

承认书编号: **MK-J2496**

# 规格承认书

## SPECIFICATION FOR APPROVAL

客户名称(CUSTOMER)	MK-J2496
客户料号 (P/N of customer)	
品名 (DESCRIPTION)	JP Wall Mount type / 24VDC500mA
Merryking 料号 (P/N of Merryking)	
Merryking 安规型号 (Model of Safety Certification)	MKC-2400500S
样品数量 (Quantity of samples)	
送样日期 (DATE)	

### CUSTOMER AUTHORIZED SIGNATURE/客户承认签核

--	--	--

承认记事 (REMARKS) :

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature./客户确认签字, 盖章后请回传一份承认书给我司.

深圳市钜博电子有限公司/ Shenzhen Merryking Electronics Co., Ltd.

地址: 深圳市宝安区松岗街道东方社区田洋二路南边头科技园A栋8楼

Add.: 8F, Blding B, Nanbiantou S&T Park, Tianyang 2nd Road, Oriental Community,  
Songgang Street, Bao'an District, Shenzhen 518105, Guangdong, China

TEL.: +86-755-23005669 FAX: 86-755-23005900

<http://www.merryking.com>

钜博企业(香港)有限公司/Merryking Enterprises (HK)Co., Ltd.

地址: 香港九龍旺角通菜街 1A-1L 威達商業大廈 10/F1003 室

Add.: Office No.3 10/F, Witty Commercial Building, 1A-1L Tung Choi Street, Mongkok Kowloon Hong Kong

拟制	审核	批准
秦云	秦云	黄勇

## Table of contents

### 目錄

<b>Cover / 封面</b> -----	<b>P1</b>
<b>Table of contents / 目錄</b> -----	<b>P2</b>
<b>Electrical Performance / 電氣性能</b> -----	<b>P3-P7</b>
<b>Product Outline / 產品外觀尺寸</b> -----	<b>P8</b>
<b>DC Cord / 線材</b> -----	<b>P9</b>
<b>Rating Label / 銘牌</b> -----	<b>P10</b>
<b>Packing / 包裝圖</b> -----	<b>P11</b>

### UPDATE REV.

REV	UPDATE	DATE	PRERARATOR
Original		2023/09/04	秦云

**EDITION**  
版本

**A0**

**ELECTRICAL PERFORMANCE / 電器性能**

1. PRODUCT TYPE.产品类型:

Wall mount type 插墙式  Interchangeable AC plug 转换头  Desktop 桌面式

2. General Description(概述)

This specification defines the input, output, performance characteristics, and environment, noise and safety requirements for **12** Watts adaptor. The adaptor is full range AC (100~240V) input and output **24V**

(本规格详细说明了 **12W** 的适配器输入、输出特性、环境、噪音和安全要求。适配器输入电压为 AC(100-240V)，输出电压为 **24V**)

3. INPUT FEATURE / 輸入特性

3.1 INPUT VOLTAGE RANGE: **90Vac** to **264Vac**. 輸入電壓範圍可以從 **90Vac** 到 **264Vac**.

3.2 RATED INPUT VOLTAGE: **100Vac** to **240Vac**. 額定輸入電壓從 **100Vac** 到 **240Vac**.

3.3 INPUT FREQUENCY RANGE: **47Hz** to **63Hz**. 輸入頻率範圍從 **47Hz** 到 **63Hz**.

3.4 INPUT CURRENT: **0.4A** Max. (I/P100-240Vac). 最大輸入電流不超過 **0.4A** (輸入條件 100-240Vac)

3.5 INRUSH CURRENT: **40A** max. at **100-240Vac** input for a cold start at 25°C. 在標準開機條件下，最大浪湧電流不超過 **40A** (輸入條件 **100-240Vac**).

3.6 EFFICIENCY:

Higher than **82.96%** at 100-240Vac input and output (25%, 50%, 75% & 100% load.).

