

SPECIFICATION FOR APPROVAL

AC/DC ADAPTOR

CUSTOMER SPEC: INPUT: 100-240V AC 50/60Hz

OUTPUT1: 5V-20VDC 3.25A Max. OUTPUT2: 5V-12VDC 1.67A Max.

CUSTOMER DWG./PART NO. _____

KTEC PART NO. KSA-65P4-D5 (PAHS 6P NP REACH ROHS PROP65)

SAMPLE NO: S99311 REV.: A ISSUE DATE: 2024-06-05

PRODUCT NO: KS240370

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
Candy	徐海鑫	贺洪明	冯连连

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KTEC KTEC 冠德國際科技 KTEC GLOBAL CO., LTD.		Switching power supply specification (Class B)			
		KTEC P/N:		PRODUCT NO:	CUSTOMER P/N:
		KSA-65P4-D5		KS240370	
Project Modify List					
Item	Content	Rev.	Date	Prepared By	Checked By
1	First REV.	A	2024-06-05	Liao xiaoyan	Lin yonghai
TITLE:		REVISION: A		DRAWING NO.:	
PREPARED:廖小艳	CHECKED: 林永海 明奇	APPROVED: 贺洪明	DATE: 2024-06-05	PAGE: 2 OF 11	

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KS240370

1 GENERAL

1.1 Description

This specification defines the performance characteristics for a Class II adapter, single-phase 65 watts. Single of two segment voltage output level power supply.

- Simple design philosophy.
- Reliability level of 50K hours MTBF @ 25°C (rated input voltage, 80% load and using the Telcordia SR-332 issue 3 method).
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by UL62368-1.
- Compliant with Class B USB Type-C Power Delivery Specification.
- The adapter meets PD 3.0, PPS, Apple 2.4A, BC1.2.

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	1.7A max. @ 100Vac to 240Vac
Power consumption (no-loading at 5V)	0.3W max. @ 230Vac
Primary current protection	An adequate internal fuse on the AC input line is provided.
Input Configuration	2 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	OUTPUT1 (PD+type C)	Fixed PDO					PPS
			5V	9V	12V	15V	20V	5.0-21V
3.2	Minimum load current		0.0A					
3.3	Rating load current		3A	3A	3A	3A	3.25A	3.0A Max.
3.4	Rating output power		15~65W					63W Max.
3.5	Nominal DC output voltage	OUTPUT2 (PD+type C)	Fixed PDO					PPS
			5.0V	9.0V	12.0V			5.0-11.0V
			0.0A					
3.6	Minimum load current		0.0A					
3.7	Rating load current		3.0A	2.22A	1.67A			2.0A Max

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3.8	Rating output power	20W Max.				
3.9	Line regulation	The line regulation is less than <u>±5%</u> while measuring at rated load.				
3.10	Load regulation	The load regulation for +5.0V,+9.0V,+12.0V,+15.0V,+20.0V is less than <u>±5%</u> , at measured output load from 0% to 100% rated load.				
3.11	Ripple and noise	Fixed PDO				
		5.0V	9.0V	12.0V	15.0V	20.0V
		150mVp-p	200mVp-p	250 mVp-p	250mVp-p	350 mVp-p
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor in parallel the output terminal. Measured with 20MHz Bandwidth Oscilloscope at full load land rated input voltage 115Vac & 230Vac.				
3.12	Average efficiency	Meet DOE VI				
		AC115V/60Hz and 230V/50Hz,full load The test point: end PCBA board, no include DC cable.				
3.13	Turn on delay time	<u>3000 ms max.</u> at nominal input AC voltage and output full load.				
3.14	Rise time	The supply shall have a start-up rise time of less than <u>100 ms</u> to rise to within regulation limits for all DC outputs.				
3.15	Hold up time	When power off, DC output must be maintained <u>8 ms</u> in regulation limit at 115V/230Vac and full load.				
3.16	Output over-shoot	Less than <u>10%</u> of nominal voltage value.				
3.17	indication function	/				
3.18	Protection function					
	Over-voltage protection	7.5V max. (5.0V mode); 11.25V max. (9.0V mode); 15.0V max. (12.0V mode); 19.0V max. (15.0V mode); 25.0V max. (20.0V mode), The output voltage shall be clamped by internal protection.				
	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	When overload is applied to the output, the power supply shall be shut down and enter auto-recovery or latch mode 4.5A max.				
3.19	Dynamic Response	Output voltage limit shall remain within +/- 10% Adaptor shall be subjected to increases and decreases from 0 to 25% to 50% of maximum load current, 50% to 75% of maximum load current, and 75% to 100% of maximum load current. In all tests, the load slew rate shall be no less than 100mA/us.				
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4 POWER DISTRIBUTION

