

AMM2 / MASTER MEASUREMENT MODULE

SPECIFICATIONS:

PART NUMBER

SPEC-AMM2

INPUT CHANNELS

Local: 8 differential inputs or 16 single ended inputs.

Global: 9 inputs from slots 2-10.

LOCAL PGA

Programmable Gains: x1, x10.

Gain Accuracy: $\pm 0.016\%$, x1 gain;
 $\pm 0.025\%$, x10 gain.

Gain TC: $\pm 0.001\%/^{\circ}\text{C}$, x1 gain;
 $\pm 0.0017\%/^{\circ}\text{C}$, x10 gain.

Nonlinearity: $\pm 0.01\%$.

Input Offset: $\pm 50\mu\text{V}$ initial, adjustable to zero.

Offset TC: $\pm 20\mu\text{V}/^{\circ}\text{C}$.

Input Resistance: $> 100\text{M}\Omega$.

Input Bias Current: $< 1\text{nA}$.

Input Noise: $< 50\mu\text{V}$ rms, 0.1Hz to 100kHz.

CMRR: $> 80\text{dB}$, DC to 60Hz.

Input Protection (any terminal to chassis): $\pm 30\text{V}$ max. (powered); $\pm 15\text{V}$ max. (unpowered).

10.000 VOLT REFERENCE

Accuracy: $\pm 0.02\%$.

Accuracy TC: $\pm 0.0012\%/^{\circ}\text{C}$.

Noise: $20\mu\text{V}$ p-p, 0.1Hz to 10Hz.

POWER CONSUMPTION:

+5 Volt Supply: 125mA typical.

+15 Volt Supply: 65mA typical.

-15 Volt Supply: 65mA typical.

GLOBAL AMP AND A/D CONVERTER

A/D Converter: Self-calibrating, successive approximation.

Resolution: 16 bits (1 part in 65,536).

A/D Ranges: Software selectable, 0 to +10V unipolar, and -10V to +10V bipolar.

Conversion Time: 20 μsec (including acquisition time).

Software Trigger:

Oneshot Mode: A single reading is available 20 μsec after trigger location in memory is addressed.

Continuous Mode: Conversions are continuously triggered every 20 μsec by internal crystal controlled clock.

External Trigger: Continuous conversions begin with falling edge of EXT TRIG input and stop when input is high. TTL compatible.

Noise: $< (0.005\%$ of full scale) rms on all ranges and gains, $> 83\text{dB}$ signal to noise ratio (sinewave rms signal to rms noise).

Programmable Gains: x1, x2, x5, x10.

Gain Accuracy*: $\pm (0.02\% + 1 \text{ LSB})$, x1 gain;
 $\pm (0.03\% + 1 \text{ LSB})$, x2, x5, x10 gain.

Gain TC*: $\pm 0.002\%/^{\circ}\text{C}$.

Nonlinearity*: $\pm 0.0057\%$.

Input Offset*: $\pm (50\mu\text{V} + 1 \text{ LSB})$ initial, adjustable to $\pm 1 \text{ LSB}$.

Offset TC*: $\pm 20\mu\text{V}/^{\circ}\text{C}$.

Filter: Software selectable, 100kHz or 2kHz single pole filter.

Settling Time (to 0.003% of final reading): 16 μsec with 100kHz filter, 800 μsec with 2kHz filter.

*Includes input MUX, amplifiers, and A/D errors.

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BRUNING 40-21 62198

LTR	REVISIONS	APP.	DATE	DRN.	DATE
A	REL. 127/60			7/7	4-19-88
				CKD.	DATE
				APP.	DATE

KEITHLEY

Keithley Instruments Inc.
Cleveland, Ohio 44139

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SYSTEM SPECIFICATIONS 500A MAINFRAME WITH AMM2 INSTALLED

AMM2 DIRECT INPUTS (A/D in bipolar mode*)

RANGE	RESOLUTION	ACCURACY (1 Year)**	TEMPERATURE
		18°-28°C ±(%rdg + mV)	COEFFICIENT ±(%rdg + mV)/°C
± 10 V	305 μV	0.065 + 0.7 mV	0.0026 + 0.03 mV
± 5 V	153 μV	0.065 + 0.57 mV	0.0029 + 0.03 mV
± 2 V	61 μV	0.065 + 0.52 mV	0.0029 + 0.03 mV
± 1 V	31 μV	0.065 + 0.32 mV	0.0023 + 0.02 mV
± 500 mV	15 μV	0.065 + 0.3 mV	0.0026 + 0.016 mV
± 200 mV	6 μV	0.065 + 0.3 mV	0.0026 + 0.016 mV
± 100 mV	3 μV	0.065 + 0.3 mV	0.0026 + 0.016 mV

CMRR: (DC to 60Hz): >80dB.

Wideband Noise: <(50μV + 0.005% of full scale) rms.

*For unipolar A/D mode, divide resolution by 2. Other specifications are unchanged.

**Exclusive of noise.

AMM2 SLOT INPUTS (for internal use only)

RANGE	RESOLUTION	ACCURACY (1 Year)**	TEMPERATURE
		18°-28°C ±(%rdg + mV)	COEFFICIENT ±(%rdg + mV)/°C
± 10 V	305 μV	0.041 + 0.46 mV	0.0016 + 0.030 mV
± 5 V	153 μV	0.042 + 0.26 mV	0.0019 + 0.015 mV
± 2 V	61 μV	0.043 + 0.17 mV	0.0019 + 0.012 mV
± 1 V	31 μV	0.045 + 0.15 mV	0.0019 + 0.012 mV

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LTR	REVISIONS	APP.	DATE	DRN.	DATE
A	REL. 12760			7/11	4-1988
				CKD.	DATE
				APP.	DATE

KEITHLEY Keithley Instruments Inc.
Cleveland, Ohio 44139

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