



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)	2700
品名 (DESCRIPTION)	Desktop / 24VDC 2500mA
Merryking 料号 (P/N of Merryking)	
Merryking 安规型号 (Model of Safety Certification)	MKF-2402500C8
样品数量 (Quantity of samples)	
送样日期 (DATE)	

CUSTOMER AUTHORIZED SIGNATURE/客户承认签核

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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。

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拟制	审核	批准
莫似钰	莫似钰	黄勇



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UPDATE REV.

REV	UPDATE	DATE	PRERARATOR
Original		2024/02/27	莫似钰

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 **60** Watts adaptor. The adaptor is full range AC (100~240V) input and output **24V**

(本规格详细说明了 **60W** 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: **2.0A** Max. (I/P100-240Vac). 最大輸入電流不超過 **2.0A** (輸入條件 100-240Vac)

3.5 INRUSH CURRENT: **100A** 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 **100A** (輸入條件 **100-240Vac**).

3.6 EFFICIENCY:

Higher than **88%** at 100-240Vac input and output (25%, 50%, 75% & 100% load.).

效率高於 **88%** (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: 24VDC	SPEC. LIMIT / 規格限定		REMARK / 備註
	Min. value	Max. value	
Output regulation / 輸出電壓規格	22.8DC	25.2VDC	≤±5%
Output load / 輸出負載規格	0.0A	2.5A	
No Load Power consumption/空載功耗	—	<input type="checkbox"/> 0.1W <input checked="" type="checkbox"/> 0.21W	Input voltage:115 & 230VAC
Ripple and Noise / 輸出紋波及雜訊	—	200mVp-p	20MHz Bandwidth 10uF Ele. Cap. & 0.1uF Cer. Cap
Output Overshoot / 輸出過沖幅度	—	10%	
Line regulation / 線性調整率	—	±1%	
Load regulation / 負載調整率	—	±5%	
Turn-on delay time / 開機延遲時間	—	3000mS	
Hold up time / 關機維持時間	10mS	—	Input voltage:115Vac
	20mS	—	Input voltage:230Vac



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	Regions/國家和地區	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 checked="" type="checkbox"/> GS	Germany / 德國	<input checked="" 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 checked="" type="checkbox"/> CE	Europe / 歐洲	<input checked="" 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 checked="" type="checkbox"/> SAA	Australia / 澳洲	<input checked="" 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	Regions/國家和地區	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 checked="" type="checkbox"/> CE	Europe / 歐洲	<input checked="" 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 checked="" type="checkbox"/> C-Tick	Australia / 澳洲	<input checked="" 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 **110~200 %**) 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 (**110~200 %**) 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: $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$ 環境溫度: $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$

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: $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$ 環境溫度: $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$

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 is 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 Erp(Specify): EU Directive for Energy-related Products EC Regulation 2019/1782:2019-11-14 & EN50563:2011/A1:2013 in excerpt
- 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 **203** 電源的重量大約為 **203g**.

13. MECHANICAL REQUIREMENT / 結構參數 The power supply size: **L100*W46.2*H32mm**. 外型尺寸: **L100*W46.2*H32mm**.

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 **0.5mA** 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 **0.5mA**, 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 RESISTANCE TESTER / 絕緣電阻表: YD2681A