PD 65W			Output power(Max.)
Output port	C1	C2	
Single port output	PD 65W	-	65W
	PD 45W (The power drop to 45W after reaching the preset temperature)	-	45W
	-	PD 20W	20W
Combined output	PD 45W	PD 20W	65W
	PD 20W (The power drop to 20W after reaching the preset temperature)	PD 20W	40W

5 MECHANICAL

5.1 Enclosure and Layout

Plastic case: UL94V-0
Weight: /g (Max.)
Dimensions: 58.2*58*32.5mm
Colour: WHITE(WT-07)

5.2 Input and Output Configuration

Input pin: US 2Pin
Output connector: USB Type-C1: 5V 3A, 9V 3A, 12V 3A, 15V 3A, 20V 3.25A, 5.0-21V 3.0A Max.
USB Type-C2: 5V 3A, 9V 2.22A, 12V 1.67A, 5.0-11V 2A Max.

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6 REGULATORY COMPLIANCE				
6.1 EMC Specifications				
The external power supply must meet all specification in this section. it is required that the external power supply work closely with the customer's equipment in order to get the best EMC solution.				
6.1.1 Radiated and Conducted Emission				
The power supply shall comply to:				
FCC part 15: Class B for radiated and conducted emissions.				
EN55032, Class B for radiated and conducted emissions.				
6.2 Immunity				
6.2.1 Electrostatic Discharge Immunity				
EN 55035, 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.				
6.2.2 Radiated Field Immunity				
EN 55035, EN 61000-4-3				
Frequency Range: 80-1000MHz, still need test singly 1800MHz, 2600MHz, 3500MHz, 5000MHz				
Field Strength: 3V/m with 80% amplitude modulation of 1kHz				
Performance Criteria A				
Radio-frequency electromagnetic field susceptibility test, RS 80-1000MHz, 3V/m, 80%AM(1KHz).				
6.2.3 Conducted Field Immunity				
EN 55035, EN 61000-4-6				
- Frequency Range: 0.15-80MHz(0,15 to 10 MHz, 3V; 10 to 30 MHz, 3-1V; 30 to 80 MHz, 1V)				
- Field Strength: 3A/m with 80% amplitude modulation of 1KHz				
- Performance Criteria A				
6.2.4 Fast Transient Immunity				
EN 55035, EN 61000-4-4				
- Power line: 1kv				
- Performance Criteria B				
6.2.5 Surge Immunity				
EN 55035, EN 61000-4-5				
- Line to line: ±1kv				
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- Line to earth: $\pm 2\text{kV}$

- $+ 90^\circ / -270^\circ$

Lighting surge voltage of differential and common modes shall be applies across AC input lines and across input and frame ground.

6.3 Safety Requirements and Certification

6.3.1 Regulatory Standard

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

for short	Country	Certified Status	Standard
UL/CUL	USA/ Canada	/	UL 62368-1

6.3.2 Additional Safety Requirements

- ⊙ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): 3000 Vac, 5mA, 1 minute.
- ⊙ Insulation Resistance, Input to output: 100M Ω (MIN.) at 500 VDC.
- ⊙ Reinforced insulation system, Primary-to-Ground and Primary-to-Secondary.
- ⊙ The leakage current shall not exceed 0.25mA.

7 ENVIRONMENTAL REQUIREMENTS

7.1 Temperature

- ⊙ Operating : $0^\circ\text{C} +25^\circ\text{C}$
- ⊙ Non-Operating : $-20^\circ\text{C} +70^\circ\text{C}$

7.2 Humidity

- ⊙ Operating : 5%~95% (Non Condensing)
- ⊙ Non-Operating : 5%~95% (Non Condensing)

