



SDM-CVO4

4-Channel Current and Voltage Output Module



Lets Data Logger Control Voltage

Expands data logger's current/
voltage output capability

Overview

The SDM-CVO4 is attached to a data logger and outputs variable voltage or current signals under data logger program control. Typical applications include driving remote current-loop display units, retransmitting measured values to industrial

control systems, sending control signals to valve controllers, and providing excitation voltages or currents to external sensors.

Benefits and Features

- › Expands data logger current/voltage output capability
- › Provides four independent current or voltage outputs
- › Drives remote current-loop display units
- › Retransmits measured values to industrial control systems that have current or high voltage inputs
- › Sends control signals to valve controllers
- › Provides excitation voltages or currents to external sensors

Detailed Description

The SDM-CVO4 includes four output channels for connecting the external devices. It outputs variable voltage or current signals under data logger program control. The outputs are isolated both from the data logger and the other channels on the SDM-CVO4, thereby avoiding ground loop problems. Each output can be set to 0 to 10 Vdc or 0 to 20 mA by the data logger program. (Current outputs can also be scaled and limited to 4 to 20 mA.)

In the current mode, the output either acts as a two-wire current controller, where the loop is powered from a remote voltage source, or generates a 0 to 20 mA current source using a voltage output derived from its own power supply.

Isolation

The SDM-CVO4 includes an internal isolation barrier and components rated to provide signal isolation for transients up to 1500 Vac (rms), 2500 Vdc nominal. The isolation is between any output and the SDM-CVO4 ground connection and between individual output channels.

Protection components are built-in, which will break down in a controlled fashion at voltages close to this limit. (See the [Instruction Manual](#), Section 4.5 Safety Considerations, for details).

Specifications

Function	Expands data logger current/voltage output capability.
Number of Channels	4
Operating Temperature	-25 to +50°C
Operating Voltage	12 Vdc nominal (8 to 16 V)
Minimum Voltage Drop	2.5 V (@ 20 mA current flow) across the internal current regulating circuit
Maximum Input Voltage	20 Vdc (relative to channel ground)
EMC Status	Complies with EN55022-1:1998 and EN50082-1:1998.
Dimensions	› 17.8 x 10.2 x 2.3 cm (7.0 x 4.0 x 0.9 in.) without mounts › 23.4 x 11.2 x 2.3 cm (9.2 x 4.4 x 0.9 in.) with mounts
Weight	363 g (13 oz)

Isolation

Tested Isolation	Each channel of each unit is tested for isolation resistance at 500 Vdc. Pass level > 10 MΩ
Maximum Recommended Continuous Operating Voltage	240 Vac rms differential between an output and data logger ground, providing all issues relating to local regulations for safe installation and operation are followed (Refer to <i>Section 4.5 Safety Considerations</i> in the Instruction Manual .)

Current Mode

Range	0 to 20,000 μA
Resolution	5 μA
Minimum Output Current (leakage)	5 μA (at +50°C)
Accuracy at +23°C	±0.02% of set current + (±5 μA)
Typical Accuracy at -25° to +50°C	±0.1% of set current + (±5 μA)
Worst Case Accuracy at -25° to +50°C	±0.15% of full scale range + (±5 μA)

Voltage Mode

Range	0 to 10,000 mV
Resolution	2.5 mV
Maximum Output Current	30 mA per channel
Minimum Load Current	5 μA if output < 200 mV
Accuracy at +23°C	±0.02% of set voltage + (±2.5 mV)
Accuracy at -25° to +50°C	±0.13% of set voltage + (±2.5 mV)

Current Drain @ 12 Vdc

Typical Active Current	27 or 54 mA, depending on operating mode (no load on output ports) To estimate the total current, add the active current to the sum of all output currents multiplied by 1.5. For example, if each port is at 10 mA output, the total = 54 + (1.5•4•10) = 114 mA.
With All Outputs Off	< 0.5 mA

For comprehensive details, visit: www.campbellsci.com/sdm-cvo4 



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