

SPECIFICATION FOR APPROVAL

APPROVAL SIGNATURE
DATE:

CUSTOMER: _____
CUSTOMER P.N.: _____

PLEASE SIGN AND RETURN ONE COPY.
ALL PRODUCTION UNITS WILL BE MADE ACCORDING
TO THIS SPECIFICATIONS.

APPROVED	CHECKED	PREPARED
DATE:	DATE:	DATE:

MODEL NO.: _____ DWIN-120150E
SAMPLE NO.: _____

深圳市星维科技有限公司

SHENZHEN STARWELL TECHNOLOGY CO.,LTD.

TEL: +86-755-29634321 FAX: -

URL: www.starwellpower.com

ADD: 深圳市光明区马田街道利豪永达科技园 F 栋 2 楼

2nd FL F bldg. Lihao Yongda industrial Park,Gongminstreet Guangming District
Shenzhen China 518105

E.C. LIST/变更履历表

[illegible]

**** Table of Contents/目录 ****

1. SCOPE/简述.....	5
2. INPUT CHARACTERISTICS/输入特征.....	5
2.1. Input Voltage & Frequency/输入电压&频率.....	5
2.2. Input AC Current/AC 输入电流.....	5
2.3. Inrush Current (Cold Start)/浪涌电流(冷启动).....	5
2.4. Efficiency(Normal)/效率(额定输入).....	5
2.5. Energy Consumption/空载功耗.....	5
3. OUTPUT CHARACTERISTICS/输出特性.....	5
3.1. Static Output Characteristics <Vo & R+N>/静态输出特性.....	5
3.2. Line/Load Regulation/线性/负载调整率.....	6
3.3. Turn on Delay Time/开机延迟时间.....	6
3.4. Hold up Time/ 关机维持时间.....	6
3.5. Rise Time/上升时间.....	6
3.6. Output Overshoot//输出过冲.....	6
3.7. Output Load Transient Response/输出负载瞬态响应.....	6
4. PROTECTION REQUIREMENTS/保护特性.....	6
4.1. Over Current Protection/过流保护.....	6
4.2. Short Circuit Protection/短路保护.....	6
4.3. Over Voltage Protection/过压保护	6
5. ENVIRONMENT REQUIREMENTS/环境要求	
5.1. Operating Temperature and Relative Humidity/操作温/湿度要求.....	6
5.2. Storage Temperature and Relative Humidity/存储温/湿度要求.....	7
5.3. Vibration/振动.....	7
5.4. Drop in/跌落.....	7
6. RELIABILITY REQUIREMENTS/可靠性要求.....,,,	7
6.1. Burn-in/煲机.....	7
6.2. MTBF Qualification/平均间隔故障时间估算.....	7
7. EMI/EMS STANDARDS/ EMI/EMS 标准.....	7
7.1. EMI Standards/EMI 标准.....	7
7.2. EMS Standards/MES 标准.....	8
8. SAFETY STANDARDS/安规标准.....	9
8.1. Dielectric Strength(Hi-pot)/介电耐压强度(高压).....	9
8.2. Leakage Current/漏电流.....	9

8.3. Insulation Resistance/绝缘阻抗.....9

8.4. Regulatory Standards/安规标准.....9

9. OUTLINE DRAWING/外观示意图.....10

10. DC CORD DRAWING/DC 线材示意图.....11

11. I/O MARKING DRAWING /铭牌示意图.....12

12. PACKAGE DRAWING/包装示意图.....13

1. SCOPE

The document details the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 18W continuous output power.

资料详细描述了一款 18W（连续输出功率）开关电源的电气性, 结构性及环境等要求.

The power supply shall meet the RoHS requirement.

此款电源符合 RoHS 要求.

1.1. Description

- ☒ SMPS Adaptor(Wall mount/Side)/插墙式侧插适配器
- ☐ SMPS Adaptor(Wall mount/Ahead)/插墙式前插适配器
- ☐ SMPS Adaptor(Wall mount/ Bottom)/插墙式底插适配器
- ☐ SMPS Adaptor(Desk TOP)桌面型适配器
- ☐ Open Frame/开放式结构
- ☐ Others/其它

2. INPUT CHARACTERISTICS/输入特征

2.1. Input Voltage & Frequency/输入电压与频率

The range of input voltage is from 90Vac to 264Vac single phase.

