



# RT-500 Megohmmeter Accurate - Best Value Today

## Applications

The Ohm-Stat™ RT-500 Megohmmeter measures **Surface Resistivity** using parallel electrodes and concentric rings. Tests **Resistance To Ground (RTG)**, **Resistance Between Two Points (RTT)**, **Volume Resistance** using two 5 lb. 2.5" disk probes. Ohm-Stat RT-500 tests each sleeve of a **garment** for continuity in addition to performing **dissipative seating** tests. The RT-500 can also test shoes, heelgrounders, and wrist straps with optional accessories. Conforms to ANSI/EOS/ESD (S4.1, S7.1, S12.1, S2.1), EN 61340.5.1, ASTM-F150, NFPA 99A, and ASTM-D257 standards. The Ohm-Stat RT-500 Megohmmeter is designed to quality inspect incoming materials such as floor finishes, floor mats, table mats, conductive floor tiles, work surfaces, paints, bags, wrist straps, common point ground cords, footwear, packaging materials, clothing, and ESD chairs in static controlled areas.



Applications include: engineering, maintenance, quality control, incoming inspection, manufacturing, and training.

## Major Specifications

- Range:  $10^3$  –  $10^{12}$  ohms -100 percent accuracy
- Measures resistance/resistivity, RTT, RTG, and volume resistance with accessories
- Automatic zeroing and power shut off
- CE approved
- Conforms to EOS/ESD, NFPA, ANSI, UL, ASTM, Military, EIA, and EN standards
- 10 volts and 100 volts
- Automatic voltage range selector
- Small, light weight-2.6 x 5 x 1.2 inches (6.5 x 113 x 3cm), 8.4 oz. (233 grams)
- LED display color indicates range
- Low battery warning light

## Sold With:

- Parallel bar, resistivity probes, RTG cord - Jacks available for external probes
- Grounding hardware and instructions

- One-year limited warranty
- NIST Certificate
- 9v DC alkaline battery
- Carrying case

## Optional Accessories

- 5 lb. Concentric ring probe *CP-1111*
- 2- 5 lb. 2.5" electrodes *RP-4323*
- Miniature electrodes to test hard to reach areas *MP-1234*
- Chair probe *FP-1745*
- Wrist strap probe *MP-6533*
- Smock probe *GC-5621*
- Temperature humidity meter *TH-6366*
- Building ground tester *GT-4872*
- Footwear Personnel Tester *MP 6533/FP-1745*

## Testing Instructions:

### Resistivity:

Place the Ohm-Stat RT-500 Megohmmeter on the material to be tested. Press the test button until the reading appears on the LED display as ohm/sq. Alternative method is to use the optional concentric ring probe.

### Resistance/RTG/RTT:

(Additional accessories needed)

Attach the enclosed RTG ground cord to one banana jack. Place meter on surface to be tested. Attach the ground cord to building ground or in common point ground and press power button.



To measure RTT, position the RT-500 meter on the surface to be measured. Insert both ends of the banana plug cords into the meter and 5 lb. probes. The voltage will automatically change to either 10 volts or 100 volts depending on the resistivity of the material to be test-



ed. The meter will shut off automatically. Note: Place 5 lb. Probes 3 feet apart. Refer to the EOS/ESD Specifications. EOS/ESD-S4.1, ANSI-ESD S7.1 and EOS/ESD-S11.11-1993

### Seating:

(Additional accessories required)

Position the conductive chair caster or drag chain of the chair over the footplate probe. Connect the leads to each electrode, or connect directly with an alligator clip. Press the test button. Repeat the test by placing the electrode perpendicular to any spot on the armrest. Repeat the test on other points of the chair, such as the middle of the backrest, middle of the rear of backrest, or either end of the armrest. Refer to EOS/ESD Specification. ESD-STM12.1-1997

### Garments:

(Additional accessories required)

**Sleeve-to-Sleeve:** Hang the garment from each sleeve with clamps and position the 100 volt voltage lead to one clamp and then attach the sensor lead to the other clamp. Press the test button.

**Point-to-Point:** Position the garment on an insulative surface, position one electrode on the garment, and place the second electrode on another point on the garment. Press the test button. Refer to EOS/ESD Specification. FSD-S2.1-1995.

**Warranty:** Static Solutions, Inc. expressly warrants that for a period of (1) one year from the date of purchase any Static Solutions, Inc. product will be free of defects in materials and will function within its specifications. Within the warranty period, the product will be repaired or replaced at Static Solutions, Inc.'s option with no cost to the customer as long as Static Solutions, Inc. receives notice during the warranty period. Defective products must be shipped prepaid to Static Solutions, Inc.'s factory. Call Static Solutions, Inc. customer service at 508-480-0700 for a return authorization number. Include a copy of the invoice, packing slip, or other proof of purchase.

**Warranty Exclusion:** The foregoing express warranty is made in lieu of other product warranties express and implied, including merchantability and fitness for a particular purpose which are specifically or indirectly disclaimed. The express warranty will not apply to defects or damage due to neglect, misuse, accidents, alterations, operator error, failure to properly maintain, follow instruction, or failure to clean or repair products.

