



SPECIFICATION FOR APPROVAL



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KEC-200W SERIES

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Customer Name KTEC

Customer Part NO. _____

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KEC-200W SERIES

Manufacturer Part No.: KS251421



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1. INPUT REQUIREMENTS

1.1 Highlight & Features

- Simple design philosophy.
- Size: L4" x W2" x H1.12"
- Universal AC input with active PFC circuit
- Suited for type BF medical products
- Meet the Class I or Class II structure.
- 2XMOPP
- High efficiency up to 95%
- MTBF up to 1000KHrs@ 25°C
- This product is used in medical instruments, industrial equipment, printers and other fields.

1.2 General Description

This specification defines the performance and characteristics of an adaptor 400 watts with a metal case and internal fan cooling. The output voltage can be selected from 12V, 15V, 18V, 19V, 24V, 28V, 36V, 48V.

1.3 Chemical Substance Control Laws

PAHS 6P NP NOP REACH ROHS

1.4 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
Rated input current	3.0A maximum@ 100-240Vac
Power consumption (no-loading)	0.21W
Input configuration	2 Conductor
Power factor	0.9minimum

1.5 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.

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2. OUTPUT REQUIREMENTS

2.1	Nominal DC output voltage	12.0V	15.0V	18.0V	19.0V	24.0V	28.0V	36.0V	48.0V
2.2	Minimum load current	0.0A							
2.3	Output current and power convection	12.5A	10.0A	8.33A	7.89A	6.25A	5.36A	4.17A	3.13A
		150W Max.							
2.4	Output current and power with fan 23CFM forced-cooled	16.66A	13.33A	11.11A	10.52A	8.33A	14.28A	11.11A	8.33A
		200.0W Max.							
2.5	Load regulation	± 3% for Main & 5 VSB							
2.6	Line regulation	± 5%							
2.7	Ripple and noise	12V	15-19V	24-28V	36V	48V			
		180mVp-p	200mVp-p	250mVp-p	360mVp-p	480mVp-p			
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.							
2.8	Average efficiency	Meet to Level VI							
2.9	Turn on delay time	1000ms maximum at 115VAC and output full load.							
2.10	Rise time	≤ 50ms to 5V-19V output voltage at rated load; ≤ 100ms 24V-48V output voltage at rated load.							
2.11	Hold up time	15ms minimum at nominal input 100Vac minimum voltage and full load.							
2.12	Output over-shoot	Less than 10% of nominal voltage value.							
2.13	Protection function								
	Over-voltage protection	The output voltage shall be clamped by internal protection.							
	Over current protection	When overload is applied to the output, the power supply shall be shut down and enter auto-recovery.							
	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 temperature protection	The output will be turned off when the temperature is too high.							

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3. MECHANICAL

3.1 Enclosure and Layout

Case	No case
Weight	/g (Max.)
Dimensions	101.6*50.8*28.5mm

3.2 Input and Output Configuration

Input pin: 3.96*3 Pin connector, the middle PIN is empty

Output connector: 3.96*6 Pin connector, PIN1,2,3 to the positive. PIN4,5,6 to the negative.

4. REGULATORY COMPLIANCE

4.1 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.

4.1.1 Radiated and Conducted Emission

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

EN55011 & EN55032, Class B for radiated and conducted emissions.

Note: Applications that meet Class B requirements for some end products may require additional EMI filters

4.2 Immunity

4.2.1 Electrostatic Discharge Immunity

IEC 60601-1-2, EN 55035, EN 61000-4-2

Air Discharge: $\pm 15\text{kv}$

Contact Discharge: $\pm 8\text{kv}$

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 , 15kv air discharge, 8kv contact discharge.

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4.2.2 Radiated Field Immunity

IEC 60601-1-2, EN 55035, EN 61000-4-3

Frequency Range: 80MHz -2.7GHz

Field Strength: 3 V/m with 80% amplitude modulation of 1kHz

Performance Criteria A

Radio-frequency electromagnetic field susceptibility test, RS 80MHz -2.7GHz, 3V/m, 80%AM(1kHz).

