

# FSP950-2F37-A54H

### FEATURES

- Class-I design
- Low inrush current
- Isolated between +12V & +54V outputs
- Isolated between PE and RETURN
- High altitude 5000 meters operation



### SAFETY STANDARD APPROVAL



### DESCRIPTION

This AC-DC switching power supplies in a package of 190 x 90 x 33.9 mm (above PCB) is an isolated dual outputs 54V & 12V PSU that suitable for PoE Switch & Network application. This PSU is capable of delivering 950 watts continuous power with 28 CFM forced air cooling conditions.

### INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	9.2 A (rms) for 115 VAC 4.6 A (rms) for 230 VAC
Earth leakage current:	1.5 mA max. @ 264 VAC, 63 Hz
Touch current:	250 uA max. @ 264 VAC, 63 Hz

### OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Total output power:	950W
Protection:	
Over voltage:	Set at 110~125% of nominal output voltage and latch
Short circuit & Over current:	Output protected to short circuit condition and auto recovery
Over temperature:	Detected by thermistor and auto recovery
Temperature coefficient:	All outputs $\pm 0.04\%$ / $^{\circ}\text{C}$ 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

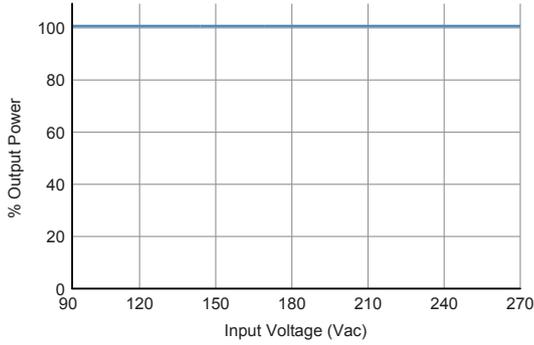
### ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20 $^{\circ}\text{C}$ ~+70 $^{\circ}\text{C}$
Storage temperature:	-40 $^{\circ}\text{C}$ ~+85 $^{\circ}\text{C}$
Relative humidity:	10% to 95% non-condensing
Derating:	Derate from 100% at +50 $^{\circ}\text{C}$ linearly to 80% at +70 $^{\circ}\text{C}$ , applicable to forced-air cooling conditions

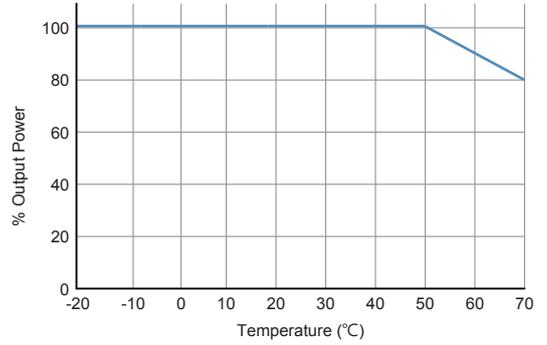
### GENERAL SPECIFICATIONS

Power factor:	0.98 min at 100% load and 115VAC 0.95 min. at 100% load and 230VAC
Efficiency:	Refer to rating chart
Hold-up time:	10 ms minimum at 115 VAC
Power on time:	3 Sec maximum
Line regulation:	$\pm 1\%$ maximum at full load
Inrush current:	60A @ 230 VAC, at 25 $^{\circ}\text{C}$ cold start
Withstand voltage:	3000 VAC from input to output, 1500 VAC from input to earth ground, 1500 VAC from output to earth ground
MTBF:	500,000 hours minimum at full load at 25 $^{\circ}\text{C}$ ambient, calculated per TELCORDIA SR-332
EMC Performance	
EN55032	Class A conducted, class A radiated
EN61000-3-2:	Harmonic distortion, class A
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, $\pm 15$ KV air and $\pm 8$ KV contact
EN61000-4-3:	Radiated immunity, 3 V/m
EN61000-4-4:	Fast transient/burst, $\pm 1$ KV
EN61000-4-5:	Surge, $\pm 2$ KV diff, $\pm 4$ KV com
EN61000-4-6:	Conducted immunity, 3 Vrms
EN61000-4-8:	Magnetic field immunity, 3 A/m
EN61000-4-11:	Voltage dip immunity, 30% reduction for 500 ms >95% reduction for 10 ms >95% reduction for 5000 mS

**INPUT VOLTAGE DERATING CURVE**



**OUTPUT POWER DERATING CURVE**



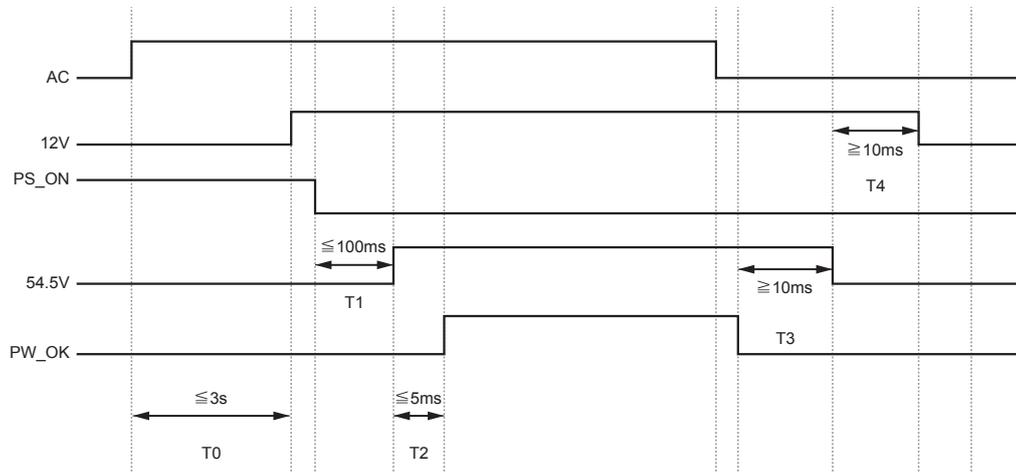
**OUTPUT VOLTAGE/CURRENT RATING CHART**

Model	Output Voltage	Min. Load	Max. Load (28 CFM)	Output Power	Ripple & Noise	Load Regulation	Efficiency 115 / 230 Vac
FSP950-2F37-A54H	54.5 V	0.02 A	14.7 A	950W	500 mV	±3%	90 / 92%
	12V	0.5 A	12.5 A		240 mV	±3%	