**Limit of Warranty:** In no event will Static Solutions, Inc. or seller be responsible or liable for special, incidental or consequential losses or damages, whether based on tort, contract, or the use of or inability to use, the product. Before using the product users shall determine the suitability of the product for their intended use. The users assume all risk and liability whatsoever in connection therewith. Fulfillment of Static Solutions, Inc.'s warranty obligations will be the customer's exclusive remedy and Static Solutions, Inc. and seller's limit of liability for any breach of warranty or otherwise.

**Static Solutions, Inc.**

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**INTRODUCTION:**

The Ohm-Stat RT-500 is a pocket size, light weight, auto-ranging surface resistance tester. Its internal parallel electrodes comply with EOS 20/20, EOS/ESD-S4.1, ANSI-ESD S7.1, EOS/ESD-S11.11-1993, IEC 61340-4-1 and DIN EN 100 015/1 standards.

**Measuring Surface Resistance**

- To measure the surface resistance of a material, hold the Ohm-Stat 500 to the surface and press the "TEST" button.
- The value is indicated with 12 LED'S, in different colors.

The LED'S indicate

<u>LED</u>	<u>RANGE</u>	<u>DEFINITION</u>
Green	$< 10^5$ ohms	Electrostatic conductive
Yellow	$10^6 - 10^{11}$ ohms	Electrostatic dissipative
Red	$10^{12}$ ohms >	Electrostatic insulating

**Measuring Resistance to Ground**

- Plug in the supplied grounding cord at one socket of the Ohm-Stat RT-500. The internal electrodes on the bottom will be disconnected once the grounding cord is inserted into the banana jack.
- Connect the opposite end of the cord to "GROUND" or a "GROUNDABLE" point.
- Press and hold the button and meter on the surface to be tested.

**OTHER MEASUREMENTS TO BE TESTED.**

By connecting two external 5 pound electrodes into the banana jacks it is possible to measure "point to point" RTT, "resistance to ground" RTG, or volume resistance.

## **PACKING LIST**

### **The Ohm-Stat RT-500 includes:**

1. Ohm-Stat RT-500
2. Soft Carrying Case.
3. Grounding cord.
4. 9 volts battery-installed.
5. Instructional sheet
6. Calibration NIST certificate

### **Technical Specifications**

**Weight:** .528 pounds (240 grams)  
**Dimension:** 5.1 inch (130 mm) by 2.56 inch (65 mm ) by 1.22 inch (31 mm )  
**Power supply:** 9 Volt battery  
**Test Range:**  $10^3 - 10^{12}$  ohms  
**Test Voltage:** 10 volts and 100 volts- (Automatic Ranging)

### **NOTICE:**

**DO NOT USE THE OHM-STAT RT-500 IN EXPLOSIVE HAZARDOUS ENVIRONMENTS.**

**HIGHLY ELECTROSTATIC CHARGES OR MEASURING HIGHLY CHARGED MATERIALS MIGHT DAMAGE THE INSTRUMENT.**

**DO NOT USE THE OHM-STAT RT-500 IN POWER PLANTS**

### **MAINTENANCE:**

Replace the 9 volts battery when the (>) – LED flashes during measurement. Open the back cover of the RT-500 by unscrewing the four screws. Make sure the polarity is correct when reinstalling the battery.

### **CALIBRATION:**

**NIST Calibration is recommended every year.**

**\*\*\*\*\* EXAMPLE CERTIFICATE ONLY \*\*\*\*\***

**Static Solutions, Inc.**

**CERTIFICATE OF COMPLIANCE** *“Solutions, Strategies, and Innovations”*

MODEL Ohm-Stat™ RT-500  
Serial # **XXXXXXXXXX**  
CALIBRATION DATE **XX / XX / XXXX** (due in one year)  
*Calibrated in accordance with ISO-10012-1, MIL-STD 45662, 10CFR part 21, and ANSI/NCSL Z540-1.*

This is to certify that at the time of calibration the measured values meet all the specifications described in the EOS 20.20 and DIN EN ISO 9001 test standards.

<u>ACTUAL VALUE</u>	<u>TEST VALUE</u>	<u>TOLERANCE</u>	<u>RESULT</u>
1.0x10 <sup>4</sup> OHMS	10k OHMS	10%	PASS
1.0x10 <sup>5</sup> OHMS	100K OHMS	10%	PASS
1.0x10 <sup>6</sup> OHMS	1M OHMS	10%	PASS
1.0x10 <sup>7</sup> OHMS	10M OHMS	10%	PASS
1.0x10 <sup>8</sup> OHMS	100M OHMS	10%	PASS
1.0x10 <sup>9</sup> OHMS	1G OHMS	10%	PASS
1.0x10 <sup>10</sup> OHMS	10G OHMS	10%	PASS
1.0x10 <sup>11</sup> OHMS	100G OHMS	10%	PASS
1.0x10 <sup>12</sup> OHMS	1T OHMS	10%	PASS

Testing Equipment	Cal Date	Due Date
HP 3458A	1/18/2010	1/18/2011
Keithly 5155	1/4/2010	1/4/2011
Genrad 1432Y	4/19/2010	4/19/2011
UEI Humidity/Temp	5/20/2010	5/20/2011

CALIBRATED BY **XXXXXXXXXX**  
**XXXXXXXXXX**

**\*\*\*\*\* EXAMPLE CERTIFICATE ONLY \*\*\*\*\***