4.2.3 Fast Transient Immunity

IEC 60601-1-2, EN 55035, EN 61000-4-4

Power line: 2kv

Performance Criteria B

4.2.4 Surge Immunity

IEC 60601-1-2, EN 55035, EN 61000-4-5

1.2/50 μ s Open circuit voltage

8/20 μ s Short circuit current

Power line: 1kv

Line to earth: 2kv

Performance Criteria A

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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4.3 Safety Requirements and Certification

4.3.1 Regulatory Standard

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

For short	Country	Certified Status	Standard
UL	USA	/	IT:UL 62368-1 MEDICAL:UL 60601-1
FCC	America	/	FCC Part 15 subpart B
CB	Global	/	IT:IEC62368-1 MEDICAL:IEC60601-1
CE	Europe	/	IT:EN62368-1 EN 55032 EN 55035 EN 61000-3-2 EN 61000-3-3 MEDICAL:EN60601-1 IEC 60601-1-2

4.3.2 Additional Safety Requirements

- ⊙ Dielectric Withstand Voltage:
Primary(input AC short)-to-Secondary(output DC short): 4000Vac, 100mA, 1 minute.
Primary input to GND and Secondary output to GND: 1500Vac, 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 100uA.

5. ENVIRONMENTAL REQUIREMENTS

Temperature	Operating	-20°C +70°C
	Non-Operating	-25°C +80°C (Non Condensing)
	Note: For details about the operating environment, see 6.3 Derating Curve.	
Humidity	Operating	5%~90% (Non Condensing)
	Non-Operating	5%~90% (Non Condensing)
Altitude	Sea level to 5000m	

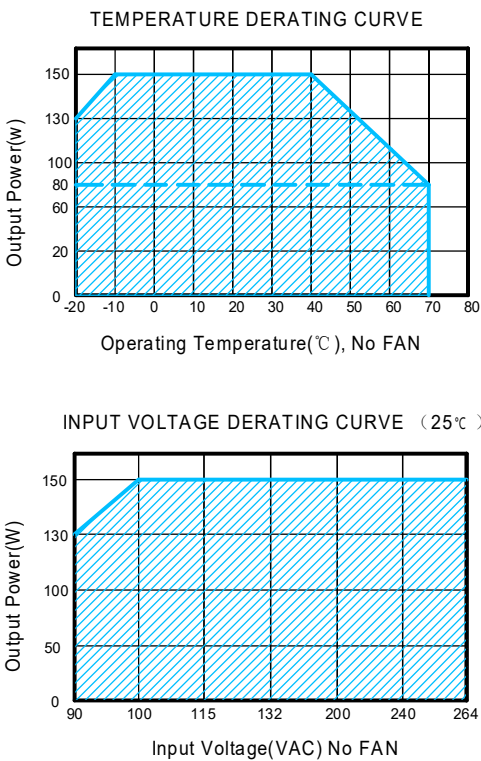
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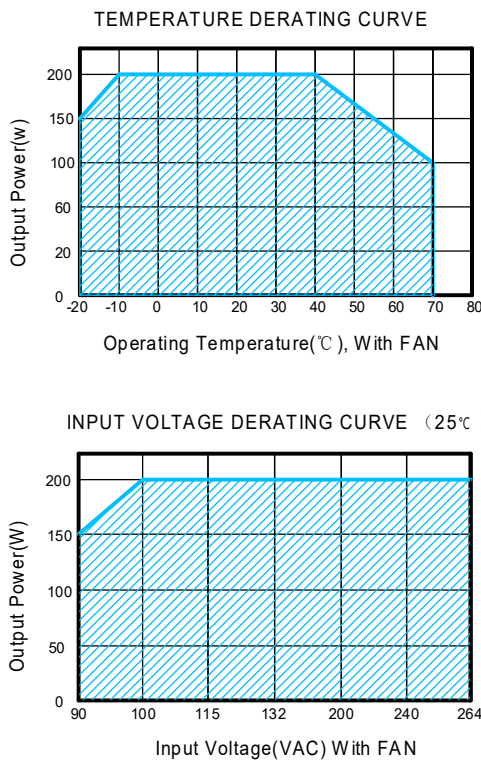