效率高於 **82.96%** (輸入 100-240Vac · 輸出 25%, 50%, 75% & 100% 負載)

4. OUTPUT FEATURE / 輸出特性

RATED OUTPUT / 額定輸出: <b>24VDC</b>	SPEC. LIMIT / 規格限定		REMARK / 備註
	Min. value	Max. value	
Output regulation / 輸出電壓規格	<b>22.8V DC</b>	<b>25.2VDC</b>	<b>≤±5%</b>
Output load / 輸出負載規格	<b>0.0A</b>	<b>0.5A</b>	
No Load Power consumption/空載功耗	—	<input checked="" type="checkbox"/> <b>0.1W</b> <input type="checkbox"/> <b>0.21W</b>	<b>Input voltage:115 &amp; 230VAC</b>
Ripple and Noise / 輸出紋波及雜訊	—	<b>150mVp-p</b>	<b>20MHz Bandwidth 10uF Ele. Cap. &amp; 0.1uF Cer. Cap</b>
Output Overshoot / 輸出過沖幅度	—	<b>10%</b>	
Line regulation / 線性調整率	—	<b>±1%</b>	
Load regulation / 負載調整率	—	<b>±5%</b>	
Turn-on delay time / 開機延遲時間	—	<b>3000mS</b>	
Hold up time / 關機維持時間	<b>10mS</b>	—	<b>Input voltage:115Vac</b>
	<b>20mS</b>	—	<b>Input voltage:230Vac</b>

5.SAFETY STANDARD / 安規標準

5.1 The green mode power supply shall be certified by the following international regulatory standards 電源應符合下列的國際標準:

Certificate	Country/國家	Standard / 標準
<input checked="" type="checkbox"/> UL / cUL	USA / 美國	<input checked="" type="checkbox"/> UL62368-1 <input type="checkbox"/> UL60950-1 <input type="checkbox"/> UL60065 <input type="checkbox"/> UL60601-1 <input type="checkbox"/> UL1310
<input type="checkbox"/> ETL	USA / 美國	<input type="checkbox"/> UL62368-1 <input type="checkbox"/> UL60950-1 <input type="checkbox"/> UL60065 <input type="checkbox"/> UL60601-1 <input type="checkbox"/> UL1310
<input type="checkbox"/> GS	Germany / 德國	<input type="checkbox"/> EN62368-1 <input type="checkbox"/> EN60950-1 <input type="checkbox"/> EN60065 <input type="checkbox"/> EN60335-1 <input type="checkbox"/> EN61347-1 <input type="checkbox"/> EN60601-1 <input type="checkbox"/> EN61558-1 &-2-16
<input type="checkbox"/> CE	Europe / 歐洲	<input type="checkbox"/> EN62368-1 <input type="checkbox"/> EN60950-1 <input type="checkbox"/> EN60065 <input type="checkbox"/> EN60335-1 <input type="checkbox"/> EN61347-1 <input type="checkbox"/> EN60601-1 <input type="checkbox"/> EN61558-1 &-2-16
<input type="checkbox"/> SAA	Australia / 澳洲	<input type="checkbox"/> AS/NZS62368-1 <input type="checkbox"/> AS/NZS60950-1 <input type="checkbox"/> AS/NZS60065 <input type="checkbox"/> AS/NZS60335-1 <input type="checkbox"/> AS/NZS61558-1 &-2-16
<input checked="" type="checkbox"/> PSE	Japan / 日本	<input checked="" type="checkbox"/> J62368-1 <input type="checkbox"/> J60950-1 <input type="checkbox"/> J60065 <input type="checkbox"/> J60335-1 <input type="checkbox"/> J61558-1&-2-16
<input type="checkbox"/> S-Mark	Argentina/阿根廷	<input type="checkbox"/> IEC62368-1 <input type="checkbox"/> IEC60950-1 <input type="checkbox"/> EC60065 <input type="checkbox"/> IEC61558-1 &-2-16
<input type="checkbox"/> CCC	China/中国	<input type="checkbox"/> GB4943 <input type="checkbox"/> GB8898 <input type="checkbox"/> GB4706.1
<input type="checkbox"/> KC	Korea / 韩国	<input type="checkbox"/> K60950-1
<input type="checkbox"/> BSMI	Taiwan/台湾	<input type="checkbox"/> CNS13438 & 14336-1
<input type="checkbox"/> PSB	Singapore /新加坡	<input type="checkbox"/> IEC62368-1 <input type="checkbox"/> IEC60950-1 <input type="checkbox"/> EC60065 <input type="checkbox"/> IEC61558-1 &-2-16
<input type="checkbox"/> CB	IECEE/国际电工委员会	<input type="checkbox"/> IEC62368-1 <input type="checkbox"/> IEC60950-1 <input type="checkbox"/> EC60065 <input type="checkbox"/> IEC61558-1 &-2-16

