The Trek Model 325 Electrostatic Voltmeter is a versatile instrument used for performing noncontacting electrostatic voltage measurements in applications which include contact potential (surface work function) determination, materials evaluation and electret studies. The Model 325 was specifically designed for high sensitivity applications to allow highly accurate, low noise, noncontacting measurement of electrostatic voltages of 0 to ±40 V over a wide range of probe-to-surface distances.

Special features of the Model 325 allow adjusting the performance of the unit to compensate for specific test conditions. A calibrated Null Voltage supply of 0 to ±10 volts nulls measured surface contact potential when measuring voltages on test surfaces. A response Speed Control adjusts the AC response of the Model 325. A Drift/Spacing Null Adjustment minimizes the variation in monitored voltage values as the probe to test surface spacing changes.

A dual range front panel 3½ digit LED display resolves ±10 mV. The measured voltage can also be monitored through a precision 1:1 voltage monitor output and/or a 10:1 voltage monitor output.

Trek’s patented low impedance probe sensor assures measurement accuracy which is essentially independent of probe-to-test-surface spacing while eliminating the external environmental effects of high humidity and contamination, such as airborne dust, toner, ions and chemicals, on measurement accuracy.

The Model 325 is bench top operable or, with optional hardware, in a half 9½-inch or standard 19-inch rack.

- **Measurement Range:** 0 to ±40 V DC or Peak AC
- **Sensitivity:** 1 mV
- **Noise:** Less than 1 mV rms, Referenced to Measured Voltage
- **High Seed of Response:** Less Than 3 ms for a 10 V Step
- **Voltage Monitor Accuracy:** Better Than 0.05% of Full Scale
- **Null Voltage Source:** 0 to ±10 Volt Calibrated Supply (nulls measured surface contact potential in reference to probe’s gold sensing electrode)
- **Drift Spacing/Null Adjustment** (minimizes measured variations in voltage as probe to test surface spacing changes)
- **Voltage Monitor Outputs:** 1:1 and 10:1 of measured voltage

Model 325 Measurement and Power Solutions™
www.trekinc.com
# Model 325 Specifications

All specifications are with a Model PD1216P probe with a probe-to-surface separation of 0.4 mm.

## Performance

<table>
<thead>
<tr>
<th>Item</th>
<th>Part No.</th>
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</thead>
<tbody>
<tr>
<td>Model 325-L (90 to 127 V AC)</td>
<td>325-L-CE</td>
</tr>
<tr>
<td>Model 325-H (180 to 250 V AC)</td>
<td>325-H-CE</td>
</tr>
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## Model 325 Ordering Information

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### Trek Certification

TREK, INC. certifies that each Model 325 is tested and calibrated to specifications using measurement equipment traceable to the National Institute of Standards and Technology or traceable to consensus standards.

## Features (cont.)

### Drift/Spacing Null Adjustment

This back panel adjustment minimizes the variation in monitored voltage values as the probe to test surface spacing changes.

### Voltage Display

3½ digit LED display.

- **Range**
  - Switch selectable for ±10 V or ±40 V full scale.

- **Resolution**
  - 10 V Range: 0.01 V.
  - 40 V Range: 0.1 V.

### Zero Offset

±2 counts, referred to the voltage monitor.

### Sampling Rate

3 readings per second.

### Voltage Monitor Output (1:1)

A buffered 0 to ±40 V output provides a replica of the measured voltage.

- **Scale Factor**: 1:1 of the measured voltage.

### Output Noise

Less than 1 mV rms (measured using the true rms feature of the Hewlett Packard Model 34401A digital multimeter).

### Output Current

5 mA minimum.

### Output Impedance

100 Ω, nominal.

### Voltage Monitor Output (10:1)

A buffered 0 to ±4 V output provides a replica of the measured voltage.

- **Scale Factor**: 10:1 of the measured voltage.

### Probe

- **Response Speed Control**
  - A front panel potentiometer that adjusts 0 to ±40 V DC or peak AC.

## Features (cont.)

### Probe-to-Surface Separation

0.2 mm to 2 mm (recommended).

### Aperture Orientation

Side viewing.

### Aperture Size

4.6 mm (0.18").

### Probe Body Type

Round body.

### Dimensions

10 mm Diameter x 56 mm L (0.4" Diameter x 2" L).

### Probe Cable Length

2743 mm ±127 mm (9 ft ±5").

### General

- **Dimensions**
  - 108 mm H x 223 mm W x 370 mm D (4.25" H x 8.75" W x 14.5" L).
- **Weight**
  - 3.6 kg (8 lb).
- **Voltage Monitor Connector**
  - BNC connector.
- **Ground Receptacle**
  - Banana jack.
- **AC Line Cord Receptacle**
  - Standard three-prong line cord with integral fuse holder.

### Line Supply

90 to 127 V AC at 48 to 63 Hz (optionally available at 180 to 250 V AC at 48 to 63 Hz).

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