

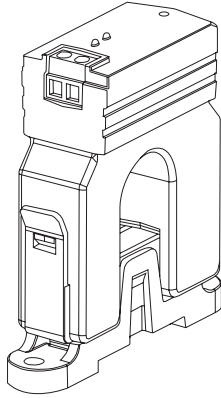
AC Split Core Current Switch

Installation Instructions

INTRODUCTION

The split core current switch monitors line current for electrical loads such as pumps, conveyors, machine tools or fans and closes the output contacts when the adjustable trip point is exceeded. The power LED lights when the line current is detected and is below the set-point. The status LED lights when line current exceeds the set-point and the switch closes. It is typically used to monitor motor operation and can be used to determine on/off status, proof of operation, motor failure, or belt loss.

The sensor requires no external power as it is totally powered by induction from the AC line being monitored. The trip setpoint is factory set to the minimum value (2 Amp) but can be set up to 200 Amps by rotating the adjustment pot counter-clockwise.



WARNING

- **Electric shock hazard, use caution**
- Disconnect and lock out power before installation
- Follow national and local electrical codes
- Read and understand these instructions before installing
- Installation only by qualified electrical personnel
- Do not rely on this device to indicate line power
- Only install this device on insulated conductors
- Only install on 600 Vac maximum conductors
- Do not use this device for life-safety applications
- Do not install in hazardous or classified locations
- Install this product in a suitable electrical enclosure
- **Failure to follow these instructions will result in death or serious injury**

MOUNTING

Read all warnings before beginning installation of this device. Ensure the selected device has the correct ratings for the application.

Disconnect and lock out power. To mount the device on a flat surface, select an area that will allow side and top access to wire device. If pre-drilling is required, the actual device may be used to mark holes on the selected surface. The mounting holes in the base will accommodate up to a # 10 size screw (not supplied). The base of the device may be removed for ease of installation. See Figure 1.

For DIN rail mounting, hook one side to the DIN rail and snap onto the rail, see Figure 1.

Open the SC-610 by slightly pulling the tab and pulling upward and swiveling the device. See Figure 2. Place around the monitored conductor and close while keeping the sensor contacts clean, remove any dirt or debris. See Figure 3.

Wiring the output to the controller as shown in Figure 4.

Once all connections are made and verified, reconnect the power to the device.

Calibrate the switch with the motor running normally as outlined in the *Calibration* section.

Figure 1

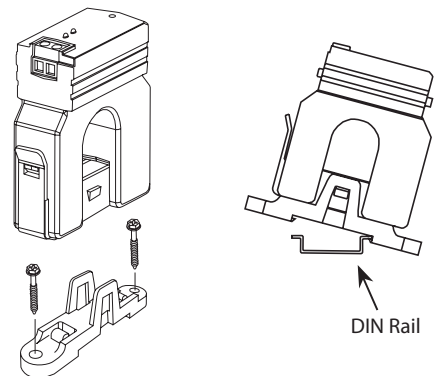


Figure 2

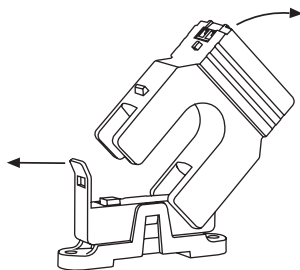


Figure 3

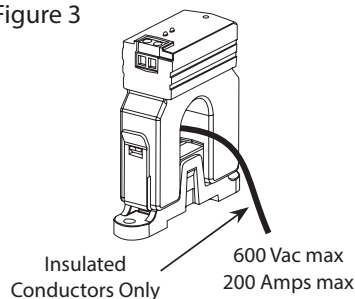
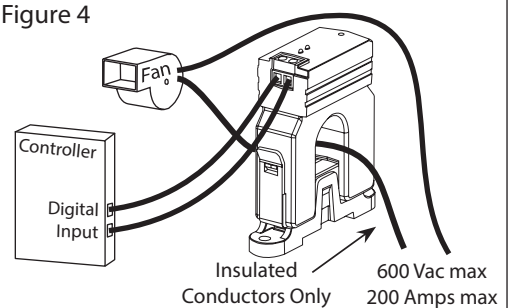


Figure 4



CALIBRATION

With the sensor installed, turn on the monitored load (motor, heater, etc.) and allow it to run normally. Since the SC is factory set to switch at 2 Amps the status LED should be lit and the contacts should be closed if the load draws more than 2 Amps. Rotate the multi-turn setpoint pot counter-clockwise until the status LED turns off. Then slowly turn the pot clockwise until the status LED just comes on. Turn clockwise slightly more to eliminate false switching. The SC is now set to detect an under-current condition. A voltmeter can be used across the contacts to verify switch operation.

APPLICATIONS

For applications with load currents exceeding the sensor current range use an external CT to reduce the current to an acceptable value. For example, to monitor a 500 Amp load current, use a 500A:5A CT and wrap the CT secondary through the device four times so the sensor actually only sees 20 Amps when the load current is 500 Amps.

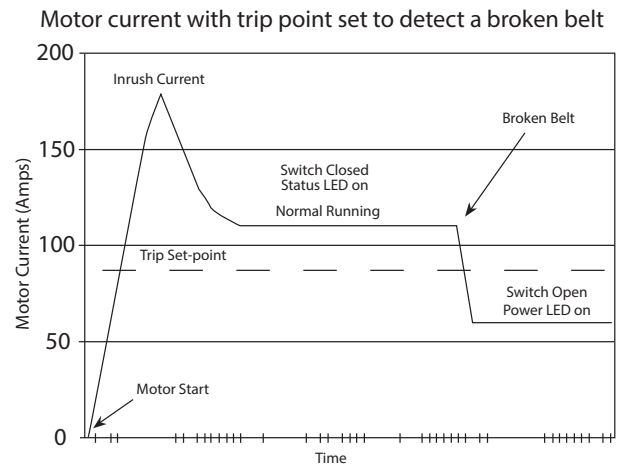
For applications with small load currents (such as less than 2 Amps), wrap the monitored conductor through the sensor aperture several times to increase the current measured by the sensor. For example, to monitor a 0-1 Amp load with a 200 AMP device, wrap the conductor through the sensor aperture five times so the sensor actually sees 0-5 Amps.

For any application with multiple wraps, note that the device maximum current rating must be divided by the number of wraps. For example, with one wrap the maximum current is 200 Amps, with 5 wraps the maximum current is $200/5 = 40$ Amps. Ensure the load current is <40 Amps or the device may overheat and be damaged.

SPECIFICATIONS

Set-point Range2 to 200 Amps adjustable
 Maximum Input Current200 Amps continuous
 Sensor PowerSelf-powered
 Output TypeSolid-state mosfet
 Output Switch ActionNormally open
 Output Switch Ratings30 Vac/dc, 500 mA maximum
 IndicationPower and status LEDs
 Von @ 24 Vdc @ 500 mA.....<50 mV
 Frequency50/60 Hz
 Response Time200 mS typical
 Insulation Class600 Vac, insulated conductors
 Operating Temperature.....-15 to 50°C (5 to 122°F)
 Operating Humidity5 to 90 %RH, non-condensing
 Terminal Block14 to 22 AWG
 Dimensions.....76mm W x 79mm H x 24.9mm D (3.0" x 3.1" x 0.98")
 Sensor Aperture.....20.3mm (0.8")
 Enclosure Material.....ABS/PC, UL94-V0
 Manufacturing.....ISO 9001 Certified
 Agency ApprovalscULus Listed
 Country of Origin..... Canada

Figure 5



DIMENSIONS

