EXAIR® EXAIR TECHELP 1-800-903-9247

MODEL 7905 – DIGITAL STATIC METER INSTALLATION & MAINTENANCE



SPECIFICATIONS

Range:	0 to ± 19.99 kV
Distance:	The meter reads true at 1" (25mm) from the test surface
Accuracy:	± 5% of reading
Power:	(1) 9VDC alkaline battery (included)
Size:	4.17" (105.9mm) long, 2.4" (61mm) wide, 1.07" (27.2mm) thick
Color:	Black
Weight:	Approximately 0.3 pounds (142 grams)

The Model 7905 Static Meter allows easy one-hand operation for field use. Accurate, sensitive and responsive, the meter is extremely simple to operate and shows both the intensity and polarity of static charges on surfaces without touching them.

In most cases, static discharges are destructive and/or potentially harmful. Dust clinging to product, materials jamming or tearing, product clinging to itself and hazardous sparks or shocks to personnel are just a few of the many problems associated with static. The Model 7905 Static Meter is an indispensable tool for detecting static charges and finding the exact point where the static is generated. EXAIR LLC manufactures static eliminators or "ionizers" that neutralize static and eliminate associated static problems. See the Static Elimination section in the EXAIR Catalog or contact an Application Engineer at 1-800-903-9247 (513-671-3322 outside the U.S.).

GENERAL

The Model 7905 Static Meter is a high quality, portable, non-contacting static meter which will produce years of trouble-free operation. It will indicate surface voltage and polarity on objects up to ± 19.99kV at a spacing of one inch with an accuracy of ±5% of reading. Also featured are a pushbutton to hold readings and ranging LED lights to help position the meter 1″ away.

The accuracy is dependent upon three factors:

- The instrument must be properly zeroed.
- The distance from the front edge of the case to the target or surface under examination must be 1″ (25mm) away from the target. The ranging LED lights help guide the user to position the meter at exactly 1″ (25mm) from the charged object. Hold the meter at a distance where the two LED circles are concentric on the target.
- The target must be large relative to the measurement distance. It should be at least 5" x 5" (127mm x 127mm) for true accuracy.

OPERATION

1. Short press the "ON/OFF" button to power on, long press to power off.
2. Discharge your body by touching a grounded, conductive object such as a water pipe, metal electrical conduit, grounded machinery or workbench. Alternatively, the operator may wear a grounded wrist strap or place one around the instrument. The case of the static meter is conductive and is the reference for the measurement.

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3. Face the static meter away from the charged objects. Depress and release the “ZERO” button twice. The instrument may also be zeroed by pointing it toward a known grounded surface (such as the palm of the opposite hand) and depressing the “ZERO” button twice. Although you must be careful not to contact the recessed electrode, the amount of spacing between the electrode and the target is not critical when zeroing the static meter.
4. Point the sensor plate toward the target and move to a spacing of one inch between the edge of the case and the target. Note the meter reading. To hold the reading, press the “HOLD” button. To clear the held reading, press the “HOLD” button again.

A source with a negative polarity will show a minus (-) sign in the display. A positive source will display no sign.

> **NOTE:** If you approach the target and the indicated field strength begins to exceed 20kV at a distance greater than 1" (25mm), **STOP!** This implies that the target voltage may be high enough to create an arc.

Proceed with caution.

5. Repeat the above for additional measurements.

WARNING: DO NOT POINT STATIC METER DIRECTLY AT ELECTRICAL IONIZER AT CLOSE RANGE OR YOU MAY SEVERELY DAMAGE THE STATIC METER.

FOR ACCURATE READINGS:

1. Always read at 1" (25mm) away from the target surface.
2. The sensing electrode of the static meter is very sensitive. Do not let materials contact the sensor orifice. Inaccurate readings or damage to the meter may result.
3. Zero the meter between readings. Keep in mind that some articles of clothing worn by the person using the meter might have static charges which can affect the meter readings.
4. Never point the sensor at an ionizer. This can permanently damage the sensitive electronics of the meter. Always measure the charge on the surface of the material. If an ionizer is used on a material, the treated surface should produce a “zero” reading.

NOTE: At rest, few objects will show a charge unless recently rubbed against another surface or if separated from a surface. To illustrate this, read the charge on a roll of cellophane tape. Now unroll a bit. Note that the unrolled portion has a positive charge, while the surface from which it separated has a negative charge. The Model 7905 Static Meter will help you find and isolate the point(s) where the static charge is generated. An EXAIR Static Eliminator located at the point after the material has received its charge can instantly neutralize the charged surface. If that surface is subjected to additional friction, it may build up another static charge and additional static eliminators may be required.

BATTERY REPLACEMENT

The unit should be off while replacing the battery. Normal battery life is about 20 hours of continuous use. The battery should be replaced when the “BAT” indicator appears on the display for 5 seconds or more. Recommended replacement is once a year. (Dead battery voltage is approximately 7.2 volts.) Replacement type is Eveready #216 or equivalent NEMA 1604. Remove the battery when storing the static meter for an extended period of time.

CLEANING

If excessive drift is noted, the surface of the electrode may require cleaning. Wipe the surface with a soft cloth saturated with clean alcohol and allow to dry thoroughly. Dust off any lint.

If you have any questions or problems, please contact an EXAIR Application Engineer at:

Toll Free: 1-800-903-9247 (US & Canada)
Toll Free Fax: 866-329-3924 (US & Canada)
E-mail: techelp@exair.com

Telephone: 513 671-3322 outside of US & Canada
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For more information about this product, visit “Frequently Asked Questions”
FAQ at EXAIR.com

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