6. EMC STANDARDS / 電磁相容性標準

6.1 The power supply shall meet the following EMC standards: 本電源供應器滿足下列 EMC 標準:

Certificate	Country/國家	Standard / 標準
<input checked="" type="checkbox"/> FCC	USA / 美國	<input checked="" type="checkbox"/> FCC PART 15B <input type="checkbox"/> FCC PART 18 <input type="checkbox"/> FCC PART 15C
<input type="checkbox"/> ICES	Canada / 加拿大	<input type="checkbox"/> ICES-003 <input type="checkbox"/> ICES-001
<input type="checkbox"/> CE	Europe / 歐洲	<input type="checkbox"/> EN55032 EN55024 EN61000-3-2 EN61000-3-3 <input type="checkbox"/> EN55014-1 EN55014-2 EN61000-3-2 EN61000-3-3 <input type="checkbox"/> EN55015-1 EN61547 EN61000-3-2 EN61000-3-3

<input type="checkbox"/> C-Tick	Australia / 澳洲	<input type="checkbox"/> AS/NZS CISPR22 <input type="checkbox"/> AS/NZS CISPR14.1 <input type="checkbox"/> AS/NZS CISPR15 <input type="checkbox"/> AS/NZS CISPR13
<input type="checkbox"/> KCC	Korea / 韩国	<input type="checkbox"/> K32/K35 <input type="checkbox"/> K14 <input type="checkbox"/> K11 <input type="checkbox"/> K15
<input checked="" type="checkbox"/> PSE	Japan / 日本	<input checked="" type="checkbox"/> J55032 <input type="checkbox"/> J55014-1 <input type="checkbox"/> J55013 <input type="checkbox"/> J55015
<input type="checkbox"/> CCC	China/中国	<input type="checkbox"/> GB9254 <input type="checkbox"/> GB4343.1 <input type="checkbox"/> GB17743 <input type="checkbox"/> GB13837 <input type="checkbox"/> GB17625.1

## 6.2 EMS Standards/EMS 标准

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. ELECTRIC WITHSTANDING STRENGTH(HI-POT) / 絕緣介電強度 (耐壓)

Primary to Secondary **AC3000V/10mA** , **1** minute for type test. **3** second for production.一次側對二次側: **AC3000V/10mA** 標準測試 **1**分鐘, 量產測試 **3**秒鐘.

## 8. PROTECTION FEATURE / 保護特性

### 8.1 OVER – CURRENT PROTECTION / 過電流保護:

The green mode power supply shall be hiccupped when any output operating in overload condition(set@ Max load **110~180 %**) under any line condition for an indefinite period of time. The power supply shall be self – recovery when the fault condition is removed.在任何時候任何輸入條件, 當輸出操作在超載條件最大電源的 (**110~180 %**) 時, 電源供應器將進入打嗝模式, 當故障被移走後, 電源要能自動恢復到正常。

### 8.2 SHORT CIRCUIT PROTECTION / 輸出短路保護:

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.在任何時候, 任何輸入條件下, 當輸出操作在短路情況下, 電源供應器將進入打嗝模式, 當故障消失後, 電源要能自動恢復正常。

## 9. ENVIRONMENTAL CONDITIONS / 環境條件

### 9.1 OPERATING / 操作條件:

The power supply shall be capable of operating continuously in any mode without

performance deterioration in the following environmental conditions.在下列環境條件下，電源供應器要能夠連續操作在各種模式，且不能造成性能的退化。

