

## Specifications

Output Signal	0-5VDC, 0-10VDC or 4-20mA proportional to the RMS Current
Output Limit	100% of standard output range maximum value
Frequency Range	40-400 Hz
Response Time ( 90% of step change)	400ms at 100% duty cycle, or duty cycle period plus 40ms
Accuracy	1.0% Full Scale
Loading	10K $\Omega$ Minimum (Voltage Output) 500 $\Omega$ Maximum (Current Output)
Power Supply	24 VAC or DC 120 VAC (solid core only)
Isolation Voltage	Designed to meet UL testing to 1,270VAC,
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-20 to 50 Deg. C, (-4-122 Deg F) 0-95% RH, non-condensing
Listing	Designed to meet CE, UL 508 Industrial Control Equipment

## Input Maximums

### MAXIMUM INPUT AMPS

MODEL	RANGE	6 SEC.	1 SEC.
ATH0	0-2A	125	250
ATH0	0-5A	125	250
ATH1	0-10A	125	250
ATH1	0-20A	150	300
ATH1	0-50A	215	400
ATH2	0-100A	300	600
ATH2	0-150A	450	800
ATH2	0-200A	500	1,000

## Model Number Key

**ATH 1 - 010 - 24U - SP**

ATH: Sensor Type  
1: Range  
010: Output  
24U: Power Supply  
SP: Case Style

**CASE STYLE**  
SP - Split Core  
FL - Solid Core

### **POWER SUPPLY:**

24U- 24VAC or DC  
120 - 120 VAC (solid core only)

### **OUTPUT:**

005- 0-5VDC  
010- 0-10VDC  
420- 4 to 20 mA

### **RANGE**

0 - 2 & 5 Amps  
1 - 10, 20 or 50 Amps  
2 - 100, 150 or 200 Amps

### **SENSOR TYPE:**

ATH - True RMS AC current transducers,  
time proportioned for pulsed load monitoring

## 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)



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# INSTRUCTIONS



## ATH SERIES

Time Proportioned

RMS AC Current Transducers

0-200A Input Maximum Range

0-5VDC, 0-10VDC or 4-20mA Output

## Quick "How To" Guide

- Run the wire you are monitoring through aperture.
- Mount the sensor to a surface if needed.
- Connect output wiring.
  - Use up to 14AWG copper wires.
  - 0-5/10 VDC Models: Make sure output load is at least 10 K  $\Omega$  to achieve stated accuracy
  - 4-20mA Models: Maximum load connected to the output is 500  $\Omega$ .
- Chose correct range by positioning the Range Jumper.
- Energize the sensor by connecting the appropriate voltage source to the power supply terminals.

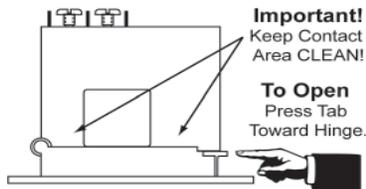
## Description

The ATH Series powered AC current transducers combine a current transformer and signal conditioning electronics in a single package for use in applications where the current wave is pulsed. The combination of these devices results in a single unit with higher accuracy, lower output ripple, and a space-saving simplified installation.

ATH Series transducers are available in solid or split-core enclosures and with 0-5VDC, 0-10VDC or 4-20mA analog outputs. Custom input and output ranges may also be available; please consult with the factory. ATH Series transducers are RMS responding and designed for use in variable heating applications, with zero-crossing fired SCR controls, but will also be accurate when used to monitor sinusoidal current wave shapes.

## Installation

1. Place wire in which current is to be monitored through aperture of ATH unit.
2. Mount ATH unit using screw holes in mounting base unit, taking care maintain at least one-inch clearance in all directions between the sensor and other magnetic devices for proper operation. *Note: The transducer is not directionally sensitive and can be mounted in any position or hung directly on wiring with the use of wire ties.*
3. For -SP versions (split-core enclosures) only: 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.

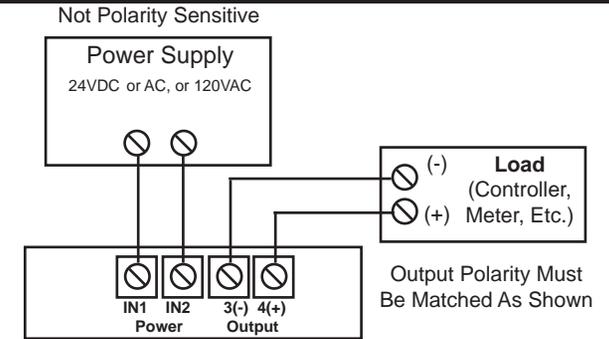
Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt onto the grease in the contact area. Operation can be impaired if the mating surfaces do not have good contact. Check visually before closing.

## Output Wiring

Connect control or monitoring wires to the sensor. Use up to 14 AWG copper wire and tighten terminals to 4 inch-pounds torque.

### Connection Notes:

- Deadfront captive screw terminals
- 14-22 AWG solid or stranded.
- Observe Polarity



## Range Select

ATH Series transducers feature field selectable ranges. The ranges are factory calibrated, eliminating time consuming and inaccurate field setting of zero or span.

1. Determine the normal operating amperage of your monitored circuit.
2. Select the range that is equal to or slightly higher than the normal operating amperage.
3. Place the range jumper in the appropriate position.

## Trouble Shooting

### 1. Sensor has no output

- A. Polarity is not properly matched. *Check and correct output wiring polarity.*
- B. Monitored load is not AC or is not on. *Check that the monitored load is AC and that it is actually on.*
- C. Split Core models: The core contact area may be dirty. *Open the sensor and clean the contact area.*

### 2. Output Signal Too Low

- A. The jumper may be set in a range that is too high for current being monitored. *Move jumper to the correct range.*
- B. Output load too low or too high. *Check output load, be sure it is at least 10K  $\Omega$  for voltage output models, 500  $\Omega$  maximum for current output models.*
- 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.*

### 3. Output Signal is always at maximum

- A. The jumper may be set in a range that is too low for current being monitored. *Move jumper to the correct range*

### 4. Output does not match the current measured with a hand meter:

- A. The ATH sensors are producing a signal proportional to the RMS current, and not the average current.
- B. Check that the test meter is RMS or the two readings will not match.

Note that True RMS current transducers will be accurate if the wave shape is sinusoidal or pulsed.