

CUSTOMER \_\_\_\_\_ KTEC \_\_\_\_\_

SPECIFICATION FOR APPROVAL  
AC/DC ADAPTOR

CUSTOMER SPEC:INPUT: 100-240V AC 50/60Hz OUTPUT:5.0VDC 2.0A

CUSTOMER DWG./PART NO. \_\_\_\_\_

Ktec PART NO. KSC-10A-050200HU (PAHS 6P NP REACH ROHS PRO65)

SAMPLE NO: S99304 REV.: A ISSUE DATE: 2024-05-17

PRODUCT NO: KS240363

Unit Color: Black  White

APPROVED SIGNATURES/客户确认		
核准/APPROVED BY	审核/ CHECKED BY:	检测/TESTED BY:

Manufacturer/制造商			
业务/SALES	品管/QE	核准/APPROVED BY	制样/MADE BY
FRANK	徐海鑫	贺洪明	冯连连

KUANTECH INCORPORATED COMPANY  
冠德科技股份有限公司

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**Switching power supply specification (class B)**

<b>KUANTECH P/N:</b>	<b>PRODUCT NO:</b>	<b>CUSTOMER P/N:</b>
KSC-10A-050200HU	KS240363	

1	GENERAL .....	4
1.1	Description .....	4
2	INPUT REQUIREMENTS .....	4
2.1	Input Conditions .....	4
2.2	AC Inrush Current .....	4
3	OUTPUT REQUIREMENTS .....	4
4	MECHANICAL .....	5
4.1	Enclosure and Layout .....	5
4.2	Input and Output Configuration .....	5
5	REGULATORY COMPLIANCE .....	6
5.1	EMC Specifications .....	6
5.1.1	Radiated and Conducted Emission .....	6
5.2	Immunity .....	6
5.2.1	Electrostatic Discharge Immunity .....	6
5.2.2	Radiated Field Immunity .....	6
5.2.3	Fast Transient Immunity .....	6
5.2.4	Surge Immunity .....	6
5.3	Safety Requirements and Certification .....	7
5.3.1	Regulatory Standard .....	7
5.3.2	Additional Safety Requirements .....	7
6	ENVIRONMENTAL REQUIREMENTS .....	7
6.1	Temperature .....	7
6.2	Humidity .....	7
7	APPEARANCE DRAWING: (Unit: mm) .....	8
8	NAME PLATE: .....	9
9	<b>CABLE(UNIT:MM)</b> .....	10
10	PACKING (Unit: mm) .....	11

<b>TITLE:</b>		<b>REVISION: A</b>	<b>DRAWING NO.:</b>	
<b>PREPARED: GUO</b>	<b>CHECKED: 林永海 明奇</b>	<b>APPROVED: 贺洪明</b>	<b>DATE: 2024-05-17</b>	<b>PAGE: 3 OF 11</b>



**Switching power supply specification (class B)**

<b>KUANTECH P/N:</b>	<b>PRODUCT NO:</b>	<b>CUSTOMER P/N:</b>
KSC-10A-050200HU	KS240363	

**1 GENERAL**

**1.1 Description**

This specification defines the performance characteristics for a class II adapter, single-phase 10 watts. Single output level power supply.

- Simple design philosophy.
- Reliability level of 50K hours MTBF @ 25° C (rated input voltage and using the Telcordia SR-332 issue 3 method).
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by IEC60950-1.
- Cooling: natural convection

**2 INPUT REQUIREMENTS**

**2.1 Input Conditions**

The supply shall operate over the voltage ranges as follows:

Rated input voltage	100-240Vac
Operating range	90-264Vac
Rated input frequency	50/60Hz +/- 3Hz
Rated input current	0.3A max.
Power consumption (no-loading)	0.1W max.
Primary current protection	An adequate internal fuse on the AC input line is provided.
Configuration	<u>2</u> Conductor

**2.2 AC Inrush Current**

No damage shall be occurred and the input fuse shall not be blown up nominal input voltage full load 25°C cold start.