9.1.1 Ambient Temperature: 0°C~40°C 環境溫度: 0°C~40°C

9.1.2 Relative Humidity: 10%~90% 相對濕度: 10%~90%

9.1.3 Vibration: 1.0mm, 10—25Hz, 15 minutes per cycle for each axis (X, Y, Z)

9.1.4 Cooling: The power supply will operate with convection cooling .Blocking of vents must not cause damage to The power supply. 電源供應器將操作在對流冷卻的環境下，即使將通風口阻塞電源也不允許有任何損傷發生。

## 9.2 NON—OPERATING / 非操作條件:

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: 電源供應器要能夠長期的經受下列的環境條件，且不允許有電氣級機械方面的損傷和併發的操作的缺失。

9.2.1 Ambient Temperature: -20°C~60°C 環境溫度: -20°C~60°C

9.2.2 Relative Humidity: 10%~90% 相對濕度: 10%~90%

9.2.3 Vibration and Shock / 振動和衝擊

The power supply shall be designed to withstand normal transportation vibration per MIL-STD-810D, method 514 and procedures X, as it s mounted in the chassis assembly and packed for shipping.電源供應器裝配及出貨的包裝設計，均要能承受正常運輸的振動，並符合 MIL—STD—810D 方法 514 和程式 X。

## 10. Energy Saving (Level VI / Level 6) 符合節能 6 級標準，測試標準如下:

- 10.1 US DOE: Office of Energy Efficiency and Renewable Energy 10 CFR Parts 429 and 430
- 10.2 CEC: Appliance Efficiency Regulations (California Code of Regulations, Title 20, Sections 1601 through 1608) dated July 2015
- 10.3 NRCAN: Amendment 11 to the Energy Efficiency Regulations for External Power Supplies, published on October 12, 2011 in the Canada Gazette, Part II
- 10.4 Other (Specify): International Efficiency Marking Protocol for External Power Supplies - Level VI
- 10.5 Other (Specify): Australian (GEMS) and New Zealand : AS/NZS4665.1-2005+A1:2009; AS/NZS4665.2-2005+A1:2009
- 10.6 Other (Specify): EU Directive for Energy-related Products ErP 2009/125/EC and Implementing Measure (IM) no. EC278/2009 for External Power Supply
- 10.7 Other (Specify): Code of Conduct on Energy Efficiency of External Power Supplies Version 5

## 11. RELIABILITY AND QUALITY CONTROL / 可靠性及品質控制

- 11.1 MTBF/故障率 The predicted and demonstrated MTBF must be greater than 50K hours at 25° C.
- 11.2 BURN-IN / 燒機 The power supply shall undergo a minimum of 4 hours Burn-In test under full load at 40°C~±5°C 電源應在 40°C~±5°C 和滿載條件下烘烤 4 小時。
- 11.3 COMPONENT DERATING / 元件溫度要求 Semiconductor junction temperatures shall not exceed the manufacturer's maximum thermal rating.半導體結溫不允許超過其製造商要求的最大溫度值。
- 11.4 QUALITY GUARANTEE/品質保證: 2 years warranty. 2年品質保固。
- 12.WEIGHT / 重量 The weight of the power supply shall be about 68g 電源的重量大約為 68g.
- 13.MECHANICAL REQUIREMENT / 結構參數 The power supply size: L47.5\*W39.5\*H23mm. 外型尺寸: L47.5\*W39.5\*H23mm.
- 14.INSULATION RESISTANCE / 絕緣阻抗 Input to output: 50M OHM(500VDC) 輸入對輸出 50兆 歐姆 (500VDC)
- 15.LEAKAGE CURRENT / 漏電流 The leakage current shall be less than 0.25mA for class II when power supply is operated maximum input voltage and maximum load. 當電源供應器操作在最大輸入及最大負載情況下, 其漏電流應小於 0.25mA, 滿足 class II 等級。
- 16.MAJOR MEASURE EQUIPMENT / 主要測量設備
- A. AC SOURCE / 交流輸入電源: AFC-500W
  - B. POWER METER / 電源功率計: CHROMA 2100
  - C. ELECTRONIC LOAD / 電子負載: PRODIGIT 3310C
  - D. OSCILLOSCOPE / 存儲示波器: TDS-2012B
  - E. DIGITAL MULTIMETER / 數字式萬用表: Fluke 4.5
  - F. DC POWER / 直流輸入電源: WYK-6030
  - G. HI-POT TESTER / 耐壓測試儀: LANKE ELECTRONICS 7112
  - H. INSULATION RASISTANCE TESTER / 絕緣電阻表: YD2681A

