

Static Meter

Model: SVM2

a measurable difference...

IDM[®]
instruments

The Static Meter is a handheld electrostatic voltmeter that measures essentially all the parameters associated with static electricity. **Its principle function-- measuring the voltage of a sample or surface without touching it.**



This unit is intuitive and the meter can be used for this purpose immediately out of the box. In addition, it has features not found in any other handheld static meter, such as very high sensitivity. Its resolution is one volt at the standard measurement distance of 1" (2.5 cm), making the SVM2 an extremely sensitive noncontact voltmeter available.

This additional sensitivity makes the meter practical for determining other parameters, such as a sample's "ohms per square" and discharge time, and a room's air ion balance. Static charge can even be measured on tiny submillimeter samples (correction formulas are required because of the geometry of small samples). The single range is + to -29,999 volts, in one volt steps, which means it can detect a small change even in a high voltage.

There is also a user-settable alarm and a peak hold for both + and - voltage peaks, all with ultrafast 0.005 second response. Therefore, the meter can be used to scan large areas quickly for static sources. It will beep if exposed longer than 5 millisecc to a voltage (whether + or - polarity) that is higher than the alarm level, which is settable from 10 to 20,000 volts in 300 levels (it can also be muted). Then by pressing the "- Peak Hold" or "+ Peak Hold" button, the meter displays respectively the most negative and most positive voltages that were detected since the last time that the "Reset" button was pressed. The peak hold function can also be used to measure AC voltage (approximately 1/3 the peak-to-peak voltage). These innovations have been incorporated so that the operator can effectively "see" static electricity with greater clarity and speed than has been possible before.



Applications:

- Plastic Film
- Sheet

Specifications:

- Range: 0 to ± 29.999 kV
- Resolution: 1 volt (0.001 kV)
- Sensor Type: Metal disc
- Drift and Leakage: Sensor resistance is > 20 T ohms
- Accuracy: $\pm 2\%$ of reading
- Battery: Standard replaceable 9 volt rectangular battery (included)
- Display Speed: 4 updates per second
- Reset: If pressed, this button simultaneously removes the accumulated charge on the sensor (which causes the display to read zero) and resets both the Peak Hold memories to zero.
- Alarm Set: Press this to display the present alarm threshold value. While holding this button, press "+" or "-" to change the value (0 to +20.000 kV), or press "Reset" to return to zero.
- Standard Alarm Function: Between -20 kV and +20 kV, the alarm sounds if the actual voltage is above the "Alarm Set" number. If "Alarm Set" is zero, the standard alarm is disabled (muted).
- High-Voltage Alarm Function: A safety feature--if the voltage ever exceeds 20 kV, sparking becomes likely. A different (lower) tone sounds even if the alarm is muted.
- Sampling Speed: The Peak Hold and Alarm both sample continuously. The characteristic (1/e) time is 0.005 sec. Guaranteed 98% response for any a pulse that is 0.015 sec or longer.
- Auto Off: If no buttons are pressed for 10 minutes, the meter will turn off.

The following can be measured on the Static Meter:

- The amount of charge (or voltage) on surfaces and the effectiveness of antistatic processing. Measuring a tiny fractional change in the surface voltage is useful because it tells you whether the problem is getting better or worse as a new remedy is tried and modified.
- The location, strength and polarity of all static sources. Because of the speed of this meter, unexpected sources are easily found.
- The number (per square cm per second) of air ions that are hitting a surface, and the effectiveness of ionizers and discharge devices.
- DC Electric field strength in air (also AC, which is 1/3 of the difference between + and - peak hold numbers).
- The approximate conductivity or ohms per square of surfaces.
- The approximate attractive/repulsive force between charged surfaces. (This can be calculated from the readings.)
- Voltage differential through the thickness of an insulating sheet or film.

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