

# Programmable Digital Micro-Ohmmeter

## Super-Stable Low Resistance Measurements

- 7 Ranges from 20mΩ to 20kΩ
- 1μΩ Resolution
- Auto Ranging Mode
- VFD Display with Adjustable Intensity
- Four Terminal Kelvin Connections
- RS-232 Interface Standard
- Automatic Temperature Compensation
- Internal HI-LO Comparator
- Run/Hold and Peak Detector
- Print/Log Function



With a basic accuracy of 0.04% this model allows measurements from 1μΩ to 36kΩ. The seven ranges can be activated manually or through the Auto-Range feature. For optimal accuracy, connections to the load are made via a four-wire Kelvin binding post terminal that can accept banana plugs, spade lug or wires. The instrument can be operated remotely through its talk/listen RS-232 interface. In addition the 4176 may be used in applications where temperature compensation is a must. With just one temperature sensor (Omni Compensator), the instrument can be programmed to compensate for any temperature coefficient and to any temperature reference. The Model 4176 can also be programmed for Hi-Lo limit comparison. Rear panel relay closure screw terminal block can be used to implement an automated batch sorting system for components or products, operate counters, sound alarms or shut off a process.

### Range Specifications

Range	Full Scale	Resolution	Test Current <sup>1</sup>	Accuracy (± % reading ± % range)	Temperature Coefficient <sup>2</sup>	TCM Mode Accuracy (± % reading ± % range ± % ΔT <sup>3</sup> )
20mΩ	20.000mΩ	1μΩ	1A	±0.02 ±0.02	±0.002%/°C	±0.02 ±0.07 ±0.001
0.2Ω	.30000Ω	10μΩ	1A	±0.02 ±0.02	±0.002%/°C	±0.02 ±0.07 ±0.001
2Ω	3.0000Ω	100μΩ	100mA	±0.02 ±0.02	±0.002%/°C	±0.02 ±0.07 ±0.001
20Ω	30.000Ω	1mΩ	10mA	±0.02 ±0.02	±0.002%/°C	±0.02 ±0.07 ±0.001
200Ω	300.00Ω	10mΩ	1mA	±0.02 ±0.02	±0.002%/°C	±0.02 ±0.07 ±0.001
2kΩ	3.0000kΩ	100mΩ	100μA	±0.02 ±0.02	±0.002%/°C	±0.02 ±0.07 ±0.001
20kΩ	30.000kΩ	1Ω	10μA	±0.02 ±0.02	±0.002%/°C	±0.02 ±0.07 ±0.001

### General Specifications

<b>Display Type:</b>	5 digit VFD
<b>Overload Indication:</b>	Flashes OVERLOAD
<b>Conversion Rate:</b>	45 readings per second
<b>Terminal Configuration:</b>	4-Wire Kelvin
<b>Current Source Compl. Voltage:</b>	5V Minimum
<b>Test Current Polarity:</b>	Positive (flows High to Low)
<b>Power</b>	
<b>Power Requirements:</b>	115VAC or 230VAC ±10%

### Temperature

<b>Operating Temp. Range:</b>	0°C to 50°C
<b>Storage Temp. Range:</b>	-40°C to 85°C
<b>Humidity:</b>	80% RH max @ 40°C (non-condensing)

### Physical Specifications

<b>Width:</b>	17" / 43cm
<b>Depth:</b>	11.5" / 29.5cm
<b>Height:</b>	4" / 10cm
<b>Weight:</b>	13lbs / 5.9 kg net;

### Accessories

<b>OmniTC</b>	Omni Compensator (Temperature Sensor)
<b>RX-3</b>	19" Rack Mount Adaptor

### Options

<b>USB</b>	USB Interface
<b>BCD</b>	Binary Coded Decimal Interface

As with all Valhalla Digital Ohmmeters and Igniter Testers, the 4176 is available with a host of 4-wire probes and cable sets.