

## TREK 511

High-quality, portable, chopper-stabilized, non-contacting electrostatic field meter designed for measuring and auditing electrostatic fields in ESD sensitive areas.



The Trek® 511 portable, non-contacting electrostatic field meter is designed for measuring and auditing electrostatic fields in ESD sensitive areas so that operators can find them before they become a problem. Features of the Trek 511 such as its LED indicator with a switch selectable measurement range of either  $\pm 2$  kV or  $\pm 20$  kV, add to instrument flexibility and benefit the operator through its ease of use. Operators also benefit from the ability to obtain or audit reliable and accurate ESD measurements in either ionized or non-ionized environments.

### PRODUCT HIGHLIGHTS

- Available for use as a field meter and for testing balance and +/- decay capabilities of ionizers (with the optional Ionizer Test Kit)
- Push-button “auto-zero” feature removes any offset voltage
- Compact, pocket size with easy-to-read LED display
- Distance ranging system utilizes LEDs to indicate a 1-inch spacing between the instrument and the test target
- Hold function allows the user to hold a display when a measurement is being taken in a location where reading the display is difficult
- Chopper-stabilized probe technology allows for use in ionized environments
- NIST-traceable Certificate of Calibration provided with each unit

### APPLICATIONS

- Audit/monitor electrostatic decay
- Monitor ESD in semiconductor production
- Measure electrostatic fields on film, polymers, and paper
- Assess charge generation of materials, equipment, and personnel

### AT A GLANCE

#### Measurement Range

Low Range: 0 to  $\pm 2$  kV / in

High Range: 0 to  $\pm 20$  kV / in

#### Measurement Accuracy

Voltage Monitor Output:  
Better than  $\pm 5\%$  of reading,  
 $\pm 10$  mV

Voltage Display:  
Better than  $\pm 5\%$  of reading,  
 $\pm 2$  counts

## TREK ELECTROSTATIC FIELD METER 511

### TECHNICAL DATA

Performance Specifications		
Measurement Range (Switch Selectable)	Low Range	0 to $\pm 2$ kV / in
	High Range	0 to $\pm 20$ kV / in
Measurement Accuracy	As tested in Trek Test and Calibration Fixture # PE15024	
	Voltage Monitor Output	Better than $\pm 5\%$ of reading, $\pm 10$ mV
	Voltage Display	Better than $\pm 5\%$ of reading, $\pm 2$ counts
Measurement Stability	$\pm 10$ counts	

Voltage Monitor		
Output	2 V output at full scale	
Ratio	Low Range	1/1000 of the measured electrostatic field
	High Range	1/10000 of the measured electrostatic field

Mechanical Specifications		
Dimensions (H x W x D)	23.9 x 69.9 x 125.5 mm (0.94 x 2.75 x 4.94 in)	
Weight	0.14 kg (0.31 lb)	
Voltage Monitor Connector	2.5 mm jack (3/32") monophone	
	Tip	Signal
	Sleeve	Ground

Front Panel Meter		
Voltage Display	3 ½ digit LED display	
Range	Low	0 to $\pm 1.999$ kV / in
	High	0 to $\pm 19.99$ kV / in
Display Resolution	Low Range	1 V / in
	High Range	10 V / in
Sampling Rate	3 readings per second	

Electrical Specifications		
Power	One 9 V alkaline battery (not supplied)	
Operating Time	Greater than 50 hours, with a new battery at 21° C continuous	
Power Switch	A membrane switch that is designed to prevent accidental turn on. Powers the instrument on and off	

Environmental Specifications		
Temperature	10 to 30°C (50 to 86°F)	
Relative Humidity	To 80%, noncondensing	
Altitude	To 2000 m (6561.68 ft)	
CE Compliance	IEC 61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General Requirements	
	EC61326-1 Electrical equipment for measurement, control and laboratory use - Part 1: General Requirements	

TECHNICAL DATA

Features	
Ground Snap Connector	Provides connection for a grounding wire
Automatic Shutoff	Unit will shut off after 20 minutes from last activity
Ranging System	LED distance indicator; aligned targets indicate one inch
Range/Zero Switch	LED distance indicator. Resets the instrument to zero and selects the measurement range
Low Battery Indicator	An LCD display message indicates when the battery is low

TREK 511 IONIZER KIT

The Trek 511 can also be used for testing balance and +/- decay capabilities of ionizers when the optional Ionizer Test Kit (which includes the Trek 511, the Trek 511-CP Charge Plate and the Trek 511-CH Charger) is ordered.



REFERENCE NUMBERS

Included Accessories	
23480	Operator's Manual

  

Optional Accessories	
Ionizer Test Kit	Trek 511 Ionizer Test Kit (comes complete with the Trek 511 Field Meter, the Trek 511-CP Charge Plate and the Trek 511-CH Charger)



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## ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

PRECISION | POWER | PERFORMANCE

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