

## Specifications

Power Supply	24 VAC/VDC (22-26 V) 120 VAC (108-136 V)
Power Consumption	< 2 VA
Output Switch	Single Pole, Double Throw Mechanical Relay
Output Rating	<u>SPDT</u> - 1A @ 120VAC (general use) 2A @ 30 VDC (general use)
Response Time	Adjustable 0.2 to 20 seconds 2.0 seconds (fixed on startup)
Hysteresis	Constant 5% of setpoint
Setpoint Range	Adjustable 1-20, 20-50, 50-80 A (refer to model)
Setpoint Adjust	3/4-turn potentiometer
Isolation Voltage	UL listed to 2200 VAC
Frequency Range	40-100 Hz
Case	UL94 V-0 Flammability rated
Sensing Aperture	-FL 0.75" (19.1mm) 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 ASXP Series 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.

#### 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 sensor 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

ASXP 2 - SDT - 120 - FL

CASE STYLE:  
FL - Solid-Core

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

OUTPUT (Mechanical Relay):  
SDT - Single Pole, Double Throw Relay,  
1 A @ 120 VAC or 2 A @ 30 VDC

#### RANGE:

- 1 - 1 - 20 Amps
- 2 - 20 - 50 Amps
- 3 - 50 - 80 Amps

#### SENSOR TYPE:

ASXP - Powered AC current operated switch with integral time delay

## Know Your Power



#### Other NK Technologies Products Include:

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



## NK Technologies

3511 Charter Park Drive, San Jose, CA 95136

Phone: 800-959-4014 or 408-871-7510

Fax: 408-871-7515

sales@nktechnologies.com, www.nktechnologies.com



# INSTRUCTIONS



## ASXP SERIES Powered AC Current Operated Switch with Integral Time Delay

### Quick "How To" Guide

1. Route monitored wire through aperture.
2. Mount the sensor or suspend on the conductor.
3. Connect power supply and output wiring.
  - A. Use 30-12 AWG rated 75°C minimum copper conductors only wires and tighten 5-7 in-lbs torque.
  - B. Ensure supply power and load matches that shown on sensor label.
4. Adjust Setpoint and Time Delay.
  - A. Use trip adjust potentiometer to choose setpoint.
  - B. Use delay potentiometer to select delay (seconds) before contact action once setpoint is exceeded.

## Description

ASXP Series products are powered, current-operated switches which trigger when sensed current levels exceed the adjusted setpoint. Models are available with NO and NC mechanical relay contacts. Contact action can be delayed for up to 20 seconds by using the Time Delay Adjust potentiometer.

## Installation

ASXP 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.

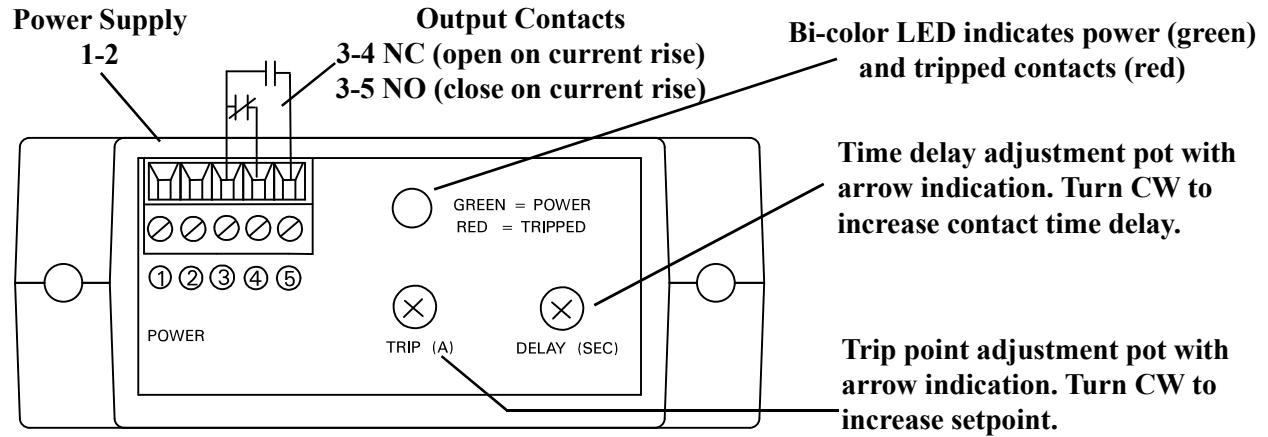
For control or monitoring wiring, use 30-12 AWG copper wire rated and tighten terminals to 5-7 inch-pounds torque. Be sure the output load does not exceed the switch rating.

Connect power supply to terminals 1 and 2 on the sensor. Check to ensure supply power matches voltage and type required by sensor. Once powered, the LED on the unit should indicate unit is on by glowing green.

Connect output wiring to terminals 3 and 5 for the normally open (closes on current rise) or 3 and 4 for the normally closed (opens on current rise) contact. Note that if unit is powered and monitored conductor has current flow, the output contacts may energize depending on setpoint and time delay settings.

The sensor will delay the initial contact action for two seconds, then after the initial sensing of current the delay can be set from no delay (operates in 200 ms) up to 20 seconds. The initial delay is designed to keep the sensor from tripping on motor inrush current.

## Power Supply and Output Wiring



## Setpoint Adjustment

ASXP Series setpoint and time delay are adjusted through two 3/4-turn pots which have arrow indication of the selected value. The unit comes from the factory with setpoint set to its maximum (fully clockwise CW) and time delay set to the lowest level (fully counter-clockwise CCW).

### Typical Adjustment

1. Turn the **Trip** pot to minimum setpoint. (Fully CCW, 1 A, 20 A, or 50 A depending on model). Ensure **Delay** pot is at 0 sec. (Fully CCW).
2. Ensure normal operating current running through sensor. The output should be tripped since the pot is at its minimum setpoint and bi-color LED should change from green to red, indicating contacts are energized.
3. Turn the **Trip** pot CW until the unit untrips. This is indicated by the LED changing color from red to green and by the changing of the output switch status.
4. Now turn the **Trip** pot CCW 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 off the graded scale of the trip pot.

A. To Set UNDERLOAD - Turn pot *slightly* CCW.

B. To Set OVERLOAD - Turn pot *slightly* CW.

5. Adjust the **Delay** of the contact action in the same fashion. Increase time delay by turning pot CW to desired value using scale on Delay potentiometer.

## Trouble Shooting

1. **Sensor is always tripped**
  - A. The setpoint may be too low. *Turn pot CW 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. *Turn pot CCW 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, remembering to include inrush on inductive loads (coils, motors, ballasts).*

