

Specifications

Power Supply	None - self powered
Output Switch	Isolated solid state switch
Output Rating	<u>NOAC/NCAC</u> - 1.0 A @ 240 VAC* <u>NOU</u> - N.O. 0.15 A @ 240 VAC/VDC* <u>NCU</u> - N.C. 0.20 A @ 135 VAC/VDC* *General use
Off State Leakage	<10 uA NOU/NCU/NOAC version 2.5 mA NCAC version
Response Time	Adjustable 0.12 to 15 seconds
Hysteresis	5%
Setpoint Range	Solid-Core: 1.5-12, 12-55 and 50-175 A Split-Core: 2-12, 12-55 and 50-200 A
Setpoint Adjustment	4-turn potentiometer (SP) 15-turn potentiometer (FT)
Isolation Voltage	UL Listed to 1480 VAC
Frequency Range	50-100Hz
Sensing Aperture	-FT 0.74" (18.8 mm) -SP 0.85" (21.6 mm)
Environmental	5 to 122°F (-15 to 50°C) 0-95% RH, Non-condensing Pollution Degree 2 Altitude to 6561 ft (2000 meters)
Listings	UL/cUL, CE compliant

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

The ASX Series may comply with EN 61010-1 CAT III 300V 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 all connections.

24 Volt AC or DC Power Supply

Fuse at 5 amps maximum

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

ASX - NOU - FT

CASE STYLE:

FT - Solid-Core, Top Terminals

SP - Split-Core

OUTPUT (Solid State Switch):

NOAC - Normally Open, 1.0 A @ 240 VAC only

NCAC - Normally Closed, 1.0 A @ 240 VAC only

NOU - Normally Open, 0.15 A @ 240 VAC/VDC

NCU - Normally Closed, 0.20 A @ 135 VAC/VDC

SENSOR TYPE:

ASX - AC current operated switch with integral time delay and three field-selectable ranges

Ranges & Maximum Amps

Adjustable Sensors

TYPE	RANGE	MAXIMUM INPUT AMPS		
		CONTINUOUS	6 SEC.	1 SEC.
SOLID-CORE	1.5-175 A	175 A	400 A	1000 A
SPLIT-CORE	2-200 A	200 A	400 A	1000 A



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INSTRUCTIONS



ASX SERIES

**AC Current Operated Switches
Adjustable Range with Solid State Output
and Integral Time Delay**

Quick "How To" Guide

1. Run the wire to be monitored through aperture.
2. Mount the sensor, or suspend on conductor.
3. Connect output wiring.
 - A. Use 22-14 AWG copper wires rated 75°C minimum.
 - B. Ensure load matches the output shown on the sensor label.
4. Adjust Setpoint.
 - A. Position range jumper across appropriate pins (med/high) or remove for low.
 - B. With load operating (preferred) adjust setpoint using potentiometer.
5. Adjust Time Delay.
 - A. Turn pot. CW to add time for output to change after current rise.

Description

ASX Series are self-powered, solid-state current-operated switches which trigger when sensed current levels exceed the adjusted setpoint. Models are available which provide NO/NC AC contacts or solid-state NO or NC “universal” contact outputs which can switch AC or DC. Contact action can be delayed for up to 15 seconds by using the Time Delay Adjust potentiometer.

Installation

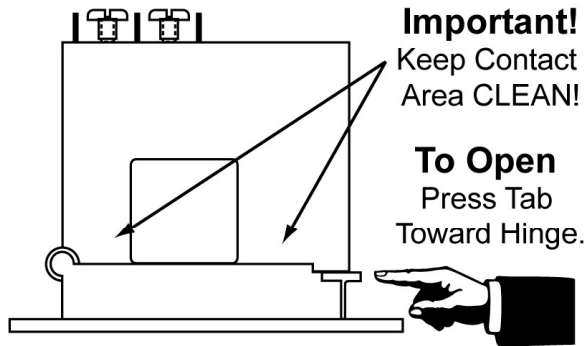
For All Versions

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

ASX 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.

Split-Core Versions (-SP Suffix)

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



KEEP SPLIT-CORE SENSORS CLEAN.

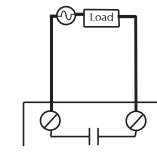
Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt into the grease in the contact area, particularly on core mating surfaces for -SP models. Operation can be impaired if the mating surfaces do not have good contact.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

Output Wiring

Connect control or monitoring wires to the sensor. Use 22-14 AWG copper wire rated 75°C minimum, and tighten terminals to 9 inch-pounds torque. Be sure the output load does not exceed the switch rating.

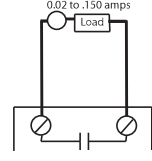
CAUTION Incandescent lamps can have “Cold Filament Inrush” current of up to 10 times their rated amperage. Use caution when switching lamps.

AC Power - 2 to 240 volts
0.2 to 1.00 amps



NOAC/NCAC

AC or DC Power -
0.2 to 240 volts
0.02 to .150 amps



NOU/NCU

Setpoint Adjustment

ASX Series setpoint and time delay are adjusted through two 4-turn pots (-SP models) or 15-turn pots (-FT models). The unit comes from the factory with setpoint and time delay set to the lowest level (fully counter-clockwise CCW). Turning the pots clockwise (CW) will increase their value. All pots have a slip-clutch to prevent damage at either end of their rotation. To determine where the adjustment is, turn the pot CCW for multiple turns. This will return it to its minimum value.

Adjustment Notes

1. Output contacts are solid-state. Check output status by applying voltage to the contacts and reading the voltage drop across the contacts. An Ohmmeter set on “Continuity” will give misleading results.
2. It is recommended that setpoint be adjusted to allow for voltage variations of 10-15%.

Typical Adjustment

1. Identify expected Input Range and position jumper accordingly. For LOW range, remove jumper entirely. For MID or HIGH range, place jumper over proper two pins.
2. Turn the **Setpoint** pot to minimum setpoint (4 or 15 turns CCW).

3. Ensure normal operating current running through sensor. The output should be tripped since the pot is at its minimum setpoint. For units with LED, it should be flashing fast (2 to 3 times per second).
4. Turn the pot CW until the unit un-trips. This is indicated by the slow flashing of the LED (once every 2 to 3 seconds), or by the changing of the output switch status.
5. Now turn the pot CCW slowly until the unit trips again. It now set at the current level being monitored.
 - A. To Set UNDERLOAD - Turn the pot about 1/8 turn further CCW.
 - B. To Set OVERLOAD - Turn the pot about 1/8 turn further CW.
6. Adjust the **Time Delay** of the contact action in the same fashion. Increase time delay by turning pot CW. For split-core models, each quarter-turn corresponds roughly to 1 sec. delay. For solid-core versions, one full turn of the potentiometer corresponds roughly to one second. Expect 10 turns to delay 15 seconds.

MONITORED AMPS	OUTPUT		SMART-LED (If Present)
	-NC Normally Closed	-NO Normally Open	
None or <Minimum	CLOSED	OPEN	OFF
Below trip level	CLOSED	OPEN	SLOW (2 Sec)
Above trip level	OPEN	CLOSED	FAST (0.5 Sec.)

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. Split-Core models: The core contact area may be dirty. *Open the sensor and clean the contact area.*
- C. 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.*
- D. Switch has been overloaded and contacts are burned out. *Check the output load, remembering to include inrush on inductive loads (coils, motors, ballasts).*