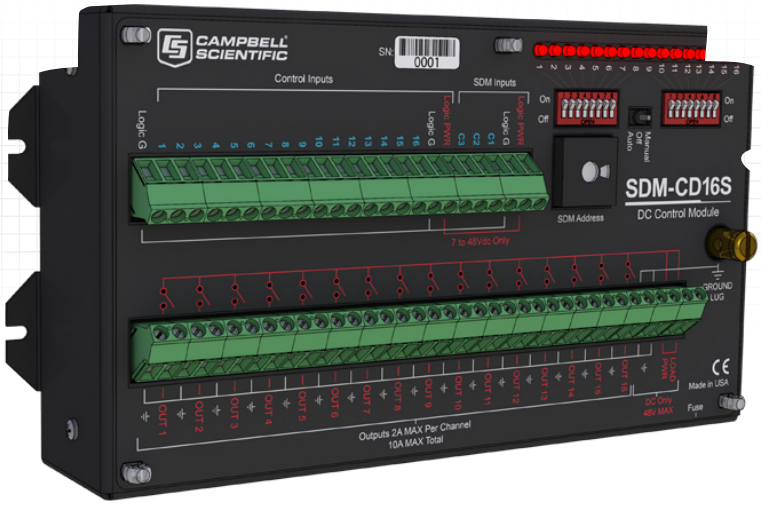
CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

SDM-CD16S

16-Channel Solid-State DC Controller

Expands Datalogger Control Capacity

For dc devices with higher current loads



Overview

The SDM-CD16S controls dc devices that have a a relatively high-powered load, such as solenoids, solenoid valves, DC motors, stepper motors, lights, horns, heaters, and fans. With a voltage range of up to 48 Vdc and a maximum current output per channel of 2 A, the SDM-CD16S can drive up to 100 W of power on each channel.

Benefits and Features

- Allows the datalogger to automatically turn devices on or off when a threshold (e.g., temperature, water depth) has been reached
- Provides a manual override
- Includes LEDs for a visual indicator of active outputs
- Drives up to 100 W of power on each channel

Technical Description

The SDM-CD16S provides 16 dc voltage outputs that can be switched on and off manually or under datalogger control. Its toggle switch has three positions: MANUAL, OFF and AUTO. In the MANUAL position, outputs are controlled by the position of the individual rocker switches. In the OFF position, all outputs are off. In the AUTO position, the state of the relays is controlled by the SDM commands from the datalogger or by the logic control inputs.

Separate inputs for power-to-outputs (48 Vdc maximum) and power-to-SDM-CD16S logic (7 to 48 Vdc) allow the option of powering the logic from the datalogger's 12 V while switching a higher voltage.

SDM Operation

The SDM-CD16S is a synchronously addressed datalogger peripheral. Datalogger control ports 1, 2, and 3 are used to address the SDM-CD16S, then clock out the desired state of each of the 8 control ports. Up to 15 SDM-CD16S devices may be addressed, making it possible to control a maximum of 256 ports from the first three datalogger control ports.

Power Considerations

The SDM-CD16S power requirements may be large compared to most Campbell Scientific products. For most applications, an external power supply is recommended to power the SDM-CD16S.

For some applications, it may be convenient to use the datalogger's sealed-rechargeable battery. If the datalogger's rechargeable batteries are used, the batteries need to be float charged via a wall charger or solar panel. The current available from the wall charger limits the SDM continuous output current. Campbell Scientific does not recommend using the datalogger's alkaline power supply.

Ordering Information

Synchronous Device for Measurement	
SDM-CD16S	16-Channel Solid State DC Relay Controller

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

- Isolation: Optically isolated between the inputs and outputs
- Logic Power Voltage: 7 to 48 Vdc
- Logic Current Drain @ 12 Vdc: 15 mA quiescent; 2.5 mA per active LED (manual or auto)
- Maximum Current
  Per Channel: 2 A
  All Channels Total: 10 fused
- Toggle Switch: MANUAL, OFF, AUTO; individual dip switches for manual
- Supply Voltage for Output: 48 V max, dc only
- Actuation/Release Times: 8 µs/200 µs
- Operating Temperature Range: -40° to +70°C
- Fuse: 3 AG 10 A
- Maximum Cable Length: 6 m (20 ft) total to all SDM devices. Consult Campbell Scientific if longer lengths are necessary