**3 OUTPUT REQUIREMENTS**

3.1	Nominal DC output voltage	+5.0V
3.2	Minimum load current	0.01A
3.3	Rating load current	2.0A
3.4	Rating output power	10W
3.5	Line regulation	The line regulation is less than <u>±5%</u> while measuring at rated load and +/-10% of input voltage changing.

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冠德科技股份有限公司  
KUANTECH INCORPORATED COMPANY

**Switching power supply specification (class B)**

KUANTECH P/N:	PRODUCT NO:	CUSTOMER P/N:
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3.6	Load regulation	The load regulation for <u>+5.0V</u> is less than <u>±5%</u> , at measured output load from 10% to 100% rated load.
3.7	Ripple and noise	200 mVp-p
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.
3.8	Average efficiency	<u>78.70%</u> minimum
		115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%.
3.9	Turn on delay time	<u>3500 ms max.</u> at nominal input AC voltage and full load
3.10	Rise time	The supply shall have a start-up rise time of less than <u>20 ms</u> to rise to within regulation limits for all DC outputs.
3.11	Hold up time	<u>5 ms</u> minimum at nominal input 100Vac minimum voltage and full load.
3.12	Output over-shoot	Less than <u>10%</u> of nominal voltage value
3.13	Short-circuit protection	The adapter shall not be damaged by short the DC output to Ground. The adapter shall resume normal operation when a short circuited fault condition is removed
	Over current protection	The output shall be protected against the over current conditions.

**4 MECHANICAL**

**4.1 Enclosure and Layout**

Plastic case: UL94V-0  
 Weight:  / g (Max.)  
 Dimensions: 37.0 \*21.5\*51.0mm  
 Colour: WT-07

**4.2 Input and Output Configuration**

Input pin: US Pin  
 Output connector: DC plug type: USB 4Pin  
 Polarity: PIN1:“-”, PIN4:“+”, PIN2&3:“Short”

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PREPARED: GUO	CHECKED: 林永海 明奇	APPROVED: 贺洪明	DATE: 2024-05-17	PAGE: 5 OF 11



**Switching power supply specification (class B)**

<b>KUANTECH P/N:</b>	<b>PRODUCT NO:</b>	<b>CUSTOMER P/N:</b>
<b>KSC-10A-050200HU</b>	<b>KS240363</b>	

**5 REGULATORY COMPLIANCE**

**5.1 EMC Specifications**

The external power supply must meet all specification in this section. It is recommended that the external power supply be tested with the customer’s equipment in order to get the best EMC solution.

**5.1.1 Radiated and Conducted Emission**

FCC part 15: Class B for radiated and conducted emissions.  
EN55032, Class B for radiated and conducted emissions.

**5.2 Immunity**

**5.2.1 Electrostatic Discharge Immunity**

EN 55024, EN 61000-4-2

- Air Discharge: ±8kV
- Contact Discharge: ±4kV
- Performance Criteria B

Electrostatic-discharge test by contact or air should be conducted with Static-discharge tester, energy storage capacitance of 150pF, and discharge resistance of 330Ω, 8kV air discharge, 4kV contact discharge.

**5.2.2 Radiated Field Immunity**

EN 55024, EN 61000-4-3

Frequency Range: 80-1000MHz  
Field Strength: 3 V/m with 80% amplitude modulation of 1kHz  
Performance Criteria A

Radio-frequency electromagnetic field susceptibility test, RS 80-1000MHz, 3V/m, 80%AM(1KHz).

**5.2.3 Fast Transient Immunity**

EN 55024, EN 61000-4-4

- Power line: 1kV
- Signal line: 0.5kV
- Performance Criteria B

**5.2.4 Surge Immunity**

EN 55024, EN 61000-4-5

- 1.2/50 μs Open Circuit voltage
- 8/20 μs Short Circuit current
- Power line: 1kv
- Line to earth: 2kv

Lightning surge voltage shall be applied in differential and common mode to AC input lines and cross primary AC input and secondary GND.

