



# 718 Static Sensor 718A Air Ionizer Test Kit

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3M 718 Static Sensor

Hand-held static sensor locates and measures static voltages and tests air ionizers.

The 3M™ 718 Static Sensor can help companies competing in the global high-tech marketplace prevent costly losses due to electrostatic discharge (ESD) damage by playing a vital and valuable role in their own ESD control program. Easy to use, the hand-held 718 Static Sensor is designed to measure static voltages on objects and surfaces arising from electrostatic charge buildups, and can help identify ESD trouble-spots — ensuring product reliability and customer satisfaction which translates into company profits. As a bonus, when used in conjunction with the 3M™ Model 718A Air Ionizer Test Kit, the 718 can also be used to verify the operation of air ionizers.

### 718 Static Sensor Features

- Small-size, lightweight, conductive plastic housing
- Membrane switches for Power, Range/Zero and Hold functions.
- Digital, LCD (liquid-crystal) display is easy to read and updates quickly.
- Ranging system assists user in making quick and easy measurements.
- Measurements accurate to 5%.
- Output jack available for continuous measurements.

### Convenient Size/Low Power Requirements

The 718 is small enough to be carried in a pocket and weighs less than 5 oz. (142 g), including battery. The lightweight plastic housing is conductive, allowing a properly-grounded user to dissipate all electrostatic charges from the surface of the meter.

### Meter Functions

The meter is equipped with three membrane switches which control different functions. The POWER switch turns the instrument on and off. The RANGE/ZERO button performs

two functions; when pressed momentarily it switches between the two measurement ranges of 0-2,000 volts and 0-20,000 volts, and if held for longer than 3 seconds, it resets the voltage display to 0 volts. The HOLD button allows the user to freeze a measurement on the LCD for later review.

### Ranging System

Included with the 718 Static Sensor is a ranging system consisting of two light-emitting diodes (LEDs) which each emit a circular red light onto the surface being measured for static. When the two lights intersect and form a single focused light, the measurement distance is the prescribed 1 inch (2.54 cm).



718 Range Finder Unfocused



718 Range Finder at 1" away

### Accuracy

The 718 Static Sensor is accurate to within  $\pm 5\%$  of the displayed measurement, at a distance of one inch (2.54 cm) from the target. Accuracy will vary as the distance between measured object and instrument changes from the one inch (2.54 cm) specification.

### Analog Output Jack

The analog output jack located in the front of the unit provides a convenient hook-up, via a 3/32 inch (2.5 mm) monophone jack, to a recorder/data acquisition console. The 718 Static Sensor may then be used for remote monitoring or permanent recording of electrostatic voltage readings.

### 3M 718 Static Sensor Specifications

Dimensions	0.85" (H) x 2.4" (W) x 4.15" (L) 2.2 cm (H) x 6.1 cm (W) x 10.5 cm (L)
Weight	4.5 oz. (128 g) with battery
Power Requirements	One 9-volt alkaline battery
Measurement Ranges	0 – 2 kV Low Range 0 - 20 kV High Range
Voltage Display	3½ digit liquid crystal display
Voltage Output	1/1000 of measured voltage @ low range 1/10,000 of measured voltage @ high range
Distance Indicator	LED targets. Aligned targets indicate 1 in. (2.54 cm) measurement distance
Measurement Accuracy	Within 5% of actual voltage
Certifications	UL, C-UL, CE, CB-scheme, NOM



3M 718A Air Ionizer Test Kit

### 3M™ 718A Air Ionizer Test Kit

When used with the 3M™ 718 Static Sensor, the 3M™ 718A Air Ionizer Test Kit can provide periodic verification of air ionizer performance. The 718A Air Ionizer Test Kit consists of a charge plate and a charger. The system as a whole is designed to meet the guidelines specified in ESD Association Draft Standard D3.3.

The charge plate slides over the housing of the 718 Static Sensor. Placing the 718 in the air flow of an air ionizer allows

for measurement of the ionizer's offset balance. The charger can be used to deposit an electrostatic charge on the plate. Measuring how long it takes the ionizer to neutralize this static charge gives the ionizer discharge time.

### Calibration and Certification

The 3M 718 Static Sensor can be ordered as calibrated and certified by a 3M ISO9002 Registered Metrology Laboratory. Calibration can be traced back to National Institute of Standards and Technology (NIST) standards, as specified in MIL-STD-45662.

### 3M 718A Air Ionizer Test Kit Specifications

Charge Plate Assembly	Per ESD Association Draft Standard D3.3
Charge Plate Bracket Dimensions	1" (H) x 3.1" (W) x 4.25" (L) 2.5 cm (H) x 7.9 cm (W) x 10.8 cm (L)
Charge Plate Area	3.25" (W) x 1.25" (L) 8.3 cm (W) x 3.2 cm (L)
Charge Plate Assembly Weight	2.5 oz (70 g)
Charger Dimensions	0.85" (H) x 2.4" (W) x 5.0" (L) 2.2 cm (H) x 6.1 cm (W) x 12.7 cm (L)
Charger Weight	6 oz. (170 g) with battery
Charger Power Requirements	One 9 volt alkaline battery
Charger Output	1100 V minimum for positive or negative voltage
Certifications	UL, C-UL, CE, CB-scheme, NOM

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