输入电压范围:从 90Vac 到 264Vac ,单相输入.

	Minimum/最小	Nominal/额定值	Maximum/最大
Input Voltage/输入电压	90Vac	100Vac~240Vac	264Vac
Input Frequency/输入频率	47Hz	50Hz /60Hz	63Hz

2.2. Input AC Current/ AC 输入电流

1.0A max. @ 100-240Vac input & Full load/满载

2.3. Inrush Current(cold start)/浪涌电流(冷启动)

30A max. @ 264Vac input

2.4. Efficiency(Normal)/效率(额定输入)82% min.

Normal input & Full load/额定输入&满载

2.5. Energy Consumption/空载功耗

在额定输入 100-240V 时,空载功耗 $\leq$ 0.1W

3. OUTPUT CHARACTERISTICS/输出特征

3.1. Static Output Characteristics<Vo & R+N>/静电输出特征

Output	Rated Load/额定负载		Output Range	R+N	Remark
Rail	Min. Load	Max. Load	输出空载电压	纹波与噪声	备 注
+12V	0.01A	1.5A	11.4-12.6V	150mVp-p	

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor. (Test under the condition of rated input and rated output)

纹波与噪声: 量测时示波器选用 20MHz 带宽限制, 输出端要并联一颗 0.1uF 的陶瓷电容 和一颗 10uF 的电解电容.(在额定输入及输出的条件下检测)

3.2. Line/Load Regulation/线性/负载调整率

Output	Load Condition/负载条件		Line Regulation	Load Regulation	Remark
Rail	Min. Load	Max. Load	线性调整率	负载调整率	备 注
+12V	0.01A	1.5A	±1%	±5%	

3.3. Turn- on Delay Time/开机延迟时间

3S max. @100Vac to 240Vac input turn & Full load/满载

3.4. Hold-up Time/关机维持时间

10mS min. @ Full load &115Vac/60Hz input turn off at worst case/在最差情况下关机

20mS min. @ Full load & 230Vac/50Hz input turn off at worst case/在最差情况下关机

3.5. Rise Time/上升时间

20 mS max. @ Rated load/额定负载

3.6. Output Overshoot/输出过冲

10% max. When the power on or off, when it is the full input voltage and full load

当电源开/关机时,输入全电压时,全负载时

3.7. Output Load Transient Response/输出负载瞬态响应

Output voltage within 11.4-12.6V for load step from 20% to 80%, R/S: 0.5A/Us, frequency: 100Hz duration and 8ms at 80%.

输出电压在 11.4-12.6V 之间,负载变化:从 20%到 80%,斜率:0.5A/uS, 频率: 100Hz, 80%负载持续时间为 8ms.

4. PROTECTION REQUIREMENTS/保护要求**4.1. Over Current Protection/过流保护**

OCP Point Limited:1.8-3A /保护点限制:1.8-3A

The output shall hiccup when the over current applied to the output rail, and shall be self-recovery when the fault condition is removed

当过电流时,输出将进入打嗝模式,当过流情况解除后,产品将会自动恢复正常.

4.2. Short Circuit Protection/短路保护

The input power shall decrease when the output rail is short; the power supply shall not be damaged, and shall be self-recovery when the fault condition is removed

当输出短路时,产品输入功率降低且不会损伤,当短路情况解除后,产品将会自动恢复正常

4.3. Over Voltage Protection/过压保护

The power supply shall be self-protect when the output voltage is over rated. So the power supply shall not be damaged

当输出过压时,产品会自我保护而不致被损伤

5. ENVIRONMENT REQUIREMENTS/环境要求**5.1. Operation Temperature and Relative Humidity/操作温/湿度要求**

0°C to +40°C 5%RH to 90%RH

5.2. Storage Temperature and Relative Humidity/存储温/湿度要求

-20°C to +85°C

5%RH to 90%RH non-condensing @ Sea level shall be low 10,000feet/低于 10,000 英尺

5.3. Vibration/振动

10 to 300Hz sweep at a constant acceleration of 1.0G (Breadth: 3.5mm) for 1 Hour for each of the perpendicular axes X, Y, Z

