

TREK 821HH INFINITRON®

Hand held electrostatic voltmeter to measure the voltage level of both conductive and insulative objects and surfaces with virtually zero charge transfer.



The Trek® 821HH Infitron® hand held electrostatic voltmeter represents the next generation of contacting precision surface voltage measuring instruments, providing input characteristics far beyond the limits of any currently available hand held voltmeter product. The Trek 821HH can easily measure the voltage level of both conductive and insulative objects and surfaces with virtually zero charge transfer to the measurement probe. This results in stable high accuracy voltage measurement capability for ESD sensitive devices.

PRODUCT HIGHLIGHTS

- Probe tip assumes the voltage level of the measured object's surface as the tip approaches resulting in no current flow at the time of contact.
- Battery or line operation
- Easy-to-read LCD display
- Records voltage, temperature and humidity with included sensor
- Data graphing capabilities
- NIST-traceable Certificate of Calibration provided with each unit

APPLICATIONS

- Semiconductors
- LEDs
- MR head sensors
- Other ESD sensitive devices

AT A GLANCE

Measurement Range

0 to ±2 kVDC or peak AC

Voltage Display Accuracy

Better than 1% of full scale, ±1 digit

Input Characteristics

Resistance greater than $1 \times 10^{15} \Omega$

Capacitance less than $1 \times 10^{-14} \text{ F}$

Voltage Monitor Output

Scale factor at 1/1000

TECHNICAL DATA

Performance Specifications		
Measurement Range	0 to ± 2 kVDC or peak AC	
Measurement Accuracy	Voltage Monitor Output	Better than $\pm 1\%$ of full scale
	Voltage Display	Better than $\pm 1\%$ of full scale, ± 1 digit
Bandwidth	1000 V p-p sine wave: better than 700 Hz (-3 db)	
Input Characteristics	Resistance greater than $1 \times 10^{14} \Omega$	
	Capacitance less than 1×10^{-14} F	
	Current less than 1×10^{-14} A	
Stability Drift with Time	Less than 2 V/second (probe in free air)	
USB Data Rate	300 ms	

Displayed Information	
Voltage	0 to ± 2000 V with a resolution of 1 V
Zero Offset, Battery Status, Time / Date, Temperature, Maximum and Maximum Readings	

Voltage Monitor Output	
An output provides a low-voltage replica of the measured voltage (2.5 mm jack)	
Scale	1/1000th of the measured voltage
Offset Voltage	Less than ± 10 mV
Output Noise	Less than 10 mV rms ¹
Speed of Response	Less than 500 μ S for an input step change of 1 kV (10% to 90%)

Mechanical Specifications	
Dimensions (H x W x D)	240 x 140 52.5 mm (9.5 x 6 x 2 in)
Weight	1.13 kg (2.5 lb)
Ground Reference Receptacle	Banana Jack
Voltage Monitor Connector	2.5 mm plug

Operation Conditions	
Temperature	15 to 35°C (59 to 95°F)
Relative Humidity	5 to 75%, 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
IEC 61326-1	Electrical equipment for measurement, control and laboratory use - Part 1: General requirements

Electrical Specifications	
Power Requirements	Internal NiMH battery or External 15 V @ 1 A Supply / Charger
Battery Operating Time	Greater than six hours of continuous operation

¹ Measured using the true rms feature of the Hewlett Packard Model 34401A digital multimeter

TECHNICAL DATA

Features	
Automatic Shutoff	User settable: 5, 10, or 15 min or disabled
Power ON/OFF	A push-button
Record / Hold	Pressing the Record / Hold push-button will hold the measurement, while pressing and holding the Record / Hold button for a period of greater than 3 seconds will store the measurement

REFERENCE NUMBERS

Included Accessories	
24012	Operator's Manual with Software
-	AC/DC Adapter, 15 V @ 1 A universal AC/DC adapter
-	Output Monitor Cable with 3.5 mm plug
-	USB Cable, Temperature/Relative Humidity Sensor