

SPECIFICATION FOR APPROVAL**客户承认书**

Customer ID 客户:140169

P/N No.:HCF-400L-48

Sample Date 日期:2023-5-18

Design No. 设计流水号:230504-140169-142375-A1



景荣企业有限公司
中山市景荣电子有限公司

KINGRONG ENTERPRISE LTD. (Since 2008)

ZHONGSHAN KINGRONG ELECTRONICS CO., LTD.

样品承认书**SPECIFICATION FOR APPROVAL**

DESCRIPTION /产品名称 : LED Power Supply

CUSTOMER ID /客户代码 : 140169

CP.N. /客户料号 :

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TABLE OF CONTENTS/目录

0. Revision List /变更履历表.....	2
1. General Scope/简述.....	3
2. Input Characteristics /输入特性.....	3
3. Output Characteristics/输出特性.....	3
4. Dielectric Strength (Hi-Pot) Test /介电耐压强度(高压)测试.....	4
5. Insulation Resistance Test /绝缘阻抗测试.....	5
6. Protection Requirements /保护特性.....	5
7. Environment Requirements/环境要求.....	5
8. SAFETY Standards /安规标准.....	5
9. EMI/EMS Standards /电磁兼容标准.....	5
10. Reliability Requirements /可靠性要求.....	6
11. Mechanical Characteristics /机械特性.....	6
12. Test Schematic /测试示意图.....	7
13. Label Diagram /铭牌图.....	8
14. Mechanical Outline Photograph /外观示意图.....	9
15. ErP 2/ CEC V/ GEMS/ CoC V5/ DoE VI / Test Report/节能测试报告.....	10
16. Package Drawing /包装示意图.....	11
17. Certificates /认证证书.....	错误!未定义书签。

0. Revision List /变更履历表

变更后立即通知生产更新资料，切记！

Rev. 版本	Date 日期	Description of Changes 变更内容描述	Notes 备注
1.0			
2.0			
3.0			
4.0			

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1. General Scope/简述

The document describes the electrical, mechanical and environmental specifications of a LED driver product, which provides/资料详细描述了一款 400W continuous output power./(连续输出功率)LED 电源的电气性,结构性及环境等要求.

The product shall meet the/此款电源符合 CE+IP67+UKCA requirements.

2. Input Characteristics /输入特性

2.1 Input Voltage &Frequency/输入电压与频率

The range of input voltage at single phase.
输入电压范围：单相输入

Items	Minimum/最小	Nominal/额定值	Maximum/最大
Input voltage/输入电压	190Vac		240Vac
Input frequency/输入频率	50Hz		60Hz

2.1 ☐ Normal Efficiency 常规效率, ☒ Averagel Efficiency 平均效率

Nominal input额定输入 93 % min.

2.2 Energy Consumption/空载功耗

Stand-by power/空载功耗标准: 小于 0.65W max (no-load).

3. Output Characteristics/输出特性

3.1 Static Output Characteristics <Vo & R+N>/静态输出特性

Output	Rated load/额定负载		Output voltage range	R+N	Remarks
Rate	Min. load	Max. load	输出电压范围	纹波与噪声	备 注
48V	0.0A	8.3A	± 5%	1200mVp-p	

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolysis capacitor. (Test under the condition of rated input and rated output)

纹波与噪声:测量时示波器选用 20MHz 带宽限制,输出端要并联一颗 0.1uF 的陶瓷电容和一颗 47uF 的电解电容。(在额定输入及输出的条件下检测)

3.2 Load Regulation/线性/负载调整率: 5%

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3.3 If Charger, Charging Characteristics / 充电特性(Applicable for charger only)

