



# GRANITE VOLT 108

8- or 16-Channel 5V Analog Input Module



## Ideal for Expansion of Analog Measurements

Interfaces directly to a PC for quick setup and data acquisition

### Overview

The GRANITE™ VOLT 108 is a general-purpose, multiplexed analog measurement module. Designed specifically for static measurement applications, it can also be used for dynamic measurements up to 10 to 100 Hz depending on the application. The VOLT 108 supports all standard analog

sensor measurements and easily expands the GRANITE™ data-acquisition system. The VOLT 108 has eight differential or 16 single-ended input channels and two excitation channels. It provides a 12 V and a switched 12 V port and two switched 5 V ports for peripheral control.

### Benefits and Features

- › 24-bit ADC and low-noise inputs
- › Channel count expansion via the CPI bus
- › Scales up the number of channels without adding measurement time
- › Easy to configure
- › Selectable noise rejection
- › CANbus 2.0 A/B output available with the Extended Duty (-XD) version
- › USB 2.0 interface for direct-to-PC-based operation

### Specifications

Power Requirements	9.6 to 32 Vdc voltage
Mounting	Standard 1-in. grid (DIN rail mounting available)
Accuracy	<ul style="list-style-type: none"> <li>› <math>\pm(0.04\%</math> of reading + offset) 0° to 40°C</li> <li>› <math>\pm(0.06\%</math> of reading + offset) -40° to +70°C</li> <li>› <math>\pm(0.08\%</math> of reading + offset) -55° to +85°C</li> </ul>
Number of Channels	8 differential or 16 single-ended
Operating Temperature Range	<ul style="list-style-type: none"> <li>› -55° to +85°C (extended)</li> <li>› -40° to +70°C (standard)</li> </ul>

Maximum Multiplexed Sample Rate	3.0 kHz (using fast [100 $\mu$ s] input setting)
Maximum Burst Sample Rate	30 kHz
Input Range	$\pm 5000$ mV, $\pm 1000$ mV, and $\pm 200$ mV
Period Averaging	Traditional period averaging on analog input channels
CPI	For data logger connection. Baud rate selectable from 50 kbps to 1 Mbps. (Allowable cable length varies depending on baud rate, number of nodes, cable quality, and noise)

	environment, but can be as long as 700 m under proper conditions.)
USB	USB 2.0 full speed connection available for attaching to a PC. (Port is used to configure the module and download updates via our Device Configuration Utility.)
Warranty	One year against defects in materials and workmanship
Dimensions	20.3 x 12.7 x 5.1 cm (8 x 5 x 2 in.)
Weight	0.8 kg (1.75 lb)

### Typical Current Drain

Sleep	<1 mA
Active 1 Hz Scan	2 mA (estimated) Assumes one single-ended measurement with the first notch frequency ( $f_{N1}$ ) at 30 kHz Note: Any sensor excitation or switched power loads will be additive to this value.
Active 20 Hz Scan	20 mA Assumes one single-ended measurement with the first notch frequency ( $f_{N1}$ ) at 30 kHz Note: Any sensor excitation or

switched power loads will be additive to this value.

Active 1 kHz Scan	67 mA Note: Any sensor excitation or switched power loads will be additive to this value.
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### Voltage/Current Excitation Outputs

Voltage Excitation	$\pm 5$ V (@ 50 mA)
Current Excitation	$\pm 2.5$ mA ( $\pm 5$ V compliance voltage)
Number of Voltage/Current Excitation Outputs	2

### General Purpose Outputs

Number of SW5V Outputs	2
SW5V Output Resistance	30 $\Omega$
Number of SW12V Outputs	1
Typical Limit of SW12V Outputs	200 mA
Minimum Limit of SW12V Outputs	180 mA
Number of 12V Outputs	1
Typical Limit of 12V Outputs	200 mA
Minimum Limit of 12V Outputs	180 mA

For comprehensive details, visit: [www.campbellsci.eu/volt108](http://www.campbellsci.eu/volt108) 

