



AXIOM POWER CORP.

**MODEL: PS60FS12 / PS60FS15
PS60HS12 / PS60HS15**

SPECIFICATION

60W POWER SUPPLY, AC INPUT

10.5V ~15V DC, 5A MAX OUTPUT

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DESIGNED OPTIMIZED FOR HIGHEST RELIABILITY

- HS SERIES CAN OPERATE BOTH FROM UTILITY AC 90~305VAC OR DC VOLTAGE SOURCE 120~430VDC OPERATIONAL.
- -40~60 DEGREE C AMBIENT FULL LOAD OPERATION. TESTED TO OPERATE AT 70% LOAD AT 80C AMBIENT CONDITION, ONLY NATURE CONVECTION COOLING IS NEEDED, THE BEST IN THE INDUSTRY
- IP68 CERTIFIED, CAN OPERATE IN ANY INDOOR OR OUTDOOR ENVIRONMENT. POWER SUPPLY HAS BEEN TESTED TO OPERATE CONTINUOUSLY WHILE FULLY IMMERSED UNDER WATER. THE BEST IN THE INDUSTRY
- AC INPUT EQUIP WITH INTERNAL TRANSIENT VOLTAGE SUPPRESSOR TO GUARD AGAINST INPUT TRANSIENT FROM THE UTILITY POWER SURGES (REFER TO PARAGRAPH 7.2 FOR FULL DETAIL)
- DC OUTPUT EQUIP WITH 600W TRANSIENT VOLTAGE SUPPRESSOR (P6KE15AG) TO PROTECT THE POSSIBLE FAST TRANSIENT CAUSED BY EITHER LIGHTNING OR OTHER FACTORS
- INTERNAL INTEGRATED OVER-TEMPERATURE PROTECTION CIRCUIT WILL SHUT DOWN THE POWER SUPPLY AND PREVENT DAMAGE TO THE POWER SUPPLY FROM ABNORMAL AMBIENT CONDITION
- POWER SUPPLY USE THE STATE OF ART IC TECHNOLOGY AND REDUNDANT PROTECTION CIRCUIT DESIGN TO ENSURE MAXIMUM PROTECTION FOR THE LED LOAD
 - ADVANCE SPREAD SPECTRUM SWITCHING FREQUENCY CONTROL TO PROVIDE BETTER EMI PERFORMANCE
 - TWO INDEPENDENT CONSTANT OUTPUT CURRENT CONTROL AND PROTECTION CIRCUIT DESIGN TO ENSURE THE LOAD(LED) IS PROTECTED AGAINST SINGLE POINT FAILURE OF THE COMPONENTS,
 - PASSED UL1310 CLASS 2 EQUIPMENT TESTING, THE POWER SUPPLY IS CERTIFIED TO BE A "LIMITED POWER SOURCE". (THE LIMITED POWER SOURCE WILL LIMIT IT'S OUTPUT POWER TO BE LOWER THAN 100W EVEN WITH A SINGLE POINT FAILURE IN THE POWER SUPPLY.)
 - PASS UL1310 AS A CLASS II EQUIPMENT WITH DOUBLE INSULATION FOR MAXIMUM PROTECTION TO THE POWER SUPPLY USER
 - DC OUTPUT REGULATE WITHIN + 1%, -3% WITH COMBINED LINE, LOAD, TEMPERATURE AND END OF LIFE OPERATION, DC OUTPUT WILL NEVER CAUSE OVER VOLTAGE CONDITION TO THE LOAD (LED)
 - LED INDICATOR CHANGE COLOR FROM GREEN TO RED WHEN OUTPUT IS OVER LOADED
- POWER SUPPLY HAD PASS TWO UL TESTING STANDARDS AND WAS CERTIFIED TO TWO DIFFERENT LISTINGS- QIJ2 E317209 POWER SUPPLIES, SPECIALTY – COMPONENT, AND UYMR2 -E309404, SIGN ACCESSORIES - COMPONENT
- MANUFACTURING FACTORY CERTIFIED TO ISO9001

SCOPE:

This specification describes performance and characteristic of **AXIOM POWER CORP** model number: PS60FS12, PS60FS15, PS60HS12, PS60HS15

1.0 INPUT CHARACTERISTICS;

- 1.1 Input Voltage: FS series: 90~ 264Vac, or 127~373Vdc
HS series: 90~ 305Vac, or 127~ 430Vdc
- 1.2 Input Current: maximum load condition-1A maximum at 120Vac, 0.5A at 240Vac, 0.44A at 277Vac
- 1.3 Inrush current: AC inrush current less than 20 A at 110V input and less than 40 A at 220V input

2.0 OUTPUT CHARACTERISTICS;

2.1 Power Output:

Model	Nominal Voltage Range	Current (A)		
		Minimum	Rated	Maximum
PS60FS12	+10.5V ~15V	0.0	5.0	6.0
PS60HS12	+10.5V ~15V	0.0	5.0	6.0
PS60FS15	+10.5V ~15V	0.0	5.0	6.0
PS60HS15	+10.5V ~15V	0.0	5.0	6.0

2.2 Combined Load/Line Regulation:

Model	Nominal Voltage	Current (A) Minimum	Output Maximum	Voltage	
				Regulation	Tolerance
PS60FS12/PS60HS12	+12.0V	0.0	full rated o/p	+ 1% /- 3%	adjustable
PS60FS15/PS60HS15	+14.7V	0.0	full rated o/p	+ 1% /- 3%	adjustable

2.3 Ripple and Noise:

The ripple and noise is as follows when measured with maximum bandwidth of 20Mhz and 4.7uF/50V cross connected at output wire shall be less than 200mV

2.4 Temperature Coefficient:

0.1% per degree C maximum

2.5 efficiency:

85% minimum at 240VAC maximum load

2.6 Overshoot:

3% maximum at power turn on or turn off

3.0 PROTECTION SPECIFICATIONS;

3.1 Over Current Protection: Three factory preset options, option 3 is the standard production version.

Option 1: Output shall shut down between 100% to 120% of the rated output current and automatic restart (Hiccup mode, this is the factory default setting)

Option 2: Output shall shut down between 100% to 120% of the rated output current and latched off. To reset the latch, AC input power needs to be recycled. (Latch mode)

Option 3: Output shall go into constant current regulation between 100% to 120% of rated output current. (constant mode) and will go into hiccup mode when the output voltage is forced to go below 7V.

