

# FSP150-PNA Series

### FEATURES

- Class-I Design
- IEC 62368-1 safety standard
- EN55032 Class B emission
- Remote Off input (PS\_Off)

### SAFETY STANDARD APPROVAL



Certificate is in progress. Please contact sales before design.



### DESCRIPTION

This AC-DC switching power supplies in a package of 199 x 99 x 30 mm is a Class-I (with Protection Earth) safety construction. This PSU is capable of delivering 150 watts continuous power at 50°C operation temperature. Product is suitable for industry control applications.

### INPUT SPECIFICATIONS

Input voltage:	90 to 264 VAC
Input frequency:	47.5 to 63 Hz
Input current:	3 A maximum
Earth leakage current:	710 $\mu$ Amax. @ 264 VAC
PS Off	PSU is normally ON until a High-level signal is input.

Vout



PS Off



### OUTPUT SPECIFICATIONS

Output voltage adjustment:	$\pm 5\%$
Total output power:	150 watt maximum
Ripple and noise:	Refer to rating chart
Protection:	Latch off
OVP	Auto recovery
OCP & Shorted	Auto recovery
OTP	Auto recovery

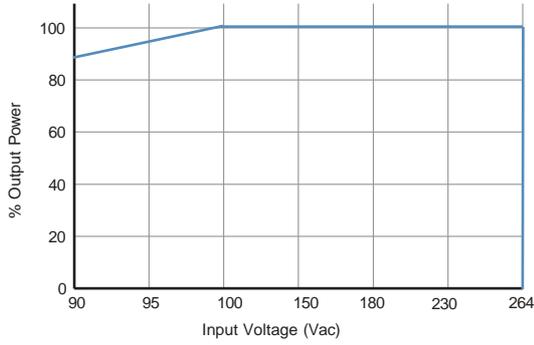
### ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20°C to +70°C
Storage temperature:	-40°C to +85°C
Relative humidity:	10% to 95% non-condensing
Derating:	See derating curve

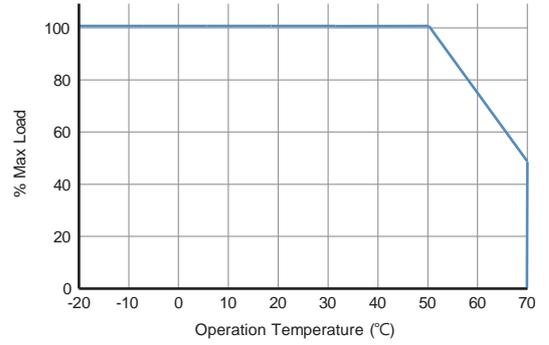
### GENERAL SPECIFICATIONS

Fuse protection:	T4 A , 250 VAC
Operating altitude :	5000 meters above sea level
Efficiency:	Refer to rating table
Turn-On Delay Time	$\leq 2$ sec at 100% load
Hold-up time:	20 mS minimum @ 115 VAC & 100% load
Line regulation:	$\pm 1\%$ maximum at full load
Inrush current:	30 A @ 115 VAC / 60 Hz, at 25°C cold start 60 A @ 230VAC / 50 Hz, at 25°C cold start
Power factor:	$\geq 0.98$ @ 115 VAC, $\geq 0.93$ @ 230 VAC
Withstand voltage:	3000 VAC from input to output 2000VAC from input to ground, 1500 VAC from output to ground
Isolation resistance	Input to output 100M ohm @ 500Vdc
MTBF:	300K hours mini. at full load at 25°C ambient temperature, calculated per Telcordia SR-332
EMC Performance	
EN55032:	Class B conducted, class B 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, Radio Frequency, Electromagnetic field (RS): 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 Radio Frequency Disturbances (CS), 3 Vrms
EN61000-4-8:	Power Frequency Magnetic field, 3 A/m
EN61000-4-11:	Voltage dip immunity & voltage interruptions 30% reduction for 500mS, criteria A >95% reduction for 10mS, criteria A >95% reduction for 5000mS, criteria B

**INPUT VOLTAGE DERATING CURVE**



**OUTPUT POWER DERATING CURVE**



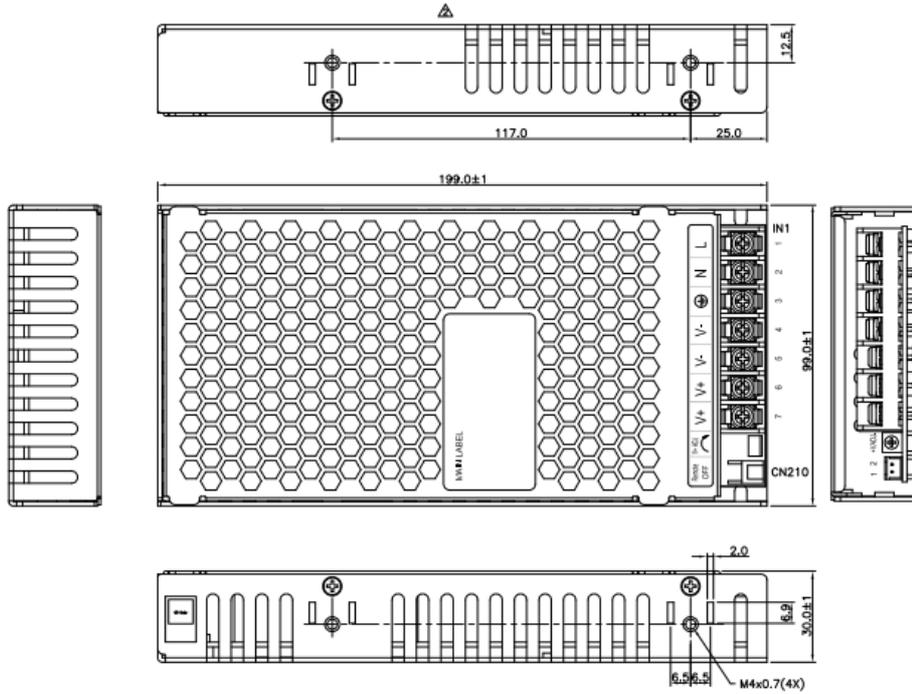
**OUTPUT VOLTAGE/CURRENT RATING CHART**

Model	Output						Efficiency (typical)
	Voltage	Min. Current	Max. Current	Tolerance	Ripple & Noise <sup>(1)</sup>	Max. Power	@ 115 / 230 Vac
FSP150-PNA-A12	12 V	0A	12.5A	±3%	120 mV	150W	88 / 90%
FSP150-PNA-A24	24 V	0A	6.25A	±3%	200 mV	150W	89 / 90%
FSP150-PNA-A48	48 V	0A	3.125A	±3%	300 mV	150W	89 / 92%

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 22 µF capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

### MECHANICAL SPECIFICATIONS



Pin assignment of IN1

Pin No.	Function	Wafer
1	AC/L	DECA T44-BS1R07 or EQUIVALENT
2	AC/N	
3	FG	
4	V-	
5	V-	
6	V+	
7	V+	

Pin assignment of CN201

Pin No.	Function	Wafer
1	PS_OFF	JST B2B-XH-A or EQUIVALENT
2	PS_OFF RTN	

NOTES:

1. Dimensions shown in mm
2. Weight: 417.5 grams (0.92 lbs.) approx.