

Clarke-Hess 5000 SPECIFICATIONS

PHASE ANGLE

Range:	0.000° to $\pm 999.999^\circ$			
Resolution:	0.001° from 1Hz to 100kHz			
Accuracy:	1-1000Hz	1.001-6.250kHz	6.260-50.00kHz	50.01-100kHz
(in m°)	$\pm(5+0.05R)$	$\pm(10+0.1R)$	$\pm(25+0.25R)$	$\pm(50+0.5R)$

R is the ratio between the REFERENCE and VARIABLE output amplitudes. To reach these accuracies the Model 5000 must be AUTO-ZEROED with the device under test connected to it.

OUTPUT FREQUENCY

Range:	1Hz to 100kHz
Resolution:	1Hz from 1Hz to 6250Hz 10Hz from 6250Hz to 51kHz 20Hz from 51 kHz to 100kHz
Accuracy:	Better than ± 100 parts per million.

OUTPUT AMPLITUDE

Range:	100mV rms to 100.0V rms	
Resolution:	2mV from 100mV to 7.1V 25mV from 7.1V to 100V	
Accuracy:	1Hz to 50kHz:	Better than $\pm 2.5\text{mV}$ from 100mV to 500mV Better than $\pm 0.5\%$ of setting from 0.5V to 100V
	50kHz to 100kHz:	Better than $\pm 2.5\text{mV}$ from 100mV to 500mV. Better than $\pm 1.0\%$ of setting from 0.5V to 100V. Typically better than $\pm 0.25\%$ from 0.5V to 100V

TOTAL HARMONIC DISTORTION

Less than 0.02% (-74dB) from 1Hz to 1000Hz
Less than 0.05% (-66dB) from 1000Hz to 20kHz
Less than 0.13% (-58dB) from 20kHz to 50kHz
Less than 0.32% (-50dB) from 50kHz to 100kHz

Typical distortion is below 0.025% (-72dB) to 25kHz and below 0.10% (-60dB) for all voltages and frequencies

OUTPUT IMPEDANCE

0.5 Ω plus 1 μ H for Output Voltages less than 7.1V

0.5 Ω plus 40 μ H for Output Voltages greater than 7.1V

NOISE

Less than 0.1mV from dc to 100kHz

Less than 0.25mV from 100kHz to 10MHz

OUTPUT DC OFFSET

Less than 0.5% of the ac output \pm 2mV

OUTPUT CURRENT CAPABILITY

At least 10mA. Within the current limitation the outputs should tolerate any type of reactive load. (For frequencies less than 6.25kHz the current limitation for capacitive loads should be calculated at 5kHz.)

IEEE-488 1978 SUBSETS

SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT0

WARM-UP TIME

Less than 10 minutes for all Specifications

TEMPERATURE RANGE

Operating: 23°C \pm 5°C

Storage: -40°C to 75°C

RELATIVE HUMIDITY

Operating: Less than 80%

Storage: Less than 95%

LINE VOLTAGE, FREQUENCY AND POWER CONSUMPTION

100V \pm 10%, 120V \pm 10%, 220V \pm 10%, 240V \pm 10%. Rear panel switch selectable. 50 Hz or 60 Hz. 3/4 MDL fuse for 120V operation. Power Consumption less than 60W. (Less than 75 V-A.)

PHYSICAL

Rack or bench mount.

Weight: 24 pounds/11 kilograms

Size: 19" x 7" x 15"/48.3cm x 17.8cm x 38.1cm