

Specifications

Power Required	None - self powered
Output	Isolated Solid State Switch
Output Rating	NOU: 0.30Amp @ 135 VAC/VDC
Off State Leakage	NONE
Response Time	0.2 Second
Setpoint Ranges	Fixed Core: 1.5-150 A Split Core: 2.8-150A
Setpoint	Self Learning Microprocessor based.
-OL	Overload : +15% of load
-UL	Underload : -15% of load
-OU	Over/Underload (operating window): +/-15% of load
Hysteresis	Approx. 5% of Setpoint
Isolation Voltage	UL Listed to 1,270 VAC Tested to 5,000 VAC
Frequency Range	6-100Hz See Ordering Information for low Frequency operation
Sensing Aperture	-FT: 0.75" (19mm) -SP: 0.85" (21.5mm)
Environmental	-58 to 149 DegF (-50 to 65 DegC) 0-95% RH, Non Condensing
Listings	UL and ULC Listed CE Certified

Ranges & Maximum Amps

TYPE	RANGE	MAXIMUM INPUT AMPS		
		CONTINUOUS	6 SEC.	1 SEC.
FIXED CORE	1.5-150 A	150A	500A	1000A
SPLIT CORE	2.8-150A	150A	500A	1000A

Model Number Key

ASM - NOU - OL - FT

CASE STYLE:

FT - Fixed Core, Top Terminals

SP - Split-Core

Operation

OL - Over Load

UL - Under Load

OU - Over/Under Load

OUTPUT:

NOU - Normally Open

SENSOR TYPE:

ASM - Self-Calibrating Current Operated Switch

Know Your Power



Other NK Technologies Products Include:

AC & DC Current Transducers
AC & DC Current Operated Switches
1φ & 3φ Power Transducers
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INSTRUCTIONS



ASM SERIES

Self-Calibrating Current Operated Switch
Universal Output

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 14 AWG copper wires.
 - B. Make sure the load matches the output shown on the sensors' label
4. Allow Sensor to "Learn" The Load
 - A. Slide the Function Switch from "CLEAR" to "RUN".
 - B. Turn load "On"
 - C. Watch "CALIB" flash (>2/Sec) for 20 seconds, when the LED is off. the sensor has "learned" the load and is calibrated.

Description

ASM Series are solid-state current operated switches. They operate (switch) when the current level through the hole falls within the setpoint “window”. This “window” is automatically set to +/-15% of the normal load current. Internal circuits are totally powered by induction from the line being monitored. The output contacts are rated 0.3A @ 135 VAC or VDC. This “Universal” output make them well suited for application in automation systems.

Installation

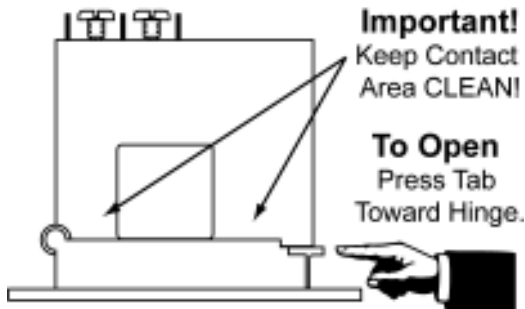
For All Versions

Run wire to be monitored through opening in the sensor.

ASM switches 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.

Split-Core Versions (SP Suffix)

Press the tab in the direction as shown to open the sensor. After placing the wire in the opening, press the hinged portion firmly downward until a definite click is heard and the tab pops out fully.



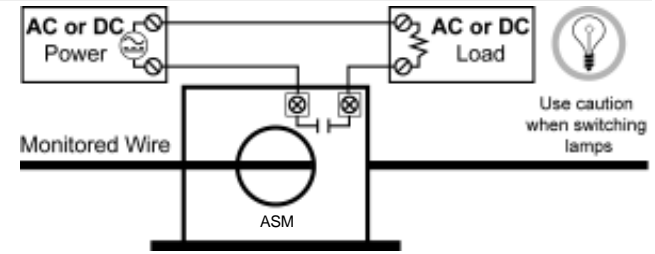
KEEP SPLIT-CORE SENSORS CLEAN.

Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt onto the grease in the contact area. Operation can be impaired if the mating surfaces do not have good contact. Check visually before closing.

Output Wiring

Connect control or monitoring wires to the sensor. Use up to 14 AWG copper wire and tighten terminals to 7 inch-pounds torque. Be sure the output load does not exceed the switch rating.

CAUTION Incandescent lamps can have “Cold Filament Inrush” current of up to 10 times their rated amperage. Use caution when switching lamps.



Setpoint Adjustment

ASM Series has an internal microprocessor that “Learns” your load characteristics and calibrates the setpoint and setpoint window.

Initial Calibration

1. The ASM is shipped with Function Switch in the “CLR” position which clears the memory.
2. After installation is complete, turn on the load. After inrush subsides, slide this switch to “RUN”.
3. “CALIB/ALARM LED will flash slowly (>2Sec/Flash) during the learning period. When this LED goes out, the sensor is calibrated.

Re-Calibration

If the load or conditions change, you may need to recalibrate the sensor. Here’s how:

1. For safety sake, turn load power OFF.
2. Slide the Function Switch to “CLR”
3. Turn the load power back on for 5 seconds, then turn it off. This clears the memory.

4. Slide the Function Switch to “RUN”. The sensor will now perform it’s Initial Calibration the next time it sees the load power.

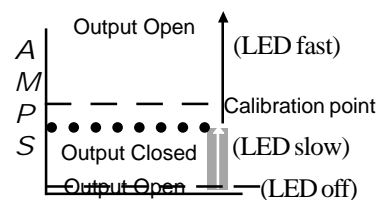
Note: For special situations, Re-Calibration can be performed while the load is running. Exercise extreme caution since you must place your hands into a high voltage environment! With the load running, flip the Function switch to CLEAR, wait 5 seconds then back to RUN. The sensor will now recalibrate.

LED Indicators

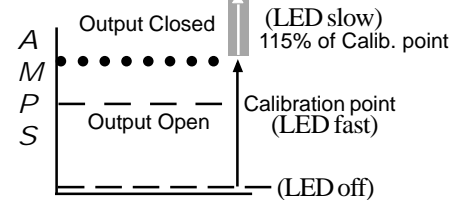
STATE	CONTACT	CALIB
OFF	Load off or <Minimum CAUTION! Load power may be on!	Sensor is operating normally <u>or</u> is OFF
Slow Flash >2 Sec/Flash	SEE GRAPH	Sensor is learning the load and self calibrating
Fast Flash ~2 Flash/Sec	SEE GRAPH	Calibration error. Perform Re-Calibration

Operation

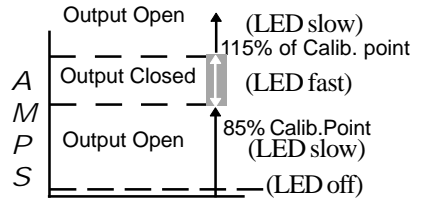
-UL Option (UNDER Load)



-OL Option (OVER Load)



-OU Option (OVER/UNDER Load)



Trouble Shooting

1. Sensor is always tripped

- A. 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. Split Core models: The core contact area may be

dirty. *Open the sensor and clean the contact area.*

- 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. Try to run the recalibration procedure to clear memory and reset the output.