

NEW MODEL 4160 – Programmable Digital Micro-Ohmmeter

Essential Precision in a Compact Design



Model 4160 μ -Ohmmeter

The **Valhalla Scientific Model 4160 μ -Ohmmeter** delivers the proven precision and reliability of the 4176 in a **smaller, more portable chassis**. Built for users who demand dependable, high-accuracy resistance measurement without unnecessary complexity, the 4160 provides **0.04 % basic accuracy** with a measurement range from **10 $\mu\Omega$ to 30 k Ω** across **six manual or auto-ranging selections**.

Engineered for maximum stability and repeatability, the 4160 employs **four-wire Kelvin connections** to eliminate lead and contact resistance errors, ensuring true low-resistance measurement accuracy.

Connectivity is **modern and flexible**. The 4160 includes **RS-232 and USB interfaces** as standard, with an **optional Ethernet interface** for seamless integration into networked or automated systems. Enhanced communication reliability ensures smooth, consistent performance in both laboratory and production environments.

A bright, **high-contrast OLED display** provides clear, crisp readings in any lighting condition, while the simplified front-panel layout allows fast, intuitive operation. The **compact chassis** makes the instrument easy to transport, and it can be **rack-mounted using the optional I-Series Rack Mount Adapter**, offering flexibility for both portable and fixed installations. For added convenience, an **optional carrying case** is available for field use or secure storage.

By focusing on **essential functionality and precision performance**, the **Model 4160** delivers the core capabilities of the 4176 in a **streamlined, space-efficient design**. It's the ideal choice for engineers and technicians seeking **Valhalla accuracy, portability, and value** in one rugged, professional instrument.



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Valhalla Scientific, Inc.
www.valhallascientific.com

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Key Features

- 7 Ranges from 200mΩ to 20kΩ + Auto Range
- Four Terminal Kelvin Connections
- RS-232 and USB Interface Standard
- Run/Hold and Peak Detector
- Print/Log Function
- 10μΩ Resolution to 30kΩ Max Measurement
- OLED Display with Adjustable Intensity
- Optional Ethernet Interface
- Send/Log Function
- Optional Carrying Case

Standard Measurement Mode Specifications

| # | Range | Test Voltage | Full Scale | Resolution | Current Source ¹ | Accuracy ² ± (% of Reading + Ω) | Temperature Coefficient ³ |
|---|-------|--------------|------------|------------|-----------------------------|---|---|
| 1 | 200mΩ | 200mV | 300.00mΩ | 10μΩ | 1A | ± (0.02% + 0.04mΩ) | ±20ppm/°C |
| 2 | 2Ω | 200mV | 3.0000Ω | 100μΩ | 100mA | ± (0.02% + 0.0004Ω) | ±20ppm/°C |
| 3 | 20Ω | 200mV | 30.000Ω | 1mΩ | 10mA | ± (0.02% + 0.004Ω) | ±20ppm/°C |
| 4 | 200Ω | 200mV | 300.00Ω | 10mΩ | 1mA | ± (0.02% + 0.04Ω) | ±20ppm/°C |
| 5 | 2kΩ | 200mV | 3.0000kΩ | 100mΩ | 100μA | ± (0.02% + 0.0004kΩ) | ±20ppm/°C |
| 6 | 20kΩ | 200mV | 30.000kΩ | 1Ω | 10μA | ± (0.02% + 0.004kΩ) | ±20ppm/°C |

General Specifications

Display:.....5 Digit / Multi Section OLED Display
Overload Indication:.....Displays O.L.
Terminal Configuration:.....Four-wire Kelvin
Compliance Voltage:.....5 VDC nominal

Environmental

Operating Temperature Range:.....0 to 50°C
Storage Temperature Range:.....-40°C to 85°C
Humidity:.....80% RH at 40°C non-condensing

Power Requirements

Power Supply Voltage:.....105-125 or 210-250 VAC
Power Supply Frequency:.....50 - 60 Hz Power
Supply Consumption:.....25VA Maximum

Physical

Depth:.....11.5" / 29.2cm
Width:.....9.75" / 24.8cm
Height:.....3.5" / 8.9cm
Weight:.....2.8Kg (6.2 lbs.)



¹ Current Source is ±1% absolute accuracy.

² The accuracy specifications listed are valid following a 30-minute warm-up at an ambient temperature between 15°C and 35°C and include the effects of line voltage variations within the allowed range.

³ Temperature Coefficient specified for temperature ranges from 5°C to 21°C and 29°C to 50°C.



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