<b>TITLE:</b>		<b>REVISION: A</b>	<b>DRAWING NO.:</b>	
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**Switching power supply specification (class B)**

<b>KUANTECH P/N:</b>	<b>PRODUCT NO:</b>	<b>CUSTOMER P/N:</b>
<b>KSC-10A-050200HU</b>	<b>KS240363</b>	

5.3 Safety Requirements and Certification

5.3.1 Regulatory Standard

The power supply shall comply with the following international regulatory standards:

for short	Country	Certified Status	Standard
UL	USA	Meet	UL 60950-1
CUL	Canada	Meet	CSA C22.2 NO.60950-1

5.3.2 Additional Safety Requirements

- ⊙ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): 3000 Vac, 5m A, 1 minute.
- ⊙ Insulation Resistance, Input to output: 10M Ω (MIN.) at 500 VDC.
- ⊙ Reinforced insulation system, Primary-to-Ground and Primary-to-Secondary.
- ⊙ The leakage current shall not exceed 0.25mA.

6 ENVIRONMENTAL REQUIREMENTS

6.1 Temperature

- ⊙ Operating: 0 °C +40 °C
- ⊙ Non-Operating: -20 °C +80 °C

6.2 Humidity

- ⊙ Operating: 10%~90% (Non Condensing)
- ⊙ Non-Operating: 10%~90% (Non Condensing)

<b>TITLE:</b>		<b>REVISION: A</b>	<b>DRAWING NO.:</b>	
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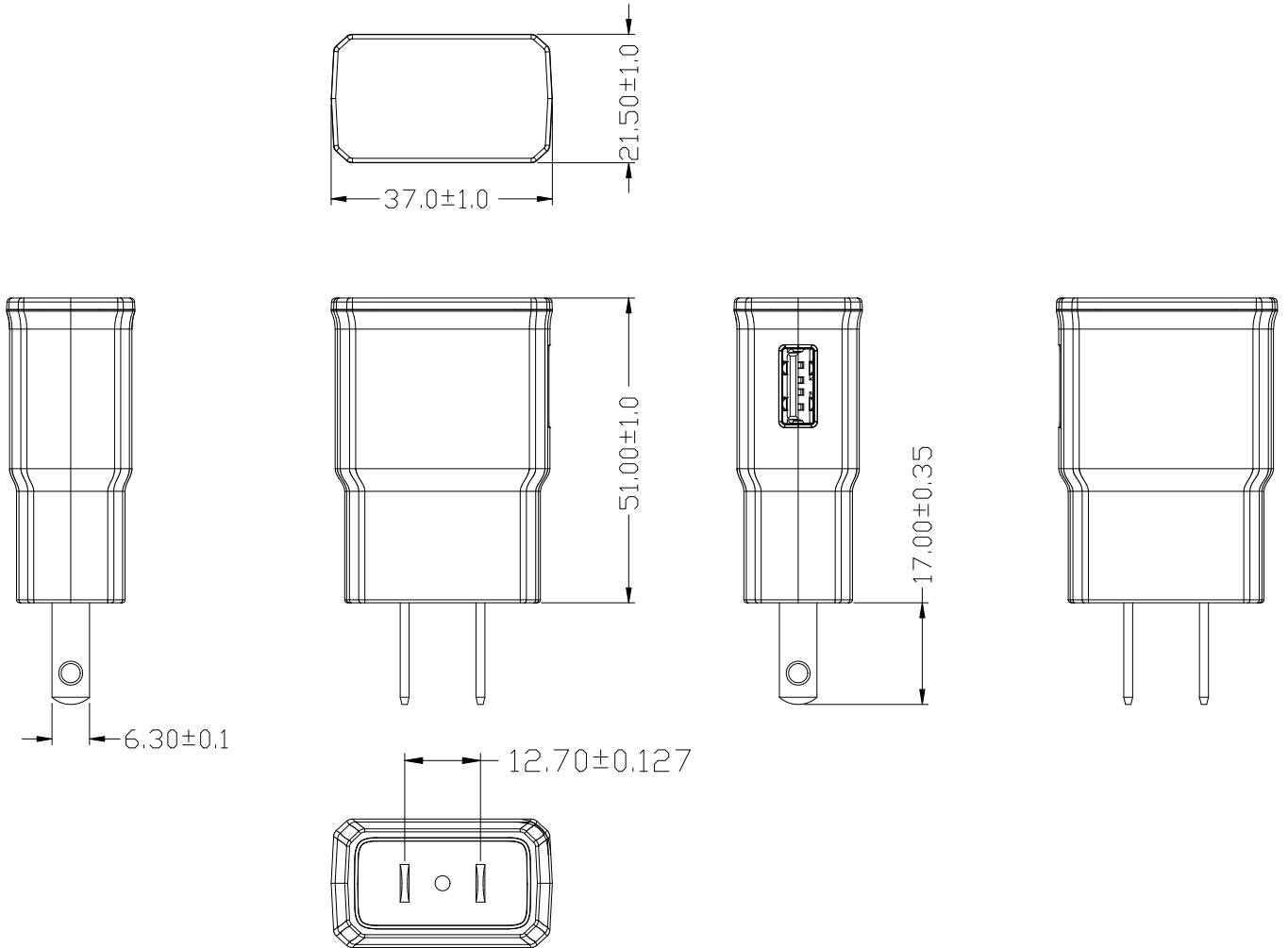


