



Includes Internal Microprocessor

Allows independent measurement intervals

Overview

The SDM-INT8 outputs timing data to a Campbell Scientific datalogger. The datalogger can process the timing data to

calculate RPM, duty cycle, velocity, crank angle, etc.

Benefits and Features

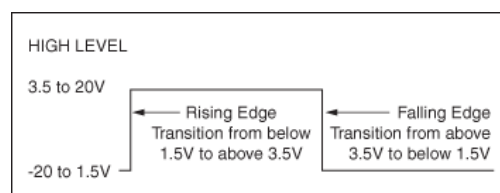
- › Allows individual programming for each of the eight channels
- › Includes an internal microprocessor that allows measurement independent of data logger's execution interval
- › Outputs period, pulse width, frequency, counts, or time intervals
- › Records results as execution interval averages, continuous averages, specified interval averages, or capture all events

Technical Description

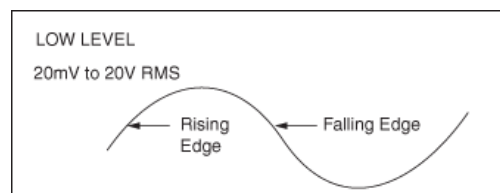
The SDM-INT8 has eight channels that are individually programmed to record the timing of input voltage transitions (events). It uses this information to output:

- › Period (ms)
- › Frequency (kHz)
- › Elapsed time between events on adjacent channels
- › Number of counts measured on channel 2 between a "start" event on channel 1 and a "stop" event on any other channel
- › Elapsed time between events on channel 1 and any other channel
- › Pulse Counting (any channel can function as a pulse counter)

High Level Voltage Input Pulses Schematic



Low Level AC Voltage Input Schematic



SDM Operation

The data logger enables individual modules through an addressing scheme; up to 15 SDM-INT8s can be connected

to one data logger. After a module is enabled, it operates independently of the data logger until additional commands are received or results are transmitted.

Specifications

Operating Voltage	9.6 to 16 Vdc
Current Drain	› 13 to 20 mA (active) › 400 µA (quiescent)
Maximum Timing Measurement	16.7 s
Resolution	±1 µs
Operating Temperature	-25° to +50°C
Dimensions	0.3 x 12.7 x 2.5 cm (8 x 5 x 1 in.)
Weight	0.82 kg (1.8 lb)

High-Level Voltage Input Pulses

Minimum Pulse Width	2 µs
Maximum Frequency (32-bit values)	› 10 kHz (capturing all events) › The maximum frequency specification for high-resolution (32-bit) values assumes all eight channels are used. › 5.1 kHz (averaging options)
Maximum Frequency (16-bit values)	› The maximum frequency specifications for low-resolution (16-bit) values is for the execution interval averaging only.

- › If number of channels programmed is
 - › 1 channel—42.5 kHz
 - › 2 channels—17.5 kHz
 - › 3 channels—11 kHz
 - › 4 channels—8.6 kHz
 - › 5 channels—5.2 kHz
 - › 6 channels—4.8 kHz
 - › 7 channels—4.5 kHz
 - › 8 channels—4.28 kHz

Low-Level AC Voltage Input

AC Voltage	› 20000 mV RMS (max.) ac voltage › 20 mV RMS (min.) ac voltage
Input Hysteresis	11 mV
Minimum Frequency	1 Hz
Maximum Frequency	› 100 kHz (20 mV min. RMS) › 400 kHz (50 mV min. RMS) › 1000 kHz (150 mV min. RMS) › 4000 kHz (2.5 to 20 V min. RMS)

For comprehensive details, visit: www.campbellsci.eu/sdm-int8 