

# Model 706B

## Portable Electrostatic Voltmeter



The Trek Model 706B portable electrostatic voltmeter is designed to perform highly accurate noncontacting surface electrostatic voltage measurements. Applications include measurement of photoreceptor surfaces in copiers and laser printers.

The Trek Model 706B E.S. [Electrostatic] Voltmeter provides measurement ranges of 0 to +1 kV or 0 to -1 kV (switch selectable) and employs an easy to read 3½ digit liquid crystal display to indicate the measured electrostatic voltage. Accurate electrostatic measurements can be performed over a probe to test surface spacing of 1 mm to 5 mm.

A voltage-nulling technique is employed in the Model 706B that achieves DC stability and high accuracy even if the probe-to-measured surface spacing varies during use, this permits measurement of rotating electrophotography drums without concern for the effects of measurement accuracy due to drum eccentricities.

The probe design provides low noise and drift performance even in the presence of contaminating toner particles or under conditions of high humidity and temperature. The small durable probe has a cable length of 183 cm (72").

The Model 706B is lightweight, battery operated, and packaged in a rugged enclosure that provides a convenient probe storage area.

- Switch Selectable Ranges:  
0 to +1 kV DC  
or  
0 to -1 kV DC
- 3½ Digit LCD Display
- Battery Test Switch
- DC-Stable Probe with Side Viewing Aperture Orientation
- Low Noise
- Durable Design

# Model 706B Specifications

All specifications are at a probe-to-surface separation of 3 mm unless otherwise noted.

## PERFORMANCE

### Measurement Range

0 to +1 kV or -1 kV DC  
(switch selectable).

### Accuracy

Better than 0.5% of full scale.

## PROBE

### Recommended Probe-to-Surface Separation Distance

1 mm to 5 mm.

### Trek Model 701P-76S Probe

#### Dimensions

8.7 mm diameter x 70 mm L  
(0.35" diameter x 2.75" L).

**Caution:** The metallic components of the probe are driven to the measured surface voltage level with a current capability of  $\pm 0.5$  milliamperes. These metallic surfaces should not be connected to ground or touched during operation.

### Cable Length

1830 mm (72").

### Aperture Size (oval shaped)

3.18 mm W x 6.35 mm L  
(0.125" W x 0.25" L).

### Aperture Orientation

Side viewing.

## FEATURES

### Range Switch

A two-position switch is used to select the measurement range of either 0 to +1 kV or 0 to -1 kV.

### TEST/READ Switch

In the TEST position, if the digital display indicates a value lower than 1100, the batteries should be replaced. In the READ position, the measurements are displayed.

### Voltage Display

3½ digit liquid crystal display.

#### Range

0 to  $\pm 1000$  V.

#### Resolution

1 V.

#### Zero Offset

Less than  $\pm 1$  count.

#### Sampling Rate

3 readings per second.

**NOTE: The Model 706B is designed to make electrostatic voltage measurements only!**

*To ensure safety, the Model 706B should never be used to perform measurements of "hard" voltage sources or voltage sources which can deliver currents high enough to cause harmful shocks or personal injury.*

## GENERAL

### Power Requirements

Two (2) 9-volt alkaline batteries.

### Operating Time

10 hours after battery replacement.

### Operating Conditions

#### Temperature

5 °C to 35 °C.

#### Relative Humidity

To 85%, noncondensing.

### Dimensions

39 mm H x 130 mm W x 134 mm D,  
(1.6" H x 5.2" W x 5.3"L).

### Weight

455 g (1 lb), with batteries.

### Ground Receptacle

The green banana jack must be connected to ground to maintain measurement accuracy.

### Power On/Off

A two-position toggle switch.

## Certification

TREK, INC. certifies that each Model 706B is tested and calibrated to specifications using measurement equipment traceable to the National Institute of Standards and Technology.

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1122/DEC

## Model 706B Included Accessories

<u>Item</u>	<u>Part No.</u>
Portable Electrostatic Voltmeter .....	706B
Operator's Manual .....	23389
Two (2) (9 V) Alkaline Batteries .....	F1003R
Ground Patch Cord .....	N9044

## Certification (cont.)

Low Voltage Safety Compliance (IEC 61010)

Overvoltage Category

CAT I: Peripheral level outputs (less than 60 volts).

Pollution Category

Degree 1: Operate in environments where no pollution or only dry, nonconductive pollution occurs.



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