

Precision AC/DC 100A Current Calibrator Transconductance Amplifier

Rock Solid Reliability & Unmatched Performance

- Precision AC/DC Transconductance Amplifier
- Programmable AC/DC 100A Current Calibrator/Current Source
- Maximum Output Current: 100A DC or RMS AC
- Highly Accurate
- Ultra-Low Noise
- Ultra-Stable
- Excellent Response Time
- High CMR
- Load Regulation: Output current $\Delta < \pm .002\%$
- Dynamic Range: 0 to 100% of range up to maximum rated output (100A max.)



The 2555A is the world’s leading AC-DC current calibrator for one big reason. It’s earned that position through years of rock solid reliability and unmatched performance. Our satisfied and discriminating customers include the U.S. Army, Navy, Air Force and the National Institute of Standards and Technology, as well as an impressive list of hundreds of other proud 2555A owners around the world that reads like the Who’s Who of metrology. Valhalla’s proprietary internal shunt design with low TC (2ppm/°C) is just one of the technologies which provide the 2555A with rock solid constant AC or DC current.

Supplies 400 watts (i.e. 7 volts at 55 amps) in output compliance capability to drive heavy burden loads and still deliver constant current. The output compliance is monitored by the unit’s internal voltmeter. Compliance voltage status is displayed with a green L.E.D. indicator for “OK” or within compliance, a yellow L.E.D for marginal” compliance, and a red L.E.D. for compliance exceeded” indication. To insure that compliance voltage is available to the load (and not just the leads).

The C1000 along with the 2555A, make the calibration of clamp-on ammeters, current transformers, and a variety of current sensor (magnetic field based) devices a simple task. The basic principle involves the 2555A driving 100 amps per turn into a 10 turn coil. The 2555A can easily drive the ten turn option “C1000” and simulate 1000 amps.

Range Specifications

Range	DC Accuracy	AC Accuracy		
		100Hz	400Hz	1000Hz
100A	$\pm 0.03\%$ of range $\pm 0.03\%$ of output	$\pm 0.15\%$ of range $\pm 0.1\%$ of output	$\pm 0.2\%$ of range $\pm 0.2\%$ of output	$\pm 0.3\%$ of range $\pm 0.3\%$ of output
20A	$\pm 0.015\%$ of range $\pm 0.03\%$ of output	$\pm 0.15\%$ of range $\pm 0.1\%$ of output	$\pm 0.2\%$ of range $\pm 0.2\%$ of output	$\pm 0.3\%$ of range $\pm 0.3\%$ of output
2A	$\pm 0.015\%$ of range $\pm 0.03\%$ of output	$\pm 0.15\%$ of range $\pm 0.1\%$ of output	$\pm 0.2\%$ of range $\pm 0.2\%$ of output	$\pm 0.3\%$ of range $\pm 0.3\%$ of output
200mA	$\pm 0.015\%$ of range $\pm 0.03\%$ of output	$\pm 0.15\%$ of range $\pm 0.1\%$ of output	$\pm 0.2\%$ of range $\pm 0.2\%$ of output	$\pm 0.3\%$ of range $\pm 0.3\%$ of output
20mA	$\pm 0.015\%$ of range $\pm 0.03\%$ of output	$\pm 0.15\%$ of range $\pm 0.1\%$ of output	$\pm 0.2\%$ of range $\pm 0.2\%$ of output	$\pm 0.3\%$ of range $\pm 0.3\%$ of output
2mA	$\pm 0.015\%$ of range $\pm 0.03\%$ of output	$\pm 0.15\%$ of range $\pm 0.1\%$ of output	$\pm 0.2\%$ of range $\pm 0.2\%$ of output	$\pm 0.3\%$ of range $\pm 0.3\%$ of output

General Specifications

Input Impedance:	100kΩ
Compliance Voltage:	7VDC or 7Vac (RMS) to 60A 4VDC or 4Vac (RMS) to 100A
Input/Output Ratio:	2.00000V input provides full-scale output (1.00000V input produces 100.00A output)
Stability:	+0.0005% -15min. ($\pm 0.005\%$ for 24Hr)
Load Regulation:	Output current level changes less than $\pm 0.002\%$
Maximum Input:	3VDC or 2Vac (RMS)
Maximum Isolation Voltage:	± 200 VDC or peak AC
Response Time:	1msec to $\pm 0.01\%$ of final value following input amplitude or frequency change
Input CMR:	60dB @ DC linearity decreasing to 40dB @ max frequency

Temperature Coefficient: $\pm 0.001\%$ of output $\pm 0.002\%$ of rng/
double for AC

Power

Power Requirements: 115VAC/230VAC $\pm 10\%$ at 50 to 60Hz

Temperature

Operating Temp. Range: 0°C to 50°C

Storage Temp. Range: -30°C to 70°C

Humidity: 70% RH max @ 40°C (non-condensing)

Physical Specifications

Size: 266mm/10.5” L x 432mm/17” W x 584mm/23” D

Weight: 100lbs / 45kg net;

Accessories

HMF	100Amp Cable Set (Jaws Terminated)	C1000	Ten Turn Coil Loop (C.T. Type)
HC	100Amp Cable Set (Spade Lugs)	R3	Rack Mount Adaptor