

Rotek Model 380A/5080A
Product Description and Specifications

MODEL 380A/5080A
100 AMPERE, AC/DC
HIGH CURRENT AMPLIFIER



1.1 Description

The Rotek Model 380A/5080A High Current Amplifier is a direct-coupled current or transconductance amplifier with a maximum compliance of 2 volts ac or dc. Its application is in the calibration of high current ac and dc measuring devices. For the purposes of this manual it will hereafter be referred to as the Amplifier. The Amplifier operates in conjunction with any of the Rotek Precision Multifunction Calibrators in a Remote partnership state or with any stable and accurate source of ac and dc current or voltage as a stand alone instrument.

The Amplifier has four controls Remote/Local, 10/100 Ampere Range, Operate and Standby. The front panel input, via 5 way binding posts, is for operation as a transconductance amplifier with a sensitivity of 1 Ampere/Volt output on the 10 Ampere range and 10 Ampere/Volt output on the 100 Ampere range. (Input resistance in transconductance mode is 100K ohms.) 100 Ampere output terminals are provided on the front panel. The remote input is for use with the Rotek Calibrators as a current amplifier with gains of 1000 on the 10 Ampere range and 10000 on the 100 Ampere range. When Standby is asserted the output terminals are shorted to prevent accidental application of high currents to devices attached to the output. Fuses have been eliminated from the design in favor of the more convenient circuit breaker switch.

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1.2 Specifications

Specifications apply after 60 minutes of warm-up at ambient temperature of $25 \pm 5^\circ\text{C}$, at nominal line voltage +5, -10%, include effects of compliance and maintain for a period of 6 months.

	Range	10 Amperes	100 Amperes
DC Gain Accuracy	0.03% Output	+0.01% Range	+0.02% Range
AC Gain Accuracy			
at 50/60Hz	0.07% Output	+0.01% Range	+0.02% Range
400Hz	0.07% Output	+0.05% Range	+0.15% Range
1000Hz	0.3% Output	+0.15% Range	+0.15% Range
Maximum Inductance Load			
at 50Hz		300uhys	30uhys
400Hz		30uhys	4uhys
1000Hz		8uhys	1uhys
Current Gain		1000	10000
Transconductance Gain		1mho	10mhos
Maximum Compliance	2VDC/RMS (1.6V at 100A)		
Line Power	120/240V, 100 Watts (in Standby) 1000 Watts (maximum)		
Dimensions	178mm(7")H x 442mm(17.5")W x 537mm(21.1")D (from mtg. surface)		
Weight	34 Kg (75 lbs)		
1. Gain Tempco 15-20C; 30-45C:	10ppm Output	+2.5ppm Range/C	
2. Gain Tempco 15-20C; 30-45C:	30ppm Output	+15ppm Range/C	