

## TREK 875

Electrostatic voltage sensor designed for in-line monitoring of electrostatic charge build-up.



The Trek<sup>®</sup> 875 electrostatic voltage sensor is designed for in-line monitoring of electrostatic charge build-up, which if left unchecked, can disrupt manufacturing processes or cause product degradation and early life failure of semi-conductors and other charge-sensitive components. Excellent for monitoring static charge levels within manufacturing equipment such as conveyors, handlers, and other tools, the Trek 875 features an automatic calibration technique to maintain high accuracy and speed over wide variations of spacing between the non-contacting measurement probe and the surface under test.

Other features include a voltage measurement range of  $\pm 500$  VDC 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 VDC and is housed in a standard DIN package to enable standardized mounting.

### PRODUCT HIGHLIGHTS

- Accuracy is independent of probe-to-measured surface spacing
- Voltage monitor with an accuracy better than  $\pm 0.5\%$  of full scale
- 4 to 20 mA current monitor
- Enclosure mounts on 35 mm DIN RAIL
- Two probes types available: side view probe and a 45° angle probe
- TTL digital enable input
- TTL fault warning flag output

### AT A GLANCE

#### Measurement Range

0 to  $\pm 500$  V DC or peak AC

#### Measurement Accuracy

At the Voltage Monitor Output  
Better than  $\pm 0.5\%$  of full scale

At the Current Monitor Output  
Better than  $\pm 3\%$  of full scale

#### Speed of Response

Less than 25 ms for a 0 to  $\pm 500$  V  
step change

## TECHNICAL DATA

Performance Specifications <sup>1</sup>		
Measurement Range	0 to ±500 VDC or peak AC	
Accuracy	At the Voltage Monitor Output: Better than ±0.5% of full scale	
	At the Current Monitor Output: Better than ±3% of full scale	
Speed of Response	Less than 25 ms for a 0 to ±500 V step change (10 to 90%)	
Current Monitor (4 to 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

Probe Specifications <sup>2</sup>	
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.

Electrical Specifications	
Power Supply Voltage	+24 VDC ±10%
Power Supply Current	150 mA, maximum
Power ON Indicator	A LED indicator illuminates when power is applied to the unit

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 Trek 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.	

<sup>1</sup> At 4 mm ±1 mm probe-to-surface

<sup>2</sup> An optional probe holder fixture is available - contact factory.



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### PRECISION | POWER | PERFORMANCE

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