

Specifications

Setpoint Range	3-350 mA in 2 jumper selectable ranges
Low Range	3-15mA Field Adjustable
High Range	10-350mA Field Adjustable
Maximum Amps	10 A
Isolation Voltage	600VAC (Monitored Circuit)
Frequency Range	50-400Hz (Monitored Circuit)

Output Options

Solid State AC Switch	1A @ 240 VAC
Solid State DC Switch	0.15A 30 VDC
Response Time	150 mS @ 5% above setpoint. 60 mS @ 50% above setpoint. 15 mS @ 500% above setpoint
Power Supply	Operates from +/- 20% of nominal voltage
Nominal Voltages	120 VAC (50-400 Hz) 24 VAC/DC available (not UL 508)
Power Consumption	2.5 Watts
Case	UL 94V-O Flammability Rated
Environmental	5 to 158 DegF (-15 to 70 DegC), 0-95%

Model Number Key

AS0 - NCAC - 120

POWER SUPPLY

120 -120 VAC
24U - 24 VAC/DC

OUTPUT (Solid State Switch):

NCAC - Normally Closed, 1.0A, 240 VAC
NOAC - Normally Open, 1.0A, 240 VAC
NCDC - Normally Closed, 0.15A, 30 VDC
NODC - Normally Open, 0.15A, 30 VDC

SENSOR TYPE:

AS0 - Very low AC current sensing switch



INSTRUCTIONS



AS0 SERIES

Very Low AC Current Sensing Switch

Know Your Power



Other NK Technologies Products Include:

DC Current Switches, Ground Fault Sensors
AC & DC Current Switches
Power Transducers
Current & Potential Transformers (CTs&PTs)

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Quick "How To" Guide

1. Run the wire you are monitoring through aperture.
2. Mount the sensor to a surface if needed.
3. Connect output wiring.
 - Use up to 14 AWG copper wires. Tighten terminals to 4 inch-pounds torque.
 - B. Make sure load matches the output (check label). Be aware that Solid State outputs will only switch AC (-xxAC) or angle switch DC (-xxDC).
 - C. Make sure power supply matches the sensor's power input (check label)
4. Adjust Setpoint
 - A. Use the potentiometer to dial in setpoint.

Description

ASO Series are solid-state current switches. They operate (switch) when the current level through the hole exceeds the adjustable setpoint.

Installation

ASO Series sensors work in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. They can be mounted in any position or hung directly on wires with a wire tie. Just leave at least one inch distance between sensor and other magnetic devices.

Run current carrying conductor through the opening in the sensor.

Wiring

Connect power wiring to the sensor. Be sure that the power supply matches the power rating on the sensor label. Use up to 14 AWG copper wire and tighten terminals to 7 inch-pounds torque.

Connect output wiring to the sensor. Be sure that the output load is less than or equal to than the output rating on the sensor label. Use up to 14 AWG copper wire and tighten terminals to 7 inch-pounds torque.

CAUTION: *Incandescent Lamps can have 10x "Cold Filament Inrush" current. Use care when switching lamp loads.*



Setpoint Adjustment

A. Setup

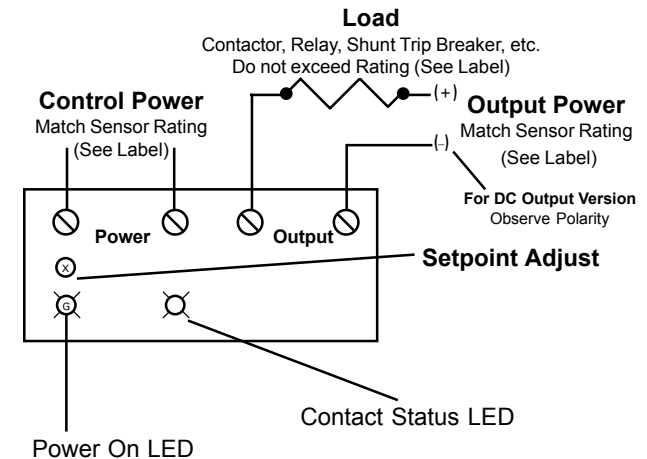
Connect the sensor as shown above. Run a circuit through the sensor with current equal to the desired trip point.

B. Differential Current

To monitor earth leakage current, pass all current carrying conductors through the sensor aperture, and adjust the trip point as delineated below.

C. Adjust Setpoint to Minimum

Turn the adjustment pot 5 revolutions CW (Clockwise). This adjusts the sensor to the most sensitive setpoint (1 mA for LOW range, 10 mA for HIGH range.) The pot has a slip clutch so you cannot damage it or feel the end point. The Output



LED should turn ON.

D. Dial in new Setpoint

Turn the pot slowly CCW (Counter Clockwise) until the LED turns OFF. Now turn the pot very slowly CW until the led just goes ON. The sensor is now adjusted to trip at the current you have going through the core. See Table Below.

Monitored Current

Below Setpoint		Above Setpoint	
Output	LED	Output	LED
Closed	OFF	Open	On
Open	OFF	Closed	On

N.C. Normally Closed

N.O. Normally Open

Trouble Shooting

1. Sensor is always tripped

- The setpoint may be too low. Check that the Range Jumper is in the correct position. Turn pot CCW to increase setpoint.
- Switch has been overloaded and contacts are burned out. Check the output load, remembering to include inrush on inductive loads (coils, motors, ballasts)

2. Sensor will not trip

- The setpoint may be too high. Check that the Range Jumper is in the correct position. Turn pot CW to decrease setpoint.
- Switch has been overloaded and contacts are burned out. Check the output load, remembering to include inrush on inductive loads (coils, motors, ballasts).

C. Mismatched Power Supply . Check that the power supply is on and the correct voltage.

3. "Nuisance" tripping

A. The sensor is probably doing what is designed to do: trip at a specified current level. It takes a very sensitive instrument to detect current at these very low levels. Consider testing the sensor with the monitored current removed. A high accuracy resistor of 4K ohms will develop a current of 30 mA at 120 volts, and this load could be passed through the sensor for primary adjustment. By Ohm's law, resistance is equal to voltage divided by current. To find the resistive value that allows for the desired trip point, and adjust accordingly.