



## APPLICATION NOTE

### EM405-8X101 Ethernet High Voltage Monitor

The EM405-8X101 (P/N 11029390-0001) is a 19" 1U high instrument that provides voltage monitoring and signal conditioning capabilities, such as input filtering and filtered signal output, debounce, signal stretching, level detection, and A/D conversion of a selected portion of the filtered input signal. Using ANSI Standard M-module building blocks, the EM405-8X101 integrates eight MA200 Aperture A/D M-modules fitted with AM110 Accessory Modules into an EM405-8 Ethernet M-Module Carrier. The module is an integration of several standard products as shown below.

Each of the eight installed modules provides the same function. Each module has a high common-mode voltage differential input with a 6-pole lowpass active filter with a cutoff frequency of 1.6KHz. The 6-pole characteristics provide a sharp knee at the cutoff frequency, followed by a roll off rate of 120 dB per decade. Several outputs are provided at different thresholds to provide status of the input signal. A/D conversion and time stamping is provided for a selected portion of the input signal. A functional block diagram and signal timing diagram are shown below.

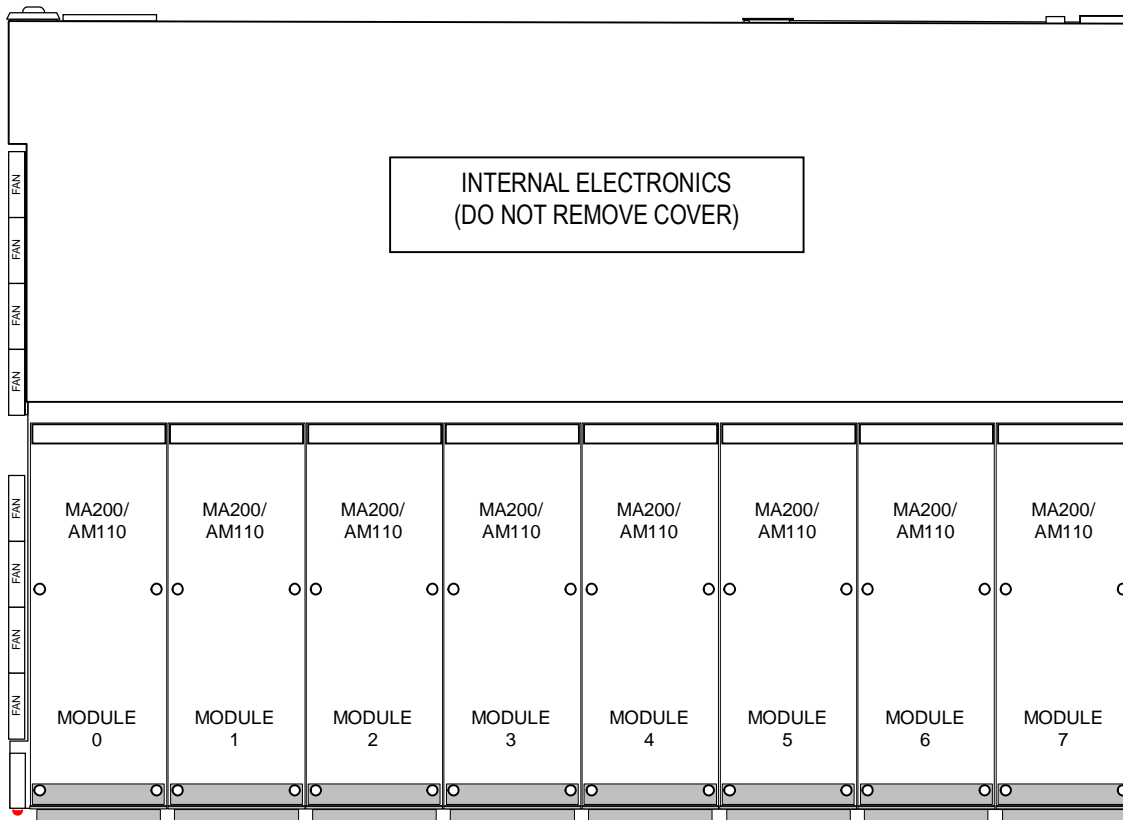


Figure 1. Integration Layout

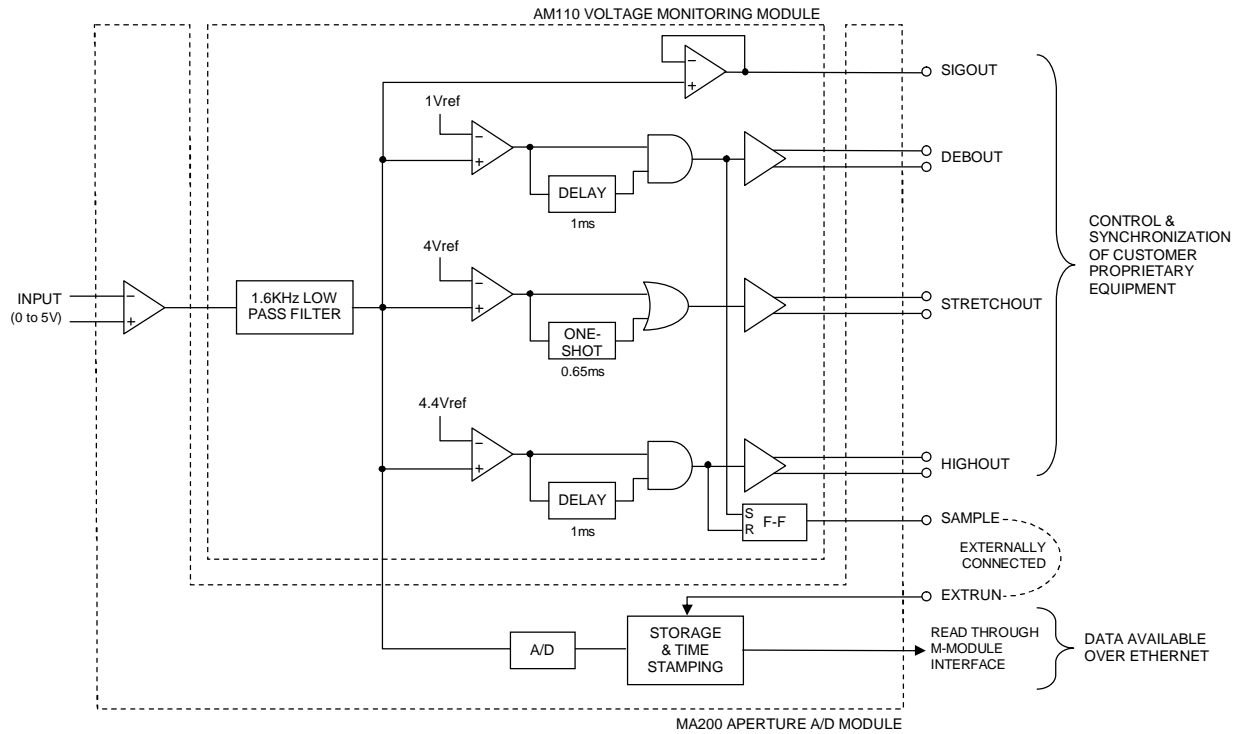


Figure 2. Functional Block Diagram

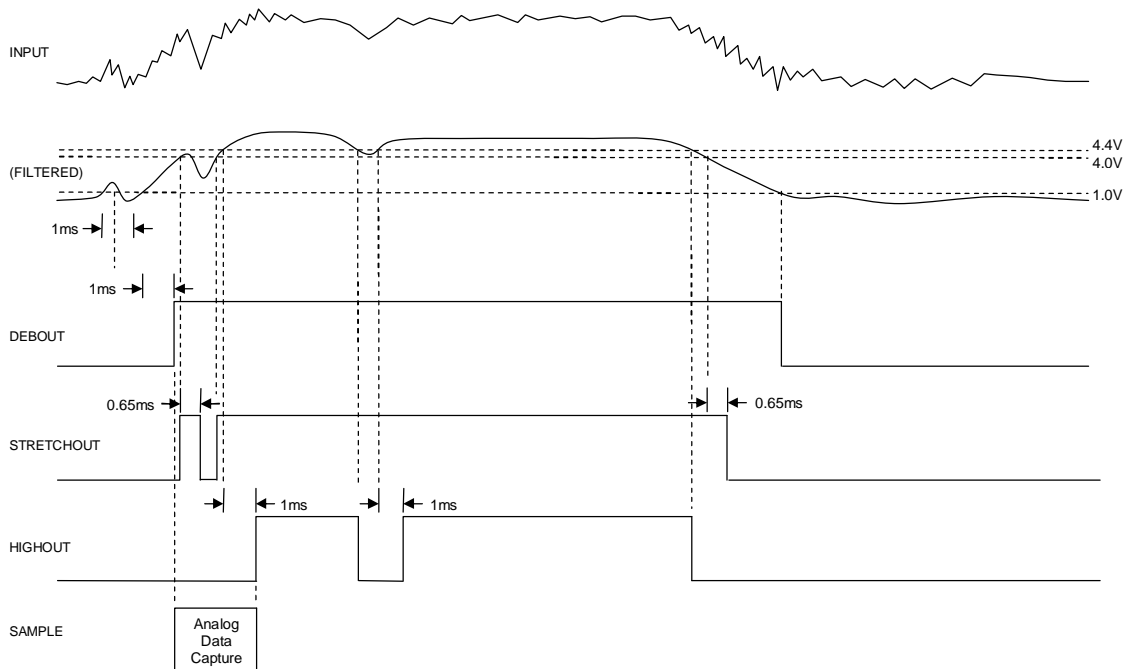


Figure 3. Signal Timing Diagram