

# SPECIFICATION FOR APPROVAL

## 產品確認書/製品仕様書

FILE SERIAL NO./檔序號:

XSG20230714004-T01

CUSTOMER / 客 戶:

ARTICLE / 品 名:

SWITCHING POWER SUPPLY/CHARGER

MODEL NO. / 機種型號:

XSG4204000

PARAMETER / 規 格:

42V4.0A

CERTIFICATE/認證:

ETL UL CE FCC UKCA GS PSE SAA RCM

ISSUE DATE / 發行日期:

2023/7/14

**Please to sign back after you confirm**

**承認書確認後請回簽一份**

この仕様書をご確認とご署名の上、対象の営業窓口にご返信いただきますよう宜しくお願い致します。

| CUSTOMER AUTHORIZED<br>客戶確認 |            |             |
|-----------------------------|------------|-------------|
| Approved by                 | Checked by | Prepared by |
|                             |            |             |

| SUPPLIER AUTHORIZED<br>供方確認 |            |             |
|-----------------------------|------------|-------------|
| Approved by                 | Checked by | Prepared by |
| 李麗敏                         | 賀子豐        | 張文娟         |

\*感謝您的支持，我們十分珍惜每次合作機會

\*Thank you for your support, we will treasure the opportunity to cooperate with you

| Rev.版本 | Description of change/ 變更內容描述 |           | Changed Date<br>日期 | Approved |
|--------|-------------------------------|-----------|--------------------|----------|
|        | Before(變更前)                   | After/變更後 |                    |          |
| A      | Original Release(初次發行)        |           | 2023/7/14          | 張文娟      |
|        |                               |           |                    |          |
|        |                               |           |                    |          |
|        |                               |           |                    |          |
|        |                               |           |                    |          |



\* Make practical and safe power supply, Be enterprise with honesty and responsibility

\* 提供實用安全的電源，做誠信負責的企業

\* 実用的、安全な電源を提供し、誠実と信用、責任を持つ企業。

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## ELECTRICAL PERFORMANCE / 電器性能

### 1.SAFETY STANDARD / 安規標準

- 1.1 The green mode power supply shall be certified by the following international regulatory standards: 充電器應符合下列的國際標準：

| Certificate<br>證書                           | Country<br>國家 | Standard/安規標準                                        | Certificate<br>證書                              | Country<br>國家    | Standard/安規標準                       |
|---------------------------------------------|---------------|------------------------------------------------------|------------------------------------------------|------------------|-------------------------------------|
| <input checked="" type="checkbox"/> UL/cUL  | USA/CA<br>北美  | UL62368-1; CAN/CSA<br>C22.2 No62368-1<br>UL1310-1    | <input checked="" type="checkbox"/> FCC        | USA              | 47 CFR FCC Part 15                  |
| <input checked="" type="checkbox"/> LVD/ GS | Germany<br>德國 | EN62368                                              | <input checked="" type="checkbox"/> CE         | Europe<br>歐洲     | EN55032;EN55035;                    |
| <input checked="" type="checkbox"/> CB      | Global<br>全球  | IEC62368;IEC61558;<br>IEC60335                       | <input checked="" type="checkbox"/> KC         | Korea<br>韓國      | K60950-1                            |
| <input checked="" type="checkbox"/> PSE     | Japan<br>日本   | J62368-1(2020) J3000(H25)<br>J55032(H29) J60335-1    | <input checked="" type="checkbox"/> SAA/RCM    | AU 澳洲            | AS/NZS 62368.1:2018<br>AS/NZS 60335 |
| <input type="checkbox"/> CCC                | CN<br>中國      | GB 17625.1-2012;GB<br>4943.1-2011;GB/T 9254-<br>2008 | <input checked="" type="checkbox"/> LVD / UKCA | Eu / UK<br>歐盟 英國 | EN62368,BS EN 62368<br>EN61558      |

### 2.INPUT FEATURE / 輸入特性

- 2.1 INPUT VOLTAGE RANGE: 90Vac to 264Vac. 輸入電壓範圍可以從90Vac到264Vac.
- 2.2 RATED INPUT VOLTAGE: 100Vac to 240Vac. 額定輸入電壓從100Vac到240Vac.
- 2.3 INPUT FREQUENCY RANGE: 47Hz to 63Hz. 輸入頻率範圍從47Hz到63Hz.
- 2.4 INPUT CURRENT: 3.0A max.&100-240Vac. 最大輸入電流3.0A (輸入條件100-240Vac)
- 2.5 INRUSH CURRENT: 60A max. at 100-240Vac input for a cold start at 25℃.在准開機條件下，最大浪湧電流不超過60A (輸入條件100-240Vac).
- 2.6 EFFICIENCY: higher than 87% at 100-240Vac input and output full load. 效率高於87% (輸入100-240Vac 和輸出滿載條件)。
- 2.7 No-Load Input Power Dissipation/輸入空載功率損耗: Input 115Vac or 230Vac,output no load, the input power loss is less than 0.5W. 輸入115/230V交流，在空載時，輸入功耗小於0.5W.