7.3 Altitude

Sea level to 2000m

7.4 Vibration

Meet IEC721-3-3

7.5 Drop Test

At 0.75m drop on concrete surface, one times on each side

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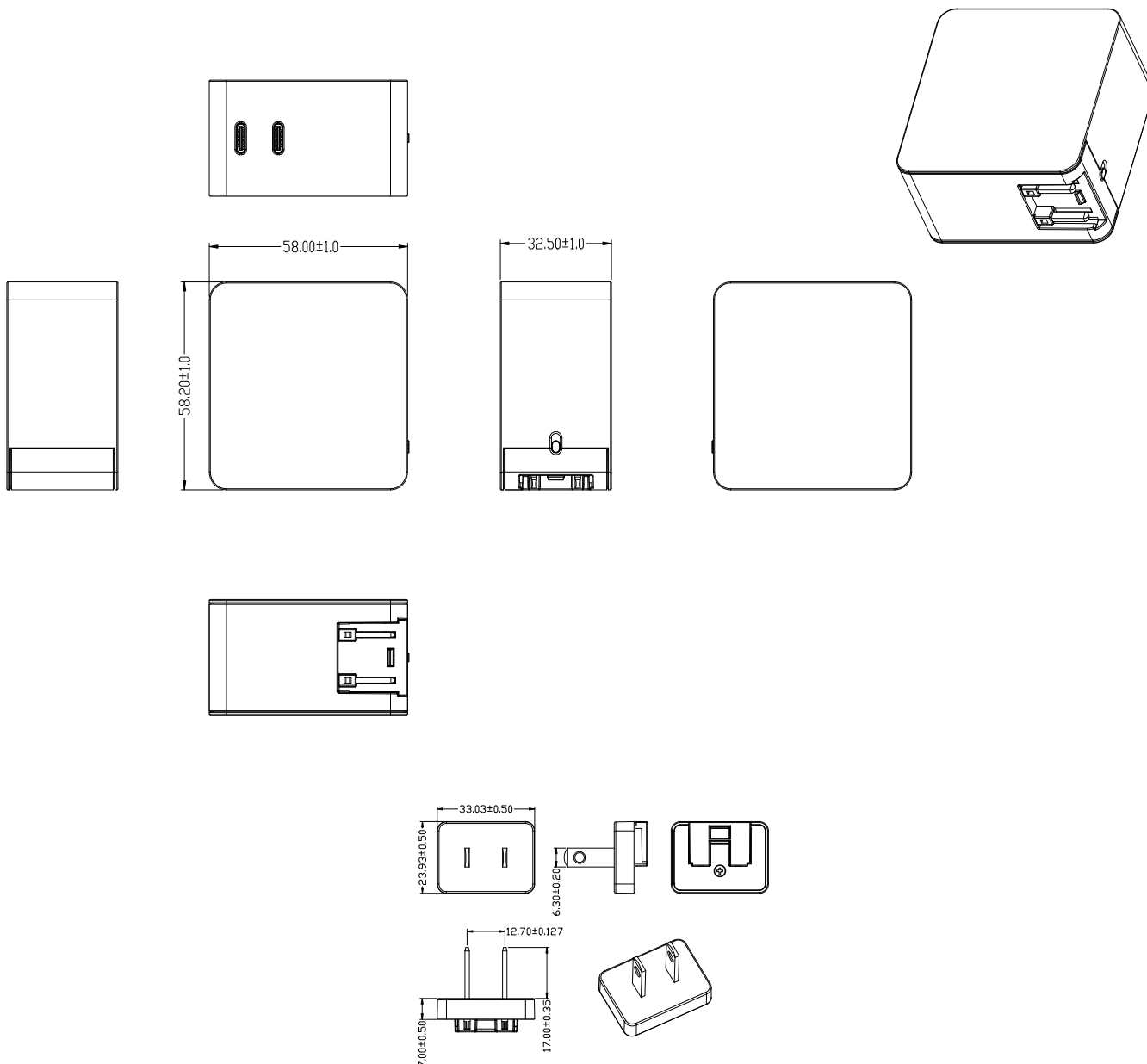
PRODUCT NO:

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8 APPEARANCE DRAWING: (UNIT: MM)



UL PLUG

- NOTE:
1. Case cover & chassis material
PC WHITE(WT-07) (NO KTEC)
 2. AC PIN MATERIAL: BRASS (NI PLATED)
 3. PAHS 6P NP REACH ROHS PROP65
 4. Satin Finish
 5. Top mold: MSS023026 Bottom mold: MSS023027

