



SPECIFICATION FOR APPROVAL



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KEC-800W SERIES

SWITCHING POWER SUPPLY

Customer Name KTEC

Customer Part NO. _____

Project Modify List

[illegible]

Manufacturer

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

Approved Signatures

APPROVED BY

CHECKED BY

TESTED BY

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SWITCHING POWER SUPPLY



KEC-800W SERIES

Manufacturer Part No.: KS251473

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1. INPUT REQUIREMENTS

1.1 Highlight & Features

- Size: L7" x W4" x H1.575" (177.8*102*40mm)
- Universal AC input with active PFC circuit
- Suited for type BF medical products
- Remote on/off ,power OK
- 5 V standby @ 2.0A max.
- High efficiency up to 94%
- MTBF up to 200KHrs
- Parallel current sharing function
- The output voltage is adjustable
- 2 x MOPP
- 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 800 watts with a metal case and internal fan cooling. The output voltage can be selected from 12V, 24V, 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	10.0 A max. @ 100-240Vac
Power consumption (no-loading)	5.0W Max. @ 230Vac
Input configuration	3 Conductor
Power factor	0.95 minimum @ rated load

1.5 Ac inrush current

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

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2. OUTPUT REQUIREMENTS

2.1	Nominal DC output voltage	12V	24V	48V
2.2	Minimum load current	0.0A		
2.3	Output current and power with case & fan	58.4A	33.33A	16.66A
		800W Max.		
2.4	Load regulation	$\pm 3\%$ for Main & 5 V STB		
2.5	Line regulation	$\pm 1\%$		
2.6	Ripple and noise	12V	24V	48V
		240mVp-p	360mVp-p	480mVp-p
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor in parallel the output terminal. Measured with 20MHz bandwidth oscilloscope at rated load and rated input voltage.		
2.7	Efficiency	Up to 94% typical value @ 230VAC		
2.8	Turn on delay time	3000ms maximum at 115VAC and output full load.		
2.9	Rise time	$\leq 20\text{ms}$ 12V to 24V output voltage at rated load;		
		$\leq 50\text{ms}$ 48V output voltage at 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.		

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3. MECHANICAL

3.1 Enclosure and Layout

Case	Metal
Weight	1080g (Max.)
Dimensions	177.8*101.6*40mm

3.2 Input and Output Configuration

Connector	Definition	Pin Number(s)	Connector Type
AC Input (CON1)	AC line	Pin 1	DT-2G-B95W-03 (Or equivalent)
	PE/ground	Pin 2	
	AC neutral	Pin 3	
DC Output (CON2)	+Vout	Pin 1	M4 Output terminal
DC Output (CON3)	-Vout	Pin 2	M4 Output terminal
12V fan (CON9)	+12V fan output	Pin 1	2.54*2 Pin Connector
	12V fan return	Pin 2	
Control Terminal (CON12)	Current share	Pin 1	JVT2008W46-2*07SNR-D (Or equivalent)
	DC return	Pin 2	
	Remote sense +	Pin 3	
	Remote sense -	Pin 4	
	DC return	Pin 5	
	DC return	Pin 6	
	+5V Standby output	Pin 7	
	+5V Standby output	Pin 8	
	NC	Pin 9	
	NC	Pin 10	
	Power good -	Pin 11	
	Power good +	Pin 12	
	Remote on/off +	Pin 13	
	Remote on/off -	Pin 14	

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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).

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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.

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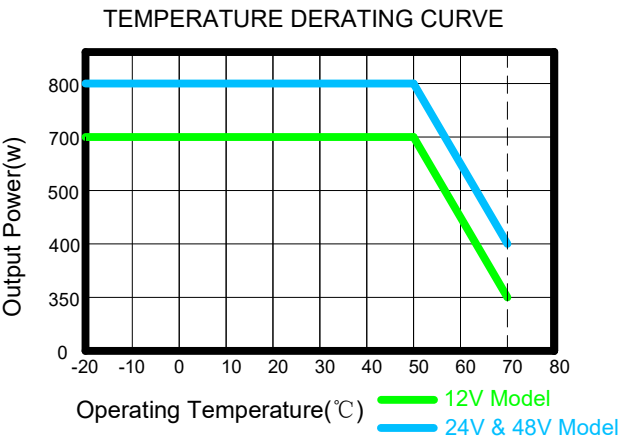


