ISOPROBE®
Electrostatic Millivolt Meter

model **244AL**

This instrument is a basic Model 244 ISO-PROBE® Electrostatic Voltmeter which has been extensively improved to provide high speed, low noise electrostatic measurements in the range of ±15 volts

Applications:

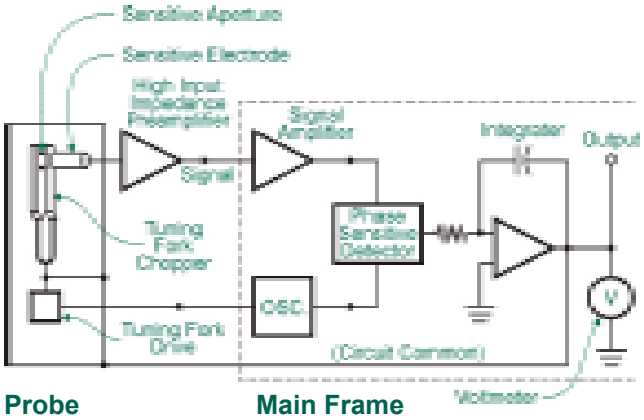
The Model 244AL is designed to function as a general purpose materials research and evaluation tool. Its unique capability for reliable, NON-CONTACTING measurement of electro-static potential in the millivolt range exposes broad new areas for exploratory research as well as providing a precision instrument for existing applications in electrostatic measurements. Some typical and potential applications include:

- **Contact Potential Measurements**
- **Electrophotographic Measurements**
- **RadiationEffectsonInsulatorsand Semiconductors**
- **Electret Measurements**
- **Bioelectric Potential Studies**

Principle of Operation:

The electrostatic electrode “looks” at the surface to be measured through a small hole at or near the end of the probe. The chopped AC signal induced on this signal is proportional to the differential voltage between the surface to be measured and the probe assembly. Its phase is dictated by the DC polarity. This signal and a reference signal from the oscillator are fed to a phase sensitive demodulator whose output feeds a DC intetgrating amplifier. The output of this amplifier is used to drive the probe housing and electrode to the same potential as that of the surface undergoing measurement. The feed-back principle and null seeking operation make a remarkably stable and accurate instrument.

Simplified Block Diagram:



Probe **Main Frame**

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TREK Has Joined Advanced Energy

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Specifications:

Range:	±15 volts
Accuracy:	0.1% or 10mV, whichever is greater
Meter resolution:	10mV
Noise:	20mV rms, typ.
Speed of response:	2ms, 10% to 90%,
Output:	1:1, ±15 volts
Drift:*	Less than 10mV/h
Output Filter:	Bessel low pass filter with 0.7ms constant delay
Size:	4 x 8.5 x 14 inches (10 x 21.8 x 35.6 cm), 1.75” rack mounting available (1 or 2 per rack)
Weight:	6.5 lb. (3.0 kg)
Power Requirement:	100, 115, 230 VAC, ±10%, 15W
Accessories Included	Manual on CD, line cord, phono plug

Certifications: CE Mark compliant

***** Specifications are based on use of Models 1017AEL or 1017ASL probe at 0.005” probe to surface spacing. To achieve best drift characteristics, probe must be purged with filtered air or inert gas in a stable laboratory environment.

For further details, see individual data sheets for Models 244 and 1017A or consult the factory.

Probe-to-surface spacing:

Probe-to-surface spacing should not exceed 0.100” in normal use, optimum being between 0.005” and 0.015”. Noise, drift, and speed or response deteriorate directly with increased probe-to-surface spacing. Measurement accuracy, however, can be made independent of probe-to-surface spacing with proper use of the front panel balance and zero controls.

Calibration:

Monroe Electronics instruments are factory-calibrated prior to shipment. Recalibration should be performed annually, or more frequently if specified by contract or company policy. Your instrument should also be recalibrated any time it has been repaired or tampered with. We will be happy to perform the calibration for you or refer you to one of our Authorized

Warranty:

Monroe Electronics, Inc., warrants that each instrument and sub-assembly manufactured by them shall be free from defects in material and workmanship for a period of one year after shipment from the factory. This warranty is applicable to the original purchaser only.

The Monroe Electrostatic & ESD product line is now owned by Advanced Energy and managed by TREK in Lockport, NY.

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