扫描频率: 10 to 300Hz, 加速度:1.0G(位移:3.5mm), X, Y, Z 三垂直坐标轴向各振动 1 小时

5.4. Drop In/跌落

Height: 0.75m, the product should be fallen off on the hardwood with the thickness of 30mm, and the hardwood should be put on the base of the cement or on the ground without flexibility. Apply one times on each surface.

跌落高度:0.75 米, 并跌落到厚度为 30mm 的硬木上,且硬木应放在水泥基座或等同的无弹性地面上, 每面各 1 次

6. RELIABILITY REQUIREMENTS/可靠性要求

6.1. Burn-in/煲机

The power supply shall be burn-in for 2 hours under normal input and 80%rated load at 30℃ ± 10℃

产品至少要在 30℃ ± 10℃ 的环境及 80%额定负载条件下煲机 2 小时

6.2. MTBF Qualification/平均间隔故障时间估算

The MTBF shall be at least 50,000 hours at 25℃, Full load and nominal input condition

平均间隔故障时间: 至少 50,000 小时, 25℃ 环境及额定输入与满载条件下

7. EMI/EMS STANDARDS/ EMI/EMS 标准

7.1. EMI Standards/EMI 标准

EN 55022:1998, +A1:2000 +A2:2003, Class B
EN 55024: 1998+A1:2001 +A2:2003
CISPR 22:2003, Class B
AS/NZS CISPR 22: 2004, Class B

7.2. EMS Standards/EMS 标准

7-2-1 EN 61000-4-2, electrostatic discharge(ESD) requirement/静电抗扰度要求

Discharge characteristic/静电规格	Test level/测试条件	Test criteria/测试标准
Air discharge/空气放电	+/-8KV	B
Contact discharge/接触放电	+/-4KV	B

7-2-2 EN 61000-4-3, radiated electromagnetic field susceptibility(rs)/辐射骚扰场强

Test level/测试条件	Test criteria/测试标准
3V/m (r.m.s)	A
80-1000MHz, 80%AM(1KHz)sine-wave	

7-2-3 EN 61000-4-4, electric fast transients(burst) immunity requirement/电快速瞬变脉冲群

Coupling/测试端口	Test level/测试条件	Test criteria/测试标准
AC-input/交流输入	0.5KV	A
AC-input/交流输入	1KV	B

7-2-4 EN 61000-4-5, surge capability requirement/浪涌抗扰度要求

Surge voltage/雷击电压	Test Criteria/测试标准
Differential mode/差模+/-1KV	A

7-2-5 EN 61000-4-6, Induced radio frequency fields conducted disturbances immunity requirement/电源端子传导骚扰实验

Test level/测试条件	Test Criteria/测试标准
3V	A
0.15-80MHz, 80%AM(1KHz)	

7-2-6 Assessment Criteria/评估标准

Acceptance Criteria 可接受标准	Performance 性能
A	Agreed operational behavior within the specified limits 性能不允许变化: 如果性能会发生变化, 则变化 的范围在产品规格书规定的范围内.
B	Time limited functional diminishment or malfunction during the tests is permitted. The function is self-reactivated by the unit following completion of the tests. 设备在测试过程中, 性能降低允许在产品规格书要求范围内, 干扰消除后, 设备能恢复正常, 不允许出现复位和任何方式的人工干预.
C	Malfunction is permitted. The function can be reactivated either by reconnection to the mains or by operator intervention. 在测试过程中, 设备允许出现业务中断, 测试完毕后允许自行恢复或者人工干预恢复(包括硬件上干预); 测试中只允许初级防护器件损坏, 并且更换损坏的初级防护器件后, 设备能恢复正常

8. SAFETY STANDARDS/安规标准

8.1. Dielectric Strength(Hi-pot)介电耐压强度(高压)

Primary to Secondary: 3000Vac / 10mA Max / 60 second (3300Vac/3 second for Mass Production)