EDITION
版本

A0

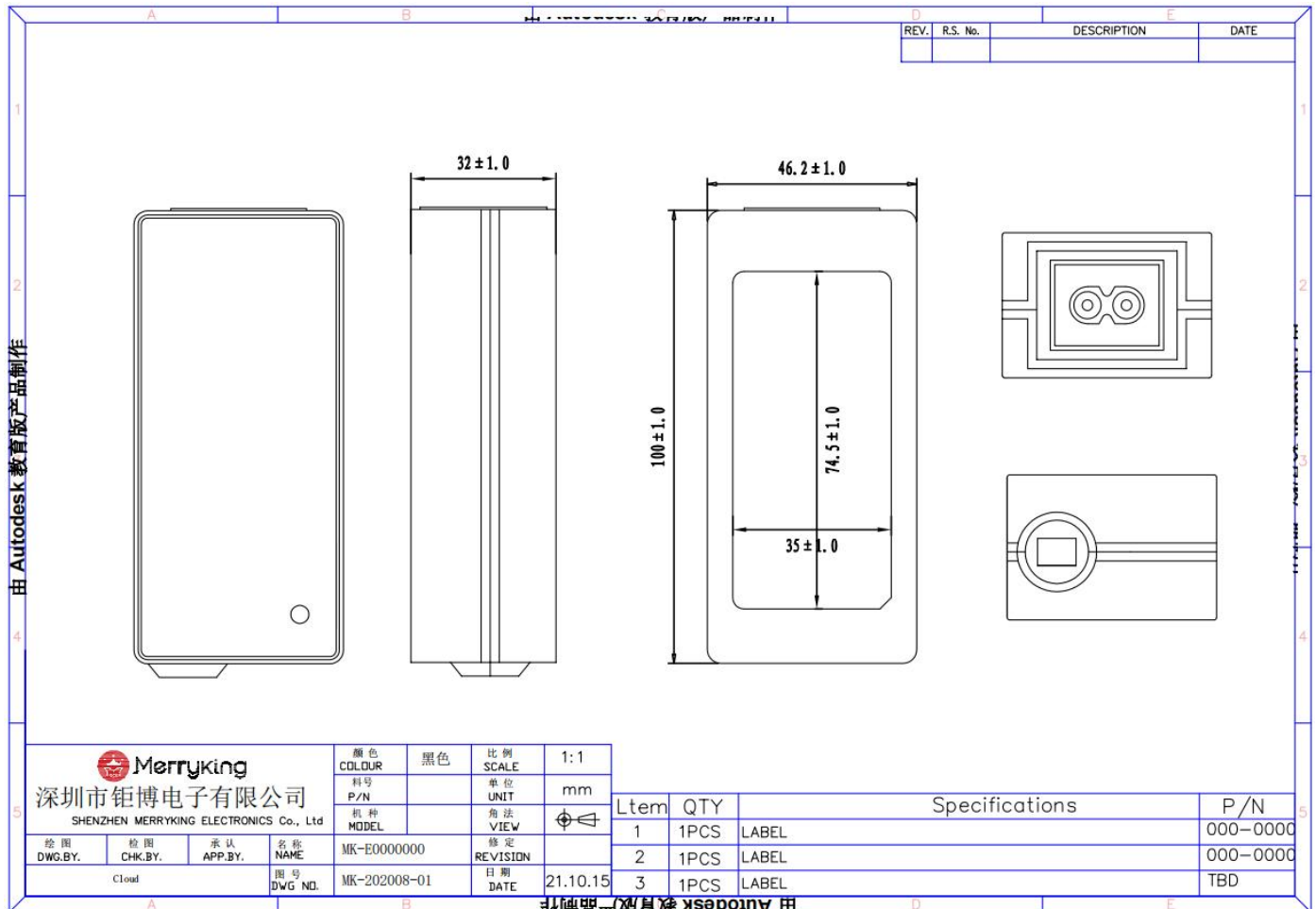


PRODUCT OUTLINE DIMENSION / 產品外觀尺寸

Unit / 單位:mm

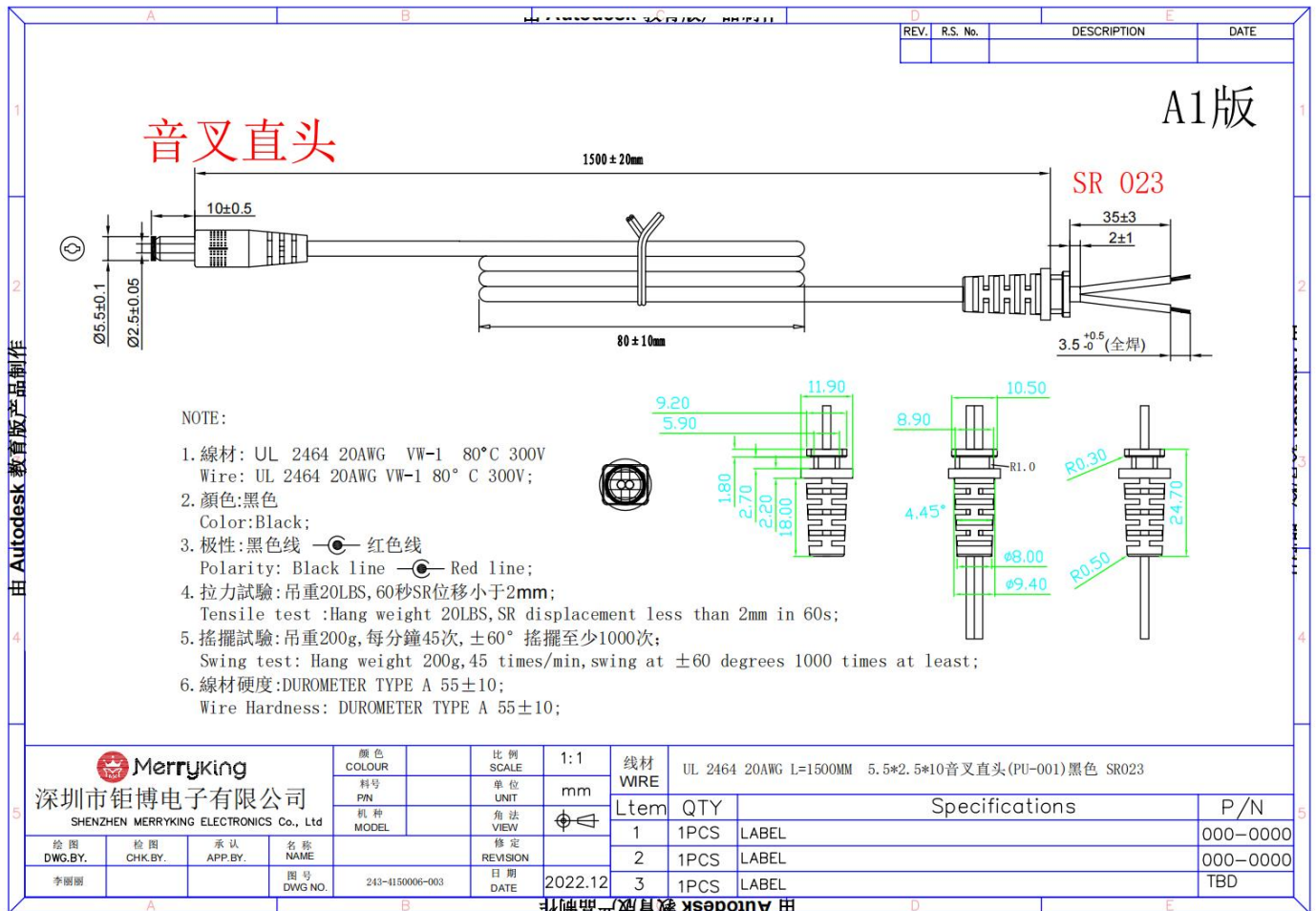
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Color/顏色: 黑色/Black



