

## GenRad 1864-1644 Positive Polarity Megohmmeter

IET Labs features the 1864-1644 which has “reverse polarity” to operate in the same way as a GR 1644-A, while maintaining the higher performance of the GR 1864s.

Although the 1864-1644 and 1864 instruments are similar in appearance and accuracy, the polarity of the output voltage is inverted making the 1864-1644 ideal for cable testing on submarines or a direct replacement for the GenRad 1644.



1864-1644 Megohmmeter

### See also:

- Megohmmeters: [1863](#) and [1864](#)
- Digital Megohmmeter/IR Tester: [1865 Plus](#)

### Features:

- Reverse Polarity
- Rugged portable carrying case
- Charge current up to 5 mA
- High-accuracy: 0.01% (100 ppm)
- 200 test voltages: 10 Vdc to 1090 Vdc
- 50 k $\Omega$  to 200 T $\Omega$  ( $2 \times 10^{14}$ )
- Analog output
- 3 % basic accuracy
- Simple operation
- Direct reading, safe and reliable

The 1864-1644 Megohmmeter is the choice for more demanding applications. It is the more flexible of the two megohmmeters. The test voltage can be set to any value from 10 Vdc to 109 Vdc in 1 V steps and 10 Vdc steps from 100 Vdc to 1090 Vdc. The 1864-1644 can be set to common test voltages for various capacitors. The 1864-1644 can measure resistances from 50 k $\Omega$  to 200 T $\Omega$  ( $2 \times 10^{14}$   $\Omega$ ).

Both instruments are easy to use with direct-reading meter indication and lighted range switch that shows the multiplier for each range

### Uses:

- Insulation resistance measurements for wire and cable on submarines
- Insulation resistance for capacitors
- A wide variety of insulation resistance measurements for components and devices
- Replacement for GenRad 1644

and voltage. The maximum current possible at the terminals is limited to 5 mA. A danger light near the terminals warns when voltage is present.

Stable power supplies and feedback voltmeter circuit minimizes drift and time wasting adjustments. Guard and ground terminals permit measurements of grounded or ungrounded two or three terminal devices.

The instruments are supplied in a convenient, portable, flip-tilt case that is a stand for the meter when in use and protects the megohmmeter during transit and storage.



# GenRad 1864-1644 Positive Polarity Megohmmeter

## SPECIFICATIONS

### Resistance Accuracy:

**1864:** (minimum reading is 0.5):

**Range 1-5:**  $\pm 2(\text{meter reading} + 1)\%$   
 (For example, if meter reading is 0.5, accuracy is  $\pm 2(0.5 + 1)\% = \pm 3\%$ )

**Range 6:**  $\pm 2(\text{meter reading} + 1)\% + 2\%$

**Range 7:**  $\pm 2(\text{meter reading} + 1)\% + 3\%$

**Range 8:**  $\pm 2(\text{meter reading} + 1)\% + 5\%$

### Meter Display:

Analog Meter

Caution High Voltage Indicator

### Voltage Accuracy (across unknown):

For  $\geq 100\text{ V} \pm 2\%$

For  $< 100\text{ V} \pm (3\% + 0.5\text{ V})$

### Short-Circuit Current:

6 mA maximum

### Input Terminals:

#### Front Panel Mounted:

(+) Unknown (Red)

(-) Unknown (Red)

Guard (Red)

Ground (Gold)

### Power:

100 - 125 or 200 - 250 V, Switch Selectable

50 - 400 Hz

13 W

### Fuse:

For 90 to 240 V operation: T 250mA, 250 Vac, 5 x 20 mm fuse

### Dimensions

16.8 x 25.4 x 17.1 cm

(6.63 x 10 x 6.75 in.)

### Weight

4.4 kg (9.5 lbs) - Net

7.0 kg (14 lbs) - Shipping

### Environmental:

Operating: 0 °C to + 45 °C,

Stated Accuracy, < 70% RH

Altitude: 0 to 2000 m operating, 0 to

4600 m non-operating

### Storage:

-20 °C to + 60 °C, < 80% RH

1864-1644 Specifications

Voltage Setting	Rmin (Full Scale left end) (0.5 rdg.)	Rmax (right end)		Useful Ranges
		(10% of scale) (5 rdg.)	(2.5% of scale) (20 rdg.)	
10 Vdc to 50 Vdc	50 kΩ	500 GΩ	2 TΩ	7*
50 Vdc to 100 Vdc	200 kΩ	5 TΩ	20 TΩ	8
100 Vdc to 500 Vdc	500 kΩ	5 TΩ	20 TΩ	7*
500 Vdc to 1090 Vdc	5 MΩ	50 TΩ	200 TΩ	8

\*Recommended Limit

## ORDERING INFORMATION

1864-1644  
Includes:

1864-1644 Megohmmeter  
Instruction Manual  
Calibration Certificate Traceable to SI

Available Accessories:  
630018  
630018/S  
1863-11

Lead Set  
Shielded Lead Set  
Resistivity Test Fixture



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