Trek’s Model 368A High-Speed Electrostatic Voltmeter provides precision noncontacting measurement of the surface voltages associated with electrostatic imaging processes as employed by the electrophotographic reproduction and laser printing industries. Highly accurate electrostatic voltage measurements are also associated with applications such as photoreceptor research and semiconductor processing. The 368A is used in research and development applications and to measure electrostatic potentials on objects or surfaces such as polymer, film, fabric, and paper.

The miniature sensor probes utilize a patented dual chopper design. This design provides high-speed, DC stable measurements with exceptional low noise and drift performance in wide temperature range conditions, under high humidity, and even in the presence of contaminating particulates. Sensor probe options include standard or high-temperature probes with either an end-viewing or side-viewing orientation.

The voltage of moving or stationary surfaces can be easily measured with high accuracy over a wide range of sensor probe to measured surface spacings. The noncontacting measurement ensures that no charge transfer will take place to modify or destroy the actual data.

A user selectable dual range precision voltage monitor provides a low-voltage replica of the measured electrostatic voltage for external monitoring purposes or for use as a feedback signal in a closed loop control system.

Rack mount options are available to permit up to four independent measurement channels in a standard full rack or for compact bench top operation.
Performance

**Measurement Range**
0 to ±2 kV DC or peak AC.

**Measurement Accuracy**
Better than ±0.1% of full scale.

**Voltage Monitor Output**
Better than ±0.15% of full scale, ±1 digit referred to the voltage monitor.

**Dimensions**

- **Stand-Alone Instrument**
  133 mm H x 113 mm W x 341 mm D
  (5.3" H x 4.5" W x 13.5" D).

- **Half Rack (holds up to two channels)**
  133 mm H x 271 mm W x 353 mm D
  (5.3" H x 10.7" W x 13.9" D).

- **Full Rack (holds up to four channels)**
  133 mm H x 483 mm W x 353 mm D
  (5.3" H x 19" W x 13.9" D).

**Weight**

- **Stand-Alone Instrument**
  2 kg (4.4 lb).

- **Half Rack**
  1.5 kg (3.3 lb), add 1.5 kg (3.3 lb) per channel.

- **Full Rack**
  2.5 kg (5.5 lb), add 1.5 kg (3.3 lb) per channel.

**Probe-to-Surface Separation**
2 mm ±1 mm (recommended).

**Probe (standard)**

- **Aperture Size**
  3800E-2 end viewing: 1.85 mm diameter.
  3800S-2 side viewing: 2.35 mm diameter.

- **Cable Length**
  3 m (10 ft), nominal.

**Probe-to-Surface Separation**
2 mm ±1 mm (recommended).

**Probe (standard)**

- **Aperture Size**
  3800E-2 end viewing: 1.85 mm diameter.
  3800S-2 side viewing: 2.35 mm diameter.

- **Cable Length**
  3 m (10 ft), nominal.

**Ground Receptacle**
Banana jack.

**Voltage Monitor Output**
A BNC provides a low-voltage replica of the measured voltage.

**Scale Factors**
1/200th or 1/1000th of the measured voltage (switch selectable). Calibration potentiometers for both scales are accessible from the front panel.

**Output Noise**
Less than 25 mV rms (measured using the true rms feature of the Hewlett Packard Model 34401A digital multimeter).

**Output Impedance**
Less than 0.1 Ω.

**Operating Conditions**

- **Temperature**
  0°C to 35°C.

- **Relative Humidity**
  To 85%, noncondensing.

- **Altitude**
  To 2000 meters.

Features

**Zero Control**
A 10-turn control to null offsets that may be present at the voltage monitor output when the Model 368A is measuring zero volts.

**Voltage Display**
3 ½ digit LED display.

- **Range**
  0 to ±1999 V.

- **Resolution**
  1 V.

- **Zero Offset**
  Better than or equal to ±1 count, referred to the voltage monitor.

- **Sampling Rate**
  2.5 readings per second.

**Weight**

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  2 kg (4.4 lb).

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