EDITION
版本

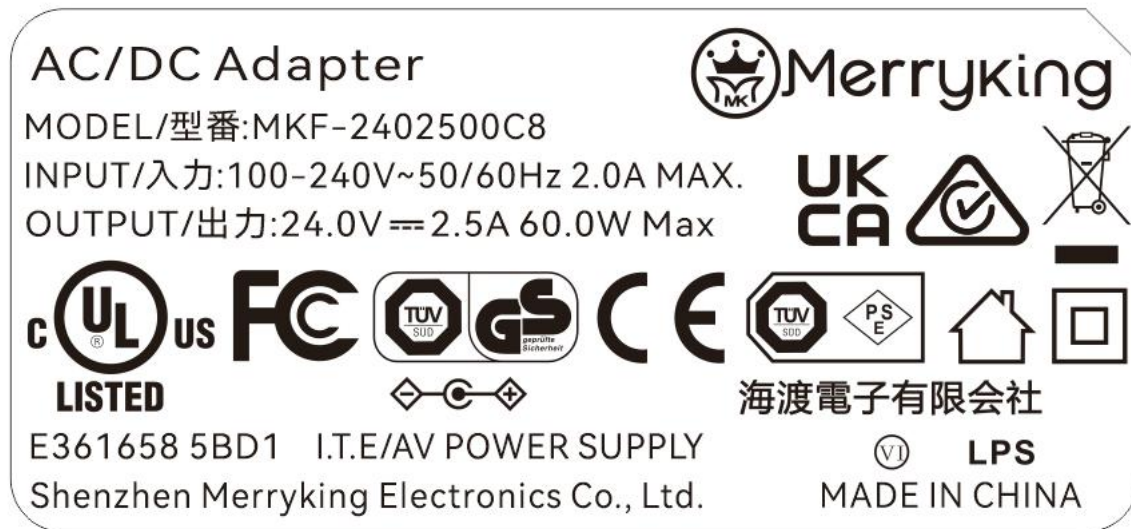
A0

DC CORD / 線材
Unit / 單位:mm
Tolerance / 公差:±1
Color/顏色: 黑色/Black

EDITION
版本
A0

RATING LABEL / 銘牌

Unit / 單位:mm

Tolerance / 公差:+0/-0.2mm



鐳 雕

注:

- 1.鐳雕文字-Radium carved characters.
- 2.鐳雕清晰，耐擦拭- laser printing, wipe resistance
- 3.符合環保要求-Compliance to RoHS.
- 4.YYMM 表示週期-YYMM means Date Code
 MM 表示月(01-12) -MM means Month (like 01-12)
 YY 表示年(如 20)- YY means Year (like 20)

EDITION
 版本

A0

