

# SDM-CD16AC

## 16-Channel AC/DC Controller



The SDM-CD16AC is a synchronous device equipped with relay control ports that control power to each of 16 external ac or dc devices. Each relay port can be controlled automatically by the datalogger's program or controlled manually with an override toggle switch.

The toggle switch has three positions, "ON" and "OFF" for manual override, and "AUTO" is for datalogger control. In the "ON" position, the common (COM) and normally open (NO) contacts are closed. In the "OFF" position, the normally open contact is open. In the "AUTO" position, the state of the relay is controlled by the SDM command issued through the datalogger's control ports or SDM terminal.

### Features

- Activates ac or dc devices
- Provides contacts rated at 5 A @ 30 Vdc, 0.3 A @ 110 Vdc, 5 A @ 125 Vac, and 5 A @ 277 Vac
- Includes LED that indicates when a port is active
- Allows manual override for each port
- Conforms to EN55022-1:1995 and EN50082-1:1992
- UL/CUL\* listed

### Power Considerations

The SDM-CD16AC power requirements are large compared to most Campbell Scientific products. For most applications, an external power supply is recommended to power the SDM-CD16AC.

For some applications it may be convenient to use the datalogger supply to power the SDM-CD16AC. For long-term applications, the sealed rechargeable power supply available with Campbell Scientific dataloggers should be used, allowing the batteries to be float charged. It is not recommended that the datalogger alkaline supply be used to power the SDM-CD16AC for long-term applications.



### SDM Operation

The SDM-CD16AC is a synchronously addressed datalogger peripheral. Datalogger control ports 1, 2, and 3 are used to address the SDM-CD16AC, then clock out the desired state of each of the 16 control ports. Up to 16 SDM-CD16ACs may be addressed, making it possible to control a maximum of 256 ports from the first three datalogger control ports.

### 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-CD16AC are housed within an ENC12/14 enclosure; a 2-ft length may be required if the datalogger and SDM-CD16AC 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.

### Ordering Information

#### Synchronous Device for Measurement

**SDM-CD16AC** 16-Channel AC/DC Relay Controller 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.

\*Underwriters Laboratories (UL) and Canadian Underwriters Laboratories (CUL) listed product. UL and CUL listing number is 5Z21.

## Specifications

**Compatible Dataloggers:** CR800, CR850, CR1000, CR3000, CR5000 (OS version 1.3 or higher), CR7, CR10(X), CR23X, and 21X. The SDM-CD16AC is not compatible with the CR500, CR510, and CR200-series dataloggers.

**Contact Operation:** Single pole double throw; break before make

**Contact Material:** Gold-clad silver

**Individual Contact Rating:** 5 A @ 30 Vdc,  
0.3 A @ 110 Vdc,  
5 A (1/10 hp) @ 125 Vac,  
5 A (1/6 HP) @ 277 Vac

**Coil Voltage:** 9 to 18 Vdc

**Coil Resistance:** 360 Ohms x  $\pm 10\%$

**Expected Life (contact closures):** Mechanical  $10^7$

**Actuation/Release Time:** Approximately 4 ms

**Toggle Switch:** ON/OFF manual override;  
AUTO for datalogger control

### *Power*

**Operating Voltage:** 12 Vdc nominal (9 to 18 Vdc)

**Current Drain @ 12 Vdc:** 6 mA quiescent;  
45 mA per active LED (switch on or auto active)

### *Environmental*

**Operating Temperature:** -40° to 70°C

**Humidity:** non-condensing

### *Physical*

**Dimensions:** 9.7-in. x 2.0-in. x 3.4-in.  
(24.6-cm x 5.1-cm x 8.6-cm)

**Weight:** 1.8 lbs (0.8 kg)

