CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

SDM-SW8A
8-Channel Switch Closure Module

Expands Datalogger Input Channels

For switch closure or pulse sensors

Overview

The SDM-SW8A is an 8-channel pulse count module. Each channel can be individually configured for single-pole double-throw (SPDT), single-pole single throw (SPST), or voltage pulse measurements. Output options include state, duty cycle, or counts. The SDM-SW8A is well suited for use in energy management studies.

SDM Operation

The datalogger enables individual modules through an addressing scheme; multiple SDMs (in any combination) can be connected to one datalogger. We recommend a maximum of four SDM-SW8As be connected to a single 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 is recommended for connecting the module to the datalogger. A 30 cm (1-ft) cable length should be sufficient when both datalogger and SDM-

SW8A are housed within an ENC12/14 enclosure; a 60 cm (2-ft) length may be required if the datalogger and SDM-SW8A 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 6 m. Contact Campbell Scientific if the length needs to be longer.

Power supply

Due to the 3 mA continuous and 6 mA active current drain, an auxiliary 12 Vdc power supply is recommended for powering the SDM-SW8A in remote, long term applications. Connections between an SDM-SW8A and an auxiliary power supply are shown in the illustration.

For some applications, it may be convenient to use the datalogger power supply. Connection to a datalogger power supply is shown as a dashed line. For long-term applications where ac power is available, or where a solar panel can be used for recharging, the sealed rechargeable power supply available with Campbell Scientific dataloggers could be used. For short term applications only, the alkaline power supply available with Campbell Scientific dataloggers could be used to power the SDM-SW8A.
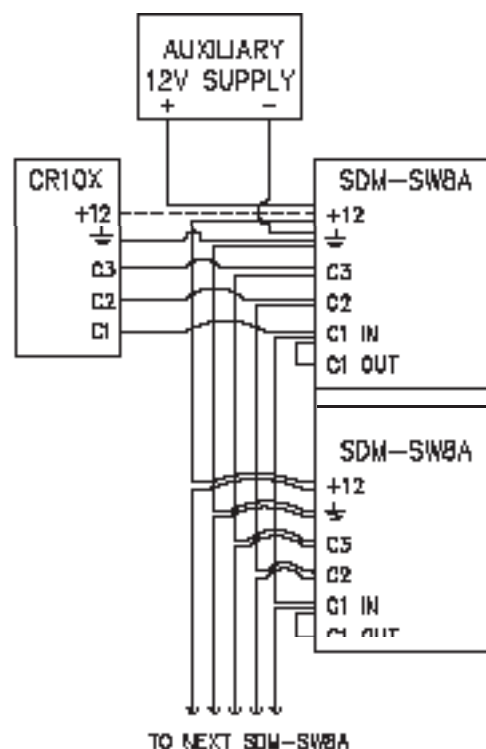
SDM-SW8A Specifications

Compatible Dataloggers:	CR800, CR850, CR1000, CR3000, CR5000 and CR7. The SDM-SW8A is not compatible with the CR200-series, CR9000(X), CR500, and CR510 loggers.

Measurement

Measurement Types:	switch closure (SPDT, SPST) dc voltage pulse
Input Voltage Threshold:	from below 0.9 to above 4.0 Vdc, ±20 Vdc maximum.
Maximum Input Frequency:	100 Hz (50% duty cycle)
Minimum Input Pulse Width:	5 ms high, 5 ms low
Maximum Bounce Time:	3 ms open without counting
Output Options:	state, duty cycle, counts
Maximum Count/Port:	65535
Internal Sampling Frequency:	500 Hz
Watchdog Reset:	yes

Power Requirements

Operating Voltage:	12 Vdc nominal (9.6 V to 16 V)
Typical Current Drain	
Quiescent:	3 mA
Active (maximum):	6 mA

Environmental

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

Physical

Size:	15.7 cm x 6.9 cm x 2.3 cm (6.2 in. x 2.7 in. x 0.9 in.)
Weight:	0.23 kg (0.5 lbs.)

Ordering information

Synchronous Device for Measurement

SDM-SW8A   8 Channel Switch Closure Input Module

SDM-to-Datalogger Cable

CABLE5CBL   5-conductor, 24 AWG cable with drain wire and Santoprene jacket. 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.