



SPECIFICATION FOR APPROVAL

www.twktec.com

KEC-600W SERIES

SWITCHING POWER SUPPLY

Customer Part NO. _____

[illegible]

SALES	QE	APPROVED BY	MADE BY
Tai	徐海鑫	贺洪明	冯朵朵

--	--	--

SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472



1.	INPUT REQUIREMENTS	4
1.1	Highlight & Features.....	4
1.2	General Description.....	4
1.3	Chemical Substance Control Laws	4
1.4	Input Conditions.....	4
1.5	Ac inrush current	4
2.	OUTPUT REQUIREMENTS	5
3.	MECHANICAL.....	6
3.1	Enclosure and Layout	6
3.2	Input and Output Configuration	6
4.	REGULATORY COMPLIANCE	7
4.1	EMC Specifications.....	7
4.1.1	Radiated and Conducted Emission.....	7
4.1.2	Harmonic Standard	7
4.1.3	Voltage fluctuations and Flicker	7
4.2	Immunity.....	7
4.2.1	Electrostatic Discharge Immunity.....	7
4.2.2	Radiated Field Immunity	7
4.2.3	Fast Transient Immunity	8
4.2.4	Surge Immunity	8
4.3	Safety Requirements and Certification.....	8
4.3.1	Regulatory Standard	8
4.3.2	Additional Safety Requirements	8
5.	ENVIRONMENTAL REQUIREMENTS	9
5.1	Derating Curve	9
6.	MECHANICAL SPECIFICATIONS	10
7.	NAME PLATE	11
8.	PACKING (UNIT: MM)	12

SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472



1. INPUT REQUIREMENTS

1.1 Highlight & Features

- Simple design philosophy.
- Size: L6.2" x W3.35" x H1.69" for case
- Universal AC input with active PFC circuit
- Suited for type BF medical products
- Remote on/off ,power OK
- 5 V standby @ 2.0A max.
- 12 V fan port
- High efficiency up to 95%
- MTBF up to 250KHrs
- 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 600 watts with a metal case and internal fan cooling. The output voltage can be selected from 12V, 15V, 19V, 24V, 36V, 48V.

1.3 Chemical Substance Control Laws

PAHS 6P NP REACH ROHS NOP

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	7.0 A max. @ 100-240Vac
Power consumption (no-loading)	2.5W Max. @ 230Vac, Including fan power
Input configuration	3 Conductor
Power factor	0.95 minimum

1.5 Ac inrush current

Input inrush current less than 50A for rated input and cold-start at 25°C.

SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472



2. OUTPUT REQUIREMENTS

2.1	Nominal DC output voltage	12.0V	15.0V	19.0V	24.0V	36.0V	48.0V
2.2	Minimum load current	0A					
2.3	Output current and power	50.0A	40.0A	31.57A	25.0A	16.66A	12.5A
		600W Max.					
2.4	Load regulation	$\pm 3\%$ for Main & 5 VSB					
2.5	Line regulation	$\pm 1\%$					
2.6	Ripple and noise	12.0V	15.0V	19.0V	24.0V	36.0V	48.0V
		240mVp-p	360mVp-p	360mVp-p	360mVp-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.					
2.7	Efficiency	93.5%-95.5% Typical Value @ 230V and full load.					
2.8	Turn on delay time	2000ms maximum at 115VAC and output full load.					
2.9	Rise time	$\leq 50\text{ms}$ 12.0V-19.0V @ rated load. $\leq 100\text{ms}$ 24.0V-48.0V @ rated load.					
2.10	Hold up time	10ms minimum for main O/P, measured at full Load from 115 VAC and Vout reduces to 90% of original value before the AC drop out.					
2.11	Output over-shoot	Less than 10% of nominal voltage value.					
2.12	Protection function						
	Over-voltage protection	110% to 150% of nominal output voltage. Latching, recycle AC power to recover.					
	Over current protection	110% to 180% of rated output current value, hiccup mode, 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.					

SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472



3. MECHANICAL

3.1 Enclosure and Layout

Case	Metal
Weight	790 g (Max.)
Dimensions	157*85*42.5mm

3.2 Input and Output Configuration

Connector	Definition	Pin Number(s)	Connector Type
AC Input (C0N1)	AC line	Pin 1	JVT6350HN2-03 (Or equivalent)
	AC neutral	Pin 2	
	PE/ground	Pin 3	
DC Output (C0N2)	+Vout	Pin 1	M4 Output terminal
DC Output (C0N3)	-Vout	Pin 2	M4 Output terminal
12V fan (CON4)	12V fan output	Pin 1	2.54*2 Pin Connector
	12V fan return	Pin 2	
Control Terminal (CON6)	PSU on/off control	Pin 1	JVT2008WN0-2*03SN-D-GF (Or equivalent)
	Power good signal	Pin 2	
	Signal ground	Pin 3	
	Fan on/off optional	Pin 4	
	5V return	Pin 5	
	+5VSB	Pin 6	

SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472



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.

EN55015 & EN55032, Class B for radiated and conducted emissions.

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

4.1.2 Harmonic Standard

Meet EN61000-3-2

Performance Criteria A

4.1.3 Voltage fluctuations and Flicker

Meet EN61000-3-3

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 A

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.

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).

SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472



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 voltage8/20 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.

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

4.3.2 Additional Safety Requirements

◎ Dielectric Withstand Voltage:

Primary(input AC short)-to-Secondary(output DC short): 4000Vac, 20mA, 1 minute.

Primary input to GND and Secondary output to GND: 1500Vac, 20mA, 1 minute.

◎ Insulation Resistance, Input to output: 50M Ω (MIN.) at 500VDC.

◎ The leakage current shall not exceed 100uA.

SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472

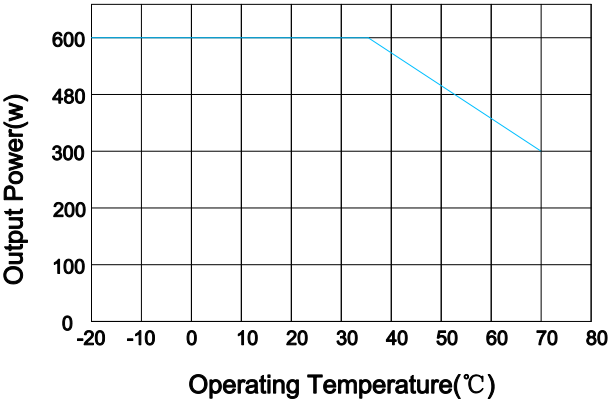


5. ENVIRONMENTAL REQUIREMENTS

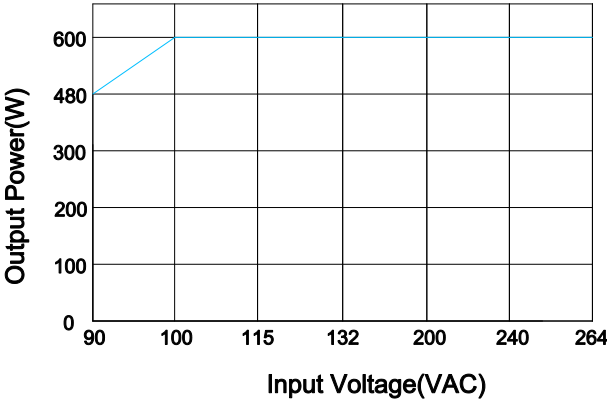
Temperature	Operating	-20°C +70 °C
	Non-Operating	-40°C +80°C (Non Condensing)
	Note: For details about the operating environment, see 5.1Derating Curve.	
Humidity	Operating	10%~95% (Non Condensing)
	Non-Operating	10%~95% (Non Condensing)
Altitude	Sea level to 5000m	
Vibration	10Hz-55Hz, 19.6m/s ² , 3 axes x 2 hours Normal performance after test condition is removed.	

