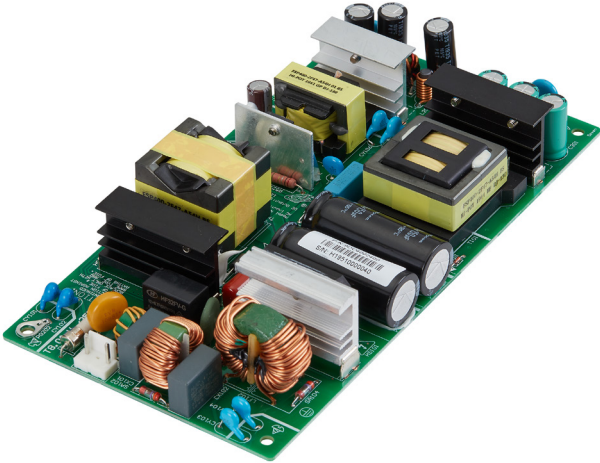


# FSP420-2F47-A54H

### FEATURES

- Class-I design
- Low inrush current
- Isolated between +12V & +54V outputs
- Isolated between PE and RETURN
- Surge protection  $\pm 2$  KV diff,  $\pm 4$  KV com
- High altitude 5000 meters operation



### SAFETY STANDARD APPROVAL



### DESCRIPTION

This Class-I AC-DC switching power supplies in a package of 4 x 7.5 inches is an isolated dual outputs 54V & 12V PSU. This PSU is capable of delivering 420 watts continuous power under 14 CFM condition and suitable for PoE switch & networking application.

### INPUT SPECIFICATIONS

|                        |  |
|------------------------|--|
| Input voltage:         | 90-264 VAC (Rated 100~240Vac)                                  |
| Input frequency:       | 47-63 Hz (Rated 50/60 Hz)                                      |
| Input current:         | 5.0 A maxi. (rms) for 115 VAC<br>2.8 A maxi. (rms) for 230 VAC |
| Earth leakage current: | 2.5 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:         | See rating chart.   |
| Ripple and noise:           | See rating chart.   |
| Protection:                 |   |
| Over voltage                | Set at 110~135% of nominal output voltage and Latch off.  |
| Short circuit & Overcurrent | Output protected to short circuit condition and 130% maximum for over current and auto recovery                             |
| Over temperature            | Detected by thermistor and auto recovery  |
| Temperature coefficient:    | All outputs $\pm 0.04\%$ / $^{\circ}$ 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 |

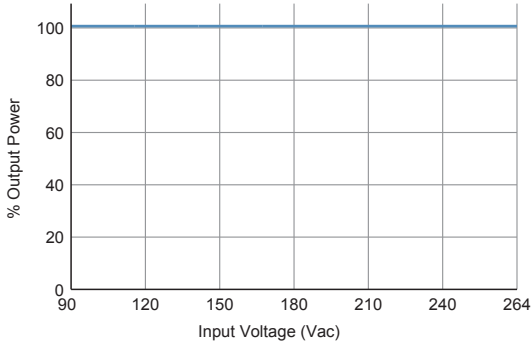
### ENVIRONMENTAL SPECIFICATIONS

|                        |  |
|------------------------|--|
| Operating temperature: | -20 $^{\circ}$ C to +70 $^{\circ}$ C   |
| Storage temperature:   | -40 $^{\circ}$ C to +85 $^{\circ}$ C   |
| Relative humidity:     | 5% to 95% non-condensing   |
| Derating:              | Derate from 100% at +50 $^{\circ}$ C linearly to 50% at +70 $^{\circ}$ C, applicable to convection and forced-air cooling conditions |

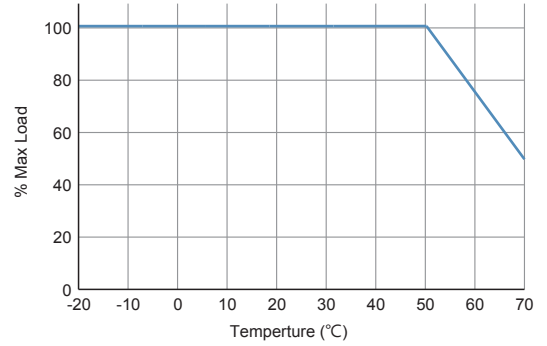
### GENERAL SPECIFICATIONS

|                    |   |
|--------------------|---|
| Power Factor:      | 0.98 min at 100% load and 115VAC<br>0.9 min. at 100% load and 230VAC  |
| Efficiency:        | See rating chart  |
| Hold-up time:      | 12 ms minimum at 115 VAC  |
| Power on time      | 2 Sec maximum   |
| Line regulation:   | $\pm 0.5\%$ maximum at full load  |
| Inrush current:    | 75A maxi. @ 230 VAC, at 25 $^{\circ}$ C cold start  |
| Withstand voltage: | 3000 VAC from input to output,<br>1500 VAC from input to ground,<br>1500 VAC from output to ground  |
| MTBF:              | 300,000 hours minimum at full load at 25 $^{\circ}$ C ambient, calculated per BELLCORE SR-332   |
| EMC Performance    |   |
| EN55032:           | Class A conducted, class A radiated   |
| FCC:               | Class A conducted, class A radiated   |
| VCCI:              | Class A conducted, class A radiated   |
| EN61000-3-2:       | Harmonic distortion, class D  |
| EN61000-3-3:       | Line flicker  |
| EN61000-4-2:       | ESD, $\pm 8$ KV air and $\pm 4$ 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,<br>30% reduction for 500 ms, criteria A<br>>95% reduction for 10 ms, criteria A<br>>95% reduction for 5000 mS, criteria B |

