

SPECIFICATION FOR APPROVAL
AC/DC ADAPTOR

CUSTOMER SPEC:INPUT: 100-240V AC 50/60Hz OUTPUT: 12.0VDC 2.5A

CUSTOMER DWG./PART NO.: _____

KTEC PART NO.: KSA-30W-120250VU (PAHS 6P NP REACH ROHS PRO65)

SAMPLE NO.: S99330 REV.: A ISSUE DATE: 2024-05-17

PRODUCT NO.: KS240389

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
TAI	徐海鑫	贺洪明	冯连连

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**KTEC P/N:****PRODUCT NO.****CUSTOMER P/N:****KSA-30W-120250VU**

KS240389

TITLE:		REVISION: A	DRAWING NO.:	
PREPARED: 廖小艳	CHECKED: 冯小山 林英青	APPROVED : 贺洪明	DATE: 2024-05-17	PAGE: 2 OF 11

KTEC KTEC 冠德國際科技 KTEC GLOBAL CO., LTD.	Switching power supply specification (class B)		
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	KSA-30W-120250VU	KS240389	
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1 GENERAL

1.1 Description

This specification defines the performance characteristics for a class II adapter, single-phase 30 watts. Single output level power supply.

- Simple design philosophy.
- Reliability level of 50K hours MTBF @ 40°C (rated input voltage, and using the Telcordia SR-332 issue 3 method) full load.
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by IEC62368-1.
- 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	1.0A 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	+12V
3.2	Minimum load current	0.0A
3.3	Rating load current	2.5A
3.4	Peak load current	/
3.5	Rating output power	30W
3.6	Line regulation	The line regulation is less than <u>±5%</u> while measuring at rated load and +/-10% of input voltage changing.
3.7	Load regulation	The load regulation for <u>+12V</u> is less than <u>+/-5%</u> , at measured output load from 10% to 100% rated load.

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3.8	Ripple and noise	150 mVp-p
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.
3.9	Average efficiency	86.95% minimum
		115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%.
3.10	Turn on delay time	4000 mS max. at nominal input AC voltage and full load.
3.11	Rise time	The supply shall have a start-up rise time of less than 20 mS to rise to within regulation limits for all DC outputs.
3.12	Hold up time	8 mS minimum at nominal input 100Vac minimum voltage and full load.
3.13	Output over-shoot	Less than 10% of nominal voltage value.
3.14	LED indication function	/
3.15	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 power supply will be protection when output power at 110-200% of all rated DC output

4 MECHANICAL

4.1 Enclosure and Layout

Plastic case: UL94V-0
Weight: 120g±5% (Max.)
Dimensions: 70*43*30mm
Colour: WHITE(WT-07)

4.2 Input and Output Configuration

Input pin: US Pin
Output connector: DC plug type: 5.5*2.1*12mm(Fork and Groove)
Polarity: Center “+”
Cable: 1.5M VW-1 80℃ 300V 2464 20AWG 3.5Q WT-07
(PAHS 6P NP REACH ROHS PRO65)

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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. GB9254, GB17625.1. 5.2 Immunity 5.2.1 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. 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: ±1kV - Line to Earth: ±2kV - + 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	USA	Meet	UL 62368-1
CUL	Canada	Meet	CSA C22.2 NO.62368-1

5.3.2 Additional Safety Requirements

- ⊙ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): 3000Vac, 10mA, 1 minute.
- ⊙ Insulation Resistance, Input to output: 10MΩ(MIN.) at 500VDC.
- ⊙ 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 +70 °C

6.2 Humidity

- ⊙ Operating: 10%~95% (Non Condensing)
- ⊙ Non-Operating: 10%~95% (Non Condensing)

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KTEC P/N:

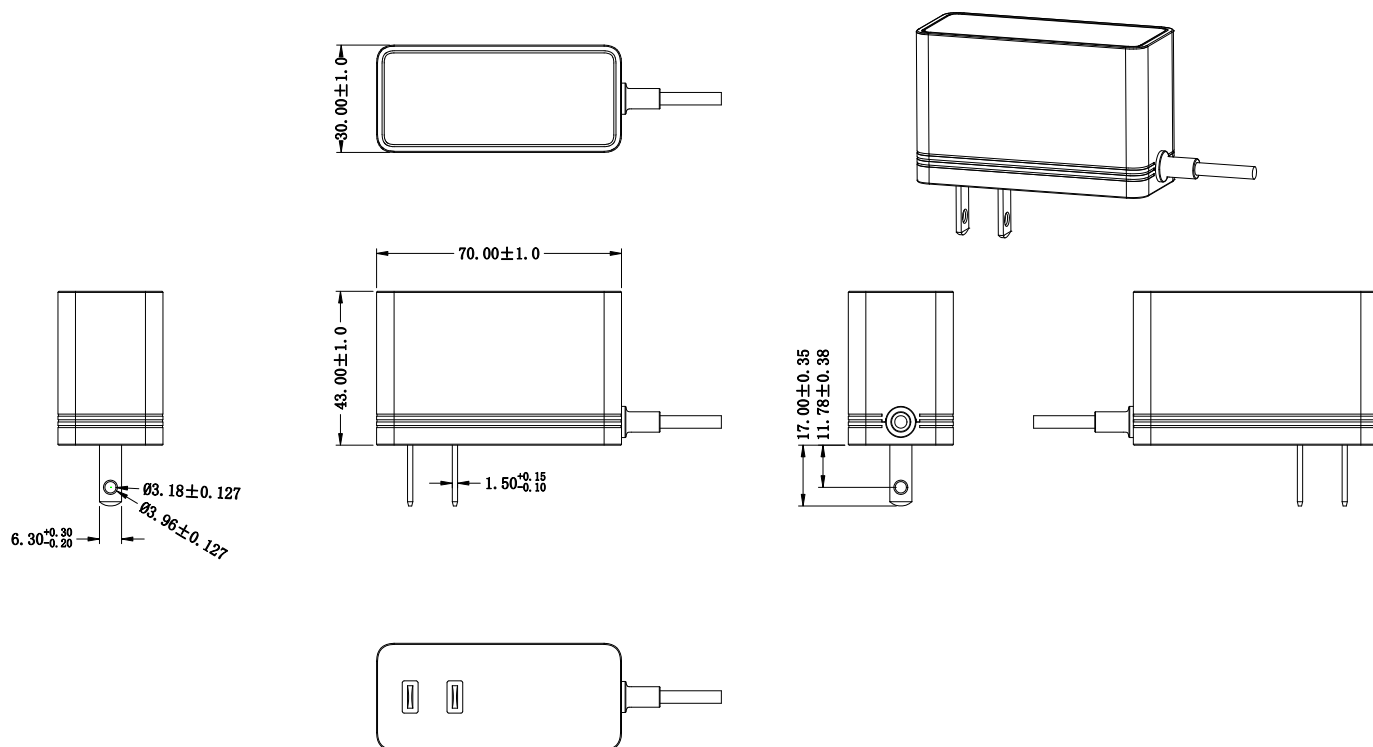
PRODUCT NO.

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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 6P NP REACH ROHS PRO65

4. Satin Finish

5. Top mold: MSS018027 ; Bottom mold: MSS017061

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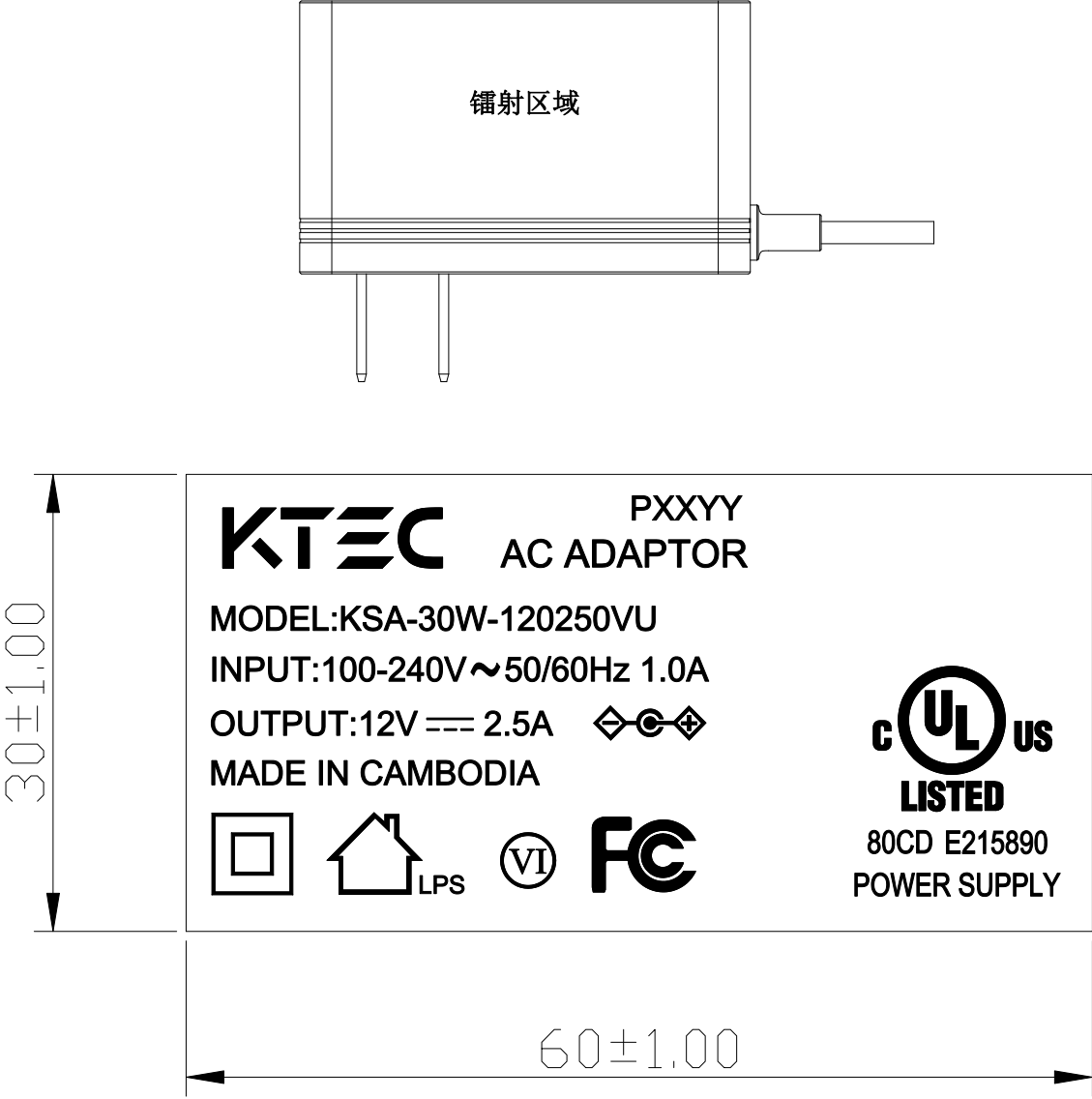
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8 NAME PLATE:

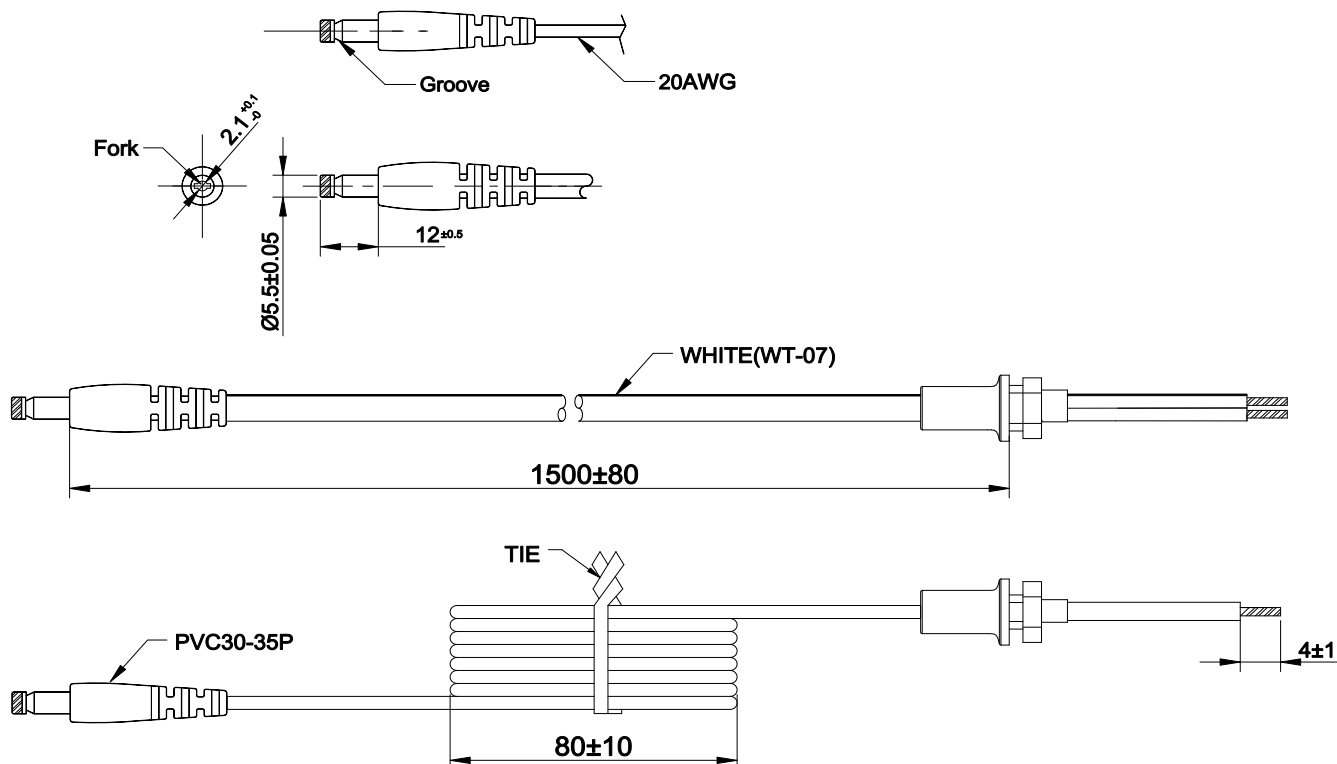


Note:  Laser (镭射)

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

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9 DIMENSION OF OUTPUT PLUG & DC CORD (Unit: mm)



NOTE: (unit:mm)

- 1).WIRE TYPE:VW-1 300V 80°C L=1500mm 2464 Ø3.5 20AWG WHITE(WT-07)
- 2).THE POLARITY: 
- 3).PAHS 6P NP REACH RoHS PRO65
SR MOLD:ML00325

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10 Packing (Unit: mm)

