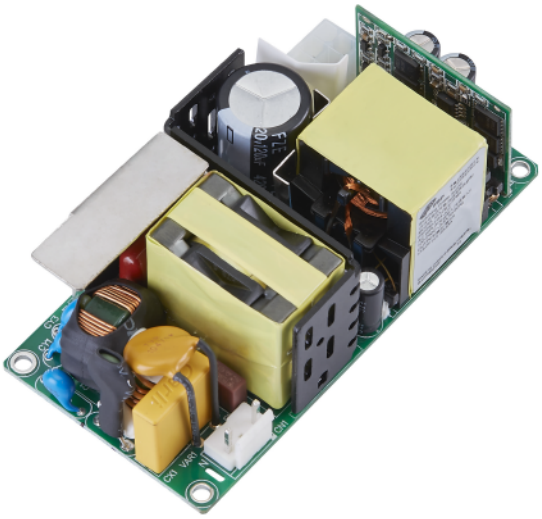
TECHNICAL DATASHEET

250W ITE Power Supplies

FSP250-H24 A Series



FSP250-H24 A Series

FEATURES

- Class-I design
- IEC 62368-1 safety standard
- HVDC 128~310V input operation
- Input power less than 0.5W @ 0.2W load
- Compact 2”x4”x1.283”
- EN 55032 Class B radiated emission
- High altitude 5000 meters operation

SAFETY STANDARD APPROVAL

CE cULus E178020

DESCRIPTION

This AC-DC switching power supplies in a package of 2 x 4 inches is a Class-I PSU and feature with 0.5W low input power consumption at 0.2W load. This PSU is capable of delivering 250 watts continuous power at 14 CFM forced air cooling or 150 watts continuous power at convection cooling and 50℃ operation temperature. Product is suitable for information & networking application.

INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	2.7A (rms) for 115 VAC 1.5 A (rms) for 230 VAC
Input power consumption:	≦0.5W @ 0.2W load
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:	Without
Total output power:	250W
Protection:	
Over voltage:	Latch off
Short circuit:	Auto recovery
Overcurrent:	Auto recovery
Over temperature:	Latch off
Brown-out:	Set at 70 VAC
Temperature coefficient:	All outputs ±0.04% /℃ maximum
Transient response:	Maximum excursion of 5% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change

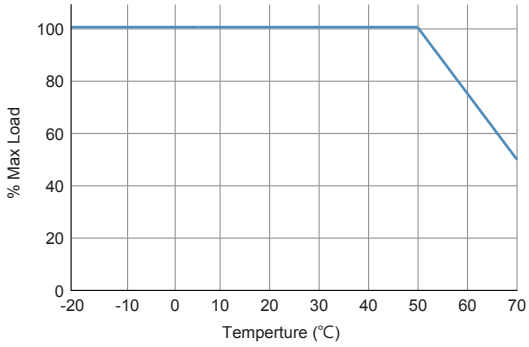
ENVIRONMENTAL SPECIFICATIONS

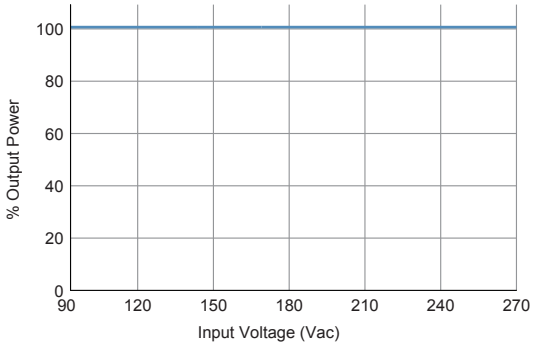
Operating temperature:	-20℃ to +70℃
Storage temperature:	-40℃ to +85℃
Operating altitude:	5000 meters above sea level
Relative humidity:	5% to 95% non-condensing
Derating:	Derate from 100% at +50℃ linearly to 50% at +70℃, applicable to both convection and forced-air cooling conditions

GENERAL SPECIFICATIONS

Power factor:	0.98 minimum @ 115VAC & 100% load 0.90 minimum @ 230VAC & 100% load
Efficiency:	See rating chart.
Power turn-on time	3.0 Sec maxi.
Hold-up time:	10 mS minimum at 115 VAC @ 150W 5 mS minimum at 115 VAC @250W
Line regulation:	±0.5% maximum at full load
Inrush current:	70 A @ 115 VAC, at 25℃ cold start, 130 A @ 230 VAC, at 25℃ cold start,
Withstand voltage:	3000 VAC from input to output, 1500 VAC from input to ground, 500 VAC from output to ground
Isolation Resistance:	Input to output 100M ohm @ 500Vdc, 25℃
MTBF:	700,000 hours mini. at full load at 25℃ ambient, calculated per TELCORDIA 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, ±2 KV diff., ±4 KV com
EN61000-4-6:	Conducted immunity, 3 Vrms
EN61000-4-8:	Magnetic field immunity, 1 A/m
EN61000-4-11:	Voltage dip immunity, @ 230Vac 30% reduction for 500 ms, criteria A >95% reduction for 10 ms, criteria B >95% reduction for 5000 mS, criteria B

