



# 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 easily expands the channel count on your data-acquisition system. It has eight differential or 16 single-ended input channels, as well as two excitation channels. The Volt 108 provides programmable, precision

excitation for standard sensor measurements and power outputs for controlling sensors and peripherals. This module features a 24-bit, analog-to-digital converter with low-noise performance for superior analog measurements.

### Benefits and Features

- › 24-bit ADC and low-noise inputs for increased measurement quality
- › Distributed data acquisition
- › Channel count expansion via the CPI bus on Campbell Scientific data loggers
- › Easier to program than traditional multiplexers
- › Programmable noise rejection
- › CANbus 2.0 A/B output available with the Extended Duty (-XD) version
- › USB 2.0 interface for PC-based operation with Campbell Scientific Surveyor software

### Specifications

Power Requirements	9.6 to 32 Vdc voltage	Input Range	$\pm 5000$ mV, $\pm 1000$ mV, and $\pm 200$ mV
Mounting	Standard 1-in. grid (DIN rail mounting available)	Period Averaging	Traditional period averaging on analog input channels
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>	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.)
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 Scan Rate	<ul style="list-style-type: none"> <li>› 1 channel at 1 kHz</li> <li>› 8 channels at 333 Hz</li> </ul>		



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) 