EDITION  
版本

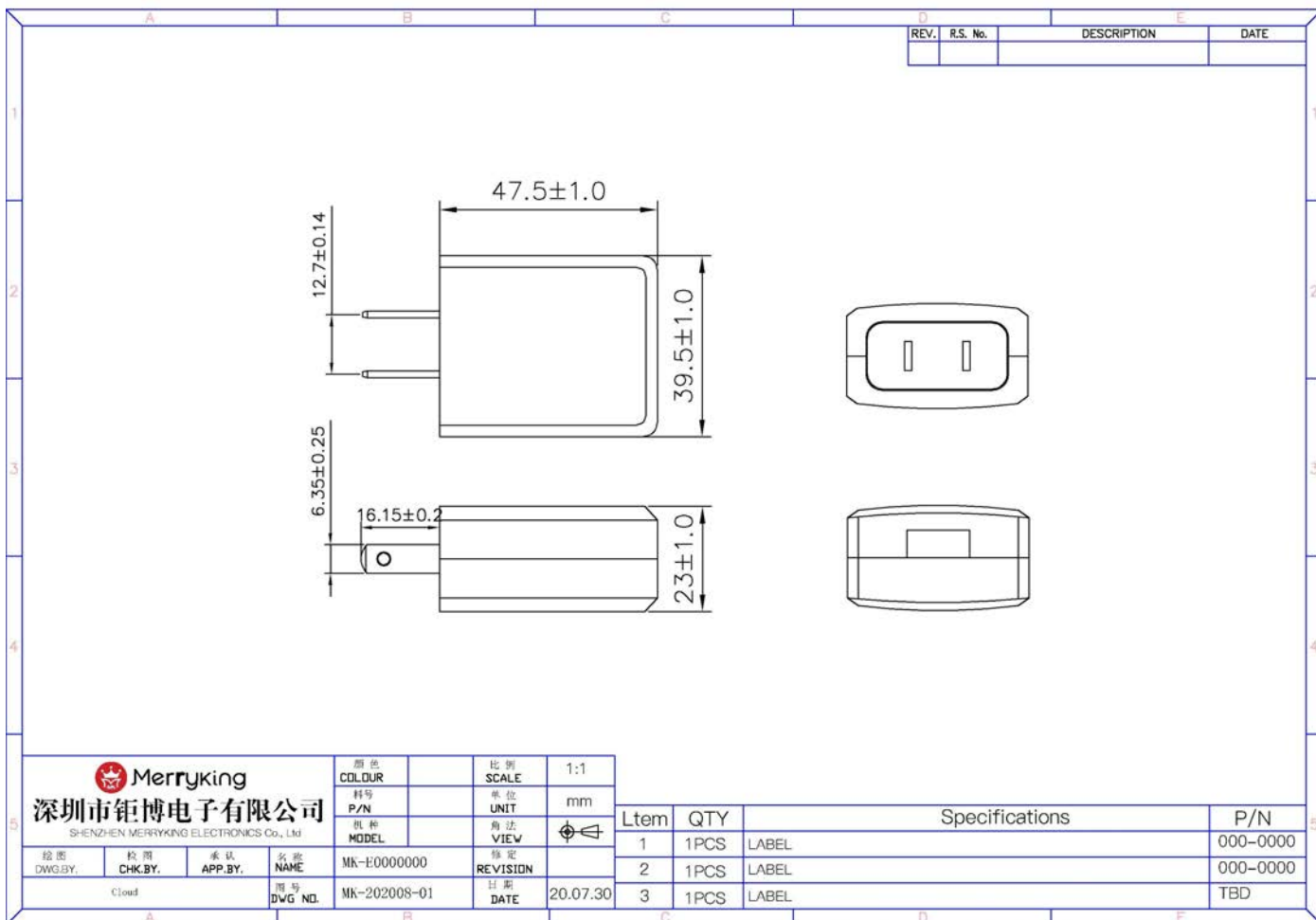
A0

**PRODUCT OUTLINE DIMENSION / 產品外觀尺寸**

Unit / 單位:mm

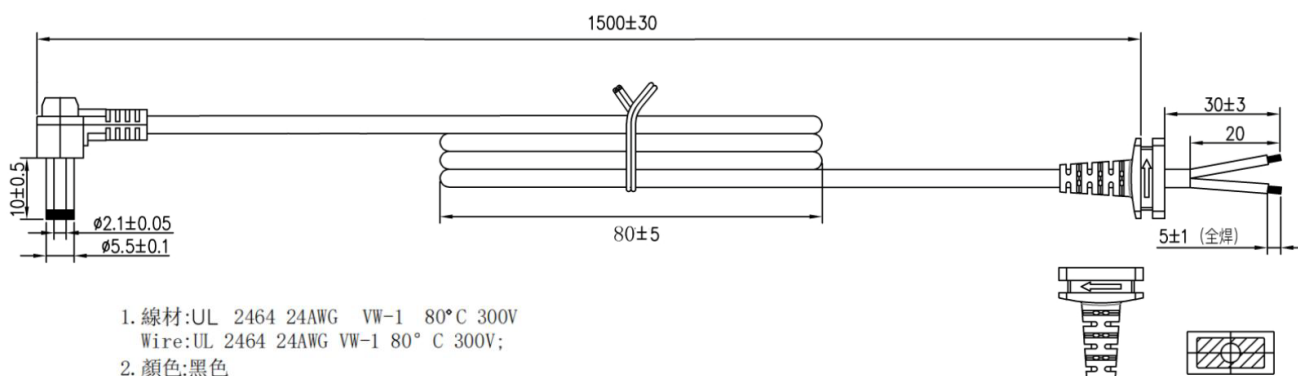
Tolerance / 公差:±1

