Specifications

Power Supply	24 VAC/VDC (22-28 V) 120 VAC (108-132 V) (refer to model)
Power Consumption	< 4 VA
Output Switch	Single Pole, Double Throw Mechanical Relay
Output Rating	SPDT - 1 A @ 120 VAC 2 A @ 30 VDC (resistive)
Time Delay	Adjustable 0.5 to 16 seconds
Hysteresis	Constant 5% of setpoint
Input Range	Adjustable 50-800 A across four model choices
Setpoint Adjust	1/2-turn potentiometer (per model)
Time Delay Adjust	1/2-turn potentiometer (0.5 to 16 sec)
Isolation Voltage	UL listed to 2200 VAC
Frequency Range	40-100 Hz
Case	UL94 V-0 Flammability rated
Sensing Aperture	1.19"(30.2 mm) x 2.22"(56.4 mm)
Environmental	0-95% RH, Non-condensing Pollution Degree 2 Altitude to 6561 ft (2000 meters)
Operating Temp.	-4 to122°F (-20 to 50°C) (surrounding air)
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. Use twisted pair for the output connection.

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 4 - SDT - 120 - MS

CASE STYLE:
MS - Split-Core

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

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

RANGE:
2 - 50 - 200 Amps
4 - 100 -400 Amps
6 - 150 - 600 Amps
8 - 200 - 800 Amps

SENSOR TYPE:
ASXP - Powered AC current operated switch with time delay on start

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AC & DC Current Transducers
AC & DC Current Operated Switches
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NK Technologies

INSTRUCTIONS

ASXP-MS SERIES

Powered AC Current Operated Switch with Integral Time Delay

Quick "How To" Guide

1. Route monitored wire(s) through aperture.
2. Mount the sensor (if required).
3. Connect power supply and output wiring.
   A. Use 22-12 AWG rated 75°C minimum copper conductors only and tighten to 6 in-lbs torque.
   B. Ensure supply power and load matches that shown on sensor label.
   C. Select output action using "Mode Switch". See "Output Action" table for details.
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 on initial energization (start) of monitored circuit.

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Description

ASXP Series products are powered, current-operated switches which trigger when sensed current levels exceed the adjusted setpoint. Models are provided with NO and NC mechanical relay contacts. Contact action can be delayed on **start up** for up to 16 seconds by turning the Time Delay Adjustment on the side of the sensor base.

Installation

ASXP switches can be located in the same environment as motors, contactors, heaters, pull-boxes, and other electrical devices or enclosures. Mounting can be directly to a standard DIN rail, attached to a back panel using #8 screws in through the mounting holes in the base in any position or hung directly on the conductors with a wire tie. Ensure at least one inch clearance exists between sensor and other magnetic devices.

Carefully pry the clips away from the vertical side legs, and remove the top bar. Snap the top piece back into position once the sensor is positioned around the conductor(s). Centering the monitored conductor will improve the output accuracy only slightly. The sensor is not polarity sensitive in that the conductor can pass through in either direction. The output contact is mechanical, so not polarity sensitive. The power supply connection is also not polarity sensitive.

For control or monitoring wiring, use 22-12 AWG copper wire and tighten terminals to 6 inch-pounds torque. Be sure the output load does not exceed the switch rating.

Connect power supply to terminals 4 and 5 on the sensor. Check to ensure supply power matches voltage and type required by sensor. Use circuit protection to protect the power supply wires in the remotely possibility of a short.

Once powered, the LED on the unit should indicate unit is on by glowing green.

Output Action

Use the mode switch to select “normal” or “fail-safe” output action.

	Fail-Safe		Normal	
	Power On	**Power Off**	**Power On**	**Power Off**
N.O.	Closes	Opens	Opens	Opens
N.C.	Opens	Closes	Closes	Closes
	Current High	**Current Low**	**Current High**	**Current Low**
N.O.	Opens	Closes	Closes	Opens
N.C.	Closes	Opens	Opens	Closes

Connect output wiring to terminals 2 and 3 for the normally open (closes on current rise) or 1 and 2 for the normally closed (opens on current rise) contact. (Normal setting). Note that if unit is powered and monitored conductor has current flow, the output contacts may change depending on setpoint and time delay settings.

Setpoint Adjustment

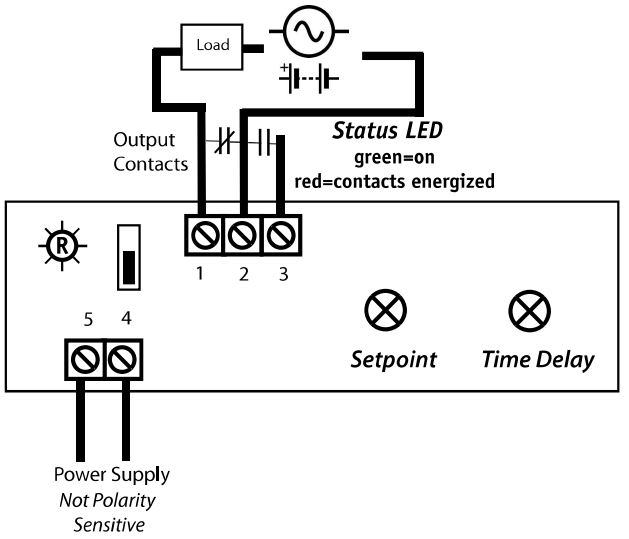
ASXP-MS Series setpoint and start time delay are adjusted through two 1/2-turn pots which have arrow indication of the selected value. The unit comes from the factory with setpoint set to its maximum (fully clockwise CW) and time delay set to the lowest level (fully counter-clockwise CCW).

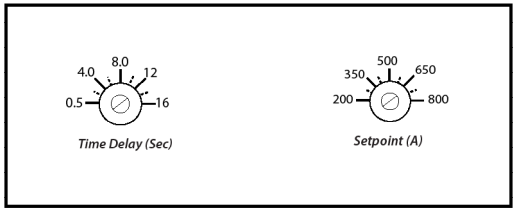
Typical Adjustment

1. Turn the **Trip** pot to minimum setpoint. (Fully CCW,). Ensure **Delay** pot is at 0.5 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 have changed state. See Output Action table.
3. Turn the **Trip** pot CW until the unit un-trips. This is indicated by the LED changing color from red to green and by the changing of the output contact 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 from the graded scale of the trip pot on the label.
   A. To Set UNDERLOAD - Turn pot ***slightly*** CW.
   B. To Set OVERLOAD - Turn pot ***slightly*** CCW.
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.

The sensor will delay contact action for an adjustable period, between 0.5 and 16 seconds. After this period has elapsed, the output will change state on current rise.

Power Supply and Output Wiring





Trip Point and Start Delay Adjustment (side of sensor base)

Trouble Shooting

1. Sensor is always tripped

A. The setpoint may be too low. *Turn pot CW to increase setpoint.*

B. Contact has been overloaded and 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).*