



Note: Specific model may differ from photo.

## UNIVERSAL INPUT

### FEATURES

- ◆ Single, dual, triple or quadruple outputs
- ◆ Wide input range 85 to 264 VAC
- ◆ Input surge current protection
- ◆ Overvoltage protection
- ◆ Overcurrent protection
- ◆ 100% burn-in
- ◆ Optional output connectors
- ◆ Optional on / off switch
- ◆ Optional Power Fail Detect (PFD) signal

### DESCRIPTION

The FSA110P series of AC/DC switching power supplies are for 110 watts of continuous output power. They are enclosed in a 94V-1 rated polyphenylene-oxide case with an IEC 320 inlet to mate with an interchangeable cord for worldwide use. An on/off switch can be added by request. All models meet CISPR 22 and FCC class B emission limits, and comply with UL, CSA, IEC and CE requirements.

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: 0° 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.

**PFD Signal (Optional):** TTL logic high for normal operation and TTL logic low upon loss of input power. This signal appears at least 1mS prior to a +5V output dropping 5% below its nominal value. This signal also provides a min. delay of 100mS after +5V is within regulation.

# FSA110P SERIES 110 WATT SWITCHING POWER SUPPLIES

### OUTPUT SPECIFICATIONS

Output Voltage / Current: See rating chart  
 Total Output Power: 0 to 110 watts  
 Ripple and Noise: 1% peak to peak max.  
 Overvoltage Protection: Provided on output #1 only; set at 112-132% of it's nominal output voltage  
 Overcurrent Protection: All outputs protected to short circuit conditions  
 Temperature Coefficient: All outputs  $\pm 0.04\%$  / C° max.  
 Transient Response: Max. excursion of 4% or better on all models, recovering to 1% of final value within 500  $\mu$ s after a 25% step load change

### INPUT SPECIFICATION

Input Voltage: 85 ~ 264 VAC  
 Input Frequency: 47 ~ 63Hz  
 Input Current: 3.2A (rms) for 115 VAC  
 1.8A (rms) for 230VAC  
 Leakage Current: 0.4mA max. at 115 VAC, 60Hz  
 0.8mA max. at 230 VAC, 50Hz

### GENERAL SPECIFICATIONS

Switching Frequency: 20K to 250KHz, varies with load and line  
 Efficiency: 70% min. on single output models with  $V_o \geq 12V$ , 65% min. on the others  
 Hold-up Time: 12 mS min. at 110 VAC  
 Line Regulation:  $\pm 0.5\%$  max. at full load  
 Inrush Current: 15 amps at 115 VAC, or 30 amps at 230 VAC  
 Withstand Voltage: 3,000 VAC input to output  
 1,500 VAC input to ground  
 500 VAC output to ground  
 MTBF: (25° C ambient) 550,000 hours min. at full load  
 EMI Requirements: In compliance with CISPR 22 (EN 55022) Class B and FCC Class B  
 Safety Requirements: Meets or exceeds:  
 (a) UL 1950  
 (b) CSA C22.2 No. 950  
 (c) IEC 950 (EN 60950)