5.1 Derating Curve

Convection, No FAN

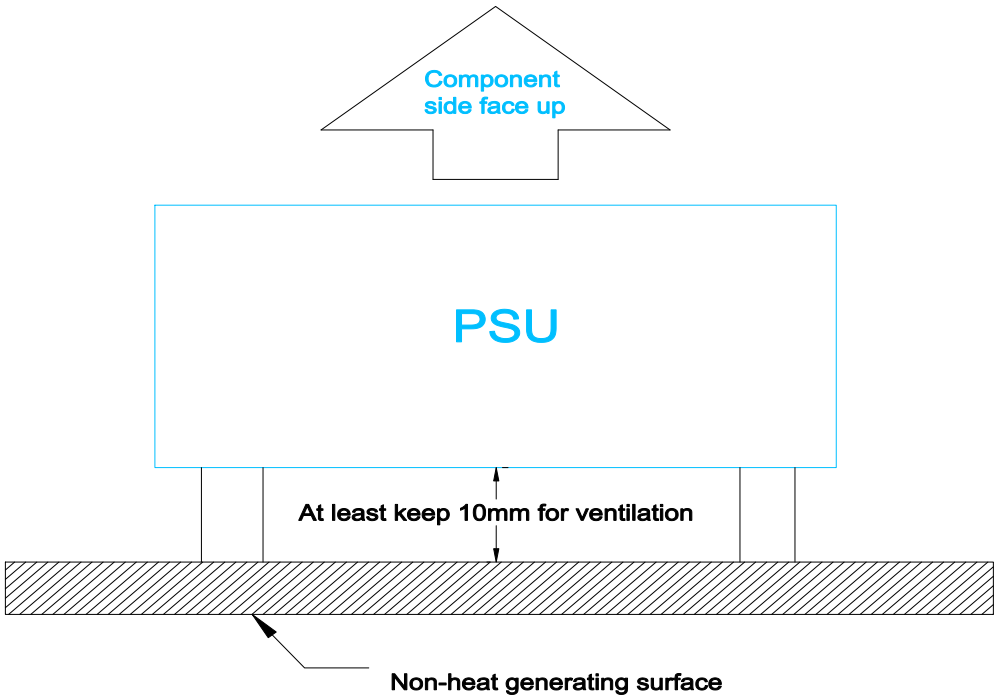


Forced-air,With FAN

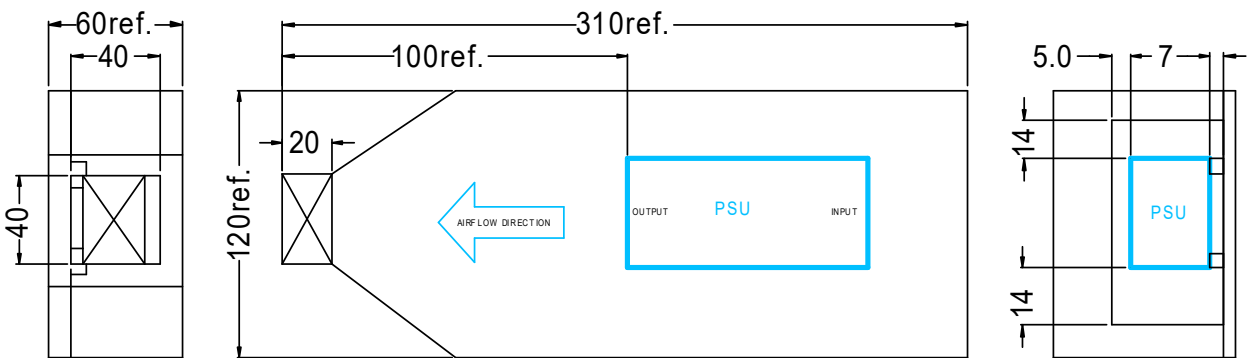


5.2 Safety Requirements and Certification

5.2.1 Regulatory Standard



5.2.2 Forced-air setting



Note: Unit: mm

Unless otherwise noted, logarithms are based on ambient temperatures of 25 °C.

