

# AMM1A • ANALOG MASTER MEASUREMENT MODULE

PART NUMBER  
SPEC-AMM1A

## AMM1A SPECIFICATIONS:

### INPUT CHANNELS

Local: 8 differential or 16 single-ended inputs.  
Global: 9 inputs from slots 2-10.

### LOCAL PROGRAMMABLE GAIN AMPLIFIER

Programmable Gains: x1, x10.  
Gain Accuracy:  $\pm 0.045\%$  @ x1 gain;  $\pm 0.08\%$  @ x10 gain.  
Nonlinearity:  $\pm 0.05\%$   
Temperature Coeff:  $\pm 0.001\%/^{\circ}\text{C}$  @ x1 gain;  $\pm 0.0017\%/^{\circ}\text{C}$  @ x10 gain.  
Input Resistance:  $> 100\text{M}\Omega$ .  
Input Bias Current:  $< 1\text{nA}$ .  
Input Noise:  $< 100\mu\text{V}$  p-p, 0.1Hz to 100kHz.  
CMRR:  $> 70\text{dB}$ , DC to 60Hz.  
Input Protection:  $\pm 30\text{V}$  maximum (powered),  $\pm 15\text{V}$  maximum (unpowered).

### 10.000 VOLT REFERENCE

Accuracy:  $\pm 0.025\%$ .  
Temperature Coeff:  $\pm 0.0017\%/^{\circ}\text{C}$ .  
Noise:  $25\mu\text{V}$  p-p, 0.1Hz to 10Hz.

### GLOBAL AMPLIFIER AND A-to-D CONVERTER

A-to-D Converter: Self-calibrating, successive approximation.  
Resolution: 12-bits (1 part in 4,096).  
A-to-D Range: Software selectable, 0 to +10V (unipolar) and -10V to +10V (bipolar).  
Conversion Time: 20 $\mu\text{sec}$ . (including acquisition time).  
Software Trigger: Oneshot Mode: A single reading is available 20 $\mu\text{sec}$ . after trigger location in memory is addressed. Continuous Mode: Conversions are continuously triggered every 20 $\mu\text{sec}$ . 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:  $< 1/2$  LSB on all ranges and gains  
Programmable Gains: x1, x2, x5, and x10.  
Gain Accuracy\*:  $\pm(0.04\% + 1 \text{ LSB})$  @ x1 gain;  $\pm(0.15\% + 1 \text{ LSB})$  @ x2, x5, and x10 gain.  
Gain Nonlinearity\*:  $\pm 0.033\%$   
Gain Temp. Coeff\*:  $\pm 0.003\%/^{\circ}\text{C}$ .  
Filter: Software selectable, 100kHz or 2kHz single pole.  
Settling Time†: 12 $\mu\text{sec}$ . with 100kHz filter, 600 $\mu\text{sec}$ . with 2kHz filter.

\*Includes input MUX, amplifiers, and A-to-D errors.  
† (to 0.05% of final reading)

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500-AMM1A  
SPECIFICATIONS

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