



Zecks Power Co., Ltd.

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Specification of AT Switching Power Supply

Model No. ZKS-250AE
【Total Wattage 250W】

Prepared By	Designed By	Approved By	Issued By

1. INPUT

1.1 AC Input Voltage : 115V (90V ~ 135V) ; 230V (180V ~ 265V)

Voltage selector by slide switches

1.2 AC Input Frequency : 47Hz ~ 63Hz Single Phase.

1.3 AC Input Current : 115Vrms / 6A ; 230Vrms / 3A

(@ without AC Outlet)

1.4 Brown Out Voltage : 95V ~ max. @60Hz.

1.5 Max. Inrush Current : 60A @ cold start.

2. OUTPUT

◆ ◆ ◆ ◆	V1	V2	V3	V4
DC Output	+5V	+12V	-5V	-12V
Max. Current	25A	10A	0.5A	0.5A
Min. Current	2A	0A	0A	0A
Load Regulation	4%	4%	8%	8%
Line Regulation	1%	1%	2%	2%
Ripple & Noise	40mV	70mV	100mV	120mV

**Note: A low pass filter shall be added to outputs during measurement. (EXP. : 0.47uF Tan-cap. & 0.1uF Ceramic-cap.)

3. OVERALL PERFORMANCE

3.1 Total Output Power : 250W

3.2 Efficiency : 78% (AC 230V input)

3.3 Power Up Time : < 20ms for +5V output voltage.

3.4 Hold Up Time : 16 ms min.

3.5 Power Good Time : The PWR-GOOD signal will not be higher than 100 to 500 ms after the +5V output stabilizes at its operating value when the unit is turn on.

3.6 Power Fail Signal : The TTL compatible signal will go down at least 1 ms before +5V below 4.75V

3.7 Switching Frequency : 30KHz Typical.

3.8 Temperature coefficient : +0.05% per°C

4. PROTECTION FEATURES

4.1 Over Voltage Protection : DC +5V output from 5.5V ~ 6.9V

DC +12V output from 13.8V ~ 15.6V

4.2 Over Load Protection : Total output from 110% Min. to 150% Max.

All output equipped w/short circuit protection. The outputs shall shutdown if shorted to zero volts output.

5. ENVIRONMENTAL

- 5.1 Operation Temperature : 0°C ~ 50°C
- 5.2 Cooling : Forced air ventilation by DC fan.
- 5.3 Fan type : Sleeve Bearing FAN. (Optional Ball Bearing)
- 5.4 Fan status monitoring : Optional.
- 5.5 Humidity : 20 % ~ 90 % RH
- 5.6 Storage Temperature : -10°C ~ 70°C
- 5.7 Storage Humidity : 10 % ~ 98 % RH
- 5.8 Altitude : 10,000 ft max.

6. SAFETY APPROVAL :

UL 1950 , cUL 1950 , TUV EN60950 , NORDIC , CE

7. ELECTROMAGNETIC COMPATIBILITY

- 7.1 Electromagnetic Interference (EMS) :
 - a. FCC Part 15, subjecting, class B
 - b. CISPR22, class B
- 7.2 Electrostatic Discharge (ESD) : Comply with IEC801-2
- 7.3 Radiated Susceptibility (RS) : Comply with IEC801-3
- 7.4 Harmonics : Comply with EN61000-3-2 class A (@ PC system)

8. DIELECTRIC WITHSTAND (HI-POT) TEST

- 8.1 Primary to Secondary : 3000VAC ~ 3 Sec. (5mA cut - off)
- 8.2 Primary to Ground : 1800VAC ~ 3 Sec. (5mA cut - Off)
- 8.3 Leakage Current < 3.5mA at input 230VAC 60Hz

9. INSULATION RESISTANCE

- 9.1 Input to Output : 100M Ω min.
- 9.2 Input to Ground : 100M Ω min.

10. RELIABILITY : MTBF 100,000 hours @ 25°C ambient.

11. SHOCK AND VIBRATION :

The power supply will withstand the following imposed conditions without experiencing non-recoverable failure or deviation from specified output characteristics.

Storage -40G, 11mSec. half-sine wave pulse in both directions on three mutually perpendicular axes.

Operating –10G, 11mSec. half-sine wave pulse in both directions on three

mutually perpendicular axes.

Vibration Operation-Sine wave excited, 0.25G maximum acceleration, 10 - 250Hz, swept at one octave/minute. Fifteen minute dwell at all frequencies at which the device under test experience excursions two times large than non-resonant excursions.

12. MECHANICAL : L150 * W140 * H86 mm

(See drawing ZKS-PS2-AT.pdf)