

## 5B and 6B Series Power Supplies

### Features - AC/DC Power Supplies

- Fully Encapsulated
- Chassis Mountable
- Current Limit Short Circuit Protection
- Low Output Ripple and Noise
- Excellent Line and Load Regulation Characteristics
- Free-Air Convection Cooling: No external Heat Sink Required
- High Current Output Models
  - 5 V @ 5 amp; model 955
  - 5 V @ 5 amp; model PWR-01
- Wide Input Voltage Range
  - 105 Vac to 125 Vac: Model 955
  - 85 Vac to 205 Vac: Model PWR-01



Models:  
955,  
PWR-01

### Overview

Analog Devices' line of compact AC/DC modular supplies offer system designers a means of supplying a reliable, easy to use, low cost solution to powering the 5B Series and 6B Series Signal Conditioning subsystems. These models provide high accuracy, short circuit protected, regulated outputs with very low noise and ripple characteristics. All models contain threaded inserts to facilitate ease of mounting on the rear of the AC1363 19" rack mount kit. Screw terminals also provide ease of connections to both AC line supply and backplane power input terminals.

### Model Descriptions

Three models are offered in power levels of 5 watt (Model 955) and 25 watt (Model PWR-01). High power, 25 watt, versions are supplied with plus and minus line sense terminals to facilitate remote load regulation. Two AC input voltage ranges provide the capability of handling varying line supply applications: 120 Vac (Model 955) and 120/240 Vac (Model PWR-01). These AC/DC supplies combine the advantages of both switching and linear regulated supplies in a small compact package. Using the switching regulator technique provides Model PWR-01 with high efficiency characteristics. The linear regulation method of Model 955 offers low levels of output noise and ripple - 2 mV rms, max. Model 955 provides a fixed 5 Vdc output ( $\pm 2\%$  max. accuracy), while Model PWR-01 offers an adjustable 5 Vdc output ( $\pm 1\%$  accuracy with  $\pm 3\%$  adjustment range) and a "Power On" LED light.

### Fusing

If AC supply input fusing is desired, use a slow blow type fuse that is rated for 150% to 200% of the power supply's full load AC input. As a rule of thumb, the full load AC input current is typically 28 mA for each 1 watt of output power. Model PWR-01 is provided with an internal, nonreplaceable, 2 ampere slow blow fuse on the AC supply line. To protect signal conditioning modules, should internal faults occur, all supplies are designed to clamp at an output voltage of 6.2 volts.

### Mechanical Outline Drawings

Refer to the Outline Drawings section for mechanical drawings on Models 955 and PWR-01.

### Determining Power Requirements

The total 5B system power requirement is a function of the modules and backplanes that are selected. Individual requirements are listed in the following tables:

**5B Series Module Current Requirements**

Model	Current
AC1367	6.5 mA
5B30	30 mA
5B31	30 mA
5B32	30 mA
5B34	30 mA
5B35	15 mA

**5B Series Backplanes and Mounting Card Current Requirements**

Model	Current
5B01	0 mA
5B02	32 mA
5B03	0 mA
5B04	0 mA
5B08	0 mA
5R08-MI IX	40 mA

5B36	15 mA
5B37	30 mA
5B38	200 mA
5B39	170 mA
5B40	30 mA
5B41	30 mA
5B42	200 mA
5B45	70 mA
5B46	70 mA
5B47	30 mA

5B08-MUX	40 mA
AC1360	0 mA

### 5B Series Power Supply Specifications

(typical @ +25°C and nominal line voltage)

Model	955 5 Watt Output	PWR-01 25 Watt Output
Input Voltage Range	105 V rms to 125 V rms	85 V rms to 265 V rms
Frequency	50 Hz to 250 Hz	47 Hz to 63 Hz
Internal Line Fuse	N/A	250 Vrms, 2 A Slo Blow
Output Voltage	5 Vdc	5 Vdc <sup>1</sup>
Remote Sense Terminals	N/A	Yes
Short Circuit Protection <sup>2</sup>	Current Limited	Current Limited
Overvoltage Protection	+6.2 V dc	+6.0 V dc
Output Current	1000 mA	5000 mA
Voltage Accuracy	±2% maximum	±1% <sup>1</sup>
Temperature Coefficient	±0.02%/°C	±0.05%/°C
Line Regulation	±0.05%	±0.1%
Load Regulation	±0.15%	±0.5%
Ripple & Noise	2 mV pk-pk maximum	50 mV pk-pk maximum
Breakdown Voltage	2500 V rms, minimum	2500 V rms, minimum
Switching Frequency	N/A	65 kHz
Operating Temperature Range	-25°C to +71°C	0°C to +70°C
Storage Temperature Range	-25°C to +85°C	-40°C to +85°C
Cooling	Free Air Convection	Free Air Convection
Chassis Mount; Encapsulated	Yes	Yes
Mounting Threaded Inserts	Four, 4-40 x 0.15"	Four, 4-40 x 0.15"

<sup>1</sup>Adjustable ±3%

<sup>2</sup>Substantial overload can be withstood, including direct short. Prolonged operation should be avoided since excessive temperature rises will occur. Specifications subject to change without notice.