初级对次级: 3000Vac / 10mA Max / 60 秒(生产时高压 3300Vac 测试时间: 3 秒)

8.2. Leakage Current/漏电流

0.25mA max. at 264Vac / 50Hz

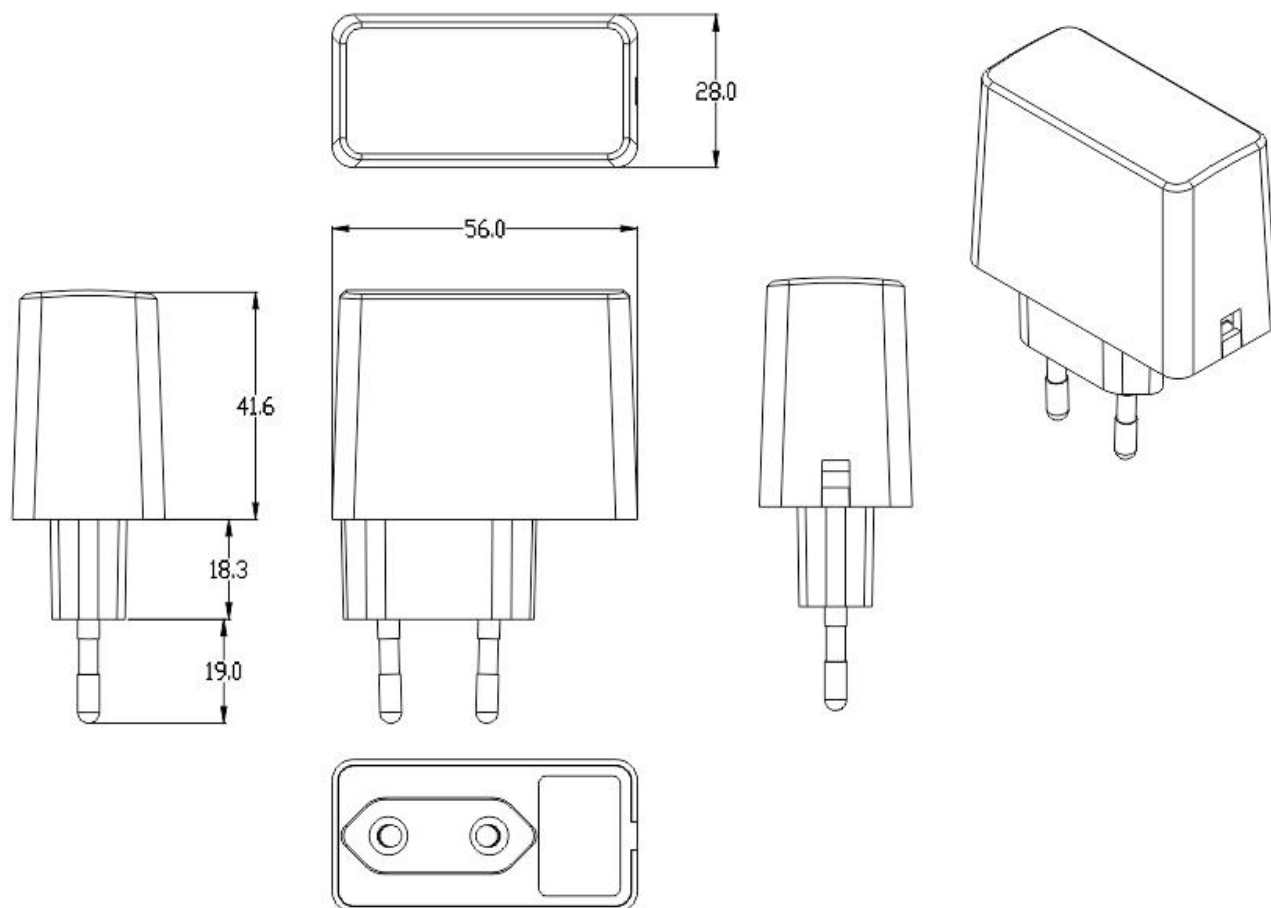
8.3. Insulation Resistance/绝缘阻抗

100MΩ min. at primary to secondary add 500Vdc test voltage

在初级与次级间加 500Vdc 进行测试, 绝缘阻抗 100MΩ

8.4. Regulatory Standards/安规标准

9. Outline Drawing/外观示意图



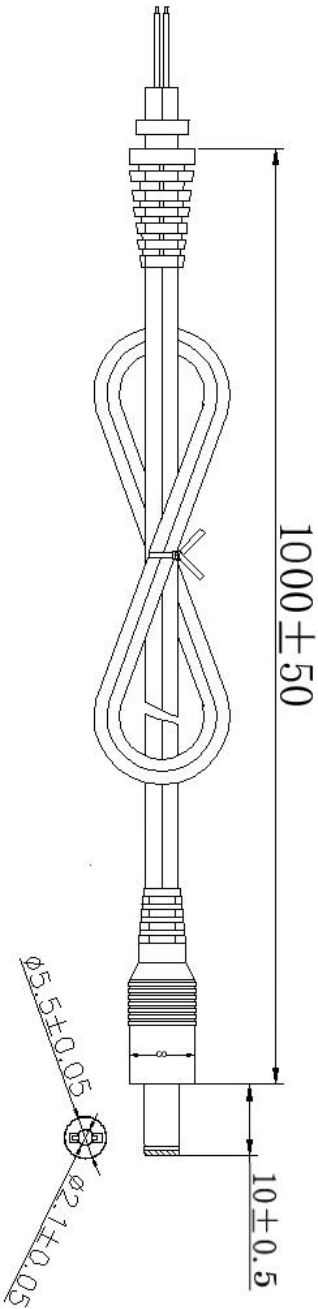
单位: mm

颜色: 黑色

外壳材质: PC

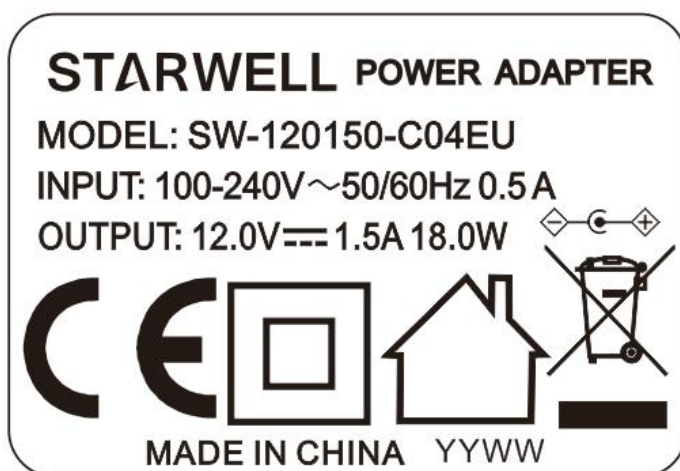
10. DC CORD DRAWING/DC 线示意图

- 技术要求: 技术要求:
- 一. 拉力试验要求.SR.DC 与线身拉力 $\geq 3KG$ (1分钟) 位移 $\leq 2MM$;
- 二. 整条线拉力 $\geq 10KG$ (1分钟无断芯和延伸 $\leq$ 总长的10%);
- 三. 摇摆测试要求: SR 端: 200g, 120度 (左右各60), 40次/分钟,最少1000次;
- 四. DC 头: 200g, 120度 (左右各60), 40次/分钟,最少1000次;
- 五. 外观要求: 1. 线材外皮,每米不超过3个小凸点;
- 六. 2.线材表面不能有破损,压伤,脏污等外观不良现象;
- 七. 3.SR.DC 头表面不能有变形,缩水,披锋,气纹,缺胶等不良;
- 八. 4.五金 DC 头并不能有氧化,刮伤等不良;
- 九. 5.线头进锡需完全;
- 十. 6.SR.DC 头尾部两侧不能有压线现象;
- 十一. 四. 耐温要求: 热变形温度 105, 试验 3-6Hours, 无变形开裂等不良;
- 十二. 五. 线材规格: USE UL2468 24AWG
- 十三. 六. 印字要求: AWM UL2468 24AWG VW-1105°C 300V 带有 UL 认证 和公司名称
- 十四. 七. 环保要求: 过 ROHS 标准;



