

Model 400

Electrostatic Voltmeter



Measurement Range:
0 to ± 2 kV DC or peak AC

Available with Standard and High-Speed Probes

Excellent Speed of Response and Spot Resolution Characteristics

Measurement Accuracy: at Voltage Display
Better than $\pm 0.1\%$ of reading

Measurement Accuracy: at the Voltage Monitor
Better than $\pm 0.05\%$ of reading

Small lightweight package with carrying handle/bail

Digital Enable: Remote measurement ON/OFF control

Push-button Auto ZERO

INNOVATIONS from TREK

The Trek Model 400 Electrostatic Voltmeter represents the next generation of DC-stable noncontacting, precision surface voltage measuring instruments which incorporates the exclusive Trek vibrating reed probe sensor and provides new features not previously available with any other voltmeter instrument. These features include:

- An automatically flat (no over/under shoot) response characteristic which is both fast and independent of the probe to measured surface spacing over a distance range of 1 mm to 3 mm, thus eliminating the need for a user operated response/gain control.
- A front panel pushbutton or rear panel external TTL input signal initiates a zero capability which provides up to ± 25 volts zero level correction, thus eliminating the use of a manual zero control.
- A small lightweight package which accommodates the use of standard 3 ms speed probes, 200 μ s high-speed probes, and special purpose probes.
- A noise null control allows the operator to null the output noise to lowest values for any probe selected (standard or high speed).

STANDARD PROBES AND HIGH-SPEED PROBES

Model 400P-S (side view), Model 400P-E (end view)
3 ms at a 1 kV step speed response.*
300 mV RMS noise (referenced to input)**

Model 401P-S (side view), Model 401P-E (end view)
200 μ s at a 1 kV step speed response. †
500 mV RMS noise (referenced to input) **

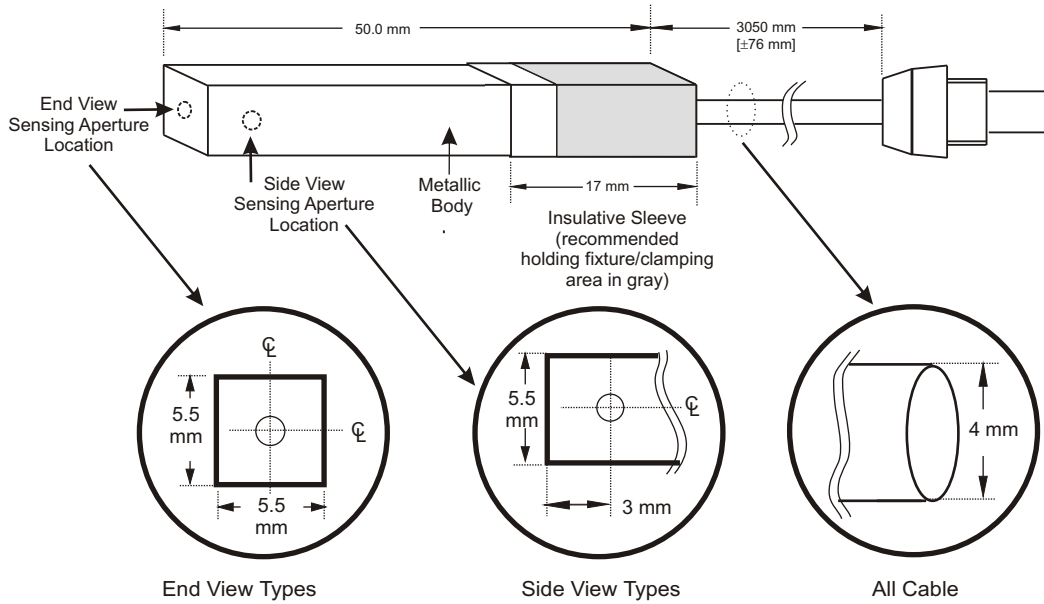
* Measured from 10% to 90% of the response curve.
** Measured using a HP Model 34401A DMM.
† Measured from 0 to 90% of the response curve.

CONTROL WITHOUT COMPROMISE



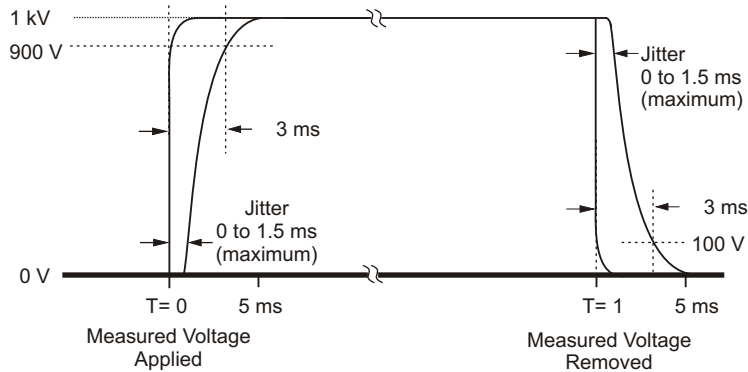
Model 400 Electrostatic Voltmeter Preliminary Specifications

The probe sensing apertures of the 400P-S, 401P-S, and 401P-E, are 2.4 mm in diameter which provide a 6.4 mm spatial resolution at 2 mm aperture to measured surface spacing. The End View Single Electrode (400P-E) has a 1.2 mm aperture which will provide a 5.2 mm spatial resolution at 2 mm aperture to measured surface spacing. (Other aperture/resolutions are available.)

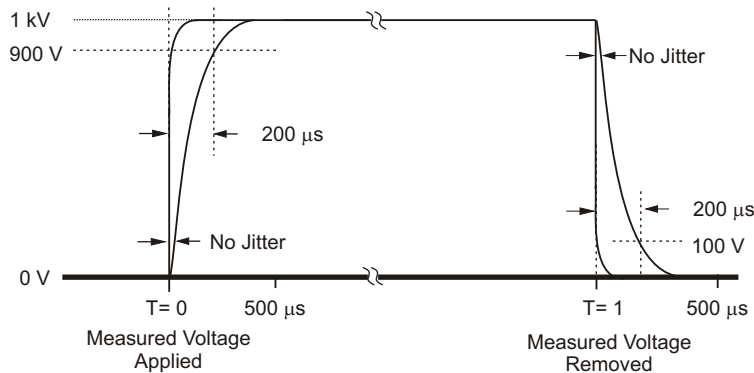


ESVM Typical Response Characteristics

Using standard speed Probe Models 400P-S, 400P-E at a probe-to-surface spacing of $2\text{ mm} \pm 1\text{ mm}$



Using high-speed Probe Models 401P-S, 401P-E at a probe-to-surface spacing of $2\text{ mm} \pm 1\text{ mm}$



Please contact TREK, INC for additional information

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