5. ENVIRONMENTAL REQUIREMENTS

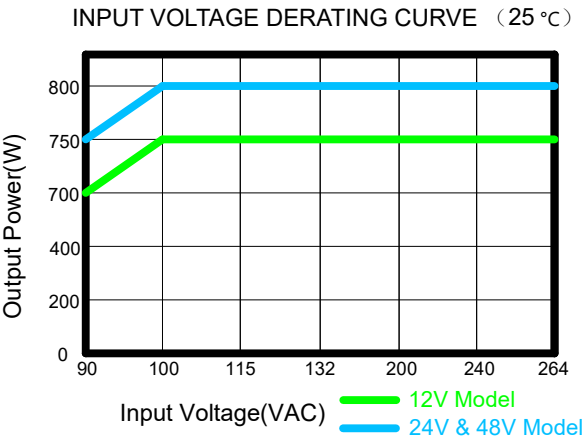
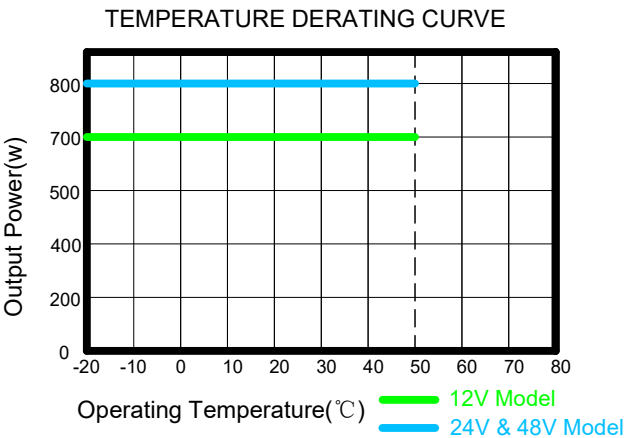
Temperature	Operating	-20°C +70°C
	Non-Operating	-40°C +80°C (Non Condensing)
Note: For details about the operating environment, see 5.1Derating Curve.		
Humidity	Operating	10%~95% (Non Condensing)
	Non-Operating	10%~95% (Non Condensing)
Altitude	Sea level to 5000m	
Vibration	10Hz-55Hz, 19.6m/s ² , 3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

5.1 Derating Curve

KEC-800W-XXXMT



KEC-800W-XXXMC



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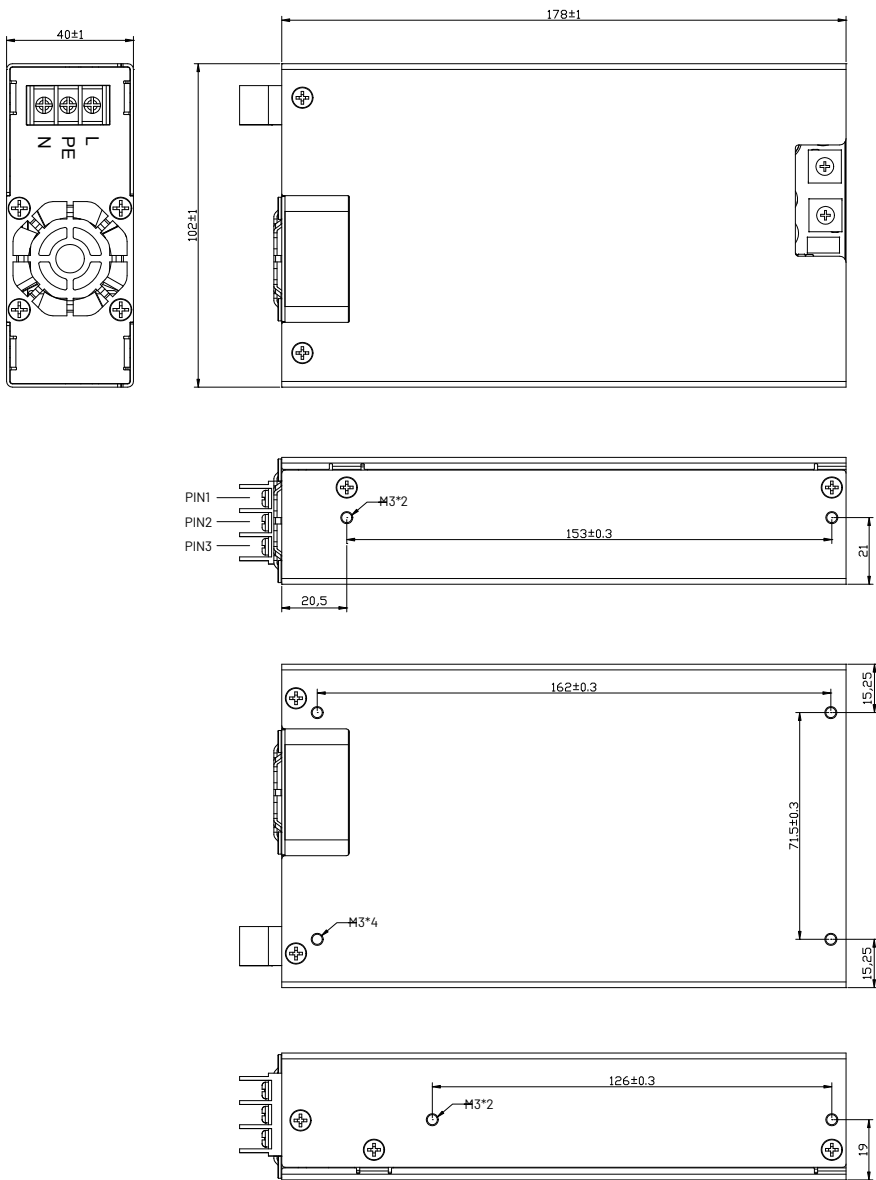
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6. MECHANICAL SPECIFICATIONS

