

Trek Model 875 Electrostatic Voltage Sensor



Trek's new **Electrostatic Voltage Sensor**, Model 875, is designed for in-line monitoring of electrostatic charge build-up, which if left unchecked would disrupt manufacturing processes and/or cause product degradation and early life failure of semiconductors and other charge-sensitive components. Used to monitor static charge levels within manufacturing equipment such as conveyors, handlers, and other tools.

Trek's Model 875 features an automatic calibration technique to maintain high accuracy and speed over wide variations of the spacing between the non-contacting measurement probe and the surface under test.

Other features include a voltage measurement range of ± 500 V DC or peak AC, accuracy of $\pm 0.5\%$, speed of 25 ms, and low noise of 1% rms of full scale. Buffered output voltage and current monitors (4 to 20mA) are provided for remote monitoring and alarm purposes.

The unit is powered by +24 V DC and is housed in a standard DIN package to enable standardized mounting.

**Measurement Range of
0 to ± 500 V DC or peak AC**

**Accuracy is Independent of
Probe-to-Measured Surface
Spacing**

**Voltage Monitor with an
Accuracy Better than
 $\pm 0.5\%$ of full scale (F.S.)**

**4-20 mA
Current Monitor**

**Speed of Response
Less than 25 ms**

**Enclosure Mounts on
35mm DIN RAIL**

TTL Digital Enable Input

TTL Fault Warning Flag Output

PERFORMANCE

*At 4 mm ± 1 mm probe-to-surface
distance*

Measurement Range
0 to ± 500 V DC or peak AC.

**Measurement Accuracy
At the Voltage Monitor Output**
Better than $\pm 0.5\%$ of F.S.

At the Current Monitor Output
Better than $\pm 3\%$ of F.S.

Current Monitor (4-20 mA)
Linearly related to the measured
input voltage.

**Scale Factor (+4 mA to +20 mA
representing a -500 V to +500 V):**
-500 V = 4 mA,
0 V = 12 mA,
+500 V = 20 mA.

Speed of Response (10% to 90%)
Less than 25 ms for a 0 to ± 500 V
step change.

FEATURES

Voltage Monitor Output
A buffered low-voltage replica of the
measured voltage.

Scale Factor
1 V / 50 V.

Noise
Less than 1% rms of full scale.

Digital Enable
An external control TTL signal.
A TTL HIGH (or open) will disable
all internal power supplies.
A TTL LOW will provide normal
ESVM operation.

Fault Warning Output
A TTL output signal. A TTL HIGH
indicates normal operation of the
Model 875. A TTL LOW indicates
a fault condition such as: out of
range operation (circuit is
measuring a voltage greater than
 ± 500 Volts), failure of the probe,
or circuit malfunction.

PROBE

Probe Dimensions
5.6 mm square x 50 mm L
Aperture Orientation / Body Type
Side / Square.

Probe Cable Length
3.0 ± 0.1 meters.

**Recommended Probe-to-Surface
Separation**
4 mm ± 1 mm.

*An optional probe holder fixture is
available - contact factory.*

GENERAL

Power Supply Voltage
+24 V DC $\pm 10\%$.
Power Supply Current
150 mA, maximum.

Power ON Indicator
A LED indicator illuminates when
power is applied to the unit.

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