(如果是充电器线路才适用)☐ **Charger circuit design**

3.3.1 Charging method/充电模式: CC/CV

3.3.2 Pre-charge current/预充电电流: 200 mA

3.3.3 Main charge current/主要充电电流: 600 mA

3.3.4 Charging time/充电时间不少于: Charging not finished within 6 hours

3.3.5 Charging LED indication: Dual color RED/Green 红/绿色

3.3.6 Charging turn lamp current/充电转灯电流: 50-120 mA

3.4 If POE Power Supply, Data Interfaces(Applicable for POE PSU only)/数据接口

(如果是POE电源才适用): ☐ **POE power supply** ☐ **Surge protected**

Ports Number: **Single port data & power out, RJ-45 female**

Data LAN : ☐ **10/100Mbps** ☐ **10/100/1000Mbps**

Data & Power out (Optional): **Data on pins: full duplex**

☐ **+VDC on pins: 4, 5; -VDC on pins: 7, 8**

☐ **+VDC on pins:1,2,3,6; -VDC on pins:4,5,7,8**

The power out pins assignment is optional; please specify it in your order.

3.5 Turn-on Delay Time/开机延迟时间:

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

Rise time/上升时间: 10mS max. @ rated load/额定负载

Fall time/下降时间: 20mS max. @ full load/满载

3.6 Hold-up Time/关机维持时间

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

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

4. Dielectric Strength (Hi-Pot) Test /介电耐压强度(高压)测试

4.1 Primary to Secondary & Case for Class I /初级对次级及外壳::

1500Vac /10mA max / 60 seconds

4.2 Primary to Secondary & Case for Class II /初级对次级及外壳::

3750Vac /10mA max / 60 seconds

4.3 Leakage Current/漏电流

0.25 mA max. at 264Vac / 50Hz

4.4 If, Surge Test (雷击测试) ☒ N/A

3KV Common mode, different test phase mode at 0°, 90°, 180°, 270° as per

EN61000-4-5:2006.

4.5 ESD Test (防静电测试) ☒ N/A

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Air discharge: ±8KV, contact discharge: ±4KV.

5. Insulation Resistance Test /绝缘阻抗测试

50MΩ min. at primary to secondary add 500Vdc 在初级与次级间加 500Vdc进行测试

6. Protection Requirements /保护特性

6.1 Input Protection /输入保护

It has a/电源输入端内置inner current fuse to protection itself/电流保险管

6.2 Over Voltage Protection /过压保护

When overvoltage occurs on DC 55 V output shall cause no damage or auto-recover the power supply/当输出电压超过额定电压时,电源将保护,故障排除后能恢复正常工作

6.3 Over Current Protection /过流保护

Over Current Point Limit: /过流点限制: < 10A (100-240Vac)

The output shall hiccup when the over currents 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

6.4 Short Circuit Protection /短路保护

The input power shall decrease when the output rail short, the power supply shall no damage, and shall be self-recovery when the fault condition is removed. SCP power/短路功率 0.02W

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

7. Environment Requirements /环境要求

7.1 Operating Temperature and Relative Humidity /操作温/湿度要求

-20°C to +40°C 20% to 80%RH

7.2 Storage Temperature and Relative Humidity /存储温/湿度要求

-20°C to +85°C 5% to 95%RH non-condensing @ sea level shall below 10k feet/低于10,000英尺

8. SAFETY Standards /安规标准

The product has designed / approved by the following safety standards:

☑IEC/EN61347

9. EMI/EMS Standards /电磁兼容标准

9.1 EMI Standards/EMI标准(eg.EN55022,GB9254)

☑EN61547

☑EN55015

9.2 EMS Standards/EMS标准(eg.EN61000,GB17625)

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- ☐ EN55024:2010
☒ EN61000-3-2 ☒ EN 61000-3-3:2013 ☐ GB17625.1-2012
☒ IEC61000-4-2/ESD静电耐受测试 ☐ IEC61000-4-3/RS辐射场强耐受测试
☐ IEC61000-4-4/EFT/Burst瞬间脉冲耐受测试 ☐ IEC61000-4-5/Surge点击波耐受测试
☐ IEC61000-4-6/CS传导场强耐受测试 ☐ IEC61000-4-8 ☐ IEC61000-4-11
☐ EN62493:2010 EMF

10. Reliability Requirements /可靠性要求

10.1 Burn-in/煲机

The power supply shall be burn-in for 4 Hours under normal input and 100% rated load at $40^{\circ}\text{C} \pm 5^{\circ}\text{C}$
 产品至少要在 $40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 的环境及100%额定负载条件下煲机4小时

10.2 MTBF Qualification/平均间隔故障时间估算

The MTBF is designed to bear 50,000 hours at 25°C , full load and nominal input condition as per Telcordia SR-332 methodology.