6.1 Case 1: KEC-800W-XXXMT (American barrier strip 3pin AC connector)

Size: L178*W102*H40mm(L7" x W4" x H1.575")



- Note: 1. Case cover & chassis material: Aluminum or Fe alloy
2. AC pin material: copper alloy (Tin plated)
3. PAHS 6P NP REACH ROHS NOP

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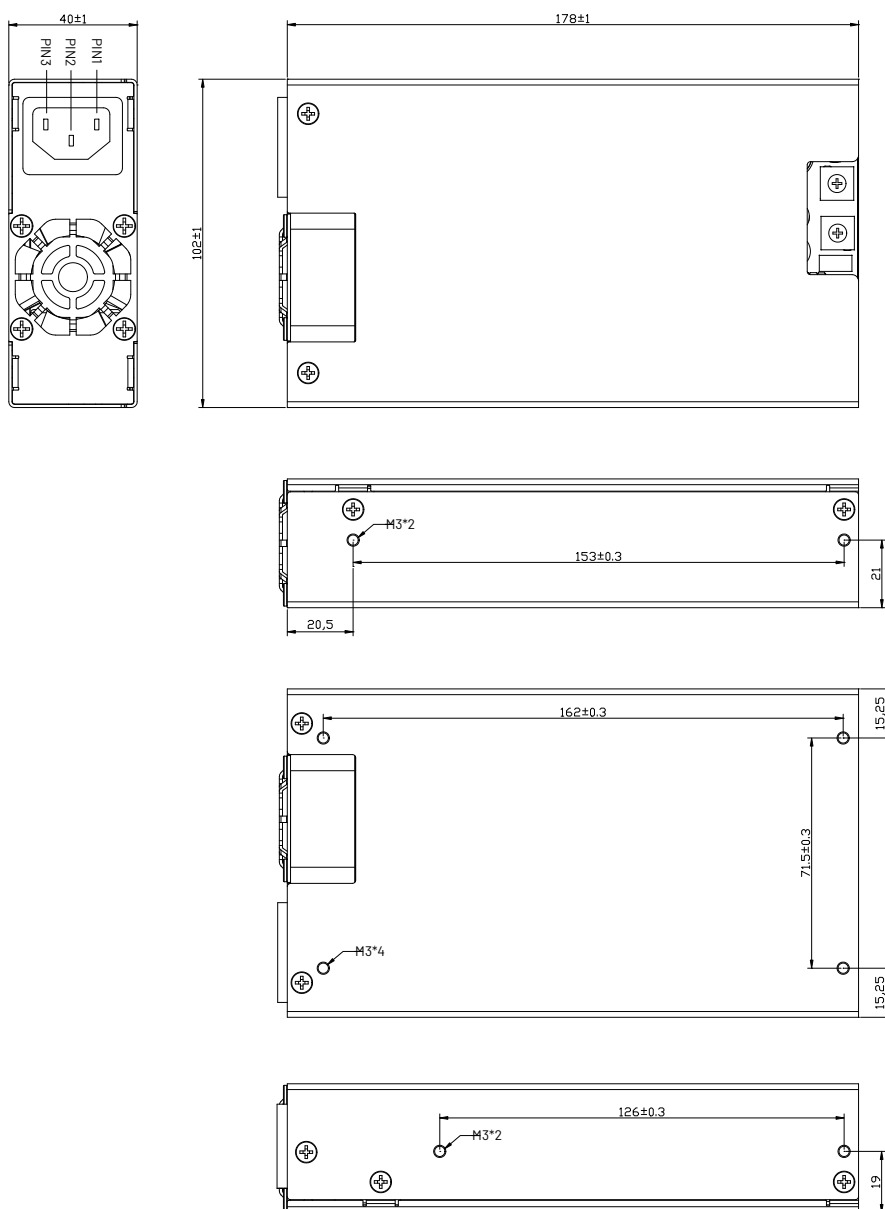
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6.2 Case 2: KEC-800W-XXXMC(IEC320-C14 3pin AC connector)

