



VOLT116

16- or 32-Channel 5V Analog Input Module



Ultimate Analog Measurement Expansion Tool

Ideal for concentrated or distributed measurements

Overview

The VOLT 116 is an analog input module that allows you to easily expand your Campbell Scientific data acquisition system. The VOLT 116 has 16 differential or 32 single-ended input channels and four excitation channels. It provides two 12 V ports and two switched 12 V ports for powering your peripherals, as well as four switched 5 V ports for peripheral

control. The VOLT 116 features a 24-bit, analog-to-digital converter and a low-noise, analog front-end to provide you with superior analog measurements. This module also supports period average measurements and includes both current and voltage excitation channels.

Benefits and Features

- › 24-bit ADC and low-noise analog inputs
- › Channel count expansion via the CPI bus
- › Scales up the number of channels without adding measurement time
- › Easier to program than multiplexers
- › Programmable noise rejection
- › CANbus 2.0 A/B output available
- › USB 2.0 interface for PC-based operation

Specifications

Mounting	Standard 1-in. grid (DIN rail mounting available)		» ±(0.06% of reading + offset) -40° to +70°C
Operating Temperature	» -40° to +70°C (standard) » -55° to +85°C (extended)	Number of Channels	16 differential or 32 single-ended inputs
Power Requirements	9.6 to 32 Vdc voltage	Analog Inputs	32 single-ended or 16 differential (with ±5000 mV, ±1000 mV, ±200 mV ranges 24 bit ADC)
Estimated Accuracy	» ±(0.08% of reading + offset) -55° to +85°C » ±(0.04% of reading + offset) 0° to 40°C	Maximum Multiplexed Sample Rate	3.0 kHz (using fast [100 μs] input setting)



Maximum Burst Sample Rate	30 kHz
Input Range	± 5000 mV, ± 1000 mV, and ± 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	0.9 kg (1.95 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

Active 20 Hz Scan	20 mA Assumes one single-ended measurement with the first notch frequency (f_{N1}) at 30 kHz
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Voltage/Current Excitation Outputs

Voltage Excitation	± 5 V (@ 50 mA)
Current Excitation	± 2.5 mA (± 5 V compliance voltage)
Number of Voltage/Current Excitation Outputs	4

General Purpose Outputs

Number of SW5V Outputs	4
SW5V Output Resistance	30 Ω
Number of SW12V Outputs	2
Typical Limit of SW12V Outputs	200 mA
Minimum Limit of SW12V Outputs	180 mA
Number of 12V Outputs	2
Typical Limit of 12V Outputs	200 mA
Minimum Limit of 12V Outputs	180 mA

For comprehensive details, visit: www.campbellsci.com/volt116 



Campbell Scientific, Inc. | 815 W 1800 N | Logan, UT 84321-1784 | (435) 227-9120 | www.campbellsci.com
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