

## Specifications

|                             |  |
|-----------------------------|--|
| Power Required              | None required - self powered   |
| Output Contact              | Solid state, universal (AC or DC)  |
| Switch Rating               | NOU - 0.150A @ 240VAC or DC<br>NCU - 0.200A @ 135VAC or DC<br>(General use only)                         |
| Response Time               | 100ms with current 100% over set point   |
| Delay                       | 2 second delay before output changes state upon first energization                                       |
| Hysteresis                  | Minimum 3% of setpoint   |
| Monitored Circuit Frequency | 600VAC line-to-line max. 150A<br>10-100 Hertz  |
| Setpoint Adjust             | 3/4-turn potentiometer   |
| Sensing Aperture            | -FF 0.55" (14mm)<br>-SP 0.85" (21.6mm)   |
| Operating Environmental     | -4 to 122 °F (-20 to 50 °C)<br>0-95% RH, Non Condensing<br>Pollution degree 2<br>Altitude to 2000 meters |
| Approvals                   | UL/cUL, CE   |

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

The ASL series comply with EN 61010-1 CAT III 300Vrms 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 insulation characteristics given by the cable manufacturer.

**Warning! Risk of danger**

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



**Warning! Risk of electrical shock**

When operating the current switch certain parts may carry hazardous voltage (e.g. primary conductor). The current switch should not be put into operation if the installation is not complete.



## Model Number Key

ASL 2 - NOU - FF

**CASE STYLE:**

FF -- Fixed Core  
SP -- Split Core

**OUTPUT (Solid State Switch):**

NOU -- Normally Open, 0.15A @ 240 VAC or DC  
NCU -- Normally Closed, 0.20A @ 135 VAC/DC

**RANGE:**

|          | Solid Core -FF | Split Core -SP |
|----------|----------------|----------------|
| <u>1</u> | 1 - 10 A       | 2 - 20 A       |
| <u>2</u> | 10 - 50 A      | 20 - 50 A      |
| <u>3</u> | 50 - 100A      | 50 - 100 A     |
| <u>4</u> | 100 - 150A     | 100 - 150 A    |

**SENSOR TYPE:**

ASL -- Self powered AC current operated switch with 3/4 turn adjustment

## Know Your Power



**Other NK Technologies Products Include:**

AC & DC Current Transducers  
AC & DC Current Operated Switches  
1φ & 3φ Power Transducers  
Current & Potential Transformers (CTs & PTs)



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# INSTRUCTIONS



## ASL SERIES

**Self-Powered AC Current Operated Switch - One Turn Adjustment**

### Quick "How To" Guide

1. Route monitored wire through aperture.
2. Mount the sensor.
3. Connect output wiring.
  - A. Use 14 -22 AWG 75/90°C copper wires.
  - B. Ensure load matches that shown on sensor label.
4. Adjust Setpoint.
  - A. Use trip adjust potentiometer to choose setpoint.
  - B. 3/4 turn, current level shown on label

## Description

ASL Series products are self powered, current operated switches which trigger when sensed current levels exceed the adjusted setpoint. Models are available which provide NO (closes on current rise) or NC (contact opens on current rise) solid state contacts.

The ASL series current switches are intended for use in Pollution degree 2 environments.

## Installation

ASL switches can be located in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures.

Mounting can be done in any position or hung directly on wires with a wire tie. Ensure at least one inch clearance exists between sensor and other magnetic devices.

Run wire to be monitored through aperture (opening) in the sensor.

For control wiring, use 14-22 AWG copper wire and tighten terminals to 5 inch-pounds torque. Be sure the output load does not exceed the switch rating.

Connect output wiring to terminals. Note that if unit is powered and monitored conductor has current flow, the output contacts may energize depending on setpoint.

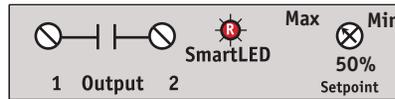
When the sensor has current through the aperture, the LED on the unit should indicate unit is on by flashing slowly. When the current is over the adjusted trip point, the LED will flash quickly.

## Inrush Bypass

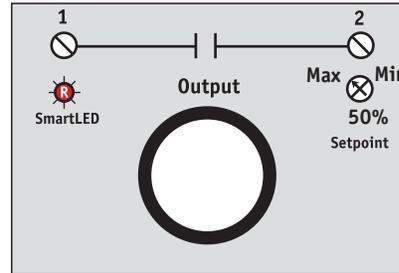
The ASL series current sensing switches provide a 2 second delay before the output changes state upon initial energization of the monitored load. After the delay, the sensor will change state as quickly as possible on current increase.

This feature allows the monitoring of a motor load without adding a bypass contact or an external timing relay added to the circuit.

## Output Wiring



Split Core Connection



Solid Core Connection

## Setpoint Adjustment

ASL Series setpoint is adjusted through one 3/4-turn pot which has an arrow indication of the selected value. The unit comes from the factory with setpoint set to its maximum.

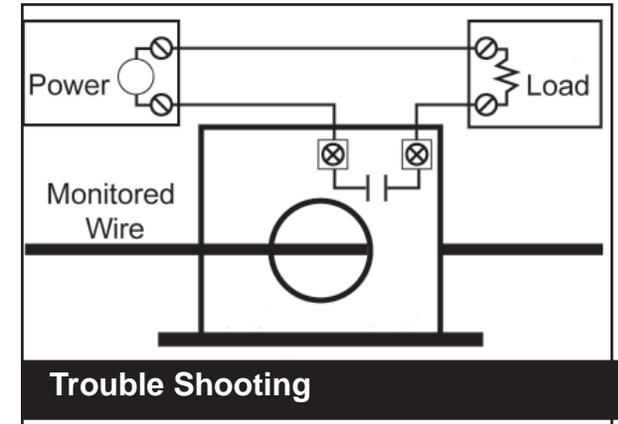
### Typical Adjustment

1. Turn the **Trip** pot to minimum setpoint.
2. Ensure normal operating current running through sensor. The output should be tripped since the pot is at its minimum setpoint and status LED should change from slow to fast flash indicating contact is tripped.
3. Turn the **Trip** pot Clock Wise until the unit un-trips. This is indicated by the LED changing from fast to slow flashing and by the changing of the output switch status.
4. Now turn the **Trip** pot Counter Clock Wise slowly until the unit trips again.

It is now set at the current level being monitored. This value can be confirmed by reading the trip point from the graded scale of the sensor label.

- A. To Set for UNDERLOAD indication - Leave the setting where it is (tripped with load at normal)
- B. To Set for OVERLOAD indication - Turn pot *slightly* Clock Wise. (untripped when current is at normal level)

The output connection is simple, and is not polarity sensitive. Bring the control circuit voltage to one terminal, and connect the controlled load to the other. When closed, the contact will pass the control circuit voltage from the source to the load.



## Trouble Shooting

1. **Sensor is always tripped**
  - A. The setpoint may be too low. *Turn pot CCW to increase setpoint.*
  - B. Switch has been overloaded and contacts are burned out. *Check the output load current use. Load cannot exceed switch contact rating.*
2. **Sensor will not trip**
  - A. The setpoint may be too high. *Turn pot CW to decrease setpoint.*
  - B. Monitored current is below minimum required. *Loop the monitored wire several times through the aperture until the "sensed" current rises above minimum. Sensed Amps = (Actual Amps) x (Number of Loops). Count loops on the inside of the aperture.*
  - C. Switch has been overloaded and contacts are burned out. *Check the output load current use. Load cannot exceed switch contact rating.*