

Valhalla Scientific, Inc.
Model 2500
1Amp Current Calibrator
(Specifications)

1-1. General

This section contains the accuracy and operating specifications for the Model 2500. Also included are descriptions of optional equipment available for use with the 2500.

1-2. Accuracies

Accuracies are valid for a period of 1 year from the date of calibration, at the calibration temperature $\pm 5^{\circ}\text{C}$. Outside of this range, a temperature coefficient of 10% of the accuracy specification per $^{\circ}\text{C}$ applies. For AC accuracies, add 0.01% of (range x compliance voltage x frequency) for compliance voltages greater than 2 volts.

Range	Maximum Output	Frequency Response	Accuracies (% of output)	
			DC	AC
1 μA	2 μA	DC to 1kHz ^[1]	$\pm 0.01\%$ $\pm 0.4\text{nA}$	$\pm 0.05\%$ $\pm 2\text{nA}$
10 μA	20 μA	DC to 1kHz ^[1]	$\pm 0.01\%$ $\pm 4\text{nA}$	$\pm 0.05\%$ $\pm 20\text{nA}$
100 μA	200 μA	DC to 5kHz ^[1]	$\pm 0.01\%$ $\pm 40\text{nA}$	$\pm 0.05\%$ $\pm 200\text{nA}$
1mA	2mA	DC to 10kHz ^[1]	$\pm 0.01\%$ $\pm 400\text{nA}$	$\pm 0.05\%$ $\pm 2\mu\text{A}$
10mA	20mA	DC to 10kHz	$\pm 0.01\%$ $\pm 4\mu\text{A}$	$\pm 0.05\%$ $\pm 20\mu\text{A}$
100mA	200mA	DC to 10kHz	$\pm 0.01\%$ $\pm 40\mu\text{A}$	$\pm 0.05\%$ $\pm 200\mu\text{A}$
1A	2A	DC to 10kHz	$\pm 0.01\%$ $\pm 400\mu\text{A}$	$\pm 0.05\%$ $\pm 2\text{mA}$

Notes:

[1] Use of Valhalla Buffer Amplifier Model 2009 is recommended to eliminate voltmeter loading effects.

1-3. Operating Specifications

This section contains operating specifications for the Model 2500 AC/DC Current Calibrator.

Input Impedance	100K Ω
Input Output Ratio	1 volt produces 100% of rng output, up to 200% of rng
Maximum Input Voltage	± 3 volts DC or RMS
Input CMRR	60db @ DC, linearly decreasing to 40db @ max freq
Output Compliance Voltage.....	± 10 V peak; ± 7 V peak above 100% of rng
Maximum Duty Cycle of Output.....	25% @ 2 amps, increasing to 100% at 1 amp
Output Isolation	± 200 volts peak from LO terminal to earth
Output Protection.....	3A in-line fuse

1-4. Environmental and Physical Specifications

This section contains specifications pertaining to the operating environment in which the Model 2500 may be used.

Temperature Range	0°C to 50°C operating; -25°C to 70°C storage
Humidity	70% RH max @ 45°C, non-condensing
Power Source	refer to section 1-3, 70VA max
Dimensions (serial# 6-914 or lower)	9"(23cm)D x 3"(8cm)H x 15"(38cm)W
Dimensions (serial# 6-915 and higher)	11.5"(29cm)D x 4"(10cm)H x 17"(43cm)W
Weights	15lbs(7kg) net; 20lbs(9kg) shipping