

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

TREK ELECTROSTATIC VOLTMETER 820

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 |