Fan specifications Reference: 40 x 40 x 20mm 12V 0.18A, The size and size of the fan can be adjusted as required to achieve sufficient air flow

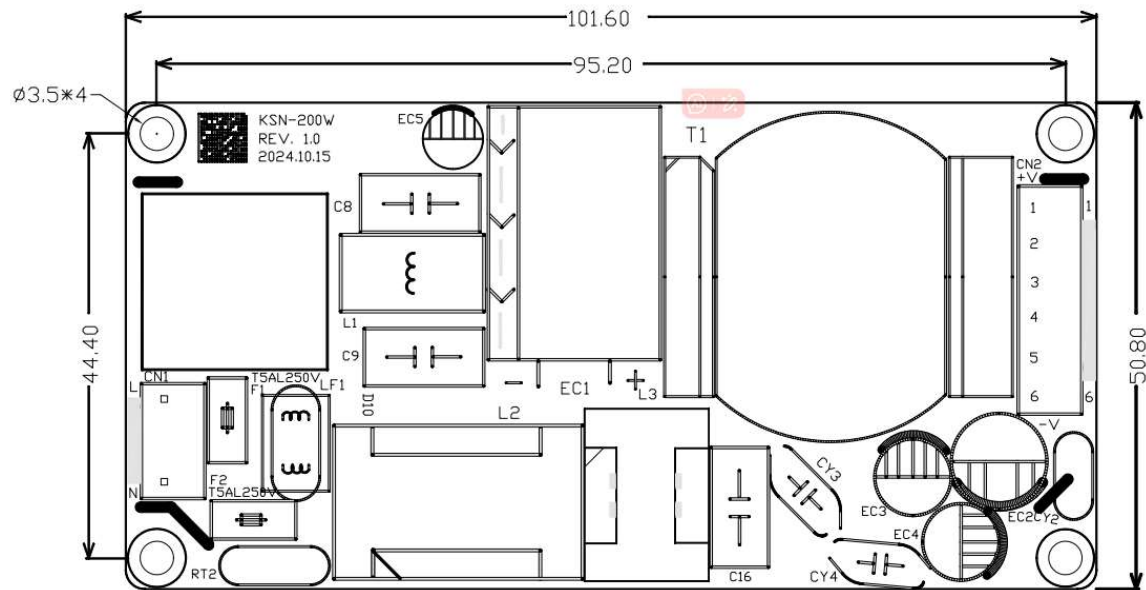
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6. MECHANICAL SPECIFICATIONS

6.1 Type1 Size: L101.6*W50.8*H28.5mm(L4" x W2" x H1.12")



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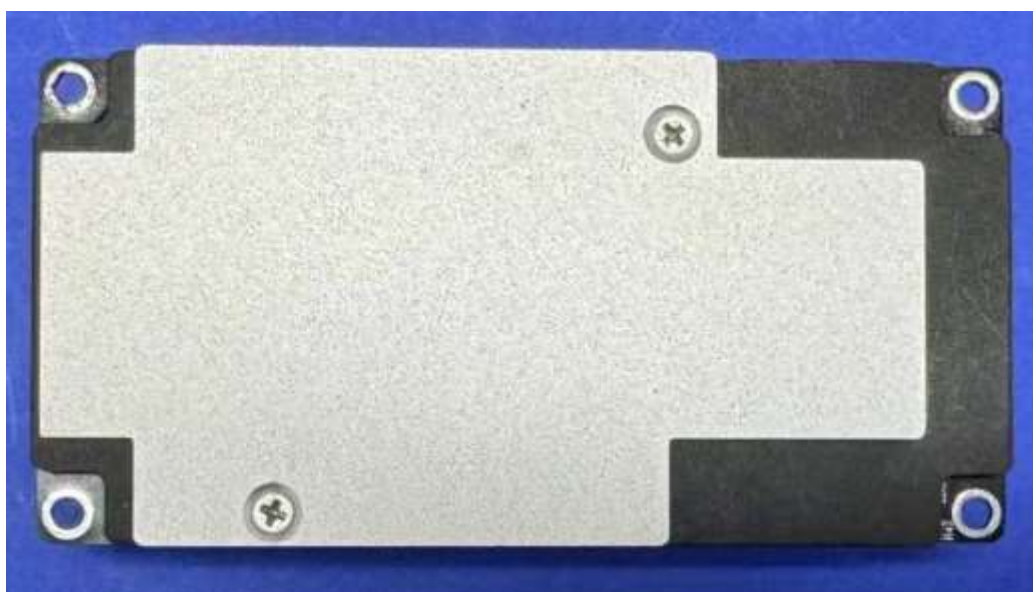
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7. APPEARANCE DRAWING: (UNIT: MM)

The picture : Images are for reference only!

