Specifications

Power Supply	120 VAC (50-60 Hz, 96-144 V) 24 VAC/VDC (19-29 V)
Setpoint Range:	3-350 mA in 2 jumper selectable ranges
Low Range	3-15 mA Field adjustable
High Range	10-350 mA Field adjustable
Maximum Input	10 A (continuous overload)
Isolation Voltage	1480 VAC, tested to 5 KV
Frequency Range	50-400 Hz (monitored circuit)
Output Options:	
Solid State AC Switch	1 A @ 240 VAC (maximum)
Solid State DC Switch	0.15 A @ 30 VDC (maximum)
Response Time	150 mS @ 5% above setpoint 100 mS @ 50% above setpoint 50 mS @ 500% above setpoint
Hysteresis	<5%
Power Consumption	2.5 VA
Case	UL94 V-0 Flammability rated
Sensing Aperture	0.75" (19.1 mm) diameter
Environmental	-4 to 122°F (-20 to 50°C) 0-95% RH, Non-condensing Pollution Degree 2 Altitude to 6561 ft (2000 meters)
Listings	UL/cUL, CE

For products intended for the EU market, the following is applicable to the CE compliance of the product:

The sensor may comply with EN 61010-1 CAT III 300 V max line-to-neutral measurement category. If insulated cable is used for the primary circuit, the voltage rating of the measurement category can be improved according to the characteristics given by the cable manufacturer.

De-energize power before changing setpoint jumper position.

Warning! Risk of Danger

Safe operation can only be guaranteed if the sensor is used for the purpose it was designed for and within limits of the technical specifications. When this symbol is used, it means you must consult all documentation to understand the nature of potential hazards and the action required to avoid them.

Warning! Risk of Shock

When operating the senor certain parts may carry hazardous live voltage (e.g. primary conductors, power supply). The sensor should not be put into operation if the installation is not complete.

Model Number Key

AS0 - NCAC - 120

POWER SUPPLY:
120 - 120 VAC
24U - 24 VAC/VDC

OUTPUT (Solid State Switch):
NCAC - Normally Closed, 1.0 A, 240 VAC
NOAC - Normally Open, 1.0 A, 240 VAC
NCDC - Normally Closed, 0.15 A, 30 VDC
NODC - Normally Open, 0.15 A, 30 VDC

SENSOR TYPE:
AS0 - 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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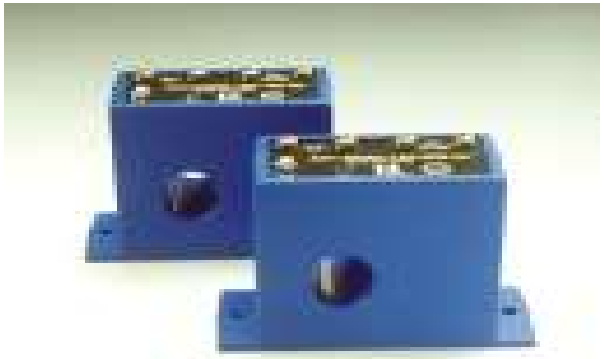
NK Technologies

INSTRUCTIONS



AS0 SERIES

Very Low AC Current Sensing Switch

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.
   A. Use up to 22-14 AWG rated 75°C minimum copper conductors only wires. Tighten terminals to 9 inch-pounds torque.
   B. Make sure load matches the output (check label). Be aware that Solid State outputs will only switch AC (-xxAC) or only 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.

491010102 Rev 7

Description

AS0 Series are solid-state current switches. They operate (switch) when the current level through the aperature hole exceeds the adjustable setpoint.

Installation

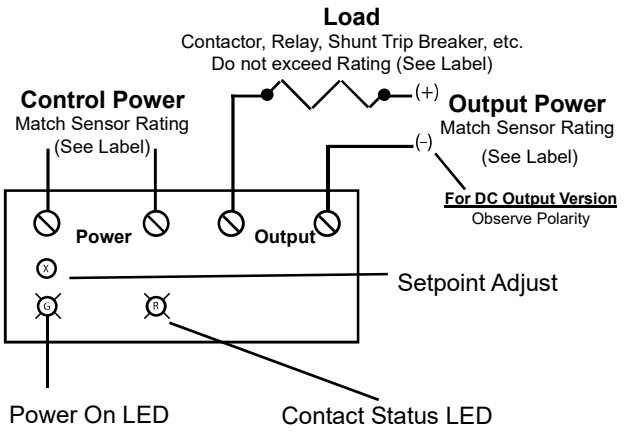
AS0 Series sensors work in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. They can be mounted in any position or hung directly on wires with a wire tie. Just leave at least one inch distance between sensor and other magnetic devices.

Run current carrying conductor through the opening in the sensor.

Connect power wiring to the sensor. Be sure that the power supply matches the power rating on the sensor label. Use up to 22-14 AWG copper wire and tighten terminals to 9 inch-pounds torque.

Wiring

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 22-14 AWG copper wire and tighten terminals to 9 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 (3 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 red LED should turn ON.

D. Dial in new Setpoint

Turn the pot slowly CCW (Counter Clockwise) until the red LED turns OFF. Now turn the pot very slowly CW until the red 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
N.C. Normally Closed	Closed	OFF	Open	On
N.O. Normally Open	Open	OFF	Closed	On

Trouble Shooting

1. Sensor is always tripped

A. The setpoint may be too low. *Check that the Range Jumper is in the correct position. Turn pot CCW to increase setpoint.*

B. 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

A. The setpoint may be too high. *Check that the Range Jumper is in the correct position. Turn pot CW to decrease setpoint.*

B. 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 4000 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, so find the resistive value that allows for your required trip point, and adjust accordingly.