

# 150W ITE POWER SUPPLIES

## DESCRIPTION

This AC-DC switching power supplies in a package of 2 x 4 inches is a Class-I PSU and no load power consumption less than 0.21W. This PSU is capable of delivering 150 watts continuous power at 7 CFM forced air cooling or 100 watts continuous power at convection cooling and 50°C operation temperature. Product is suitable for audio & video, display, information, networking & PoE application.

## FEATURES

- Class-I design
- Design to meet IEC 60950-1 and IEC 62368-1 safety standard
- Low profile 2 x 4 x 1.2 inches
- No load power consumption less than 0.21W
- EN 55032 Class B radiated emission
- High altitude 5000 meters operation
- OTP, Brown out protection
- Fan driver 12V

## INPUT SPECIFICATIONS

Input voltage: 90–264 VAC  
 Input frequency: 47-63 Hz  
 Input current: 1.7 A (rms) for 115 VAC  
 0.85 A (rms) for 230 VAC  
 No load power consumption ≤0.21W  
 Earth leakage current: 0.75 mA max. @ 264 VAC, 63 Hz  
 Touch current: 0.25 mA max. @ 264 VAC, 63 Hz

## OUTPUT SPECIFICATIONS

Output voltage/current: See rating chart.  
 Fan driver: Non-regulated 12V @ 500 mA max.  
 Total output power: 150W  
 Protection:  
 Over voltage: Latch off  
 Short circuit: Auto recovery  
 Over current: Auto recovery  
 Over temperature: Latch off  
 Brown out: Set at 75VAC  
 Temperature coefficient: All outputs ±0.04% /°C maximum  
 Transient response: Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change

## ENVIRONMENTAL SPECIFICATIONS

Operating temperature: -20°C to +70°C  
 Storage temperature: -40°C to +85°C  
 Relative humidity: 5% to 95% non-condensing  
 Derating: Derate from 100% at +50°C linearly to 50% at +70°C, applicable to both convection and forced-air cooling conditions