### 3.OUTPUT/輸出特性

| Charging Status<br>充電狀態 | Charging Stage<br>充電階段 | Output current<br>輸出電流(A) | Output voltage<br>輸出電壓(V) | LED indicator<br>指示燈 |
|-------------------------|------------------------|---------------------------|---------------------------|----------------------|
| 1.Charging 充電中          | Constant Current 恒流    | 4A±0.2A                   | 25V-42V±0.3V              | Red                  |
|                         | Constant Voltage 恒壓    | 4A >0.4A                  | 42V                       | Red                  |
| 2.Charged full 充滿       | Trickle Charging 涓流    | 0.4A >0                   | 42V                       | Green                |

### 4.Work Status of LED indicator/LED燈工作狀態顯示

No load output:Green Light 空載輸出:綠燈



In Process of Charging:Red Light 充電中:紅燈

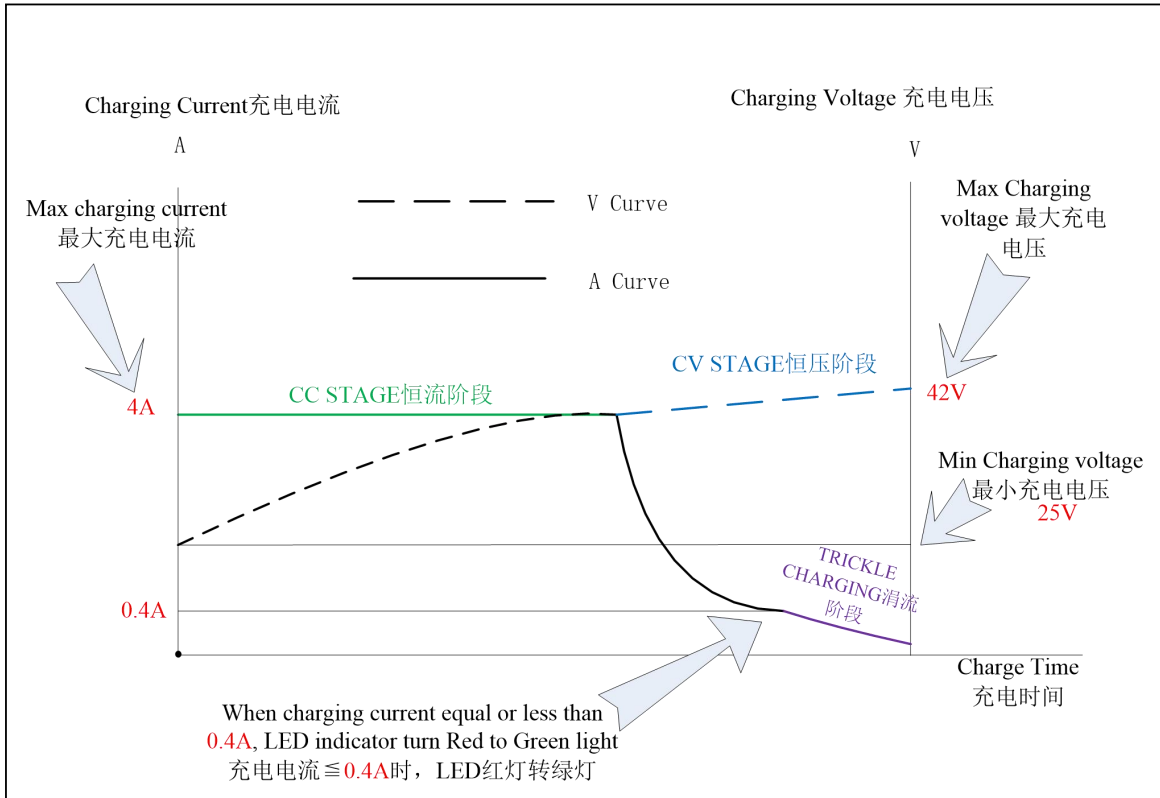


Charged Full: Green Light 充滿:綠燈



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## 5.CHARGING CURVE/充電曲線圖：



## 6.PROTECTION FEATURE / 保護特性

## 6.1 OVER—CURRENT PROTECTION / 過電流保護：

The green mode power supply shall be hiccup when any output operating in overload condition (set@ Max load 100~180% ) 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充電器的（100~180%）時，充電器將進入打嗝模式，當故障被移走後，充電器要能自動恢復到正常

