



Installation and Operation Instructions

Part # A/SCS, A/SCS-L, A/SCSX

Please Read Instructions Carefully Before Installation!

■ Safety

- ⚠ • This product is not intended to be used for Life or Safety applications.
- ⚠ • This product is not intended for use in any hazardous or classified locations.
- ⚡ • Disconnect and lock out all power sources before installation as severe injury or death may result from electrical shock due to contact with high voltage wires.

■ Installation

Make sure that all installations are in compliance with all national and local electrical codes. Only qualified individuals that are familiar with codes, standards, and proper safety procedures for high-voltage installations should attempt installation. The current switches will not require external power, since the power for the current switch is induced from the conductor being monitored.

- ⚡ **Warning:** Never rely on the Red LED to determine whether power is present at the current switch. The Red LED will indicate whether the current is above (LED On) or below (LED OFF) the fixed trip point.

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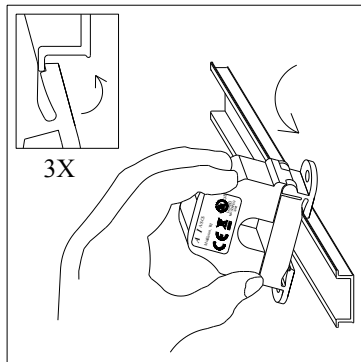


Figure 1: Sensor Placed on Rail

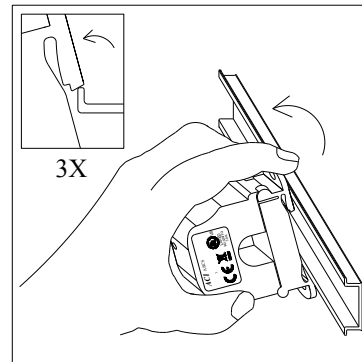


Figure 2: Sensor Removed from Rail

■ Latch Operation:

Pressing down on the two (2) side tabs and swinging the cover open opens the split core current switch as shown in **Figure 3** below. Lifting up on the latch with a flat-tip screwdriver as shown in **Figure 4** below can also open the unit. Press down firmly on the cover to close the current switch. An audible “click” will be heard as the tab slides over the tongue on the base.



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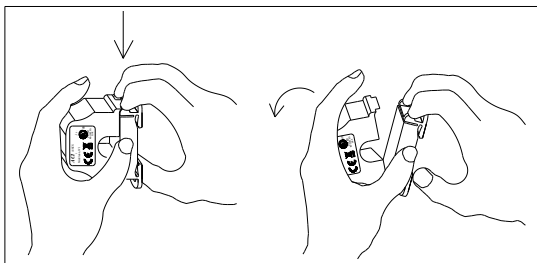


Figure 3: Opening Sensor by Hand

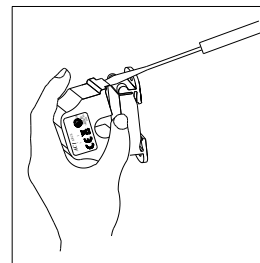


Figure 4: Opening w/ Screwdriver

For applications in which the normal operating current is below the 2.5A trip point (See Figure 5 below), the conductor being monitored may be connected directly to the current switch. Example: A sensor with a normal operating current of 3.0 Amps flow

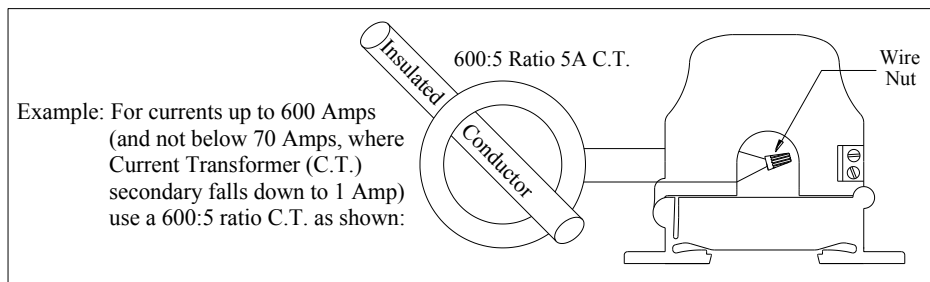
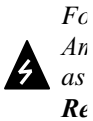
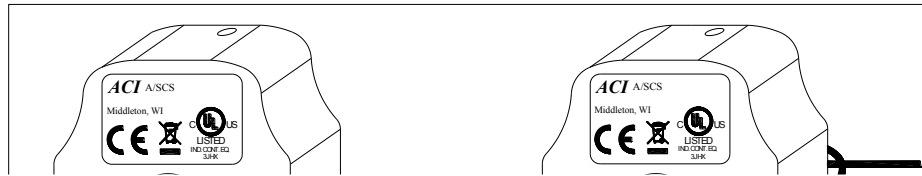