**INPUT VOLTAGE DERATING CURVE**



**OUTPUT POWER DERATING CURVE**



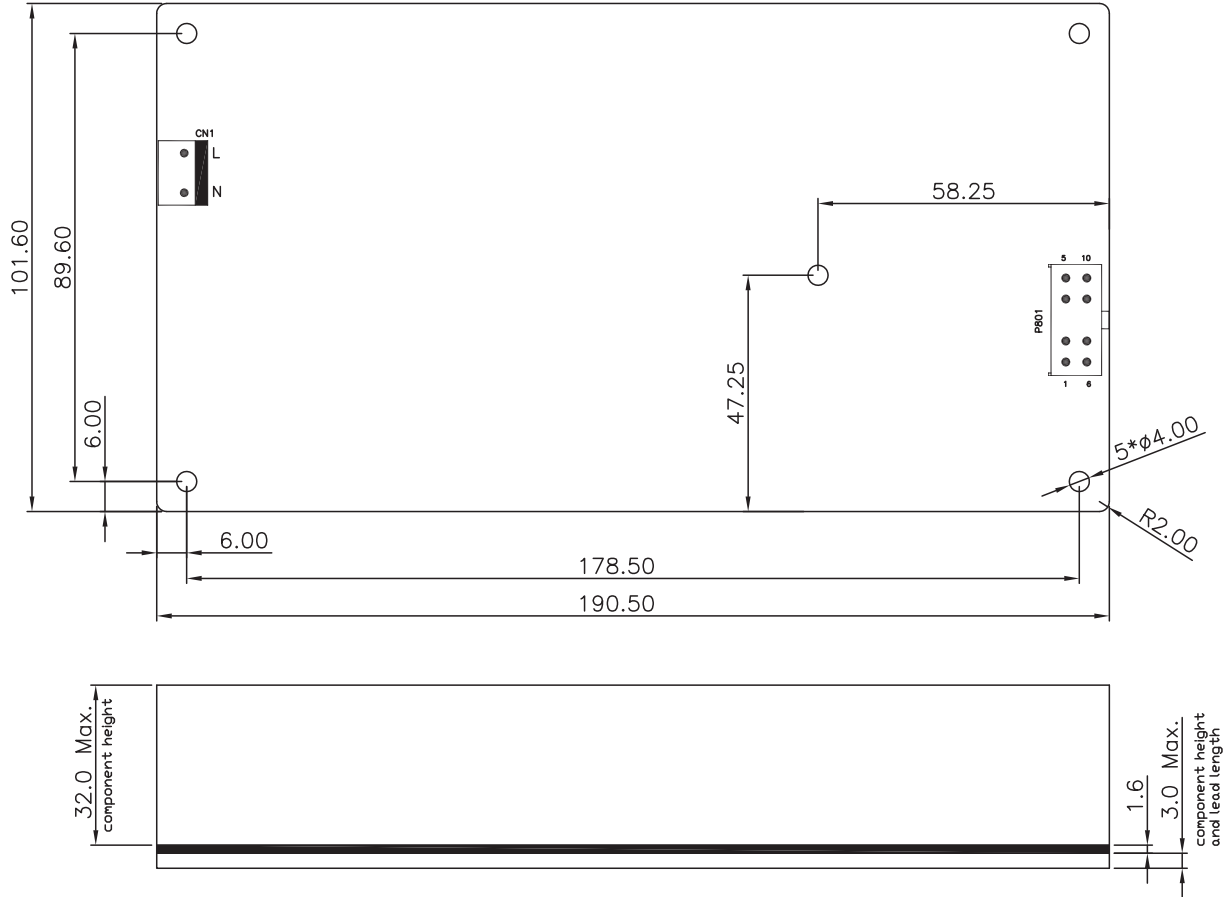
**OUTPUT VOLTAGE/CURRENT RATING CHART**

| Model            | Output Voltage | Min. Load | Max. Load (14 CFM) | Output Power | Ripple & Noise <sup>(2)</sup> | Load Regulation | Efficiency 115/230 Vac |
|------------------|----------------|-----------|--------------------|--------------|-------------------------------|-----------------|------------------------|
| FSP420-2F47-A54H | 54 V           | 0 A       | 6.85 A             | 420W         | 540 mV                        | ±5%             | 88% / 90 %             |
|                  | 12 V           | 0.3 A     | 4.2 A              |              | 120 mV                        | ±5%             |                        |

NOTES:

1. Forced air 14 CFM is provided by user.
2. 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 10 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

**MECHANICAL SPECIFICATIONS**



INPUT CONNECTOR (CN1):  
 JWT A3963WV2-3P-D or EQU

|       |         |
|-------|---------|
| Pin 1 | Neutral |
| Pin 2 | NC      |
| Pin 3 | Line    |

OUTPUT CONNECTOR:  
 JWT C4201WV0-2\*5P-CP or EQU

|          |            |
|----------|------------|
| Pin 1, 2 | 54V RETURN |
| Pin 3, 8 | N.C.       |
| Pin 4, 5 | +12V       |
| Pin 6, 7 | +54V       |
| Pin 9,10 | 12V RETURN |

NOTES:

- DIMENSION (L\*W\*H): 190.5 \* 101.6 \* 35 mm / 7.5" \* 4" \* 1.38"
- To ensure compliance with level A emissions, connect the four mounting holes with metallic standoffs to the chassis.
- WEIGHT: 490 grams (1.08 lbs.) approx.