## 6.2 SHORT—CIRCUIT PROTECTION / 輸出短路保護：

The power supply shall be hiccup 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，充電器將進入打嗝模式，當故障消失後，充電器要能自動恢復正常。

## 6.3 REVERSE POLARITY PROTECTION/防反接保護(Optional)

6.3.1. To use Fool-Proof type DC plug. 建議使用防呆式設計的DC連接頭

6.3.2. When Connect wrong polarity, the charger will be self-recovery when fault condition is removed. this function is optional, customer could choose it in according to real requirement.

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當錯誤操作，反向連接時，充電器進入保護狀態，直到故障解除.此為選配功能，客戶可根據實際情況選擇。

### 7.ENVIRONMENTAL CONDITIONS / 環境條件

#### 7.1 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，充電器要能夠連續操作在各種模式，且不能造成性能的退化。

7.1.1 **Operation Temperature: -20℃～40℃ 工作溫度：-20℃～40℃**

7.1.2 **Relative Humidity: 10%～90% 相對濕度：10%～90%**

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

7.1.4 **Cooling: The power supply will operate with convection cooling. Blocking of vents must not cause damage to The power supply. 充電器將操作在對流冷卻的環境下，即使將通風口阻塞充電器也不允許有任何損傷發生。**

#### 7.2 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:

充電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

7.2.1 **Storage Temperature: -30℃～70℃ 儲存溫度：-30℃～70℃**

7.2.2 **Relative Humidity: 10%～90%相對濕度：10%～90%**

7.2.3 **Color of case and cable / 外殼及線材顏色：Black / 黑色**

7.2.4 **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.

充電器出貨的包裝設計，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。

#### 7.2.5 Dropping Testing / 跌落試驗：

**X-Y-Z direction 100cm,one time with each direction**

**X-Y-Z三個方向高度1m每個方向各一次。**

### 8.EMC STANDARDS / 電磁相容性標準

#### 8.1 EMI STANDARDS / EMI 標準

**The power supply met the radiated and conducted emission requirements for FCC CLASS B, EN55032 CLASS B.**

**本充電器符合輻射及傳導要求，滿足FCC CLASS B, EN55032 CLASS B.**

#### 8.2 EMS STANDARDS / EMS 標準

The power supply shall meet the following EMS standards:

本充電器滿足下列EMS標準

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## ELECTRICAL PERFORMANCE / 電器性能

8.2.1 EN61000-4-2: 2009 / A1: 1998 Electrostatic Discharge(ESD)

8.2.2 EN61000-4-3: 2010 / A1: 1998 Radiated Electromagnetic Fields(RS)

8.2.3 EN61000-4-4: 2012 Electrical Fast Transient / Burst(EFT)

8.2.4 EN61000-4-5: 2014 Lighting Surge Attachment. Line to Neutral: 2KV

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

9.1 **BURN-IN / 老化** The power supply shall undergo a minimum of 4 hours Burn-In test under full load at 40°C~±5°C.

充電器應在40°C~±5°C和滿載條件下老化4小時。

9.2 **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。

**IELECTRIC WITHSTANDING STRENGTH(HI-POT) / 絕緣介電強度 (耐壓)**

9.3 **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。

10.WEIGHT / 重量 The weight of the power supply shall be about 800 g.. 充電器的重量大約為 800 g

### 11.MECHANICAL REQUIREMENT / 結構參數

The power supply size: L176\*W80\*H47mm.外殼尺寸: L176\*W80\*H47mm

12 **INSULATION RESISTANCE / 絕緣阻抗** Input to output: 50M OHM(500VDC)輸入對輸出50兆歐姆(500VDC)