## FSP150-P24 A SERIES



**RoHS**  
**CE**

## SAFETY STANDARD APPROVAL

**CB**

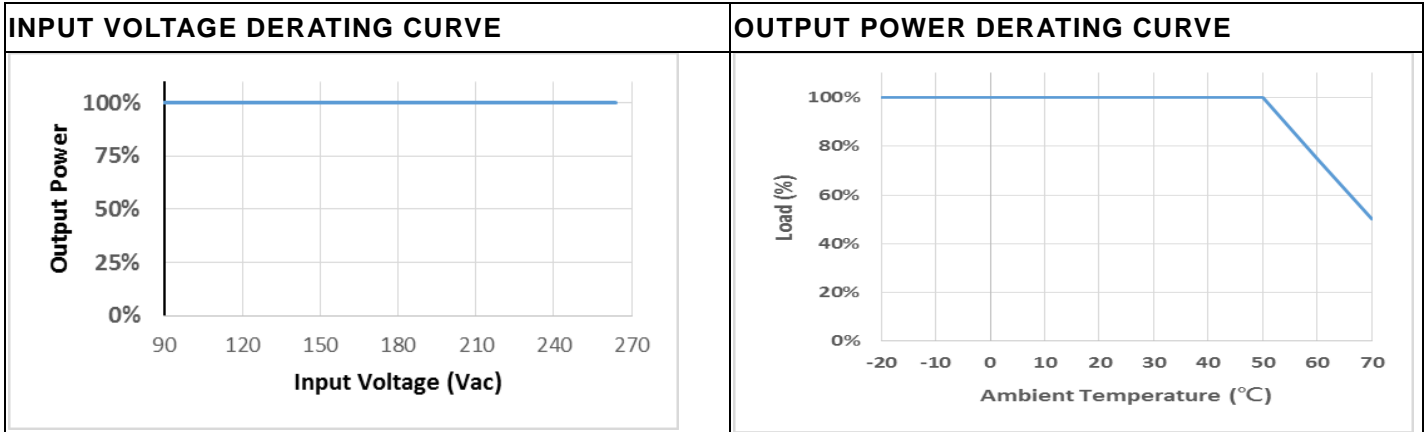
**IEC 62368-1, IEC 60950-1**

**SA**  
C US

**UL 62368-1,  
CAN/CSA 22.2 No.62368-1-14**

## GENERAL SPECIFICATIONS

Power factor: 0.9 minimum  
 Efficiency: See rating chart.  
 Hold-up time: 32 mS minimum at 115 VAC @ 100W  
 16 mS minimum at 115 VAC @ 150W  
 Line regulation: ±0.5% maximum at full load  
 Inrush current: 60 A @ 115 VAC, at 25°C cold start  
 120 A @ 230 VAC, at 25°C cold start  
 Operating altitude: 5000 meters above sea level  
 Withstand voltage: 3000 VAC from input to output,  
 1500 VAC from input to ground,  
 1500 VAC from output to ground  
 Isolation Resistance: Input to output 100M ohm @ 500Vdc, 25°C  
 MTBF: 250,000 hours at full load at 25°C ambient,  
 calculated per BELL CORE SR-332  
 EMC Performance  
 EN55032: Class B conducted, class B radiated  
 FCC: Class B conducted, class B radiated  
 VCCI: Class B conducted, class B radiated  
 EN61000-3-2: Harmonic distortion, class A and D  
 EN61000-3-3: Line flicker  
 EN61000-4-2: ESD, ±8 KV air and ±4 KV contact  
 EN61000-4-3: Radiated immunity, 3 V/m  
 EN61000-4-4: Fast transient/burst, ±1 KV  
 EN61000-4-5: Surge, ±1 KV diff., ±2 KV com  
 EN61000-4-6: Conducted immunity, 3 Vrms  
 EN61000-4-8: Magnetic field immunity, 1 A/m  
 EN61000-4-11: Voltage dip immunity,  
 30% reduction for 500 ms, criteria A  
 >95% reduction for 10 ms, criteria A  
 >95% reduction for 5000 mS, criteria B



### OUTPUT VOLTAGE/CURRENT RATING CHART

Model	Output							Efficiency
	V1	Min. Load	Max. Current convection	Max. Current 7 CFM	Tolerance	Ripple & Noise <sup>(1)</sup>	Max. Power <sup>(2)</sup>	Max. Power 115/230 Vac (typical)
FSP150-P24-A12	12 V	0 A	8.35 A	12.50 A	±3%	120 mV	100 W / 150 W	89 / 91%
FSP150-P24-A19	19 V	0 A	5.26 A	7.9 A	±3%	190 mV	100 W / 150 W	88 / 90%
FSP150-P24-A24	24 V	0 A	4.20 A	6.25 A	±3%	240 mV	100 W / 150 W	88 / 90%
FSP150-P24-A54	54 V	0 A	1.85 A	2.78 A	±3%	500 mV	100 W / 150 W	88 / 90%

- Note:
- Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 47 μF electrical capacitor in parallel with a 0.1 μF ceramic capacitor across the output.
  - The first value of maximum current is at convection cooling. The second value is with 7 CFM forced air provided by user.

### MECHANICAL SPECIFICATIONS

Dimensions shown in mm. Tolerance 0.5 mm maximum  
**Weight: 200 grams (0.44 lbs.) approx.**

- Input connector (CN1):**

Pin No.	Function	Wafer
1	Line	J.S.T B2P3-VH or equivalent
2	Neutral	
3	Neutral	

Matting connector:  
 J.S.T housing VHR-3N,  
 Crimp PIN SVH-21T-P1.1 or equivalent.
- Output connector (CN200):**

Pin No.	Function	Wafer
1, 2, 3	+V	J.S.T B6P-VH or equivalent
4, 5, 6	Return	

Matting connector:  
 J.S.T housing VHR-6N,  
 Crimp PIN SVH-41T-P1.1 or equivalent.
- Fan connector (CN201):**  
 MOLEX 22-27-2021 or equivalent.  
 Matting connector:  
 MOLEX housing 22-01-2026,  
 Crimp PIN 08-50-0113
- Ground pad: 8 x 6.35 x 0.8 mm**