

NEW!

Model 800 InfiniTron[®]

Ultra High Impedance Voltmeter



Trek developed the Model 800 InfiniTron[®] for voltage measurement applications that demand virtually infinite loading impedance levels which are far beyond the reach of currently available high impedance voltmeter instruments. These applications include accurate reading of electrostatic voltage levels associated with ESD sensitive components, circuits, and surfaces.

Featuring an input capacitance of less than 1×10^{-15} F and an input resistance of greater than 1×10^{16} Ω , a guarantee of virtually no modification of the charge (voltage) of the measured object is obtained. This allows the Model 800 to indicate, with high precision, the voltage level of objects and surfaces - **even before contact is made.**

Virtually zero charge exchange upon contact prevents ESD events which would normally cause object damage. These near infinite impedance features allows direct measurement of such devices as semiconductor components and chips, insulative surfaces, MR head sensors, hand tools, etc.

The Model 800 probe features replaceable, contact electrodes, zero and hold pushbuttons and a 10 foot cable. A large informative backlit LCD screen displays the measured (or held) voltage values, date, time, prompts, and other information for maximizing measurement performance.

Remote monitoring at 20:1 and 1:1 measured to output voltage ratios is provided through BNC connectors.

Measurement Range:

0 to ± 100 V DC or peak AC
at $\pm 0.1\%$ accuracy of
conductive, dissipative or
insulative surfaces

Input Impedance:

Resistance greater than 10^{16} Ω
Capacitance less than 10^{-15} F

Small Signal Bandwidth:

Greater than 10 kHz

Speed of Response:

Less than 3.5 ms

HOLD and ZERO Modes:

Commanded from the unit,
from the probe, or from
remote locations

Voltage Monitor Outputs:

1:1 and 20:1 of
measured voltage

Gold Plated Rounded Tip

Probe Electrode:

May be replaced or
interchanged with other style
sensor tips.

CE compliant

CONTROL WITHOUT COMPROMISE



Model 800 InfiniTron® Ultra High Impedance Voltmeter Specifications

The Model 800 must be connected to the wall cube and in the STANDBY mode (or powered on) for 30 minutes prior to performing measurements.

Performance

Measurement Range

0 to ± 100 V DC or peak AC.

Accuracy

Better than $\pm 0.1\%$ of full scale.

Bandwidth

Large Signal Bandwidth (200 V p-p)

Greater than 100 Hz.

Small Signal Bandwidth (10 V p-p)

Greater than 10 kHz.

Speed of Response (10% to 90%)

Less than 3.5 ms for a 100 V step.

Input Impedance

Resistance greater than $10^{16} \Omega$.

Capacitance less than 10^{-15} F.

Features

LCD Display Screen with LED back-light

127 mm x 38 mm (5" x 1.5") screen displays prompts and voltage measurements with date and time. Resolution is 240 x 64 pixels.

Hold Mode

Activate the HOLD mode to lock the instantaneous voltage measurement value on the LCD screen display.

Local (unit and probe)

A momentary pushbutton located on the unit or the probe housing can control the HOLD mode.

Pressing the button once initiates the HOLD mode. Pressing the button again will release the HOLD mode.

Remote Operation

The [REMOTE OPERATION] HOLD BNC connector is capable of both sending TTL control signals or receiving external TTL control signals to be used to initiate the HOLD mode function.

Zero

Local (unit and probe)

Momentarily depressing the ZERO pushbutton on the unit or probe housing will provide zeroing of the input.

Remote Operation

Momentarily applying a TTL low to the ZERO BNC connector provides zeroing of the input.

Features (cont.)

Voltage Monitor Output(s)

Two BNC outputs provide buffered replicas of the measured voltage.

Scale Factors

20:1 of the measured to output voltage and 1:1 representation.

DC Accuracy

Better than 0.1% of full scale.

Offset Voltage

Less than ± 5 mV (referred to input).

Output Noise

Less than 10 mV rms (measured using the true rms feature of the Hewlett Packard Model 34401A digital multimeter).

Output Impedance

Less than 0.5 Ω .

Null Offsets (Auto Null Adjustment)

Nulling of the input voltage and current is necessary when the unit is first powered on, or when the display prompts that an auto null adjustment is necessary. Placing the probe in a holster on the side of the unit and pressing the NULL OFFSETS button provides nullification of the voltage offsets and the "leakage" currents, which are dependent on environmental conditions. An audio tone signals when the null offsets process is completed.

USB Communications Port

A 4-pin Type B connector is provided for future utilization.

TEMP/RH Meter Connector

A connector receives an input from an optional thermohygrometer (Omega Model HH311) and enables the Model 800 to display environmental data on the LCD screen.

ACCESSORIES SUPPLIED

Probe with rounded probe tip, three (3) extra probe tips, operator's manual, AC Adapter kit, and a 2.7 meter (9 ft.) stackable banana to banana cord, and carrying case.

Probe

The probe connects to the front panel and may either be hand-held or mounted to a clamping device.

Model 800P Probe Sensor

A gold plated rounded tip electrode (may be replaced or interchanged with other style sensor tips).

Orientation

Pencil probe structure with end contact sensor.

Probe Body Type

Elliptical with safety ring.

Probe Dimensions

185 mm L x 22.6 mm W x 25 mm D (7.28" L x 0.89" W x 0.98" D)
34 mm (1.34") diameter safety ring.

Probe Cable Length

3048 mm ± 76 mm (10 ft. ± 3 in.).

General

Power Requirements

A wall cube supply is available for all nominal line voltages. Contact TREK, INC. or an authorized service organization for additional information.

Connector

2.1 mm DC power plug.

Voltage

12 V AC, $\pm 10\%$.

Current

1 A.

Instrument Dimensions (with holster)

102 mm H x 316 mm W x 241 mm D (4" H x 12.5" W x 9.5" D).

Instrument Weight

2.5 kg (5.5 lb).

Operating Conditions

Temperature

15 °C to 35 °C.

Relative Humidity

To 80%, noncondensing.

Voltage Monitor Connectors

BNC connectors.

Ground Receptacle

Ground Stud (5-way).

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0820/JNC



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ISO 9001:2000
FM 56910