### 13.LEAKAGE CURRENT / 漏電流

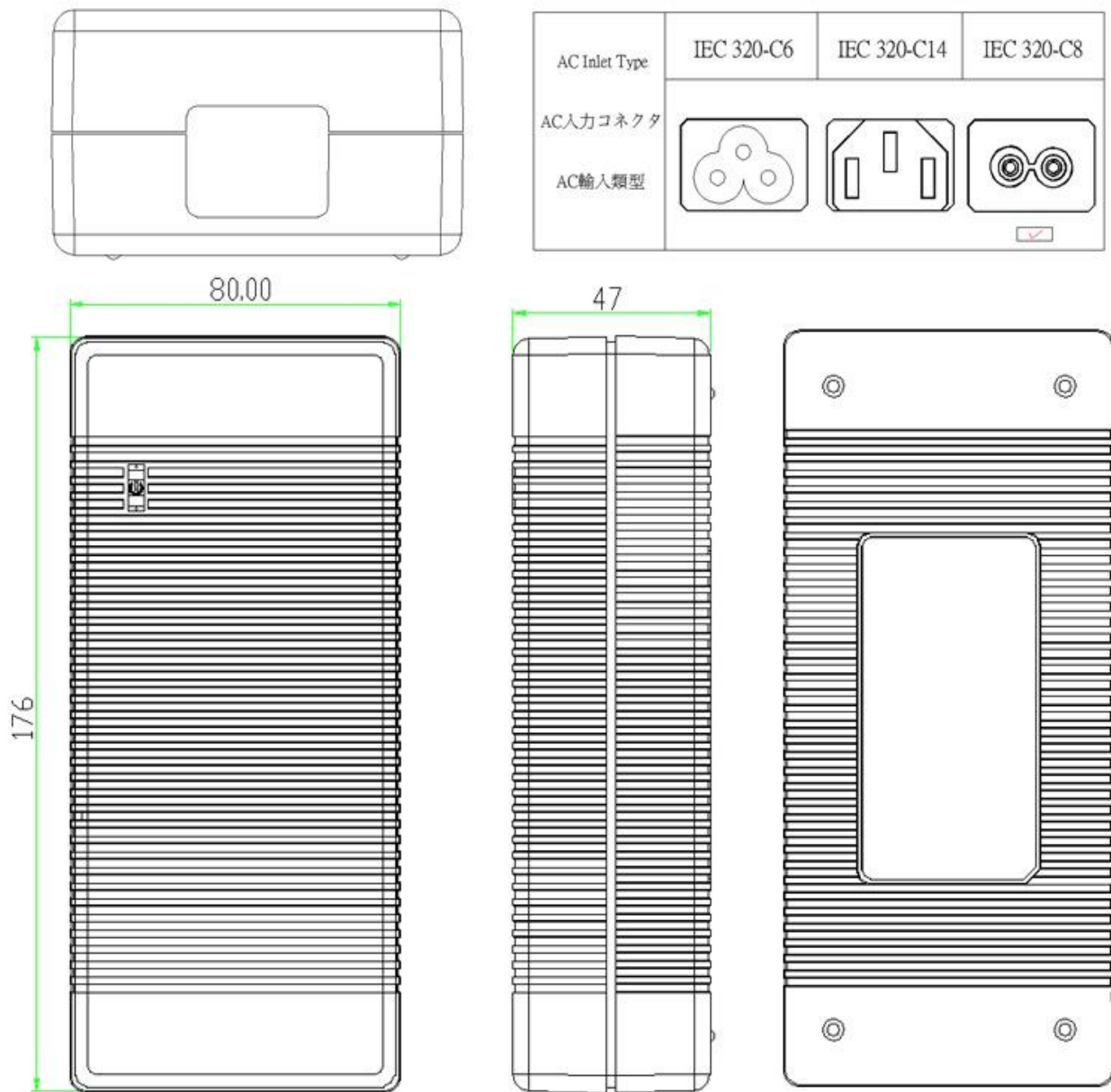
The leakage current shall be less than 0.25mA for class II when power supply is operated maximum input voltage and maximum load. 當充電器操作在最大輸入及最大負載情況下, 其漏電流應小於0.25mA, 滿足class II等級。