Size: L178*W102*H40mm(L7" x W4" x H1.575")



Note: 1. Case cover & chassis material: Aluminum or Fe alloy

2. AC pin material: copper alloy (Tin plated)

3. PAHS 6P NP REACH ROHS NOP

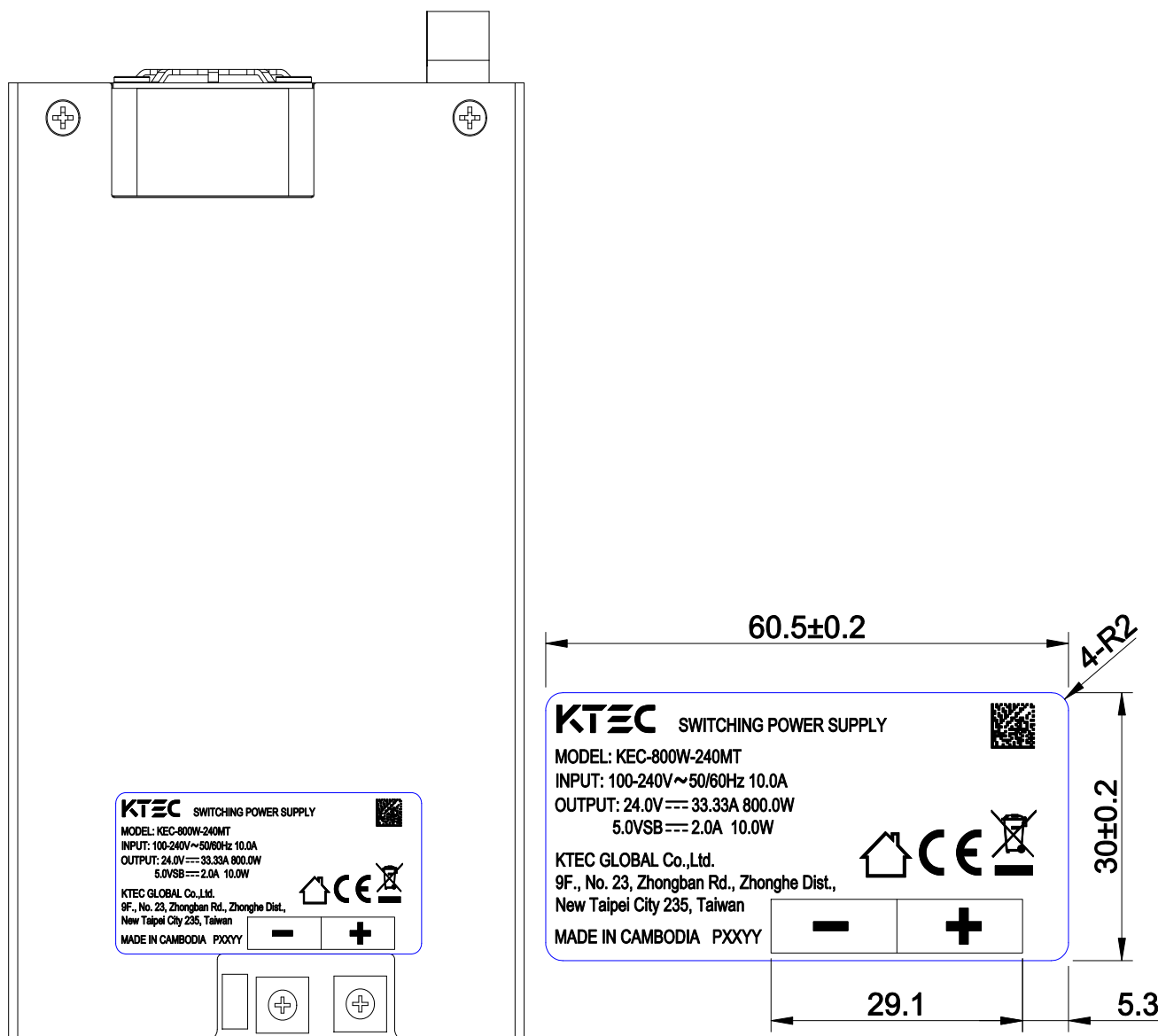
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7. NAME PLATE



Note:

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

Black characters silver background

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: GKS2514730000000001, GKS2514730000000002...GKS2514739999999999.