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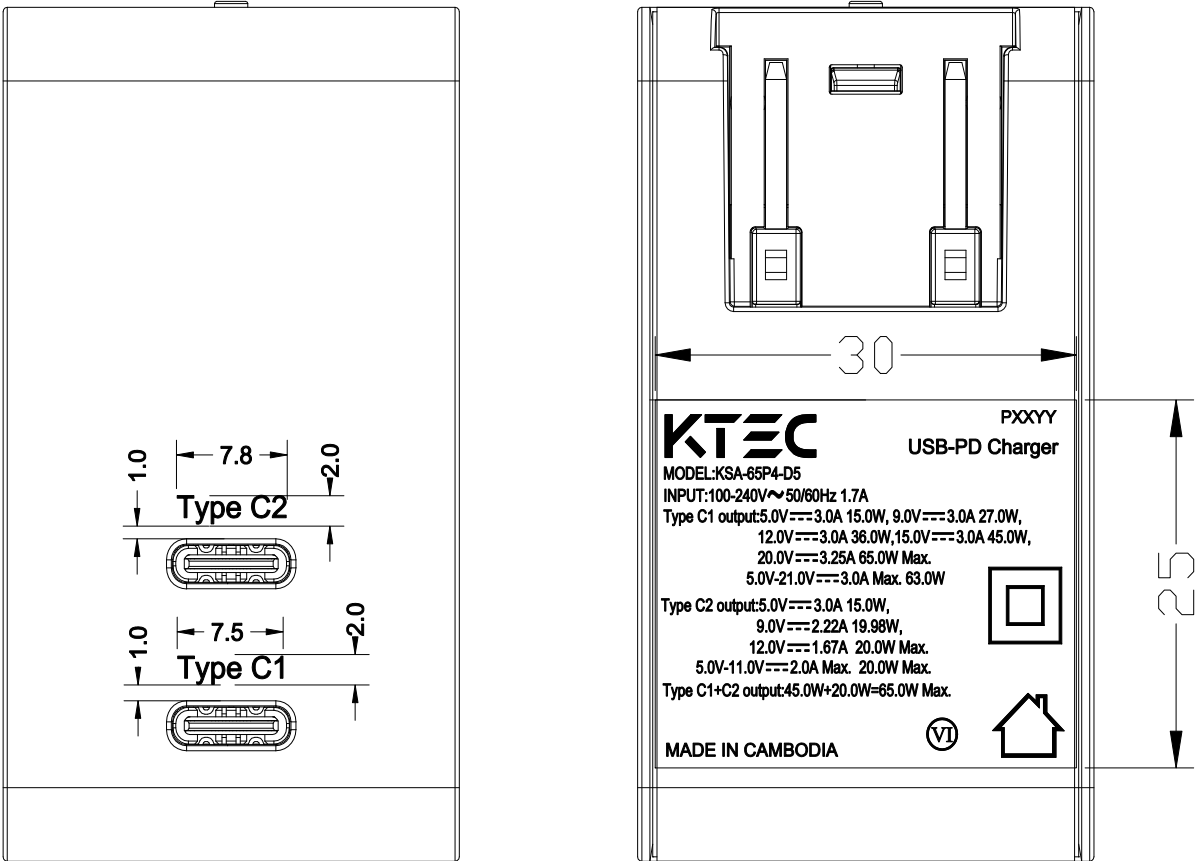
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9
NAME PLATE:



Note: Laser

PXXYY (P=PAHS,6P,NP XX=WEEK YY=Year) 按实际生产日期制作

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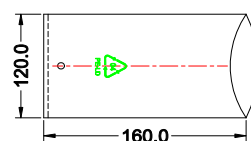
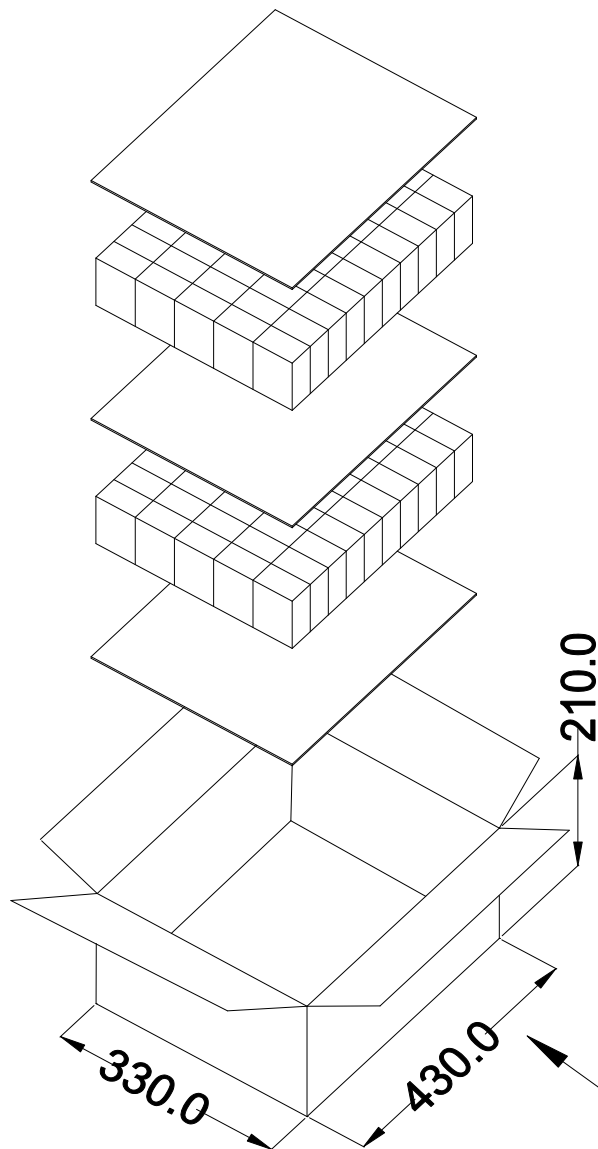
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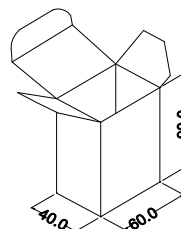
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10 PACKING (UNIT: MM)



05P041000-07
100 PCS
本体装PE袋



外箱: 100 PCS / 箱

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