### 14.MAJOR MEASURE EQUIPMENT / 主要測量設備; VERIFIED BY THE THIRD LAB/外校

|   |                                                                                       |                          |   |
|---|---------------------------------------------------------------------------------------|--------------------------|---|
| A | AC SOURCE / AC變頻電源: 固緯/GWINSTEK APS-7100E,校準頻次: 1次/年                                  | <input type="checkbox"/> | ✓ |
| B | DIGITAL POWER METER / 數字功率計功率儀: 固緯/GWINSTEK GPM-8213,校準頻次: 1次/年                       | <input type="checkbox"/> | ✓ |
| C | ELECTRONIC LOAD / 開編程電子負載儀: 美爾諾/MAYNUO M9713,校準頻次: 1次/年                               | <input type="checkbox"/> | ✓ |
| D | OSCILLOSCOPE / 存儲示波器: 泰科/TEKTRONIX TBS1102B,校準頻次: 1次/年                                | <input type="checkbox"/> | ✓ |
| E | DIGITAL MULTIMETER / 數字式萬用表: 福祿克(FLUKE) F12E+校準頻次: 1次/年                               | <input type="checkbox"/> | ✓ |
| F | DC POWER / 直流電源: 麥創 (MATRIX) MPS-6030D校準頻次: 1次/年                                      | <input type="checkbox"/> | ✓ |
| G | HIPOT AND INSULATION RESISTANCE TESTER / 耐壓安規測試儀:<br>固緯/GWINSTEK GPT-9803 ,校準頻次: 1次/年 | <input type="checkbox"/> | ✓ |
| H | INSULATION RESISTANCE TESTER / 絕緣電阻表: YD2681A,校準頻次: 1次/年                              | <input type="checkbox"/> | ✓ |
| I | MULTI CHANNEL TEMPERATURE SENSOR / 多路溫度測試儀<br>艾維泰科/IVYTECH IV380-16校準頻次: 1次/年         | <input type="checkbox"/> | ✓ |

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PRODUCT OUTLINE DIMENSION / 產品外觀尺寸(mm)



Material/材料: PC

Brand/品牌: SABIC / 沙伯

Fireproof Class/防火等級: UL94V-0

Color/顏色: Black/黑色

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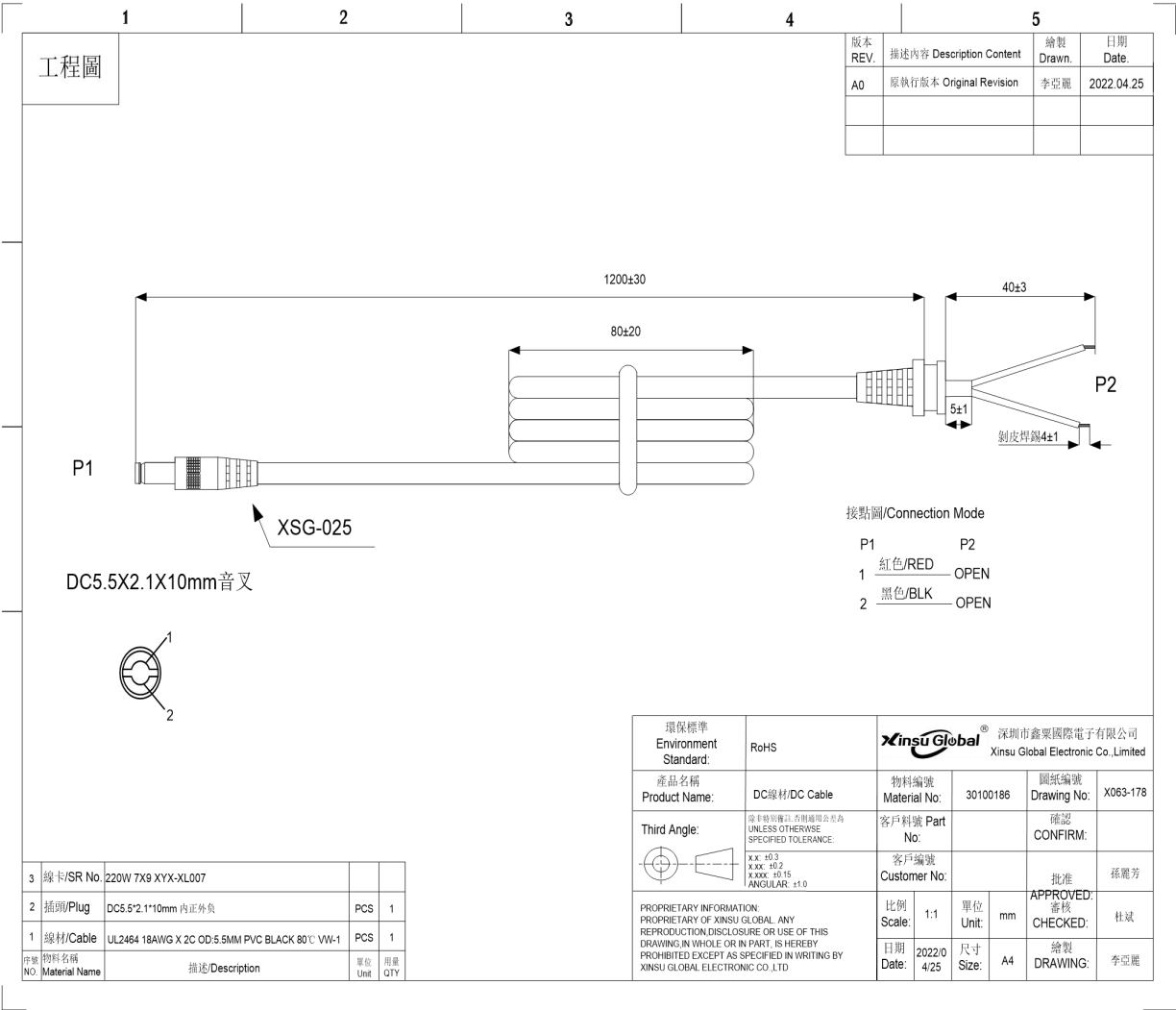
### AC CORD / 輸入線材

