

Models 876 and 884 Hand-Held Electrostatic Voltmeters



The Trek Models 876 and 884 Hand-Held Electrostatic Voltmeters provide accurate, noncontacting measurements of electrostatic surface voltage for ESD applications in either ionized or non-ionized environments. Industrial applications include measuring charge accumulation in the LCD manufacturing process or measuring static charge in semiconductor production. The Models 876 and 884 voltmeters utilize a new measurement technique that overcomes the disadvantage of the typical hand-held fieldmeter by providing surface voltage measurements which are essentially independent of the sensor probe to measured surface spacing.

Model 876 (0 to ± 2 kV DC)

Over a spacing range of 5 mm to 25 mm, the 876 voltmeter provides better than a 5% voltage measurement accuracy, while the typical fieldmeter provides a voltage measurement error in excess of 50%.

Model 884 (0 to ± 20 kV DC)

Over a spacing range of 30 mm to 60 mm, the 884 voltmeter provides greater than a 5% voltage measurement accuracy, while the typical fieldmeter provides a voltage measurement error in excess of 50%.

The Models 876 and 884 hand-held voltmeters employ an efficient and compact sensor probe design. The probe design allows for higher spatial resolution capability by allowing the measurement of small surface areas.

The probe is attached to the meter with 6 feet of cable length. The length of cable provides the flexibility to make measurements in many locations that are impossible to reach using the large bulky sensing surfaces of the typical hand-held fieldmeter. A "hold" push button retains the displayed measured voltage value for recording purposes. The Models 876 and 884 provide a measurement system with calibration traceable to the National Institute of Standards and Technology.

- Model 876
Measurement Range:
0 to ± 2 kV DC
- Model 884
Measurement Range:
0 to ± 20 kV DC
- 1.8 meter (6 ft)
probe cable length
- Accurately measure
surface voltage at a
wide range of spacings
- No need to maintain a
fixed spacing
- Inspect small spots for
charge accumulation
- Measure charge
accumulation in
difficult-to-reach
locations
- Chopper stabilized for
drift-free operation in
ionized environments



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Measurement and Power Solutions™

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Models 876 and 884 General Specifications

All Model 876 specifications are with a probe-to-surface separation of 15 mm, ± 10 mm.

All Model 884 specifications are with a probe-to-surface separation of 45 mm, ± 15 mm.

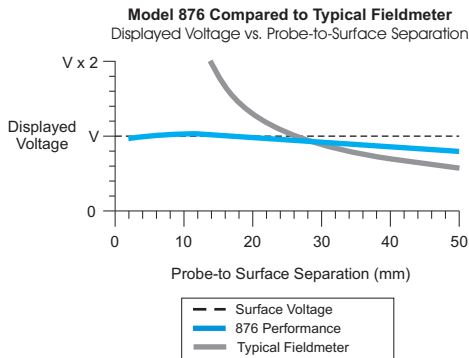
Model 876 Performance

Measurement Range

0 to ± 2 kV DC.

Accuracy

Better than $\pm 5\%$ of full scale over the entire recommended probe-to-surface separation range of 5 mm to 25 mm.



Dimensions

31 mm H x 59 mm W x 127 mm D
(1.2" H x 2.3" W x 5" D).

Weight

200 g (7 oz), with battery.

Trek designs and manufactures many instruments for Electrostatic Overstress/ Electrostatic Discharge (EOS/ESD) monitoring, detection, and measurement.

For more information about these or other products, contact TREK, INC.

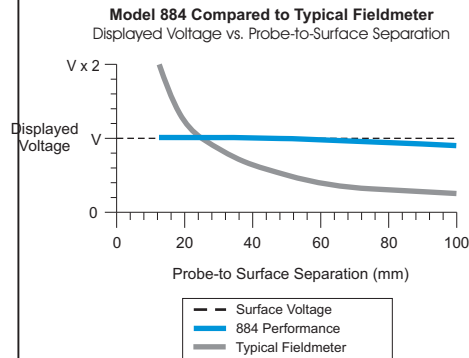
Model 884 Performance

Measurement Range

0 to ± 20 kV DC.

Accuracy

Better than $\pm 5\%$ of full scale over the entire recommended probe-to-surface separation range of 30 mm to 60 mm.



Dimensions

31 mm H x 59 mm W x 127 mm D
(1.2" H x 2.3" W x 5" D).

Weight

200 g (7 oz), with battery.

Common Features

Power On/Off

A push button.

Stability

Drift with Time

Less than 600 ppm/hour, noncumulative.

Drift with Temperature

Less than 600 ppm/ $^{\circ}$ C.

Common Features (cont.)

Operating Time

8 hours with a new battery.

Hold

A push button that, when pressed, commands the voltage display to hold the value displayed until the button is released.

Voltage Display

3 1/2 digit liquid crystal display.

Range (Model 876)

0 to ± 1999 V.

Range (Model 884)

0 to ± 19.99 kV.

Resolution (Model 876)

1 V.

Resolution (Model 884)

10 V.

Sampling Rate

2.5 readings per second.

Probe Cable Length

1.8 meter (6 ft.).

Zero Offset

Less than ± 4 counts.

Power Requirements

One (1) 9-volt NEDA 1604 battery, IEC 6R61 battery, or equivalent.

Ground Receptacle

Snap-on connector.

Operating Conditions

Temperature

15 $^{\circ}$ C to 35 $^{\circ}$ C.

Relative Humidity

To 85%, noncondensing.

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Ordering Information

Models 876 and 884

Accessories Supplied

Item	Part No.	Item	Part No.
Hand-held Electrostatic Voltmeter (0 to ± 2 kV DC)	876	Operating Instructions (Model 876)	23100
Hand-held Electrostatic Voltmeter (0 to ± 20 kV DC)	884	Operating Instructions (Model 884)	23099
		Ground Reference Cable Assembly	N9079
		9-volt NEDA 1604 Battery, IEC 6R61 Battery, or equivalent.	F1003



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