5.1 Derating Curve

TEMPERATURE DERATING CURVE



INPUT VOLTAGE DERATING CURVE (25°C)



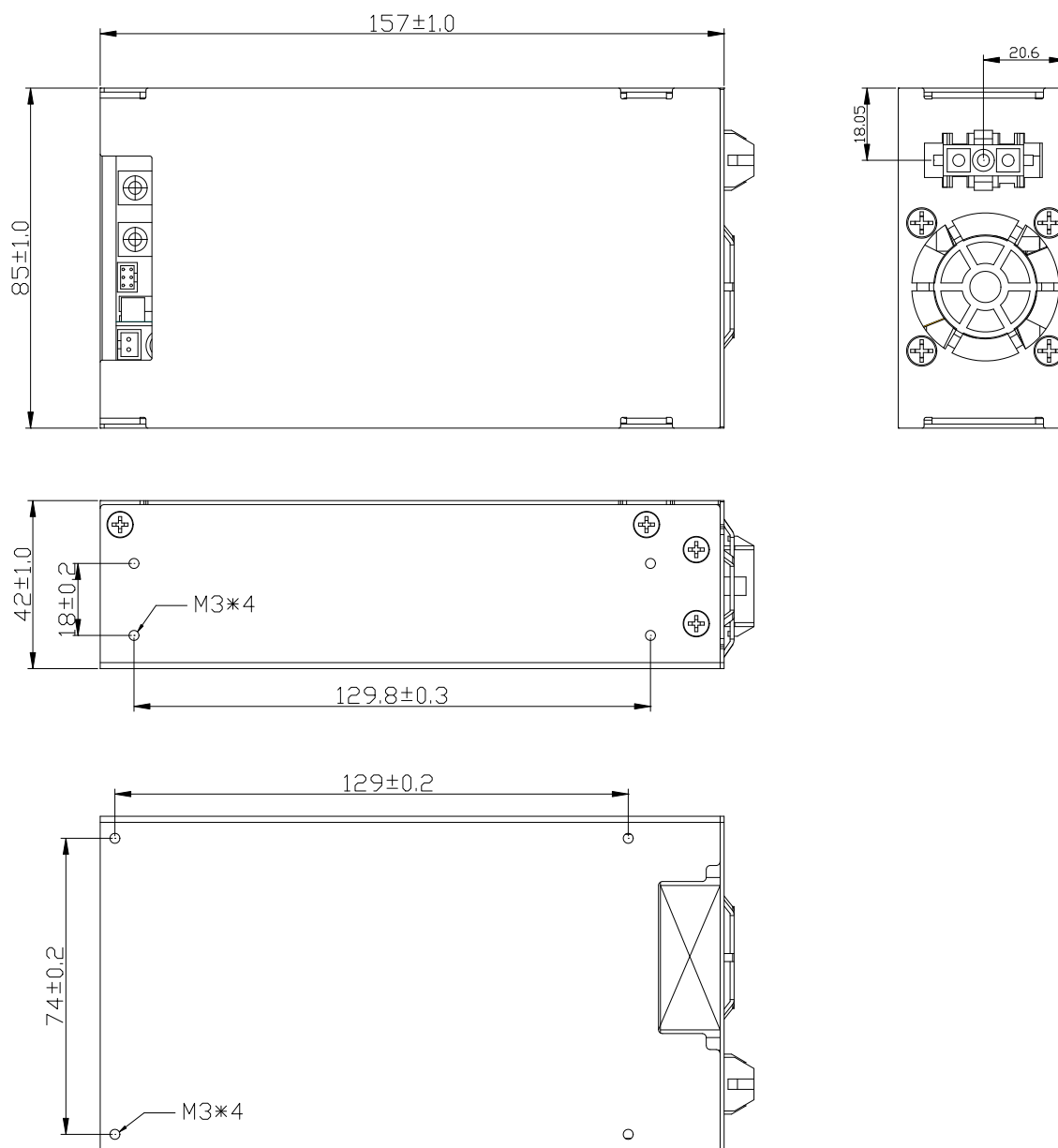
SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472



6. MECHANICAL SPECIFICATIONS

Size: L157*W85*H42.5mm(L6.2" x W3.35" x H1.69")