OUTPUT POWER DERATING CURVE



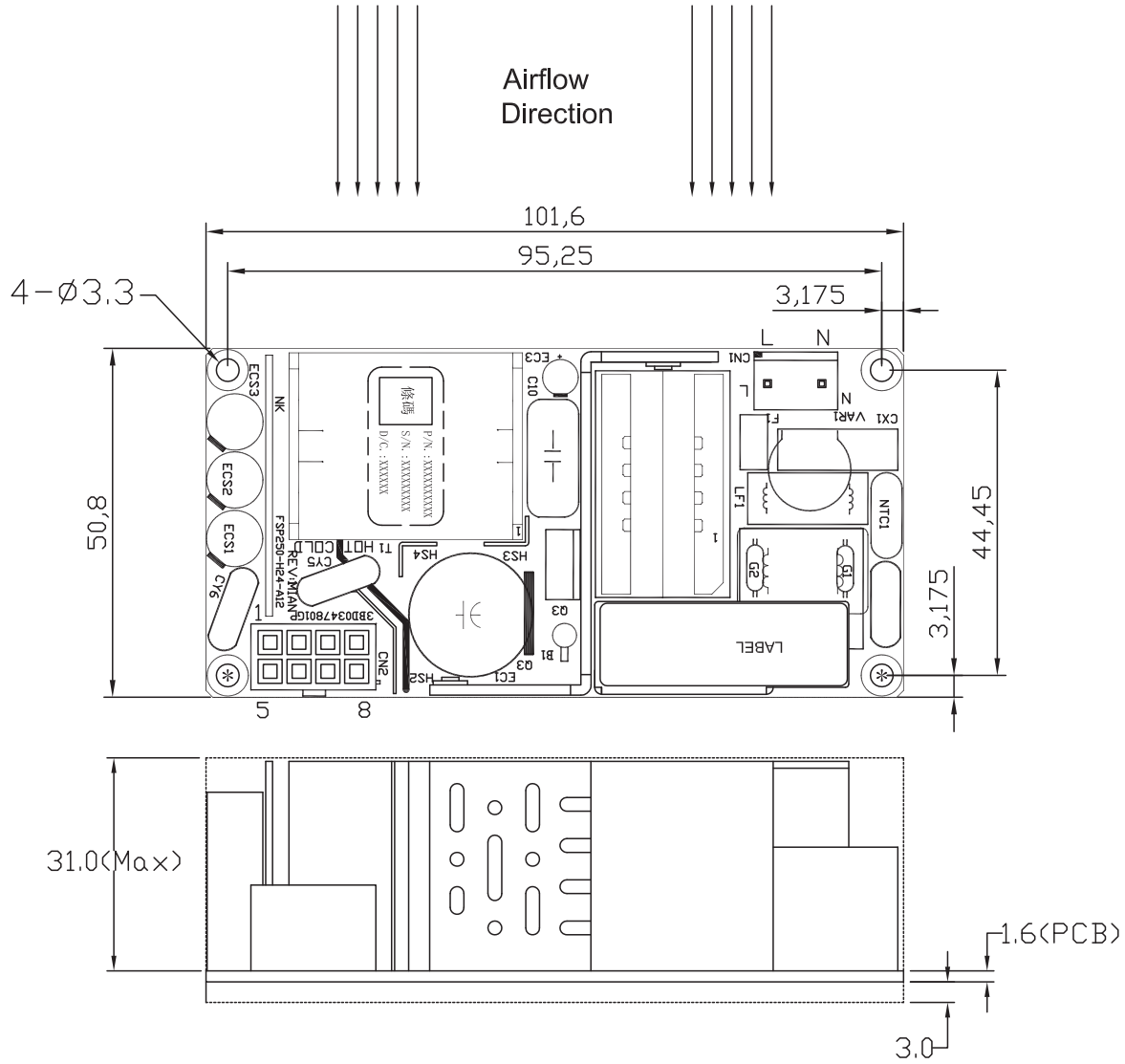


OUTPUT VOLTAGE/CURRENT RATING CHART

Model	Output							Average Active Efficiency (typical) @ 115 / 230 VAC
	V1	Min. Load	Max. Current convection	Max. Current 14 CFM	Load Regulation	Ripple & Noise(1)	Max. Power(2)	
FSP250-H24-A12	12 V	0 A	12.5 A	20.83 A	±3%	180 mV	150 W / 250 W	90 / 91%
FSP250-H24-A24	24 V	0 A	6.25 A	10.42 A	±3%	240 mV	150 W / 250 W	90 / 91%
FSP250-H24-A54	54 V	0 A	2.78 A	4.63 A	±3%	540 mV	150 W / 250 W	90 / 91%

NOTES:
1. 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.
2. The first value of maximum current is at convection cooling. The second value is with 14 CFM forced air provided by user.

MECHANICAL SPECIFICATIONS



Pin assignment

1. Input connector (CN1):

Pin No.	Function	Wafer
N	Neutral	J.S.T B2P3-VH
L	Line	or equivalent

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

2. Output connector (CN2):

Pin No.	Function	Wafer
1,2,5,6	+V	Molex 39-28-1083
3,4,7,8	Return	or equivalent

Matting connector:
Molex housing: 39012080 or equivalent.
Crimp terminals: 39000059 or equivalent.

NOTES:
To ensure compliance with level B emission, connect the two " * " marks mounting holes with metallic standoffs to chassis.

Weight: 245 grams (0.54 lbs.) approx.