

## DESCRIPTION

The Model DSO-102 monitors load currents of devices such as fans, pumps and other critical items in HVAC systems. The solid state relay output provides a run status indication for these devices to compatible DDC/PLC control systems. The relay output of this model is completely isolated from the input current.

Units with the VF option are suitable for use in Variable Frequency Drive (VFD) systems with a frequency range of 12 to 60Hz (order Model DSO-102-VF).

Note: DSO-102 was previously DSO-102-N.O.

**5 YEAR WARRANTY**



## SPECIFICATIONS

### INPUT

Current Range (Jumper-selectable)... 1-6A, 6-40A, 40-200A  
 Frequency  
 Standard..... 60Hz  
 With VF option..... 12-60Hz

### OUTPUT

Solid State Relay .....Form A, Normally Open, 30Vdc, 0.150A maximum  
 Response Time  
 Standard.....25ms  
 With VF option.....2s  
 Threshold Setting.....Adjustable  
 Relay Action.....Load current Under threshold = Open  
 Load current Over threshold = Closed

### INSTRUMENT POWER

All models ..... Self Powered

### TEMPERATURE

Operating Range..... 10°-135°F

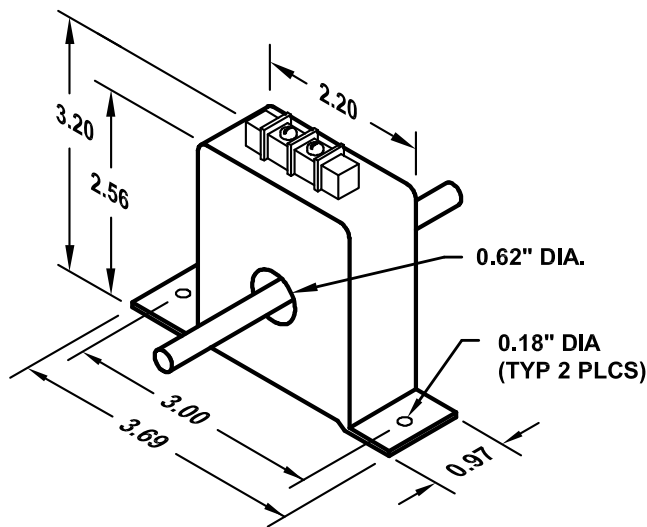
### PHYSICAL

Enclosure ..... ABS, Cyclac®, UL94V-0, Black  
 Net Weight ..... 0.25lb

### CONNECTIONS

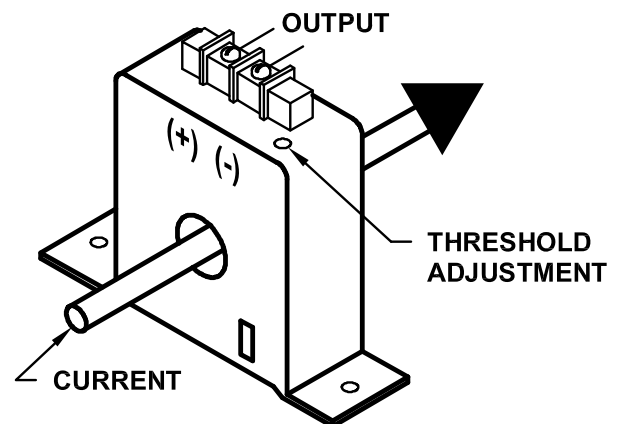
Input..... Current-carrying cable is inserted through circular window opening. Maximum cable size #3/0 (dia. <0.62")  
 Output..... Wire-retaining screw terminals No. 6/32 Maximum wire size #14 AWG

## DIMENSIONS



ALL DIMENSIONS IN INCHES

## CONNECTION DIAGRAM



Dwg# 0902-00593-B Rev --

**INSTALLATION**

1. The DSO-102 may be mounted in any type of protected enclosure, motor starter, motor control center, control system field panel, or disconnect switch.
2. The current-carrying cable must pass through the circular window opening.
3. Permanently affix the DSO-102 to the cable with a conventional cable tie or similar non-conductive material. The unit may be oriented in any position.
4. Alternatively the DSO-102 may be mounted to any flat surface such as the back panel of the enclosure - see Case Dimensions for mounting dimensions.
5. Should mounting space be limited, the mounting feet of the DSO-102 may be snapped off.

**SET-UP**

1. Set range selection jumper for appropriate range to match load amperage. (See Note 1)
2. Energize the load and observe the solid state relay output status. If the relay is not open then turn the threshold adjustment counter-clockwise until the relay is open.
3. Next turn the adjustment clockwise until the relay closes. Setup is now complete.
4. Cycle the load and observe operation. When the load current is under the threshold setting the relay will be open. When load current is over the threshold setting the relay will be closed.

Note 1: For load amperages greater than 200Aac use an external current transformer (C.T.) of an appropriate ratio, such as 500:5. Feed the C.T. secondary through the DSO-102 window with one pass. Set range selection jumper to the 1-6A position. Adjust the threshold setting as described above.

Note 2: The DSO-102 current switch uses a solid state relay (open collector, NPN transistor) output. Contact closure can not be properly verified with a continuity meter.

Note 3: The DSO-102 solid state relay output may be used to switch dc loads of up to 30V and 0.15A maximum.