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KUANTECH P/N:	PRODUCT NO:	CUSTOMER P/N:
KSC-10A-050200HU	KS240363	

7 APPEARANCE DRAWING: (Unit: mm)



- NOTE: 1. Case cover & chassis material:  
PC WT-07 (NO KTEC)  
2. AC PIN MATERIAL: BRASS (NI PLATED)  
3. PAHS 6P NP REACH ROHS PRO65  
4. Satin finish  
5. Top mold: MSS016057 Bottom mold: MSS016058

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED: GUO	CHECKED: 林永海 明奇	APPROVED: 贺洪明	DATE: 2024-05-17	PAGE: 8 OF 11



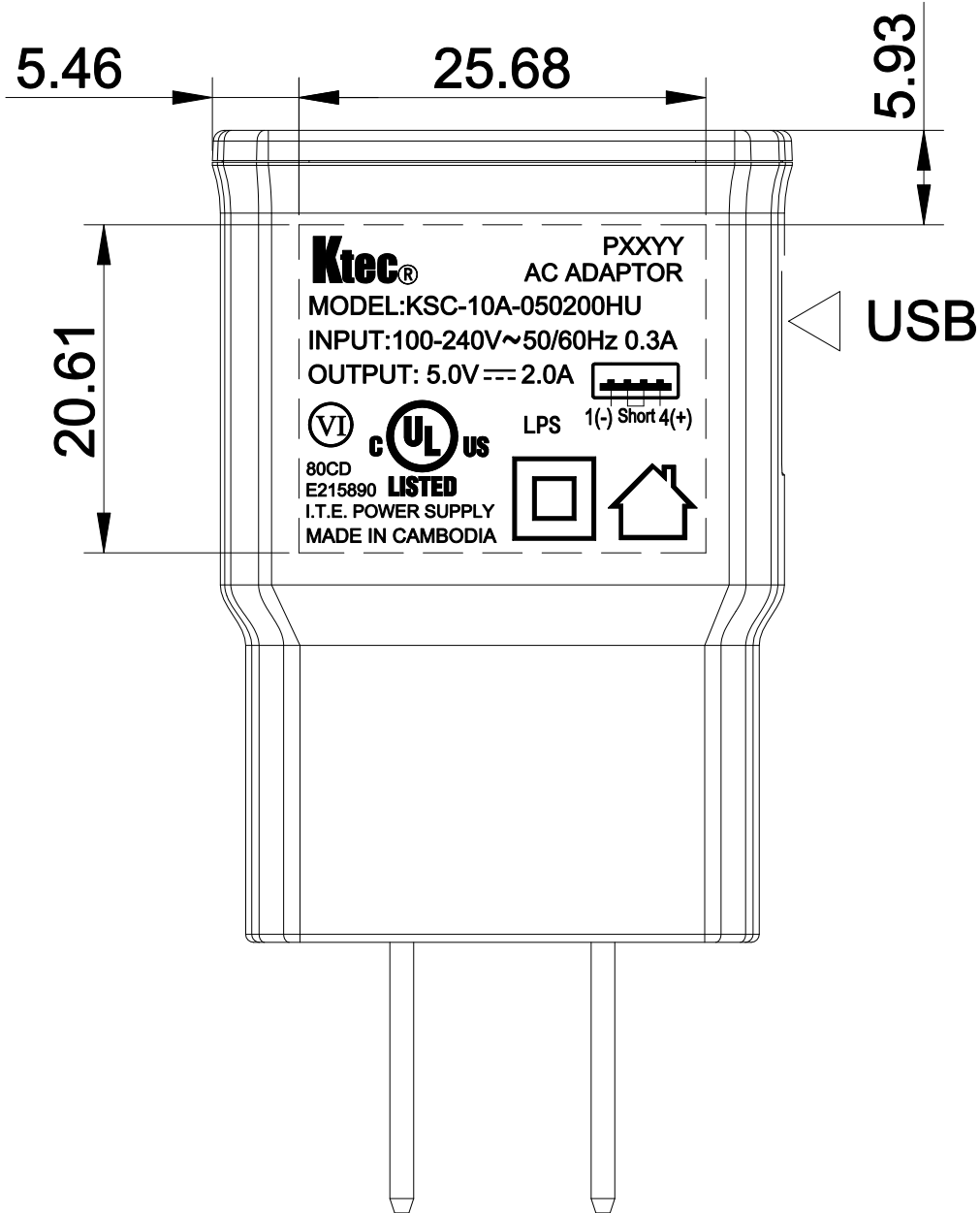


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KUANTECH P/N:	PRODUCT NO:	CUSTOMER P/N:
KSC-10A-050200HU	KS240363	

8 NAME PLATE:



Note:  Laser (鐳射)  
Date code (PXXYY: P=PAHS 6P NP, XX=Week, YY=Year), 按实际生产日期

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED: GUO	CHECKED: 林永海 明奇	APPROVED: 贺洪明	DATE: 2024-05-17	PAGE: 9 OF 11

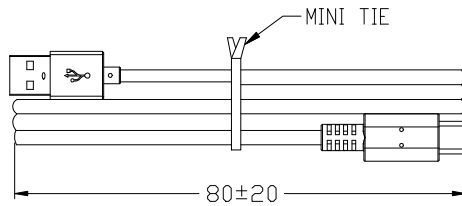
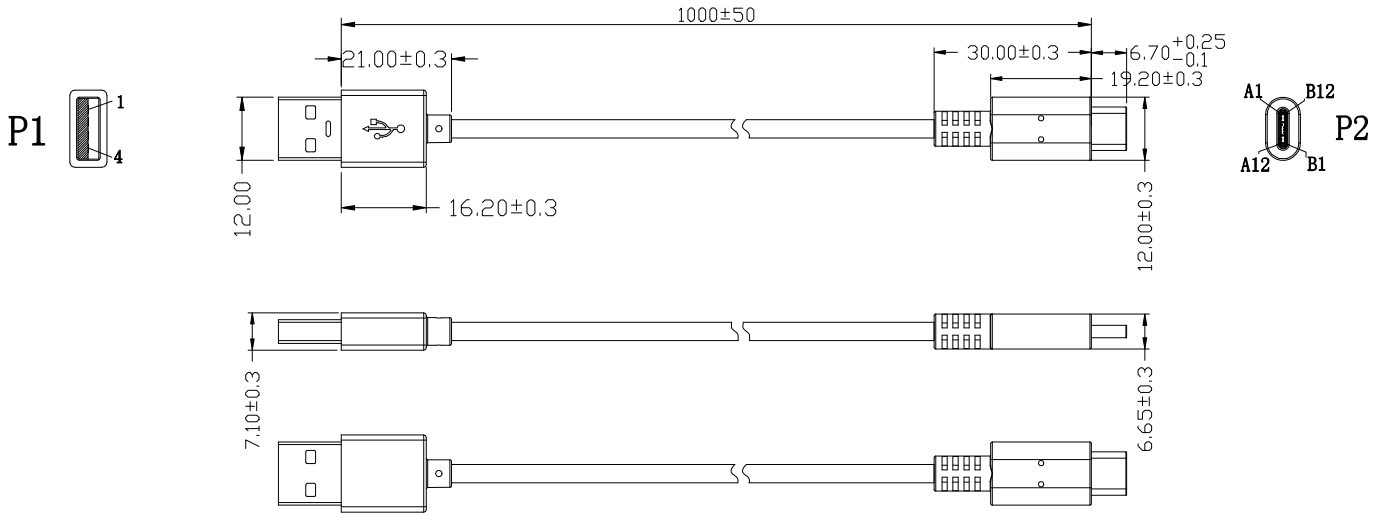


