



Zecks Power Co., Ltd.

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Specification of Redundant ATX Switching Power Supply

⌀ ATX 12V For Pentium 4 ⌀

Model No. ZKS-400WX-2X

∣ Total Wattage 400W + 400W ∣

Prepared By	Designed By	Approved By	Issued By

1. INPUT

1.1 AC Input; 15V (90V ~ 135V) ; F230V (180V ~ 265V)

Voltage selector by slide switches

>>> Optional Active PFC 115V / 230V automatic sense <<<

1.2 AC Input Current; 15Vrms / 9A ; F230Vrms / 5A

(@ without AC Outlet)

1.3 Brown Out Voltage; 95VAC max. @ 60Hz.

1.4 Inrush Current; 60A max. / 115V , 100A max. / 230V
(at 25°C Jambient cold start)

2. DC OUTPUT; G

i p p p p p »	V1	V2	V3	V4	V5	V6
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
Max. Current	35A (I1)	45A (I2)	15A	1A	1A	3A
Min. Current	3.5A	4.5A	1.5A	0A	0A	0.3A
Load Regulation	5%	5%	5%	10%	10%	5%
Line Regulation	1%	1%	1%	2%	2%	1%
Ripple & Noise	50mv	50mv	50mv	150mv	150mv	50mv
i i i i i i -	Total 245W Max.		i i i -	i i i -	i i i -	i i i -

$$(V1 \cdot I1) + (V2 \cdot I2) < 245W$$

Note; A low pass filter shall be added to outputs during measurement. (EXP.; 47uF Tan-cap. & 0.1uF Ceramic-cap.)

3. OVERALL PERFORMANCE

3.1 Total Output Power; 400W @ 40°C J

3.2 Efficiency; 70% min. at full load (AC input 230V)

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

3.4 Hold Up Time; 6 ms min.

3.5 Power Good Time; The PWR-GOOD signal will not be higher than 100 - 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; 60KHz Typical.

3.8 Temperature coefficient; 0.05% per°C J

3.9 PS on Signal; TTL compatible signal (active low)

4. PROTECTION FEATURES

4.1 Over Voltage Protection; G

DC +3.3V output from 3.8V ~ 4.3V

DC +5V output from 5.7V ~ 7.0V

DC +12V output from 13.4V ~ 15.6V

4.2 Over Load Protection : Total output 120% Min. ~ 160% Max.

4.3 Short Circuit; Catch off

5. ENVIRONMENTAL

5.1 Operation Temperature; 0°C J~ 45°C J(at 75% load, input 230V)

5.2 Cooling; Forced air ventilation by DC fan.

5.3 Fan type; Ball Bearing Fan

5.4 Fan status monitoring; Optional.

5.5 Humidity; 10% ~ 90% RH

5.6 Storage Temperature; -20°C J~ 80°C J

5.7 Storage Humidity; 5% ~ 90% RH

5.8 Altitude; 10,000 ft max.

6. SAFETY APPROVAL

a. UL 1950 / UL 1950 D3

b. TUV EN60950

c. CE Test Report

7. ELECTROMAGNETIC COMPATIBILITY; G

7.1 Electromagnetic Interference (EMS); G

FCC Part 15, subjecting, class B ; FCISPR-22, class B

7.2 Electrostatic Discharge (ESD); Comply with IEC801-2.

7.3 Radiated Susceptibility (RS); Comply with IEC801-2.

7.4 Harmonics; Meet EN61000-3-2 class A (@ PC system)

>>> Optional Active PFC Harmonics class D at full load <<<

8. DIELECTRIC WITHSTAND (HI-POT) TEST

8.1 Primary to Secondary; 300VAC -- 3 Sec. (5mA cut - off)

8.2 Primary to Ground; 300VAC -- 3 Sec. (5mA cut - Off)

8.3 Leakage Current < 3.5mA at input 230V~ 60Hz

8.4 Ground Continuity; 100mΩ (max. when the test current is at 25A

9. INSULATION RESISTANCE

9.1 Input to output; $20M\Omega$ (min.)

9.2 Input to Ground; $20M\Omega$ (min.)

10. RELIABILITY; \ominus MTBF 100,000 hours @ 25 \circ Jambient.

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; \ominus 2.5X185X153.5mm (See drawing)