Color/顏色: 黑色/Black


**EDITION**  
 版本

**A0**



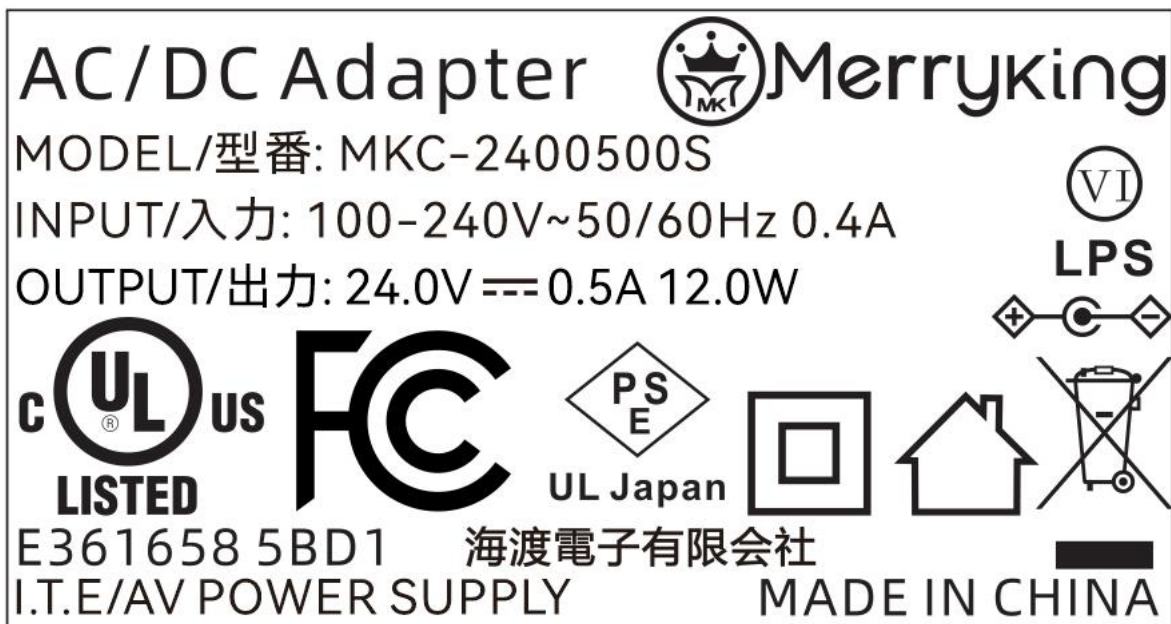
**DC CORD / 線材**
**Unit / 單位:mm**
**Tolerance / 公差:**
**Color/顏色: 黑色/Black**