1	插头 5.5*2.1*10mm 直头音叉
2	DC头 PCV 60P 低毒
3	SR 5*5 80P PCV 黑色低毒
4	线材 UL2468 24AWG 60P
5	扎带 PE 有芯环保扎带
6	机型 印字+条纹-

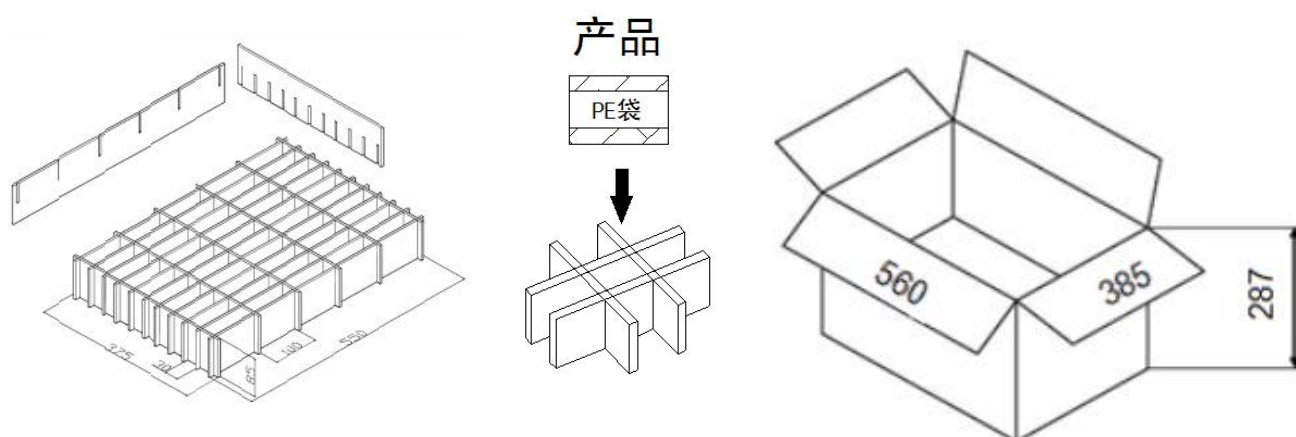
11 .I/O Marking Drawing/铭牌示意图



NOTE: /备注:

1: 标签为镭雕方式

12. Package Drawing/ 包装示意图



备注:

1, 外箱: L560*W385*H287mm, 尺寸标示为外部尺寸;

2, 单位:mm, 公差: +3/-1mm

3, 材质:五层瓦楞纸 K636K 加芯, 无钉;

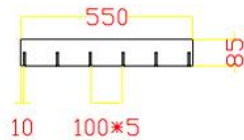
4, 刀卡用量: 1个外箱配33个长刀卡, 18个短刀卡。

5, 平卡用量: 1个外箱配4个平卡。

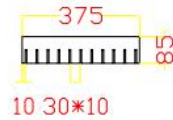
6, 每层装50PCS, 共3层, 每箱150PCS装, 如是英规产品, 取掉每格一长刀卡, 即每箱是75PCS装。



长刀卡:



短刀卡:

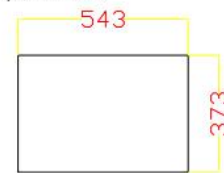


平卡:

1, 尺寸标示为外部尺寸;

2, 公差: +2/-2mm

3, 材质: B3B;



包装说明:

一、将每 PCS 产品装入 PE 袋中包好。再将包好的产品放入刀卡槽中, 每层装 50PCS, 共装 3 层, 每箱装 150PCS

二. 包装材料使用说明;

1. PE 袋的用量: 150 PCS

2. 平卡的用量: 4 PCS

3. 纸箱的用量: 1PCS

4. PE 袋尺寸: 120*160*0.02mm

5. 平卡尺寸: 543*373mm

6. 纸箱的尺寸: 560*385*287mm