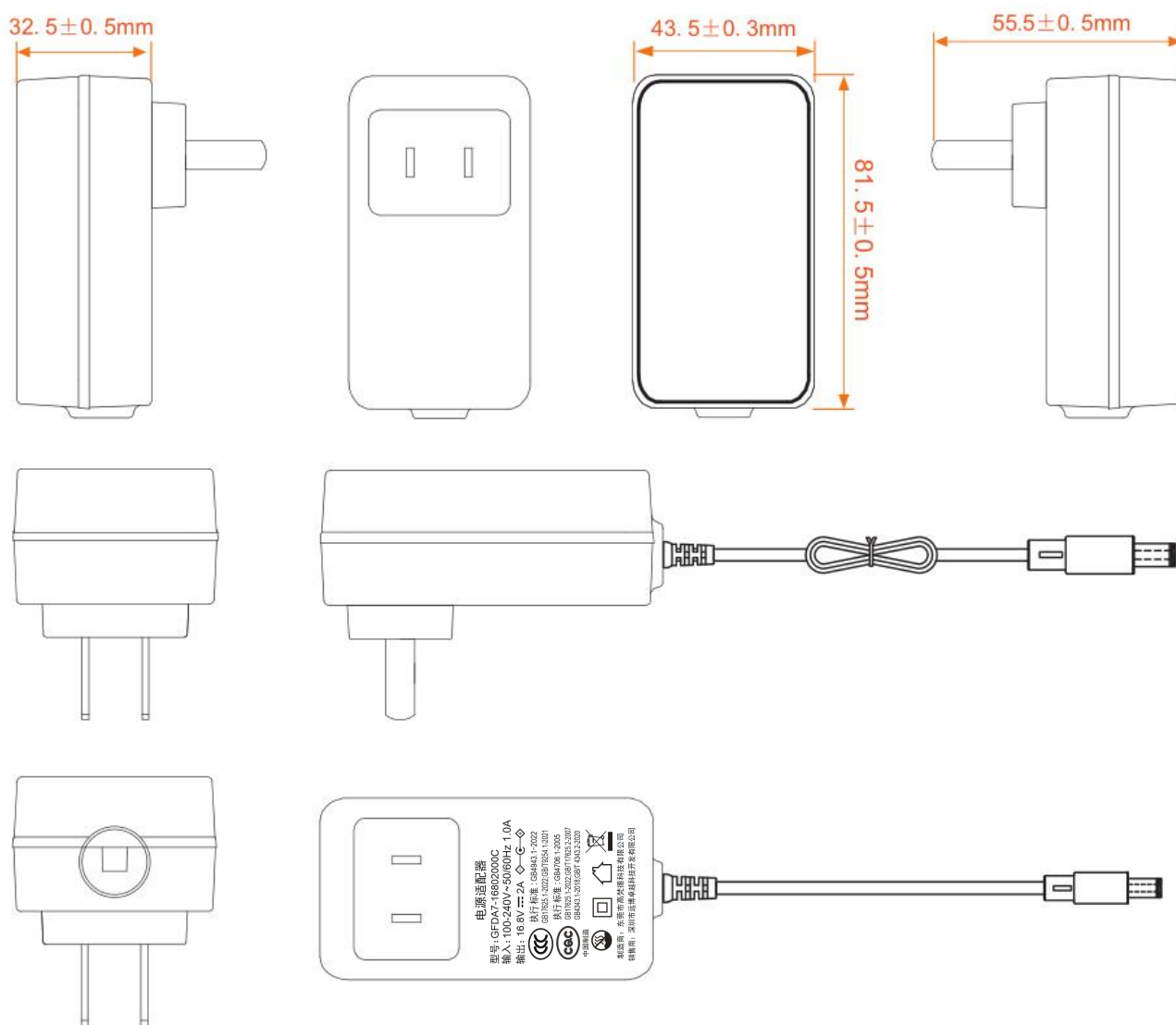
结构参数 / MECHANICAL REQUIREMENT:

外型尺寸: L81.5*W43.5*H55.5mm

The power supply size: L81.5*W43.5*H55.5mm

颜色 COLOUR: 黑色 BLACK ✓

白色 WHITE



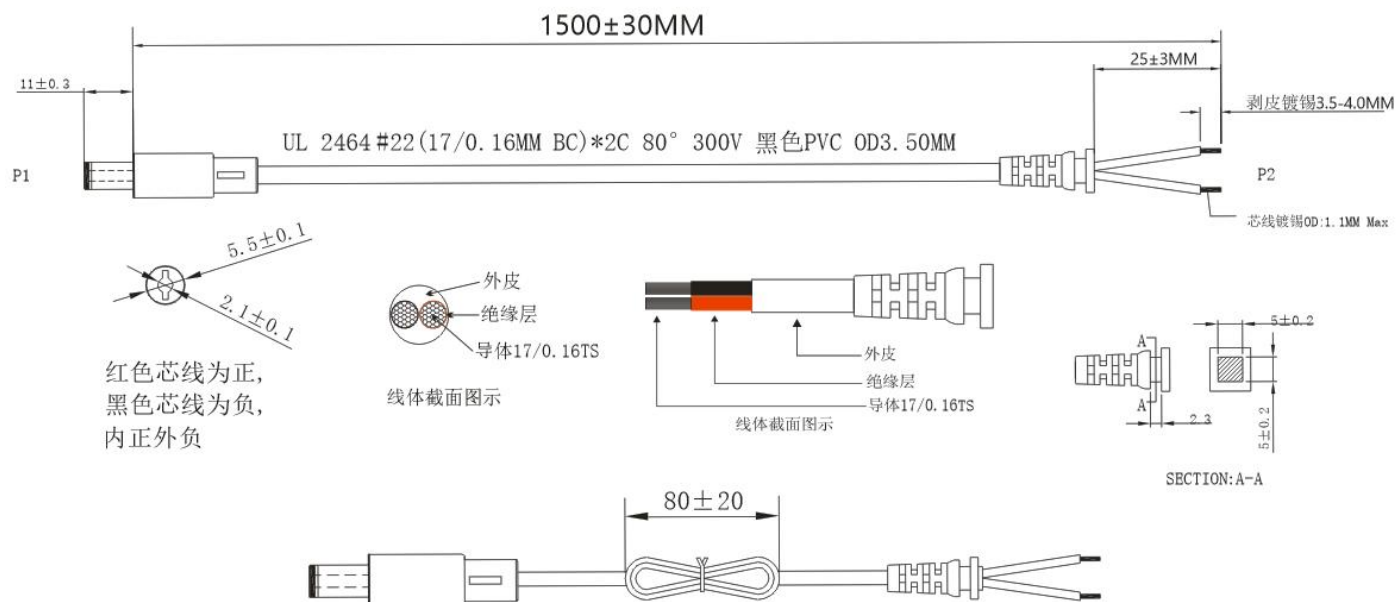
Unit / 单位:mm (误差±0.5mm)

重量/ WEIGHT: 电源的净重大约为 110g

The net weight of the power supply is about 110 g

DC CORD / 线 材

单位 UNIT: mm



注:

1. 摇摆测试: 负重200G, ± 60 度, 60次/分钟, 摇摆至少1000次无断芯线。
2. 100%短路和错位测试。
3. 导通阻抗: 5欧姆 Max。
4. 绝缘阻抗: 2兆欧姆 DC300V/0.01S Min。
5. 所需材料符合ROHS标准。

Package Drawing/包装示意图