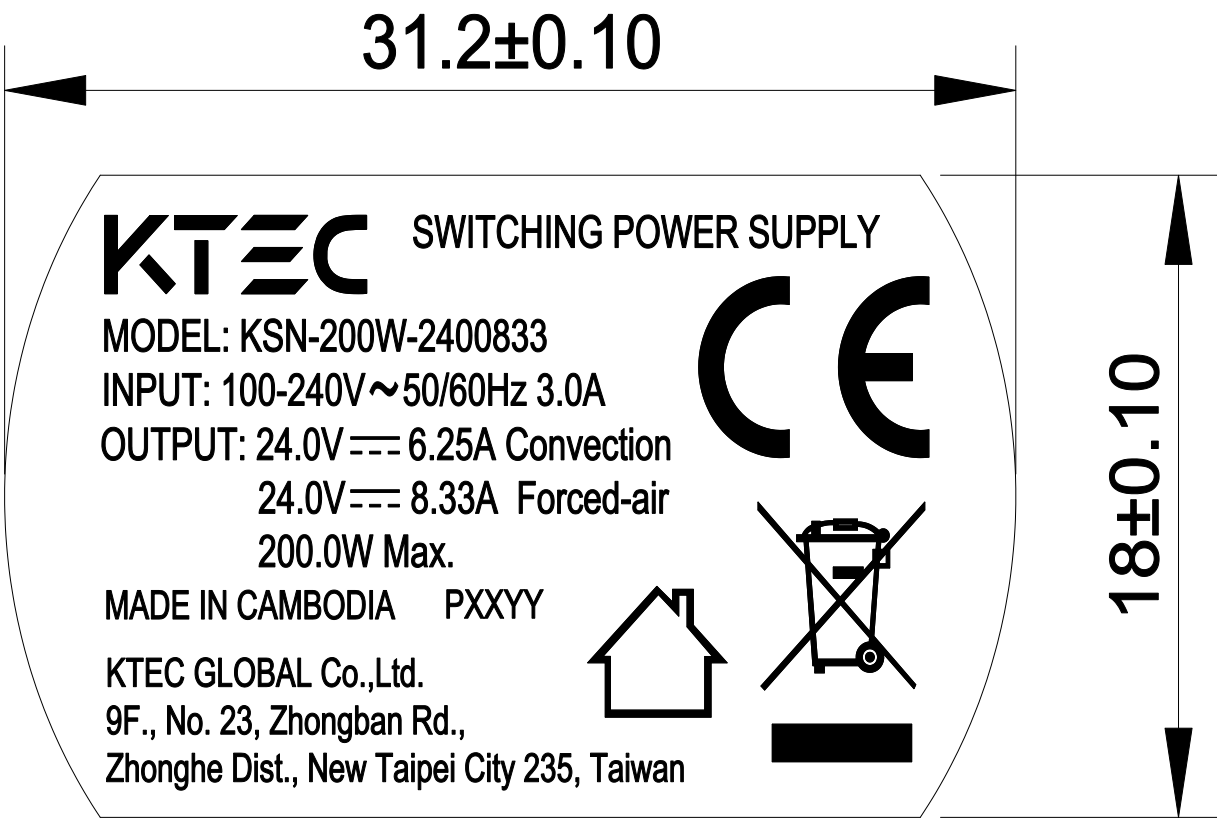


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8. NAME PLATE



FOR SAMPLE ONLY

Note: MATERIAL: silver polyester (消银龙) ; Thickness: 0.08+-0.01mm

Black characters silver background

PAHS 6P NP REACH ROHS NOP

PXXYY (P=PAHS XX=Week, YY=Year), use the actual production date.

Location: affixed to EC4 side

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9. PACKING (UNIT: MM)

