

SPECIFICATION FOR APPROVAL
AC/DC ADAPTOR

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

OUTPUT: 5V 3A, 9V 2A, 12V 1.5A

CUSTOMER DWG./PART NO. _____

KTEC PART NO. KSC-18C-HU (PAHS REACH ROHS PROP65)

SAMPLE NO: S99396 REV.: A ISSUE DATE: 2024-05-30

PRODUCT NO: KS240437

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
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Switching power supply specification (class B)

KTEC P/N:	PRODUCT NO:	CUSTOMER P/N:
KSC-18C-HU	KS240437	

Project Modify List

Item	Content	Rev.	Date	Prepared By	Checked By
1	First Rev.	A	2024-05-30	Liao xiaoyan	Huang chenghui

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED : 廖小艳	CHECKED: 黄程辉 吴清雄	APPROVED: 贺洪明	DATE: 2024-05-30	PAGE: 2 OF 10



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1 GENERAL

1.1 Description

This specification defines the performance and characteristics of an adaptor, single-phase 18watts.
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 IEC2368-1.
- Compliant with CLASS A Qualcomm Quick Charge 3.0.

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	0.5A max.
Power consumption (no-loading)	0.1W max.
Primary current protection	An adequate internal fuse on the AC input line is provide.
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	5V	9V	12V
3.2	Minimum load current	0.0A		
3.3	Rating load current	3A	2A	1.5A
3.4	Peak load current	/		
3.5	Rating output power	18W		
3.6	Max output power	18W for 12V output voltage		
3.7	Line regulation	The line regulation is less than <u>±5%</u> while measuring at rated load and +/-10% of input voltage changing.		
3.8	Load regulation	The load regulation for <u>+12.0V</u> is less than <u>+/-5%</u> , at measured output load from 10% to 100% rated load.		

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3.9	Ripple and noise	100 mVp-p max			
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.			
3.10	Switching efficiency (DOE VI)	Average Efficiency	For 5.0V	For 9.0V	For 12.0V
			81.39% minimum	85% minimum	85% minimum
		115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%.			
3.11	Turn on delay time	<u>3000 ms max.</u> at nominal input AC voltage and full load			
3.12	Rise time	The supply shall have a start-up rise time of less than <u>50 ms</u> to rise to within regulation limits for all DC outputs.			
3.13	Hold up time	<u>7 ms</u> minimum at nominal input AC voltage and full load			
3.14	Protection function				
	Over-voltage protection	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	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: 43.8*60.0*23.0mm
 Colour : WHITE(WT-07)

4.2 Input and Output Configuration

Input pin: US Pin
 Output connector: DC plug type: female standard type USB
 Polarity: Pin1"+;Pin4"- Pin2"D-;Pin3"D+ "

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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 55035, EN 61000-4-2

- Air Discharge: $\pm 8\text{kV}$
- Contact Discharge: $\pm 4\text{kV}$
- 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 330 Ω , 8kV air discharge, 4kV contact discharge.

5.2.2 Radiated Field Immunity

EN 55035, EN 61000-4-3

Frequency Range: 80-1000MHz, still need test singly 1800MHz,2600MHz, 3500MHz,5000MHz

Field Strength: 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 55035, EN 61000-4-4

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

5.2.4 Surge Immunity

EN 55035, EN 61000-4-5

- Line to line: $\pm 1\text{kV}$
- Line to earth: $\pm 2\text{kV}$
- + 90°/ -270°

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

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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/CUL	USA	/	UL 62368-1

5.3.2 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: 20MΩ(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)