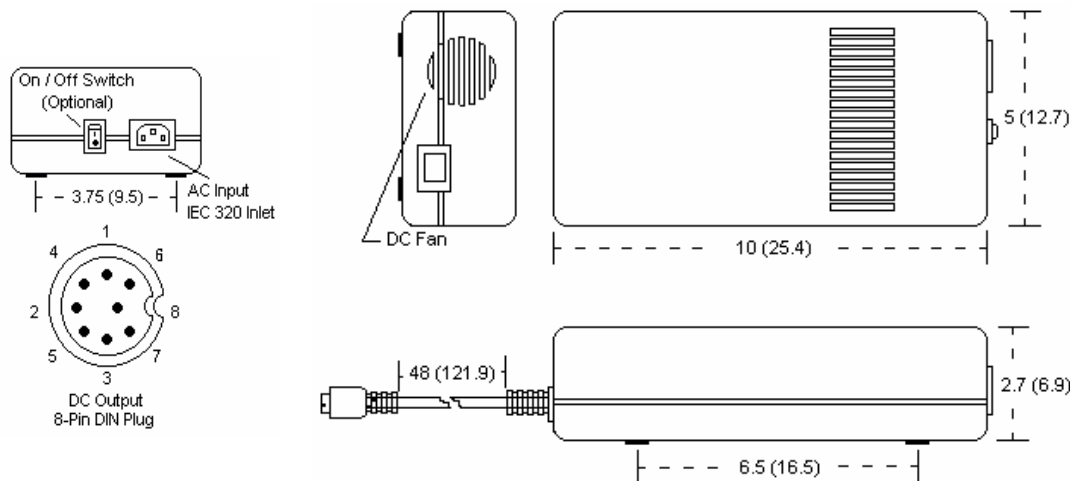


## OUTPUT VOLTAGE / CURRENT RATING CHART

Model	Output #1				Output #2					Output #3				Output #4				Total Watts
	Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Ipeak	Tol.	Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	
FSA110P10	+5V	0A	22A	5%			(N/A)					(N/A)				(N/A)		110W
FSA110P12	+12V	0A	9.0A	4%			(N/A)					(N/A)				(N/A)		110W
FSA110P13	+15V	0A	7.5A	3%			(N/A)					(N/A)				(N/A)		110W
FSA110P14	+24V	0A	4.5A	3%			(N/A)					(N/A)				(N/A)		110W
FSA110P16	+30V	0A	3.6A	3%			(N/A)					(N/A)				(N/A)		110W
FSA110P18	+48V	0A	2.3A	3%			(N/A)					(N/A)				(N/A)		110W
FSA110P23	+5V	0A	10A	5%	+12V	0A	5A	9.0A	5%			(N/A)				(N/A)		110W
FSA110P31	+5V	0A	10A	5%	+12V	0A	5A	9.0A	5%	-12V	0A	1A	5%			(N/A)		110W
FSA110P32	+5V	0A	10A	5%	+15V	0A	4A	7.5A	5%	-15V	0A	1A	5%			(N/A)		110W
FSA110P40	+5V	0A	10A	5%	+12V	0A	5A	9.0A	5%	-12V	0A	1A	5%	-5V	0A	1A	5%	110W
FSA110P41	+5V	0A	10A	5%	+15V	0A	4A	7.5A	5%	-15V	0A	1A	5%	+24V	0A	1A	5%	110W
FSA110P42	+5V	0A	10A	5%	+12V	0A	5A	9.0A	5%	-12V	0A	1A	5%	+12V	0A	1A	5%	110W
FSA110P45	+5V	0A	10A	5%	+12V	0A	5A	9.0A	5%	-12V	0A	1A	5%	+24V	0A	1A	5%	110W
FSA110P45-1	+5V	2A	10A	5%	+12V	0A	5A	9.0A	5%	-12V	0A	1A	5%	+24V	1.5A	3A	10%	110W
FSA110P45-2	+5V	0A	10A	5%	+24V	0A	3A	5.0A	5%	-12V	0A	1A	5%	+12V	0A	1A	5%	110W
FSA110P46	+5V	0A	10A	5%	+15V	0A	4A	7.5A	5%	-15V	0A	1A	5%	-5V	0A	1A	5%	110W

Notes: (1) Peak output current with 10% maximum duty cycle for less than 60 seconds. Total peak power must not exceed 130 watts.  
 (2) The output #1 of model FSA110P45-1 needs a minimum current of 2A to support the other outputs at their maximum rated loads.

## MECHANICAL SPECIFICATIONS



### Notes:

- Dimensions shown in inch (cm)
- Tolerance 0.02 (0.5) maximum
- Contact Fortron / Source for information on optional output connectors
- To order a model with on / off switch, add suffix "S" to the model number, e.g. FSA110P31-S
- To order a model with PFD signal, add suffix "PF" to the model number, e.g. FSA110P31-PF

## PIN CHART

MODEL	PIN	1	2	3	4	5	6	7	8
FSA110P10	FSA110P12	Return	Return	Output #1	Return	Output #1	Return	Output #1	N.C. or PFD
FSA110P13	FSA110P16								
FSA110P14	FSA110P18								
FSA110P23		Common Return	N.C.	Output #1	N.C.	Output #2	Common Return	Output #1	N.C. or PFD
FSA110P31	FSA110P32	Common Return	Output #3	Output #1	N.C.	Output #2	Common Return	Output #1	N.C. or PFD
FSA110P40	FSA110P41	Common Return	Output #3	Output #1	Output #4	Output #2	Common Return	Output #1	N.C. or PFD
FSA110P42	FSA110P45								
FSA110P45-1	FSA110P45-2								
FSA110P46									

Note: All data are subject to change without notice



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