3.2 Short circuit protection:

Option 1: For Hiccup mode and constant current mode over-current setting, output shall shut down and automatic restart (this is the factory default setting)

Option 2: For latch mode over-current setting, output shall shut down and latched off. To reset the latch, AC input power needs to be recycled.

3.3 Over Voltage Protection:

Power supply shall shut down and latched off in the event of output voltage exceed 17V. To reset the latch, AC input power needs to be recycled.

3.4 Over Temperature Protection:

Power supply shall shut down and stay off in the event of out of spec high temperature application of the power. Once power supply shot down, it will stay "off" until power supply chassis temperature drop below 50°C, and power supply will turn back on automatically.

4.0 MECHANICAL SPECIFICATIONS;

4.1 Physical Dimension:

The power supply is a enclosed and potted with metal enclosure

Size: Approx. 5.6"(L) X 1.7" (W) X 1.6" (H)

Mounting dimensions: 4 mounting holes, 0.8" X 6"

4.2 Input cable: 6" ,18WG wires, White (Neutral), Black (Line), Green (Chassis)

4.3 Output cable: 6" ,18WG wires, Red (Positive+), Blue(Negative-)

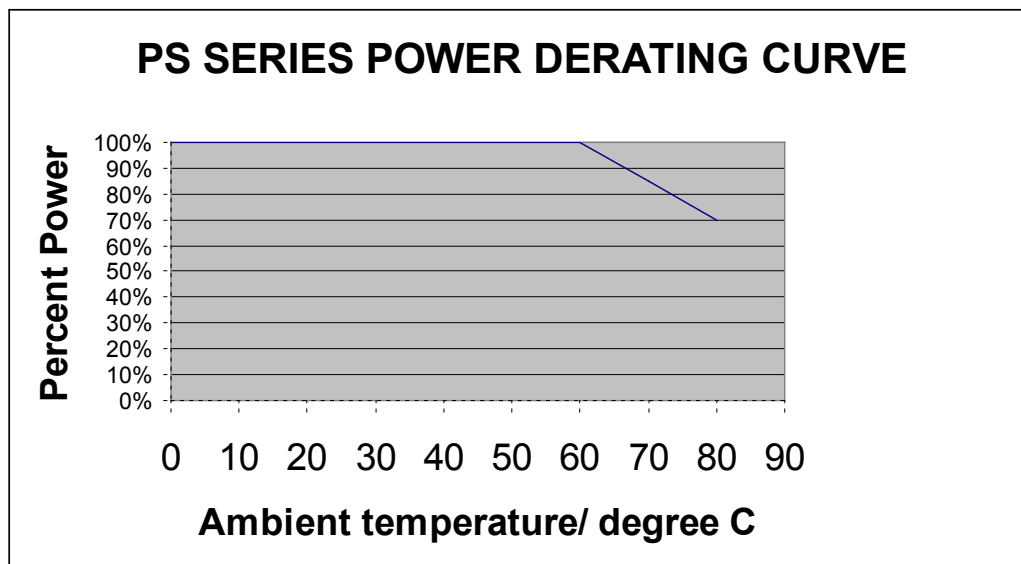
5.0 ENVIRONMENTAL SPECIFICATIONS;

5.1 Cooling Requirement:

Natural air convection cooling

Operating Temperature: nominal -40 to +60°C ambient at full load

Linearly de-rate output power to 70% up to 80°C



- 5.2 Storage Temperature: -40 to 85° C
- 5.3 Operating Humidity: 5% to 100%, non-condensing
- 5.4 Storage Humidity: 5% to 95%
- 5.5 Vibration:
Frequency 5 to 50 Hz
Acceleration $\pm 7.35 M/(S^*S)$
Direction X,Y and Z Axis

6.0 RELIABILITY

- 6.1 Mean Time Between Failure (MTBF)
>100,000 hours, MIL-HDBK217E at 25 degrees C.

7.0 SAFETY AND EMI SPECIFICATIONS;

- 7.1 Safety Standard:
Power supply is designed to meet the standards- UL1310, and listed for both E309404, and E317209.

- 7.2 ELECTROMAGNETIC IMMUNITY
ESD, Air: Designed to meet +/-8KV per EN61000-4-2, Level 3, Criteria B
ESD, Contact: Designed to meet +/-6KV per EN61000-4-2, Level 3, Criteria B
Radiated Susceptability: Designed to meet 10V/M per EN61000-4-3, Level 3, Criteria A
Fast Transients (burst): Designed to meet +/-2KV per EN61000-4-4, Level 3, Criteria B
Transient Surge Protection: Meets 1KV per EN61000-4-5, Level 2, line to line, Criteria B
Magnetic Field: Designed to meet EN61000-4-8, Level 3, Criteria A
Oscillatory Wave Immunity: Meets EN61000-4-12, Level 3, Criteria B.

- 7.3 EMI SPEC.
Conducted EMI: Meets FCC 20780 part 15J, Class B by a minimum 3dB margin.
Radiated EMI: Meets FCC 20780 part 15J, Class B by a minimum 3dB margin

- 7.4 Isolation CLASS II equipment with double insulation