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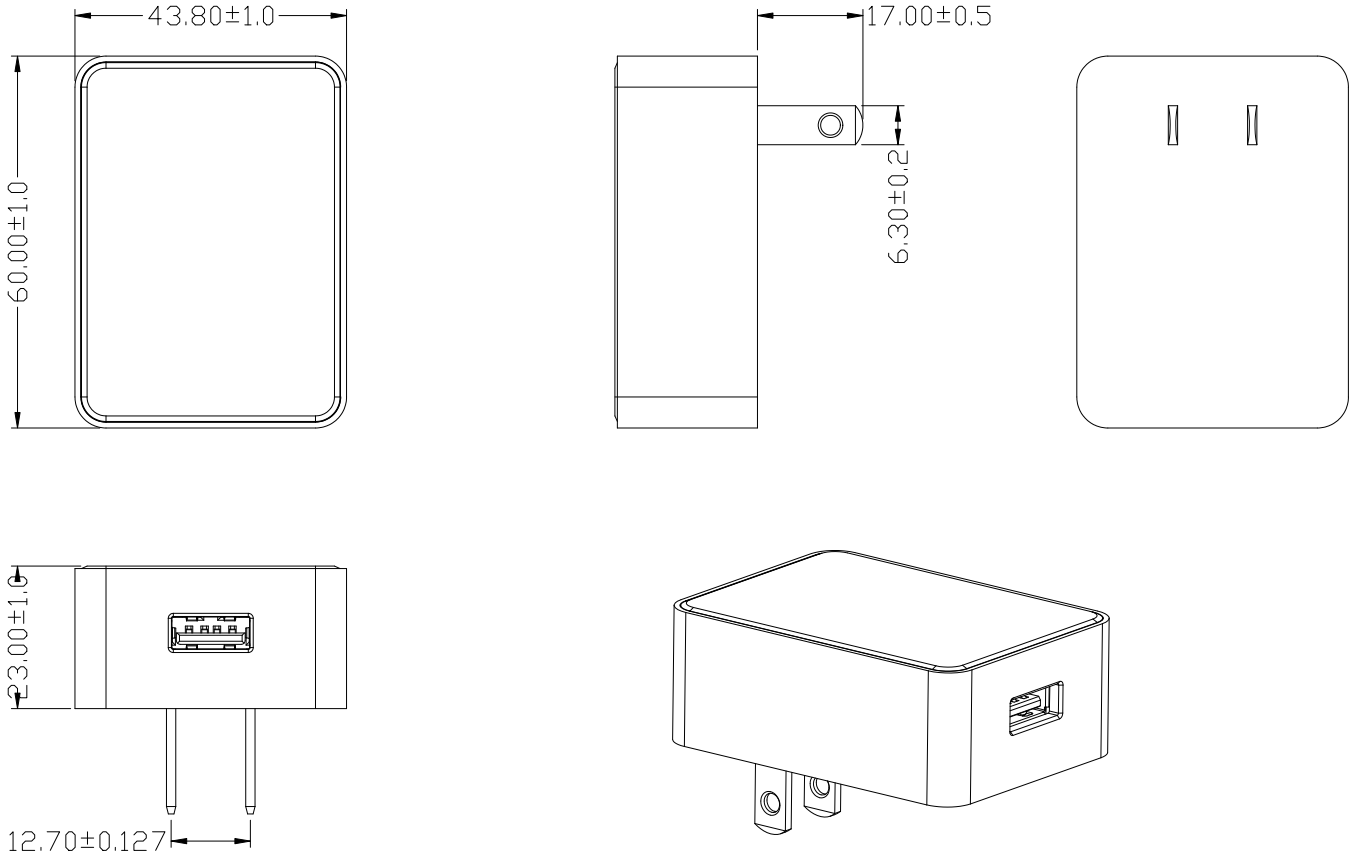


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7 APPEARANCE DRAWING: (UNIT: MM)



- NOTE: 1. Case cover & chassis material:
PC WHITE(WT-07) (NO KTEC)
2. AC PIN MATERIAL: BRASS (NI PLATED)
3. PAHS REACH ROHS PROP65
4. Satin Finish 雾面
5. Top mold: MSS018003; Bottom mold: MSS018002

