

Operating Instructions



709 Static Sensor

A. Testing the Battery

Turn the sensor "on" by depressing the range select switch to either the LO or HI position. Depress and hold the battery/zero switch in the BATTERY position. If the display shows less than 700, replace the battery and recheck. Low battery voltage will cause incorrect readings.

B. Zeroing the Sensor

Turn the sensor "on" to the LO position. Depress and hold the battery/zero switch in the ZERO position until the display shows 000.

Note: While holding the sensor the operator should contact a known ground point (e.g., electrical ground, cold water pipe, or building frame member), and point the sensor away from charged surfaces while zeroing.

C. Taking Measurements

At a distance of about ten inches, point the sensor toward the object or surface to be measured. If the sensor is overranged (i.e., display reads 1...), switch to HI

range and re-zero. Move the sensor toward the object while observing the display. Without overranging the meter, continue moving the sensor toward the object until a minimum distance of one inch is reached. Avoid touching the object with the sensor.

The static voltage is equal to the meter value multiplied by the number of inches between the sensor and the object. See the following table to obtain the correct measurement:

LO SCALE

Reading x Distance = Static Voltage

200	1 inch	200 volts
160	5 inches	800 volts

HI SCALE

Reading x Multiplier* x Distance = Static Voltage

200	10	1 inch	2000 volts
160	10	5 inches	8000 volts

*When using the HI scale, the display must be multiplied by 10.

D. Recorder Output

The red jack is the signal output (HIGH) and the black jack is connected to the sensor case (battery minus). The recorder output will swing both positive and negative polarity.

The signal of the recorder output is inverted and is directly opposite the LCD display, e.g., when the meter display indicates (+) positive, the recorder output is (-) negative. When the LCD display indicates (-) negative, the recorder output is (+) positive. In both examples this is in reference to the case of the sensor.

Specifications

(at 1.0 inch distance from sensor to target)

Accuracy Within $\pm 10\%$

Size $4\frac{3}{8}'' \times 2\frac{5}{8}'' \times 1\frac{3}{8}''$

Weight 6.8 ounces

Battery One (1) 9-volt transistor battery (type 216 or equivalent)

Recorder

Output ± 2.0 volt analog output. Minimum load impedance 50,000 ohms

Note: Sensor should not be used in environments below 0°C or above 50°C, or in relative humidity above 90%.

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Defects occurring during the warranty period will be repaired or products will be replaced at 3M's option and expense, if 3M receives notice during the warranty period. Defective products must be returned to 3M with proof of purchase date.

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