1. 線材:UL 2464 24AWG VW-1 80°C 300V  
Wire:UL 2464 24AWG VW-1 80° C 300V;
2. 顏色:黑色  
Color: Black ;
3. 极性:黑色线 —●— 红色线  
Polarity: Black line —●— Red line;
4. 拉力試驗:吊重20LBS, 60秒SR位移小于2mm;  
Tensile test :Hang weight 20LBS, SR displacement less than 2mm in 60s;
5. 搖擺試驗:吊重150g, 每分鐘45次, ±90° 搖擺至少1000次;  
Swing test: Hang weight 150g, 45 times/min, swing at ±90 degrees 1000 times at least;
6. 線材硬度:DUROMETER TYPE A 55±10;  
Wire Hardness: DUROMETER TYPE A 55±10;






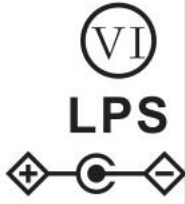
**SEDITION**  
**版本**
**A0**

RATING LABEL / 銘牌

Unit / 單位:mm  
 Tolerance / 公差:+0/-0.2mm



AC/DC Adapter  Merryking  
 MODEL/型番: MKC-2400500S  
 INPUT/入力: 100-240V~50/60Hz 0.4A  
 OUTPUT/出力: 24.0V  $\equiv$  0.5A 12.0W

E361658 5BD1 海渡電子有限会社  
 I.T.E/AV POWER SUPPLY XXXXXXXXXX MADE IN CHINA

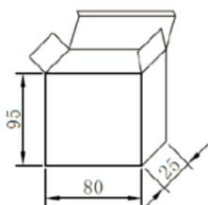
鐳 雕

注:

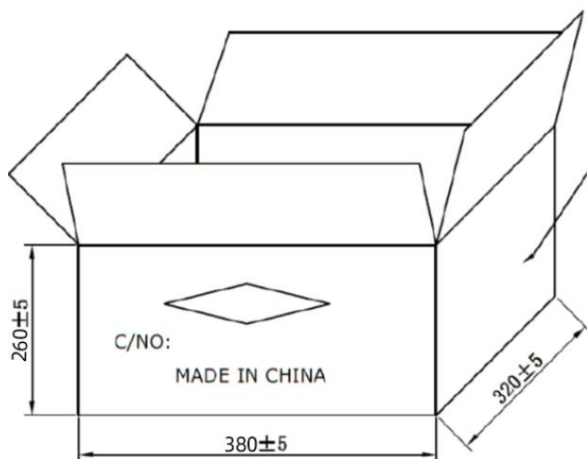
1. 黑底灰字 - Gray text on black ground.
2. 鐳雕清晰，耐擦拭 - Laser printing, wipe resistance.
3. 符合環保要求 - Compliance to RoHS.

EDITION  
 版本

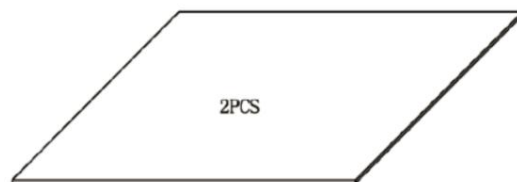
A0

**PACKING / 包裝**

**NOTE:**

1. 尺寸為內部尺寸
2. 材質: 300磅紙板
3. 顏色: 白色


**MARKING A**


P.O:  
 P/N:  
 QTY: PCS  
 N.W.: KGS  
 G.W.: KGS



平卡 (材質B3C) 360\*300\*3mm

**NOTE:**

1. 共3層, 126PCS/箱
2. PK箱標示尺寸為內部尺寸
3. PK箱印前後相同, 左右相同, 印刷顏色為黑色
4. 上, 下放平卡

**EDITION**  
 版本

**A0**