



## 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 datalogging 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

### 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 dataloggers 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 › ±(0.04% of reading + offset) 0° to 40°C  
› ±(0.06% of reading + offset) -40° to +70°C  
› ±(0.08% of reading + offset) -55° to +85°C



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 datalogger 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.)

### 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.au/cdm-a116](http://www.campbellsci.com.au/cdm-a116)