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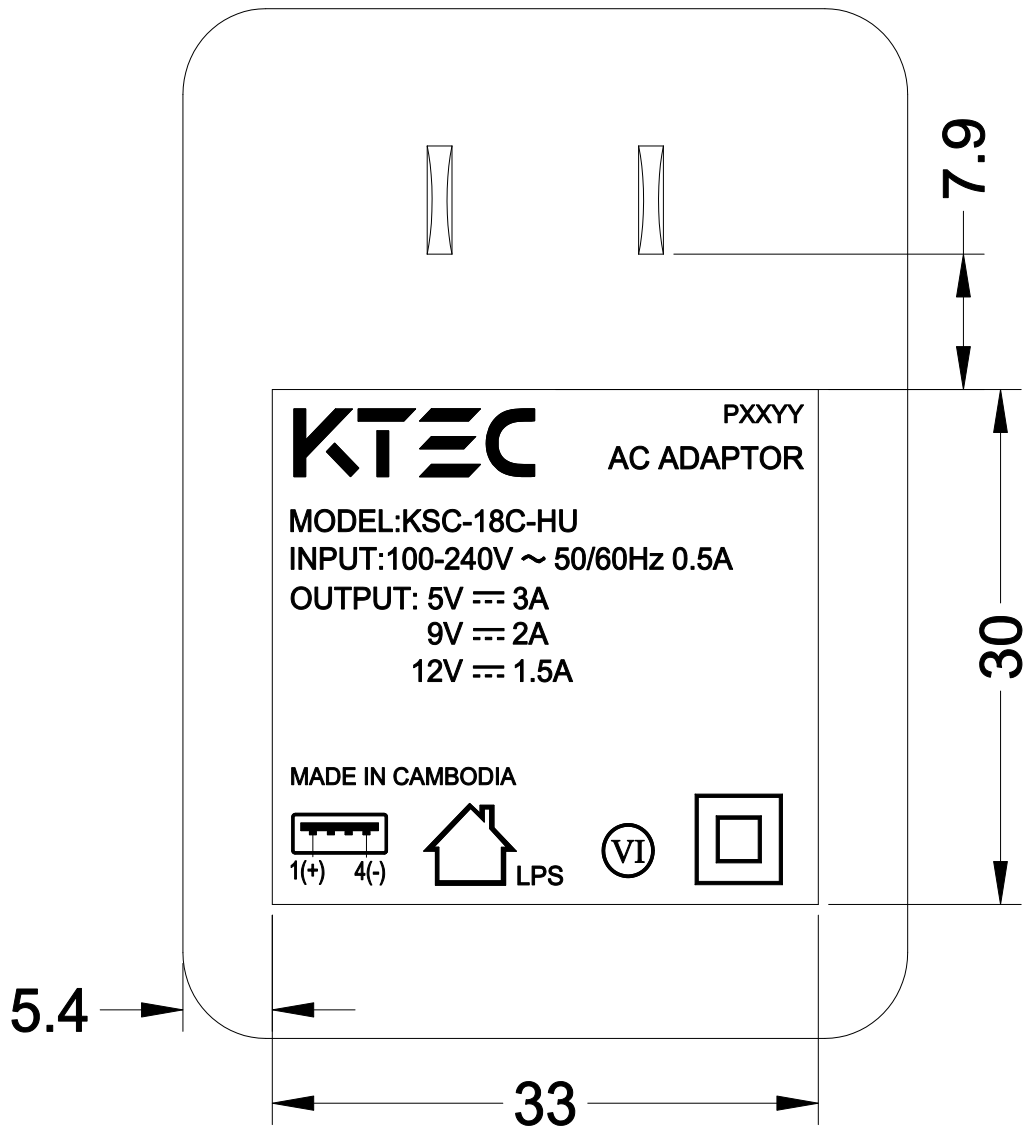


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8 NAME PLATE (UNIT: MM):



Note: Laser (鐳射),
PXXYY(P=PAHS,6P,NP, XX=WEEK YY=YEAR),按实际生产日期

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9 PACKING

1	2	3	4	5	6	7	8	9	10	11	12
REVISION											
ISSUE MARK	DESCRIPTION	DATE	REV SIGNATURE								

Select	IC	A	B	C	H-A	H-B	H-C	USER	MODEL NO.	PART NO.	DWG DATE	MATERIAL	PART NAME
0-6	0.05	0.05	0.10	0.05	0.05	0.10	0.10				2018.06.29		*
6-30	0.10	0.15	0.20	0.05	0.05	0.10	0.15						
30-120	0.15	0.20	0.30	0.10	0.15	0.20							
120-300	0.20	0.30	0.40	0.15	0.20	0.25							
300-450	0.25	0.40	0.50	0.20	0.25	0.30							
450-500	0.30	0.50	0.60	0.25	0.30	0.35							
DRAFT TOLERANCE	±0.2°		CRITICAL DIM MARK										

DESIGN	CHECKED	P/N	APPROVED	Ktec®	KUANTECH COMPANY LIMITED		
陈文宝					At	Eps	mm

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