

## GenRad 1863 &amp; 1864 Megohmmeter

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**High Resistance Megohmmeter**

GenRad 1863/1864 megohmmeters fit many high-resistance measurement needs. Although these two instruments are similar in appearance and accuracy, their operating ranges differ to match differing needs in the laboratory and production area.

**FEATURES:**

- Easy To Use
- Portable Carrying Case
- Charge Current up to 5mA
- 200 Test Voltages: 10 VDC to 1090 VDC
- 50 k $\Omega$  to 200 T $\Omega$  (2 x 10<sup>14</sup>)
- Analog Output
- 3% Basic Accuracy
- Simple Operation
- Direct Reading, Safe, Stable

**USES:**

- Insulation Resistance on Wire and Cable
- Insulation Resistance on Capacitors
- A Wide Variety of Electronic Components and Devices

**Description**

**The 1863 Megohmmeter** is the choice for production and inspection tests. The 1863 will measure resistance at any of five common test voltages up to 500VDC, has fewer controls, and is the lower priced model. It is the best selection for those applications requiring a lesser voltage and resistance range.

**The 1864 Megohmmeter** is the choice for more demanding applications. It is the more flexible of the two instruments. The test voltage can be set to any value from 10 VDC to 109 VDC in one-volt steps and to 1090 VDC in 10 volt steps. Thus the 1864 can be set to any common, or uncommon test voltage for ceramic, mica or paper capacitors, or other devices. The reverse resistance of rectifiers can be readily measured; the low test voltages are especially useful in measuring solid state diodes. An additional range permits measurements up to 200 T $\Omega$  (2 x 10<sup>14</sup> $\Omega$ )

Both instruments are easy to use with direct-reading meter indication and lighted range switch that shows the multiplier for each range and voltage. The maximum current possible at the terminals is limited to a 5mA and a panel light near the terminals warns when voltage is present.

Stable power supplies and feedback voltmeter circuit minimize drift and time wasting adjustments. Guard and ground terminals permit measurement of grounded or ungrounded two- or three-terminal resistors. The instruments are supplied in a convenient, portable, Flip-Tilt case that is a stand for the meter in use and protects it in transit and storage.

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## SPECIFICATIONS

### 1863 and 1864 Megohmmeters

**Resistance Accuracy:**

**1863:**(min reading 0.5) Range 1-5:  $\pm 2$ (meter reading +1)%  
Range 6:  $\pm 2\%$  to accuracy above  
Range 7:  $\pm 4\%$  to accuracy above

**1864:**(min reading 0.5) Range 1-5:  $\pm 2$ (meter reading +1)%  
Range 6:  $\pm 2\%$  to accuracy above  
Range 7:  $\pm 3\%$  to accuracy above  
Range 8:  $\pm 5\%$  to accuracy above

**Voltage Accuracy:** (across unknown):  $\pm 2\%$

**Short-Circuit Current:**

5mA approximately

**Input Terminals:**

Front Panel Mounted:  
4 Binding Posts  
(+) unknown (red)  
(-) unknown (red)  
guard (red)  
ground (silver)

**Display:**

Analog meter  
Caution High Voltage warning indicator

**Dimensions:**

Flip Tilt Case  
(w x h x d) : (9.63 x 10 x 6.75 inches)  
(245 x 254 x 172 mm)

**Weight:**

Approx. 4.4 kg (9.5 lbs) - Net  
Approx. 7.0 kg (14 lbs) - Shipping

**Power:**

100 to 125V or 200 to 250V,  
50-400Hz, 13W

**Environmental:**

Operating: 0°C to +40°C, stated  
accuracy <70% RH

**Storage:**

-20°C to +60°C, <80% RH

### 1863 Voltage and Resistance Ranges

Voltage	Rmin (Full Scale)	Rmax	Useful Ranges
50VDC, 100VDC	50kΩ	2TΩ	7
200, 250, & 500VDC	500kΩ	20TΩ	7

### 1864 Voltage and Resistance Ranges

Voltage	Rmin (Full Scale)	Rmax	Useful Ranges
10VDC to 50VDC	50kΩ	2TΩ*	7*
50VDC to 100VDC	200kΩ	20TΩ	8
100VDC to 500VDC	500kΩ	20TΩ*	7*
500VDC to 1090VDC	5MΩ	200TΩ	8

\*Recommended Limit.

### Ordering Information

1863 and 1864 Megohmmeter, Portable

Description	Catalog Number
1863 Megohmmeter	1863-9700
1864 Megohmmeter	1864-9700

**Includes:**

1863-0100 Instruction Manual  
Calibration Certificate Traceable to NIST

**Available Accessories:**

630018 Lead Set  
1863-11 Resistivity Test Fixture