

## **AD-1**

# **Portable AC DC Power Supply**

- Input: 120 50/60 Hz VAC +/- 10%
- Output Voltages (1.0 KVA)
- 0-560 VAC Selectable Output Ranges
- 0-480 VDC Selectable Output Ranges
- Regulation 11 % on AC
- Regulation 11 % on DC (Unfiltered)
- Light weight 50 pounds
- Ruggedize metal suitcase style case



## **DESCRIPTION**

This instrument is housed in a rugged waterproof case with a hinged lid. The input connection is by way of a recessed three prong male inlet compatible with standard extension cords. The input is protected and controlled by a 10 amp single pole circuit breaker. When it is turned ON, a single or dual deck variable autotransformer (vernier) is energized, and an amber POWER ON light is illuminated, as well as a 0-600 volt digital meter. The output arm(s) are protected by a one or two pole breaker. The variable output of the vernier is connected to the primaries of two 750 VA toroidal transformers. The secondaries are connected in series and parallel configuration by means of a multi-deck six position selector switch. The AC output is monitored by the 0-600 VAC digital meter. An additional resistor is added in DC mode to read the expected DC output voltage under normal load conditions.

The output is controlled by means of a three position illuminated rotary switch. It has a maintained and momentary position, and a center OFF. When turned ON, a relay is energized and the internal lamp is illuminated. The contacts of the relay drive AC voltage directly to one pair of yellow binding posts, and through a full wave bridge rectifier to a pair of red and black binding posts. LED indicators next to the binding posts and near the meter indicate AC or DC mode.

A 10 kOhm load resistor is connected to the DC output along with a 12 volt zener diode and an indicator LED. This provides a 5-20 watt load for the DC output, and indicates if there is an output voltage above about 20 volts as a safety precaution.

## **APPLICATION**

This is a small portable AC and DC power supply intended for circuit breaker charging motors and other general purpose applications. It will provide AC and DC voltage in three nominal ranges from 0 to 120, 240, and 480 volts, at 1 kVA. It will be in a suitcase style enclosure approximately 13" x 9" x 12", and weighs 50 lb. .

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## SPECIFICATIONS



Width: 13.5 inches (343 mm)  
Length: 10.0 inches (254 mm)  
Height: 11.5 inches (292 mm)  
Weight: 50 pounds (32.2 kg)

Input: 105-130 VAC, 50/60 Hz, 1.2 kVA nominal (10 amperes)  
Outputs: 0-140 VAC at 7.2 A continuous (1.0 kVA)  
0-280 VAC at 3.6 A continuous  
0-560 VAC at 1.8A continuous  
0-480 VDC at 1.8A continuous (0.86 kVA)  
0-240 VDC at 3.6A continuous  
0-120 VDC at 7.2A continuous (unfiltered)

Regulation: 11% on AC outputs at 1.0 kVA  
11% on DC outputs at 0.86 kVA

Ripple (DC): N/A (unfiltered)

Overloads: 200% 30 seconds ON, 90 seconds OFF (25% Duty Cycle)  
300% 10 seconds ON, 90 seconds OFF (10% Duty Cycle)

Voltmeter Accuracy:

AC: +/- 0.5% of reading +/- 0.5% FS

DC: +/- 2% of reading +/- 1% FS (at rated output current and resistive load)

### Included Accessories

- Input power cord 1
- Contacts leads 1 pair
- Technical manual 1 copy

**Electrical Test Instruments, Inc.**