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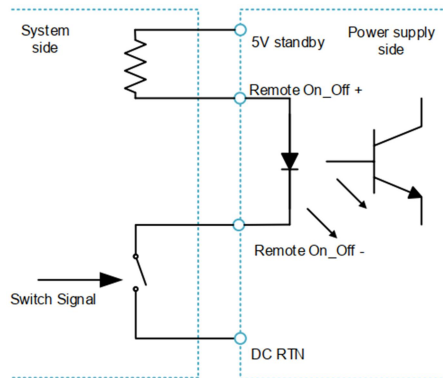
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8. MAIN FUNCTION INTRODUCTION:

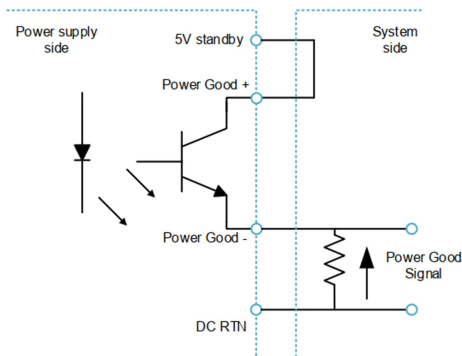
8.1 Remote On/off

Remote on/off uses an isolated diode located within the power supply. This signal can be used to enable or disable only the main output. When the main output is disabled, the +5 V Standby output will continue to operate. System can use a switch to conduct through this diode (suggested pull up resistor to 5 V standby with 1 K ohm resistor) to disable the main out. The signal can be floated (no connection to the signal), in order to enable the main output.

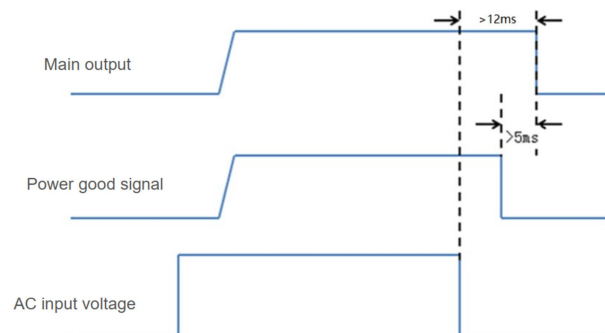


8.2 Power Good

Power Good+/- Port system isolated open-collector transistor (rated 80 V / 50mA). By adding a resistor (recommended value 10Kohm, 1/8 W) between the Power Good- port and the DC RTN, the Power Good+ port can be connected to a 5V auxiliary supply voltage (or a voltage that is not greater than the transistor rating). Depending on the use voltage, the resistance value must be adjusted, taking into account the use of the Power Good+ port connected to the end product. After the AC Power is turned on, the Power Good signal is high (as shown in the figure below), and after the AC input is turned off, the Power Good signal is low. When the output voltage drops below 90%, the Power Good is pulled to the low level at least 5ms ahead of time.



Power Good Connection



Power Good Time Sequence

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8.3 Parallel Current Sharing

The power supply supports parallel current sharing. To enable this function, connect the two active outputs in parallel to the Current Share port. In order to ensure better parallel current sharing effect, VR is used to fine-tune the output voltage before parallel operation so that the output voltage of two power supplies is as close as possible.

8.4 Output Voltage Regulation

The power supply provides the user with a potentiometer to adjust the output voltage. According to the design, the output voltage can be adjusted within the range of rated voltage $\pm 10\%$, when the output voltage is adjusted below the rated value, the maximum output current can reach the rated output value; When the output voltage is adjusted above the rated value, the output power cannot exceed the rated maximum power (the maximum output current will also be reduced).

8.5 Note

KTEC provides the parameters based on the actual test data, because the product involves many functions and items, if the information provided in the specification is incomplete or unclear, please contact KTEC to seek solutions, and prohibit private modification of this power supply. KTEC shall not be liable for any claim or action arising out of improper use or incorrect information provided in the specification. The customer shall evaluate the use of the product before placing the order. KTEC reserves the right to update the information in the specification without notice.

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9. PACKING (UNIT: MM)