NOTE: 1. Case cover & chassis material: Aluminum or alloy

2. AC PIN MATERIAL: BRASS (NI PLATED)

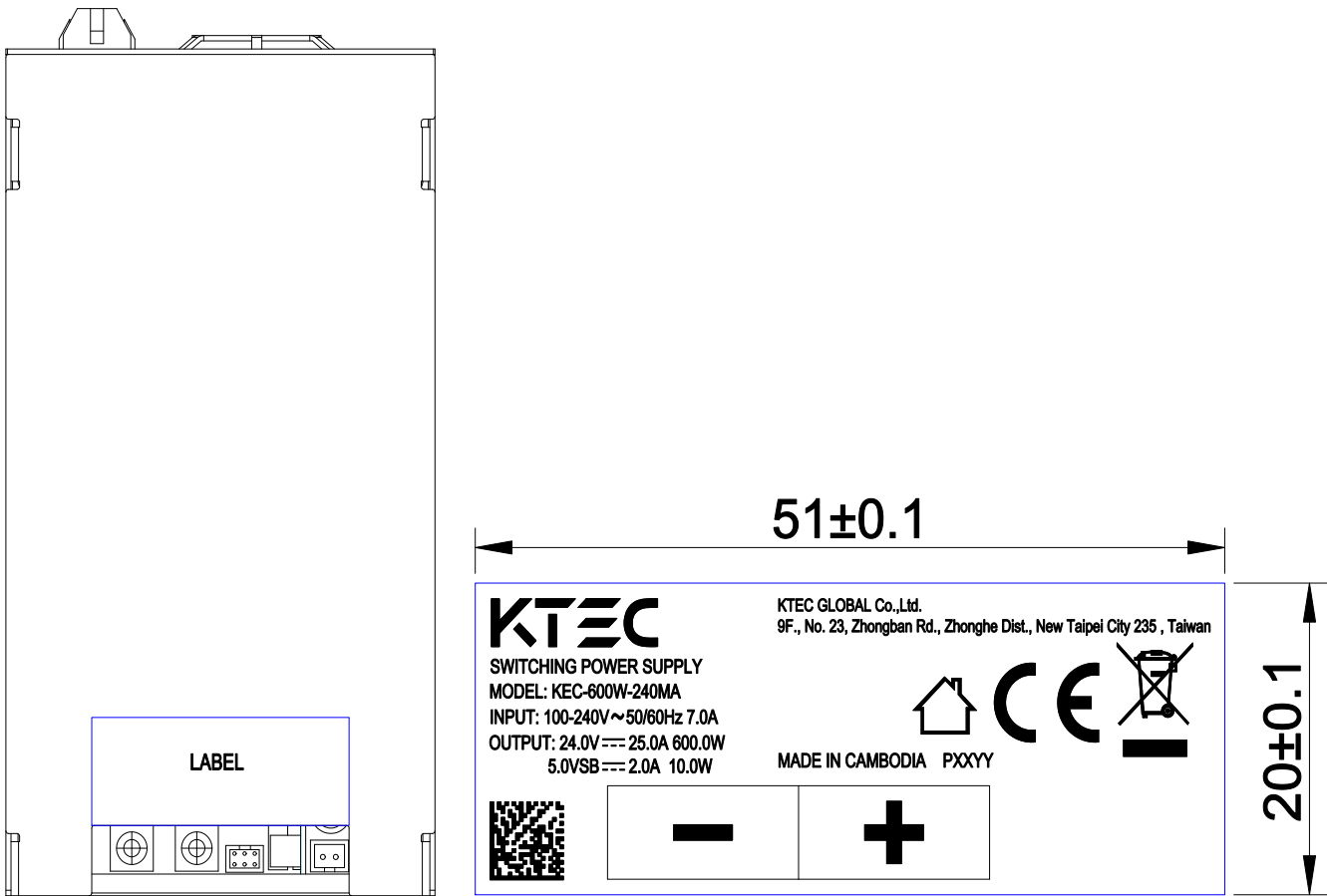
3. PAHS 6P NP REACH ROHS NOP

SWITCHING POWER SUPPLY

KEC-600W SERIES Manufacturer Part No.: KS251472



7. NAME PLATE



Note: Laser

Date code (PXXYY: P=PAHS XX=WEEK, YY=YEAR), use the actual production date

SN (Data Matrix Code size: 5*5mm):

First code G (Ktec) + Production part number (Product code) + Ten yards of flow code SSSSSSSSSS (decimal)

Total 19 codes

Example: GKS2514720000000001, GKS2514720000000002...GKS2514729999999999.

