



# CDM-A116

16-Channel 5 V Analog Input Module



## 24-Bit Resolution

Greatly increases sensor capacity

### Overview

The CDM-A116 is an analog input module that allows you to easily expand your Campbell Scientific data logging system. The CDM-A116 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.

The CDM-A116 has 16 differential inputs 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.

### Benefits and Features

- › Ability to make simultaneous measurements
- › CANbus 2.0A/2.0B capable; contact Campbell Scientific for details

### Detailed Description

The CDM-A116 offers 24-bit sigma-delta Adc with 16 user programmable notch frequencies from 30,000 Hz to 2.5 Hz,

including 50 and 60 Hz. Previous generations of data loggers could notch out 50 or 60 Hz.

### Specifications

-NOTE-

*Additional specifications are listed in the [CDM-A108](#) and [CDM-A116](#) brochure.*

Mounting

Standard 1-in. grid (DIN rail mounting available)

Operating Temperature › -40° to +70°C (standard)  
› -55° to +85°C (extended)

Power Requirements 9.6 to 32 Vdc voltage

Estimated Accuracy › ±(0.06% of reading + offset) -40° to +70°C

	<ul style="list-style-type: none"> <li>› <math>\pm(0.04\%</math> of reading + offset) 0° to 40°C</li> <li>› <math>\pm(0.08\%</math> of reading + offset) -55° to +85°C</li> </ul>
Number of Channels	16 differential or 32 single-ended inputs
Analog Inputs	32 single-ended or 16 differential (with $\pm 5000$ mV, $\pm 1000$ mV, $\pm 200$ mV ranges 24 bit ADC)
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 0.9 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

### 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 4

### General Purpose Outputs

Number of SW5V Outputs	4
SW5V Output Resistance	30 $\Omega$
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/cdm-a116](http://www.campbellsci.com/cdm-a116) 



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