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KUANTECH INCORPORATED COMPANY

Switching power supply specification (class B)

KUANTECH P/N:	PRODUCT NO:	CUSTOMER P/N:
KSC-10A-050200HU	KS240363	

9 CABLE(UNIT:MM)



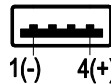
P1:STANDARD TYPE A		P2:TYPE C			
WIRE ASSIGNMENT					
P1	SIGNAL NAME	COLOR	AWG	SIGNAL NAME	P2
1	VBUS	WHITE	22	VBUS	A4/A9 B4/B9
4	GND	SPIRAL SHIELD	22	GND	A1/A12 B1/B12

NOTE:1.WIRE TYPE:VW-1 80°C 300V 1185 3.5Ø L=1000mm 22AWG WT-07

2.THE POLARITY:

3.PAHS 6P NP REACH ROHS PRO65

4. Type C mold: ML00302+ML00304  
USB A mold: ML00371+ML00370



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DRAWING NO.:

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DATE: 2024-05-17

PAGE: 10 OF 11

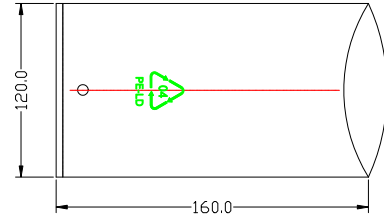


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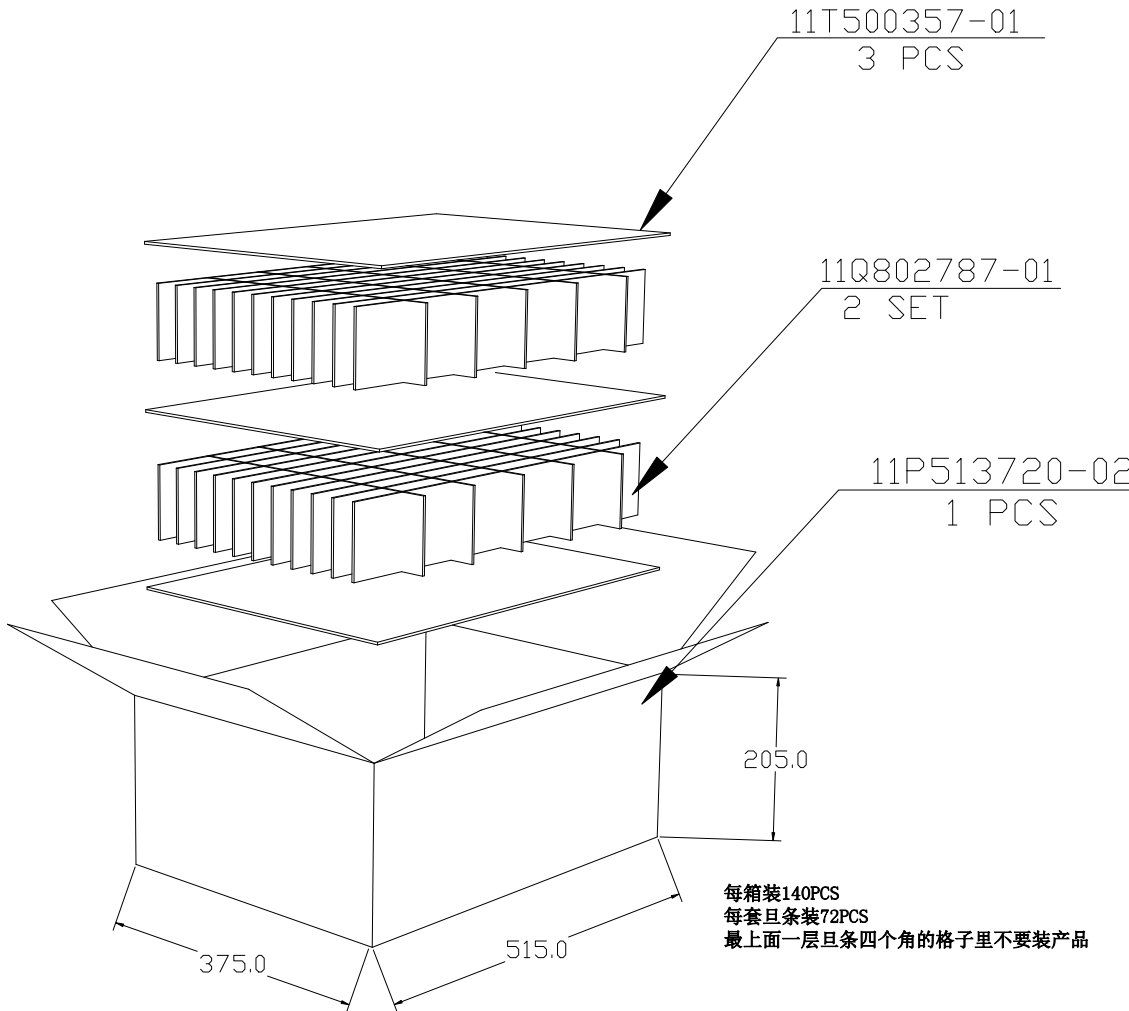
Switching power supply specification (class B)

KUANTECH P/N:	PRODUCT NO:	CUSTOMER P/N:
KSC-10A-050200HU	KS240363	

10 PACKING (Unit: mm)



05P041000-07  
140 PCS



每箱装140PCS  
每套且条装72PCS  
最上面一层且条四个角的格子里不要装产品

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED: GUO	CHECKED: 林永海 明奇	APPROVED: 贺洪明	DATE: 2024-05-17	PAGE: 11 OF 11

NOTICE OF COMPLETION  
AND  
AUTHORIZATION TO APPLY THE UL MARK



Kuantech Co Ltd  
Mis or Mr  
10th Fl  
116 Bauguau Rd  
Shindian District  
New Taipei Taipei 231, Taiwan

Our Reference: File E215890, Vol. X7 Project Number 4787362289  
Your Reference: N/A  
Project Scope: UL/CUL for AC Adapter MODEL KSC-10A-050YYYYHU (YYY=001-200 indicates rated output current range 10-2000 mA), under E215890-A129

Dear Mis or Mr:

Congratulations! UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements. This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at authorized factories under UL's Follow-Up Service Program. To provide your manufacturer(s) with the intended authorization to use the UL Mark, you must send a copy of this notice to each manufacturing location currently authorized under File E215890, Vol. X7 and *including any special instructions as indicated in the addendum to this letter.*

Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future. Until then, this letter authorizes application of the UL Mark for 90 days from the date indicated above.

Additional requirements related to your responsibilities as the Applicant can be found in the document "Applicant responsibilities related to Early Authorizations" that can be found at the following web-site:  
<http://www.ul.com/EAResponsibilities>

Any information and documentation provided to you involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

We are excited you are now able to apply the UL Mark to your products and appreciate your business. Feel free to contact me or any of our Customer Service representatives if you have any questions.

Very truly yours,

Claire Xiao  
Engineer Project Associate  
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Reviewed by:

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NWT82A7-4277E5