

HIGH VOLTAGE MEASUREMENT

Model 220A Model 812

Precision instruments for the generation and measurement of high voltage.

Model 220A

Features:

- ☐ DC measurement to $\pm 5.5\text{kV}$
- ☐ 1% measurement accuracy
- ☐ 70 Gigohm input resistance
- ☐ 4½-digit LCD display
- ☐ Battery powered



Model 220A High Input Impedance Voltmeter: Standard high voltage meters cannot measure high impedance voltage sources without significantly loading. Originally designed for the U.S. Army to calibrate radiation measuring instruments, the ETS Model 220A has a 70 Gigohm input impedance that enables it to measure up to $\pm 5.5\text{kV}$ with 1 Volt resolution over a wide temperature and humidity range with better than 1% accuracy. The compact size, lightweight and battery powered operation make the Model 220A ideally suited for laboratory and field applications.

Model 812

Features:

- ☐ Range: ± 20 to $\pm 10,000$ volts
- ☐ 20-turn analog control
- ☐ 4½-digit LED display
- ☐ 1 Volt resolution



Model 812 High Voltage Power Supply: The study of electrostatic phenomena require the use of a precision high voltage power source to place a charge on an object, charge a capacitor or probe, calibrate electrostatic instrumentation or place a charge on a person to simulate an actual human body discharge (HBM). The switched dual polarity current-limited, high-resolution output of the Model 812 HVPS make it an ideal instrument for all electrostatic measurement applications.



electro-tech systems, inc.

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Description:

Model 220A: A high input impedance DC voltmeter with 70 Gigohm input resistance that measures DC voltages up to $\pm 5.5\text{kV}$ with 1 Volt resolution over a wide temperature and humidity range with $\pm 1\%$ accuracy. The Model 220A has overload protection along with an LED overload indicator. The circuit board is coated with a conformal coating that enables it to operate over a wide temperature and humidity range. The instrument is housed in an aluminum enclosure.

The Voltmeter is powered by two 9 Volt alkaline batteries that provide over one year of operation under normal use. A red LED indicator provides low battery indication.

The Model 220A comes complete with batteries and high voltage probe with 3' (92cm) cable.

Model 812 High Voltage Power Supply: A switched, dual polarity power source with fully adjustable analog voltage control using a precision 20-turn potentiometer and a $4\frac{1}{2}$ -digit LED meter that provides 1 Volt resolution over the range of ± 20 to $\pm 10,000$ Volts. HV ON/OFF and polarity are selected using pushbutton switches.

A built-in time delay allows polarity to be switched back and forth while the high voltage is on. Output current is limited to 120 microamps at 10kV.

Specifications:

Model 220A

Electrical:

Voltage range: 0 - ± 5.500 VDC
Accuracy: $\pm 1\%$
Resolution: 1 Volt
Over scale: $\pm 5.5\text{kV} \pm 5\%$
Input resistance: 70 Gigohms
Display: $4\frac{1}{2}$ -digit LED, 0.5" (12mm) Digits

Mechanical:

Enclosure: Aluminum
Dimensions: 7.5Wx8.25Dx2.0H (48x21x5cm)
Weight: 2.0 lbs (0.91kg)

Probe:

Cable length: 36" (92cm)
Connector: High Voltage BNC
Body: Red plastic, 6" (15cm) long
Ground: 12" (31cm) lead from Probe with alligator clip

Environmental:

Operating Temp: 32 -122°F (0-50°C)
Temp coefficient: $\pm 200\text{ppm}/^\circ\text{C}$ (max)
Humidity: 0-70% RH, non-condensing

Power:

Battery: 2x Alkaline
Life: 1 year (typical)

Warranty: One (1) Year

Model 812

Electrical:

Voltage range: ± 20 to 10,000 Volts
Accuracy: $\pm 3\%$ of reading (maximum)
Resolution: 1 Volt
Output current limit: 120 μA (max)
Display: $4\frac{1}{2}$ -LCD, 0.375" (9mm) Digits

Mechanical:

Enclosure: Aluminum
Dimensions: 16.5"Wx12"Dx3.5"H (42x31x9cm)
Weight: 10 lb (4.4kg)

Outputs:

HV Out: Alden Products, Inc. #M8101F (20kV)
Gnd: 0.161" (4mm) std. Banana jack or lead

Power In:

90-260VAC, 50/60 Hz
IEC Plug-in line cord (Mains)

Warranty: One (1) Year

Specifications subject to change without notice.