Figure 6: Current Transformer

■ Wiring

ACI recommends the use of a 2 conductor 16 to 22 AWG shielded cable or twisted pair **copper wire only** for all current switch applications. A maximum wire length of less than 30 meters (98.4 feet) should be used between the A/CS Series current switches and the Building Management System or controller. **Note: When using a shielded cable, be sure to connect only (1) end of the shield to ground at the controller. Connecting both ends of the shield to ground may cause a ground loop.** When removing the shield from the sensor end, make sure to properly trim the shield so as to prevent any chance of shorting. The current switch output terminals represent a solid-state switch for controlling both AC and DC loads and is not polarity sensitive. The recommended torque to be used on the terminal block connections is 0.67 Nm or 5.93 in-lbs. The aperture (hole) size of the current switch is 0.75” (1.90 cm) and will accept a maximum cable diameter of 350 MCM’s.

■ Operating Specifications

ACI Model #	Fixed Trip Point	Output Switch Rating	Max. Sensing Current Voltage	Max. Continuous Current	Max. Current for 6 seconds	Max. Current for 1 second
A/SCS	2.50 Amps	0.30Amps @ 200VAC/VDC	600 VAC	200 Amps	400 Amps	800 Amps
A/SCS-L	1.50 Amps	0.30Amps @ 200VAC/VDC	600 VAC	200 Amps	400 Amps	800 Amps
A/SCSX	2.50 Amps	0.15Amps @ 300VAC/VDC	600 VAC	250 Amps	400 Amps	800 Amps

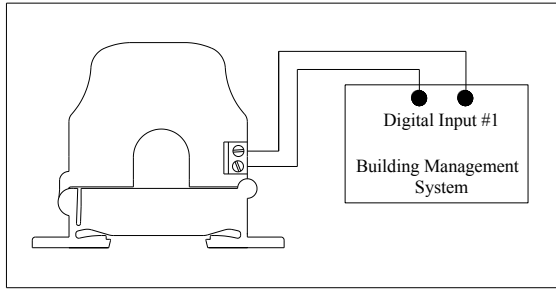


Figure 7: Digital Circuit

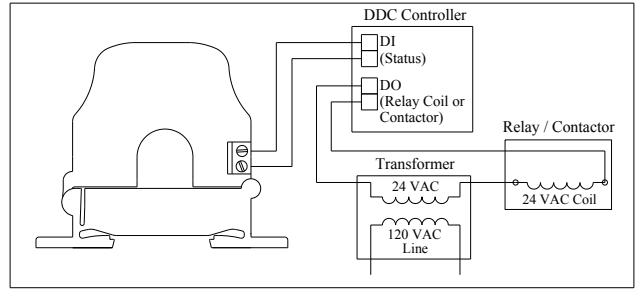


Figure 8: Analog Circuit

■ **Troubleshooting**

Problem	Solution
LED is on but the current switch didn't activate	Disconnect the wires from the current switch output. Measure the resistance across the contacts with an Ohmmeter. See Figure 9 below for the actual resistance readings for an open or closed switch reading.
LED didn't turn on and the current switch didn't activate	Verify that the current flowing in the conductor being monitored is above the fixed trip point as listed in the operating specifications. If the sensor is monitoring less than the fixed trip point See Figure 5 on Page 2.
LED not on but the Current Switch is Activated	LED not indicating correctly, may have been damaged
Current Switch is operating at a low-level current or failing to operate within the accuracy specifications.	Visually check the mating parts of the core to ensure there is no debris between the split contacts. Remove all debris or dust manually and close the current sensor. Continue to retest the sensor in your application. See Figure 3 on Page 1.

ACI Model #	Resistance if switch open	Resistance if switch closed
A/SCS	Greater than 1 Meg ohms	Approximately 2 ohms
A/SCS-L	Greater than 1 Meg ohms	Approximately 2 ohms
A/SCSX	Greater than 1 Meg ohms	Approximately 12 ohms
A/SCSX-L	Greater than 1 Meg ohms	Approximately 12 ohms

Figure 9

■ **WEEE Directive**

At the end of their useful life, do not dispose of with household waste. Do

not dispose of at the recycling centre. Do not dispose of