[illegible]

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DC CORD / 輸出 線材

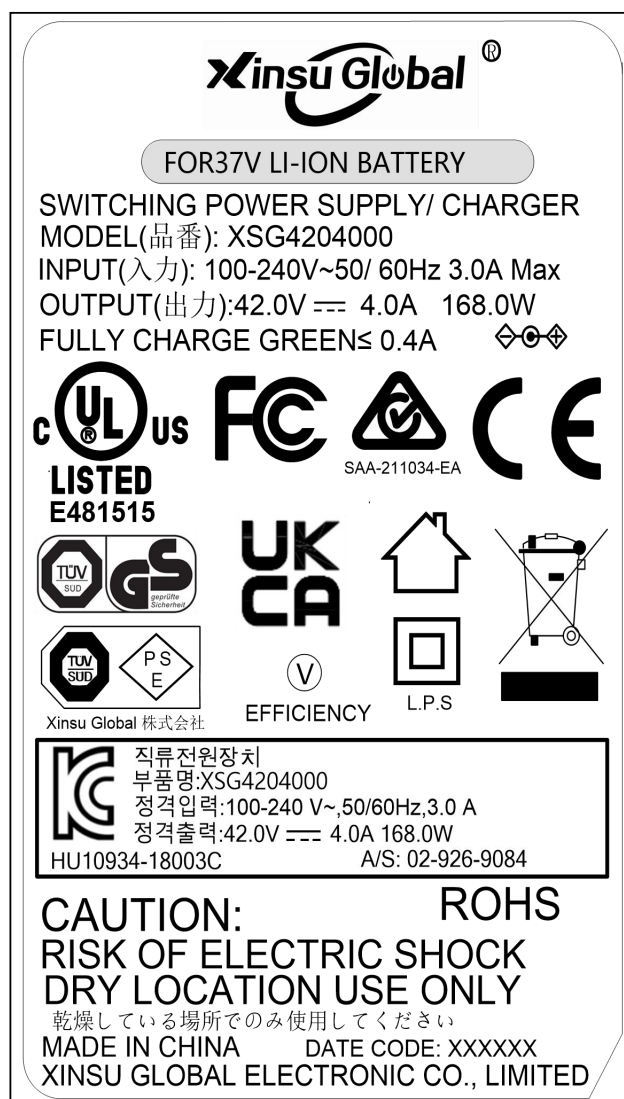


Cable Specification/線材規格

UL2464 Round Wire, 18AWG\*2C L=1.2M Black 80'C,300V

| Item No | Part Name (部件名稱)             | Description (描述) |
|---------|------------------------------|------------------|
| A       | Length of DC cord(DC線長度)     | 1200MM           |
| B       | Size of DC connector (DC頭尺寸) | 5.5*2.1*10 內正外負  |
| C       | Length of coil (線包長度)        | 80MM±20          |
| D       | SR NO(線卡編號)                  | XYX-XL003        |
| E       | Stripped length(剝皮長度)        | 40MM±1mm         |
| F       | Tinned length (吃錫長度)         | 4MM±1mm          |

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Print/印刷 ☐

Laser Carving/鐫雕 ☒

- 1.Silver text on black background 黑底銀字
- 2.Material: PET 底材為消銀龍.
3. Clear Printing, Wipe Resistance 絲印清晰, 耐擦拭.product packaging
- 4.Gum Permanent 永久背膠.
- 5.Meet Requirements of Environmental Protection 符合環保要求

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