

**Valhalla Scientific, Inc.**  
**Model 4014 Digital Ohmmeter**  
**(Specifications)**

The specifications for the Model 4014 Ohmmeter are listed in the following paragraphs. The specifications are valid for full 4-wire Kelvin measurements using a high-quality shielded lead set such as Valhalla Option "K-Gray". The accuracy specifications listed below are valid for a period of 1 year from the date of calibration following a minimum 30 minute warm-up period for ambient temperatures between 15°C and 35°C, and include the effects of line voltage variations within the usable range.

<b>MODEL 4014 RANGES, RESOLUTIONS, &amp; ACCURACIES</b>				
<b>Range</b>	<b>Resolution</b>	<b>Test Current</b>	<b>Full-Scale Voltage</b>	<b>Accuracy (% of reading)</b>
<b>2Ω</b>	.0001Ω	100mA	200mV	±0.02% ±2 digits
<b>20Ω</b>	.001Ω	10mA	200mV	±0.02% ±2 digits
<b>200Ω</b>	.01Ω	1mA	200mV	±0.02% ±2 digits
<b>2KΩ</b>	.0001kΩ	100μA	200mV	±0.02% ±2 digits
<b>20KΩ</b>	.001kΩ	10μA	200mV	±0.02% ±2 digits
<b>200KΩ</b>	.01kΩ	1μA	200mV	±0.02% ±2 digits
<b>2MΩ</b>	.0001MΩ	1μA	2V	±0.02% ±5 digits
<b>20MΩ</b>	.001MΩ	100nA	2V	±0.1% ±15 digits
<b>200MΩ</b>	.01MΩ	10nA	2V	±1% ±150 digits

**General Specifications**

Display Type: .....4½ digit LED (20000 counts)

A-to-D Conversion Rate: ..... 400 milliseconds

Overrange: ..... 100% of range (19999 counts on display)

Overrange Indication: ..... Display flashes

Terminal Configuration: ..... Four-wire Kelvin  
Temperature Coefficient: .....  $\pm 0.002\%$  / $^{\circ}\text{C}$  (0-15 $^{\circ}\text{C}$  and 35-50 $^{\circ}\text{C}$ )  
Test Current Polarity: ..... Negative (flows Low to High)  
Test Current Compliance Voltage: ..... 5 volts minimum  
Settling Time: ..... 300ms + 1 conversion to within  $\pm 0.1\%$  (10% for M $\Omega$  ranges)

### **Environmental Requirements**

Common Mode Rejection Ratio: ..... 60 db at DC to 60Hz.  
Power Supply: ..... 115VAC or 230VAC  $\pm 10\%$  @ 50Hz to 400Hz; 25VA max  
Operating Temperature Range: ..... 0 $^{\circ}\text{C}$  to 50 $^{\circ}\text{C}$   
Storage Temperature Range: ..... -40 $^{\circ}\text{C}$  to +85 $^{\circ}\text{C}$   
Humidity: ..... 80% RH max. at 40 $^{\circ}\text{C}$  (non-condensing)  
Dimensions: ..... 15"(38cm)W x 10"(26cm)D x 3½"(9cm)H  
Dimensions (serial# 5-1210 and higher): ..... 17"(43cm)W x 11½"(29.5cm)D x 4"(10cm)H  
Weights: ..... 11lbs(5kg) NET; 15lbs(7kg) SHIPPING  
Weights (serial# 5-1210 and higher): ..... 12lbs(5.5kg) NET; 16lbs(7.5kg) SHIPPING