

## High-speed Multifunction Measurement VMEbus Module

### Overview

The SVM2608 leverages VXI Technology's line of high-density modular VXIbus instruments, but is optimized for the VMEbus. All SVM instruments are designed to provide all the features of test instrumentation in other platforms. These features are achieved in hardware rather than in a driver. This approach to the interface design guarantees the user that all communications to the module occur in microseconds as opposed to several milliseconds, considerably improving system throughput. The board is equipped with a microprocessor which significantly increases the module's functionality and task performing capabilities.

The SVM2608 is a ruggedized circuit card designed for insertion into a convection cooled VME chassis. It conforms to all physical requirements identified in the VME specifications. It consists of four low-speed (100 kSa/s) independent A/D converters with the option to add two high-speed (20 MSa/s) channels.

### Features

**Analog Inputs:** Each channel utilizes an independent ADC. Gain and attenuator settings are programmable on a per-channel basis. Input ranges vary from 2 Vp to 100 Vp. Sample rates are also independently programmable per channel. Low pass filters can be switched in the signal path to eliminate frequency components beyond the spectrum of interest.

**Memory:** Deep on-board memory (1 MS) means that up to 10 seconds of burst data can be captured at the maximum sampling rate. An on-board FIFO is also available for longer acquisitions where the data can be streamed to disk. Data can be accessed via the A32 registers for fastest retrieval.

**Triggering:** The SVM2608 features the most flexible triggering capabilities on the market today. Acquisitions can be triggered from any input signal via a programmable threshold level, or by an external trigger input available at the soft front panel. Acquisitions can also be forced via software. Pre- and post-trigger data can be Acquired. A delay trigger register gives the user the ability to wait until the programmed amount of time has expired before storing data to memory. An adjustable timeout setting provides the ability to abort an acquisition in the event that a trigger condition has not occurred as expected.

### Specifications

<b>Mechanical:</b>	6U VME
<b>Channels:</b>	Standard : 4 (ch. 0-3) Option 01: add two 20 MSa/s channels (ch. 4-5)
<b>Sampling Rate:</b>	Ch. 0-3: up to 100 kSa/s per channel Ch. 4-5: up to 20 MSa/s per channel



## Features

Four Independent 100 kSa/s A/D Converters

Option to Add Two Independent 20 MSa/s A/D Converters

On-Board FIFO for Streaming to Disk

1 MS Memory per Channel for Burst Captures

Robust Built-In Measurement Function Capability

2- and 4-wire Resistance Measurements

VME 32/64

Hermetically Sealed for Salt, Sand, and Dust

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<b>Sampling Resolution:</b>	Ch. 0-3: 100 ns Ch. 4-5: 50 ns	<b>Input Coupling:</b>	Ch. 0-3 : dc Ch. 4-5 : ac/dc (software selectable)
<b>Vertical Resolution:</b>	Ch. 0-3: 16 bits Ch. 4-5: 12 bits	<b>Programmable Filter:</b>	Ch. 0-3 : None/30 kHz Ch. 4-5 : None/5 MHz
<b>Input Ranges:</b>	±0.5 V (Ch. 4-5 only) ±1 V, 2 V, 5 V, 10 V, 20 V ±50 V (Ch. 0-3 only)	<b>SVM Environmental Specifications</b>	
<b>Accuracy:</b>	1%	<b>Classification:</b>	MIL-T-28800E, Type III, Class 5, Style E or F
<b>Input Impedance:</b>	Ch. 0-3: 200 kΩ (20/50 V range) >10 MΩ (all other ranges) Ch. 4-5: 1 MΩ or 50 Ω Programmable	<b>Temperature Operational:</b>	-20 °C to 65 °C
<b>Resistance Measurement Range:</b>	Ch. 0-3 only 100 Ω, 1 kΩ, 10 kΩ, 100 kΩ, 1 MΩ	<b>Temperature Non-Operational:</b>	-40 °C to 71 °C
<b>Resolution:</b>	1/6,554 of scale	<b>Humidity:</b>	5% to 95% (non-condensing)
<b>Trigger Levels:</b>	-10 V to +10 V	<b>Altitude Operational:</b>	Sea-level to 15,000 ft (4570 m)
<b>Trigger Resolution:</b>	4.88 mV	<b>Altitude Non-Operational:</b>	Sea level to 40,000 ft (12,190 m)
<b>Delayed Trigger:</b>	0 - (2 <sup>32</sup> - 1) samples	<b>Random Vibration Operational:</b>	Three axis, 30 minutes total, 10 minutes per axis 0.27 g-rms total from 5.0 Hz to 55.0 Hz
<b>Delayed Resolution:</b>	10 μs	<b>Random Vibration Non-Operational:</b>	2.28 g-rms total from 5.0 Hz to 55.0 Hz
<b>Timeout Range:</b>	10 μs to 277 hrs	<b>Functional Shock:</b>	Half sine, 30 g, 11 ms duration
<b>Timeout Resolution:</b>	10 μs to 100 s	<b>Salt Atmosphere:</b>	>48 hrs operation
<b>Memory:</b>	1 MS per channel	<b>Sand and Dust:</b>	>6 hrs operation in a dust environment of 0.3 g/ft <sup>3</sup> blowing at 1750 ft/min

### Ordering Information

<b>SVM2608:</b>	Four Independent 100 kSa/s A/D Converters, Single Wide VME
<b>Option 01:</b>	Adds two Independent 20 MSa/s A/D Converters (Model SVM2608-01)

SVM2608