平均间隔故障时间设计在 25°C 环境及额定输入与满载条件下工作的时间

11. Mechanical Characteristics /机械特性

- 11.1 Dimension /尺寸(LxWxH)cm: 27 x 6.9 x 3.1CM
 11.2 Net Weight/重量Kgs(ref.): 1.023
 11.3 AC Inlet/输入插头: Terminal
 11.4 Power Cord/输入电源线: VDE H07RN-F 2X1.5MM2 23CM
 11.5 Case Material/外壳材质: ABS or PC or PC+ABS, 94V-0
 11.6 Outline Color/颜色: GREY
 11.7 LED color/指示灯颜色: N/A
 11.8 Output cord & Length/输出线及长度: LEC 57(Y2W) 3X1.0MM2 300/500V 23CM
 11.9 DC Connector Size& Shape/DC头尺寸及外形: N/A
 11.10 DC Plug Polarity/极性: +Brown -BLUE
 11.11 Drop Test/跌落

Height: 1.0m; the product should be fell off on the hardwood with the thickness of 20mm, and the hardwood should be put on the base of the cement or on the ground without flexibility by apply two times on all surfaces.跌落高度:1米, 并跌落到厚度为20mm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2次

11.11 Ball Pressure Test/球压测试

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Pass 通过

11.12 Vibration Test/振动测试:

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

11.13 Cord Bending Test / 摇摆测试:

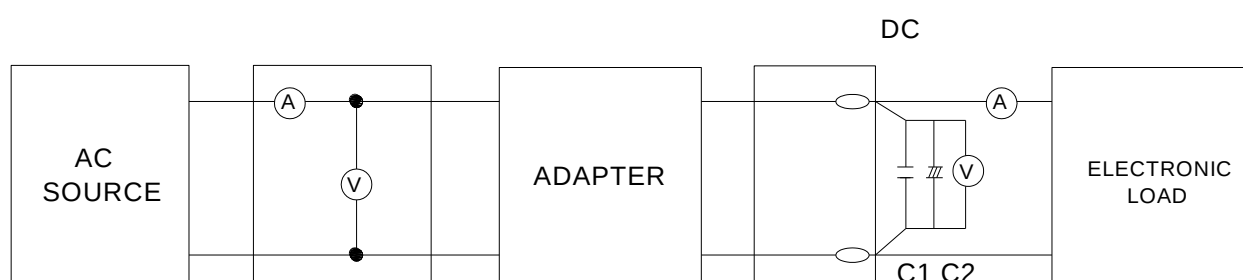
The cord shall withstand a weight of 200 g, it swings from left to right at an angle of 90 degree(total), 40 cycle/min , 300 times minimum. The cord shall be conductible.

输出线悬挂 200 克重量，以 90 度、40周/分钟左右摇摆最小 300 次，输出线无异常。

11.14 Strain Relief Test / 拉力测试:

Plug and cord, at their normal position applied a weight of 20lbs to input plug, 10 lbs. to output cord, for 60 seconds each, there shall be no broken of lead or other damage result. 输入插头能承受 20lbs 的拉力, 输出线能承受 10lbs 的拉力, 无任何损坏

12. Test Schematic /测试示意图



C1:0.1uF/ 50V(or high voltage) ceramics capacitor/瓷片电容

C2:47uF/ 50V(or high voltage) aluminum electrolytic capacitor/铝电解电容



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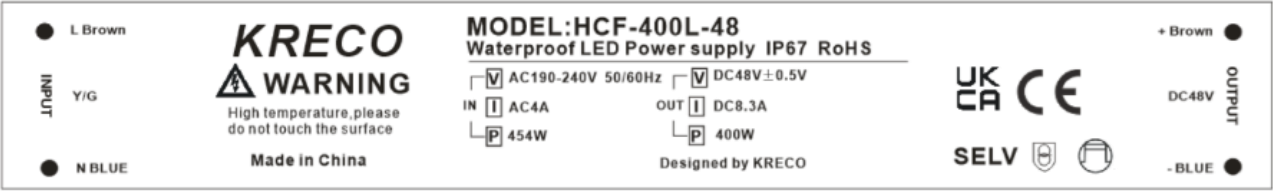
李淑仪