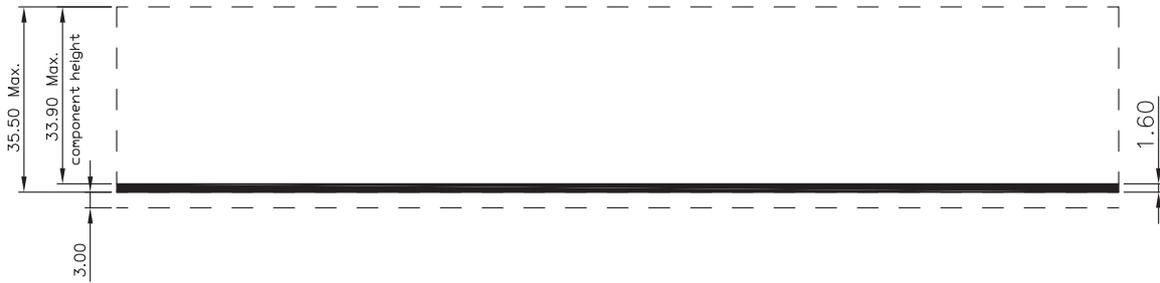
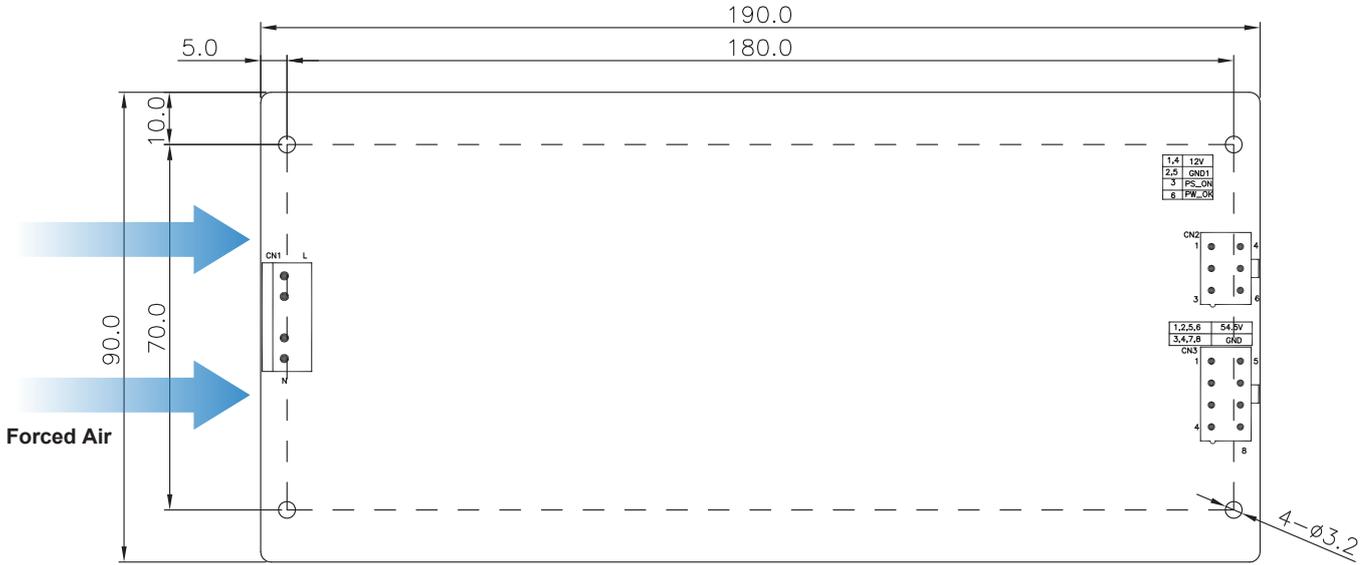
NOTES:

- Output voltage tolerance is measured at connector terminal
- Total output power is limited at 950W maxi.
- 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 100  $\mu$ F electrolytic capacitor in parallel with a 0.1  $\mu$ F ceramic capacitor across the output.

**INTERFACE TIMING CHART: (CN2)**



**MECHANICAL SPECIFICATIONS**



Pin assignment:  
 Input connector (CN1):

Pin No.	Function	Wafer
1, 2	Neutral	JWT A3963WV2-5P-F or EQU
3	NC	
4, 5	Line	

Pin assignment of CN2:

Pin No.	Function	Wafer
1, 4	+12V	JWT C4201WV0-2*3P or EQU
2, 5	RETURN	
3	PS_ON	
6	PW_OK	

Output connector (CN3):

Pin No.	Function	Wafer
1, 2, 5, 6	+54.5V	JWT C4201WV0-2*4P or EQU
3, 4, 7, 8	RETURN	

NOTES:

1. Dimension (LxWxH): 190.5 x 101.6 x 33.9 mm / 7.5" x 4" x 1.335"
2. To ensure compliance with level B emissions, connect the three PCB mounting holes with metallic standoffs to the chassis.
3. Weight: 538 grams / 1.185 lbs. approx.