

SDM-AO4

Four Channel Analog Output Module



The SDM-AO4 provides four independent, continuous, analog outputs for proportional control or driving strip charts. Measured or processed values in the datalogger are scaled to millivolts and transferred to the SDM-AO4 as digital values. The SDM-AO4 then performs a digital to analog conversion and outputs an analog voltage signal. The output voltage level is maintained until updated by the datalogger. Please note that the SDM-AO4 is not compatible with our CR200-series, CR500, CR510, and CR9000(X) dataloggers.

SDM Operation

The datalogger enables individual modules through an addressing scheme; multiple SDMs (in any combination) can be connected to one datalogger. After a module is enabled, it operates independently of the datalogger until additional commands are received or results are transmitted.

Datalogger Connection

The CABLE5CBL-L is recommended for connecting the module to the datalogger. A 1-ft cable length should be sufficient when both datalogger and SDM-AO4 are housed within an ENC12/14 enclosure; a 2-ft length may be required if the datalogger and SDM-AO4 are housed at opposite ends of an ENC16/18 enclosure.

The cable length should be as short as possible. Typically, the maximum cable length is 20 ft. Contact Campbell Scientific if the length needs to be longer.

Power Supply

It is often convenient to power the SDM-AO4 from the datalogger power supply, but when doing so consideration must be given to the SDM-AO4's 10.5 mA continuous current drain. The alkaline supply available with the datalogger has 7.5 Ahr and will power one SDM-AO4 for less than one month. This supply is not recommended for continuous long-term operation. The datalogger's sealed rechargeable power supply, float charged by an ac supply or solar panel, may be used for long-term operation.

The SDM-AO4 may also be powered from an external 12 V supply, independent from the datalogger supply. The low side of an external 12 V supply should be connected to datalogger ground and not directly earth grounded.



Ordering Information

Synchronous Device for Measurement

SDM-AO4 4-Channel Analog Output Module

SDM-to-Datalogger Cable

CABLE5CBL-L 5-conductor, 24 AWG cable with drain wire and Santoprene jacket. Enter cable length, in feet, after the -L. Must choose a cable termination option (see below).

Cable Termination Options (choose one)

- PT** Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
- PW** Cable terminates in connector for attachment to a prewired enclosure.

Specifications

Analog Output

Range:	±5000 mV
Resolution:	2.5 mV
Output Resistance:	200 ohms
Accuracy:	0.5% of V_{out} (≥ 50000 ohm load) 4% of V_{out} (4800 ohm load)

Power Requirements

Operating Voltage:	12 Vdc nominal (9.6 V to 16 V)
Typical Current Drain:	10.5 mA
Output Current:	<0.125 mA
Minimum Load:	75000 ohms

Environmental

Operating Temperature:	-25° to +55°C
Relative Humidity:	0 to 90 RH (non-condensing)

Physical

Dimensions:	6.1-in. x 2.7-in. x 1.1-in. (15.5-cm x 6.9-cm x 2.8-cm)
Weight:	0.9 lbs (0.4 kg)