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13. Label Diagram /铭牌图



☐ Laser engraving ☒ PVC sticker ☒ Serial code 128

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14. Mechanical Outline Photograph /外观示意图



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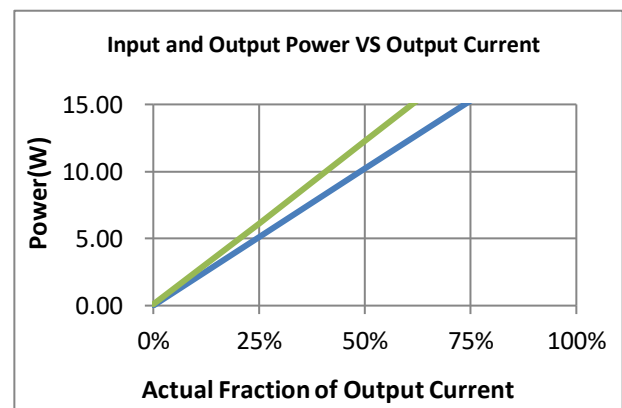
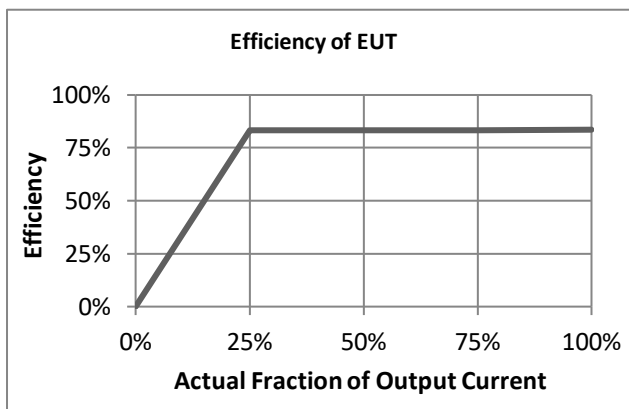
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15. ErP 2/ CEC V/ GEMS/ CoC V5/ DoE VI / Test Report/节能测试报告

☒ N/A
 ☐ IV
 ☐ V
 ☐ VI Efficiency Test Report节能测试报告
☐ GEMS
 ☐ CEC
 ☐ ErP
 ☐ DoE VI 6 (US)
 ☐ CoC (EU 6级)

Item 项目	Standard Noload Power 标准空载损耗 (W)	Standard Average Efficiency 标准平均效率%
Standard 标准		

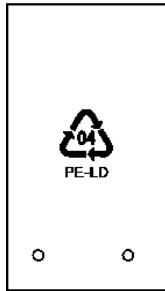
	No Load	Active power values					
Percent of nameplate current 负载比例	0%	25%	50%	75%	100%	No load Power 空载功率 W	Average Efficiency 平均效率%
Output Current 输出电流							
Output voltage 输出电压							
Output power 输出功率 W 次							
AC input power 输入功率 W 初							
Efficiency% 效率%							



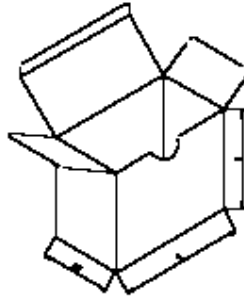
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16. Package Drawing /包装示意图



□: PE Bag



□: White Box



□: Blade Cardboard.

No.	Item Name	Density/Spec	Dimension (LxWxH cm)
1	PE bag 袋	N/A	
2	White box 小白盒	N/A	



Name	Material	Measurement (LxWxH)	Q'ty	Shipping Mark	Part No. On Carton
Outer Carton	K=K	42x26x23cm	30PCS	KRECO	

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