

# ATH SERIES

## AC Current Transducer with Time Integration

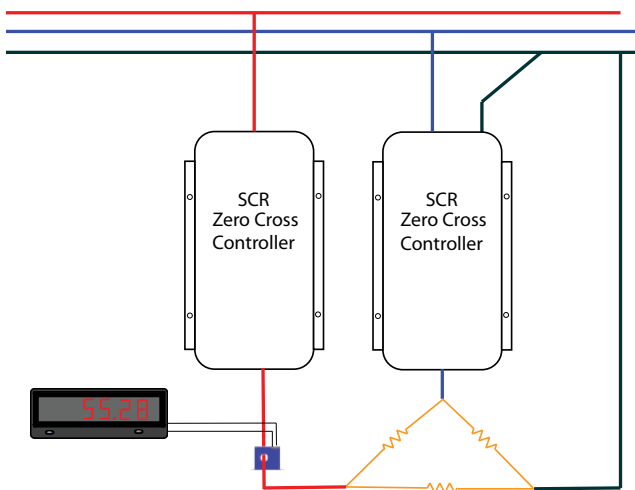
ATH Series (patented) AC Current Transducers are the latest innovation from NK Technologies. Monitoring the current or power controlled by silicon-controlled rectifiers (SCRs) can be a challenge, especially the current used by heaters. When used to monitor zero-crossing (burst) fired SCRs, the ATH will provide an output signal directly proportional to the RMS amperage. Zero-crossing fired controls allow current to flow to the circuit for as short of a time period as one cycle, and off for several cycles. Most current sensors will not work well when there is no current present. This capability is important in case a heating element fails but the process continues operating, which could result in scrapped material.

### AC Current Transducer Applications

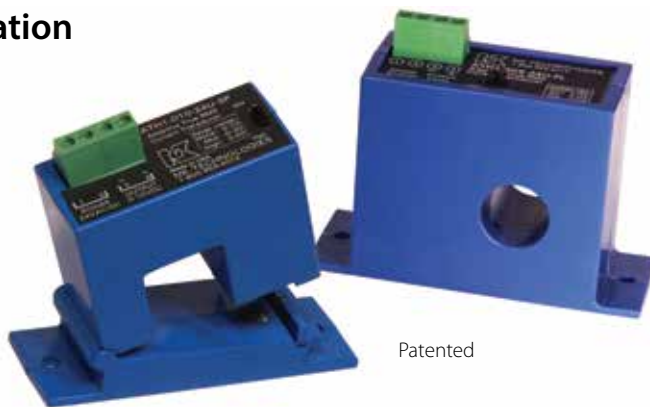
#### Electrical Heaters

- Faster response than temperature sensors.
- Simplest method to monitor pulsed waveforms.

Burst-Fired Heating Controls



- For additional Application Examples, go to [www.nktechnologies.com/applications](http://www.nktechnologies.com/applications)



### AC Current Transducer Features

#### Industry Standard Outputs

- 4–20 mA, 0–5 or 0–10 VDC.
- Compatible with most automation systems.

#### External Powered

- Split-core models available powered with 24 VAC or DC.
- Solid-core models powered with 24 VAC or DC or 120 VAC.

#### Factory Calibrated

- No need for zero and span adjustment potentiometers.

#### RMS Output

- Accurate measurement of sinusoidal or pulsed current wave shapes.

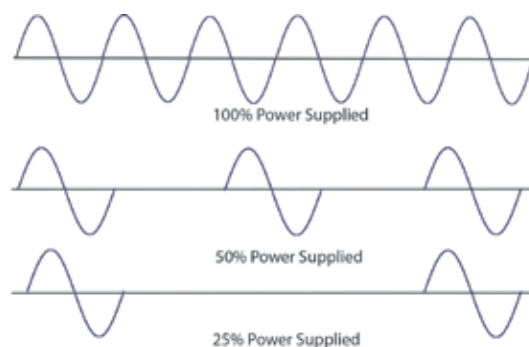
#### Built-in Mounting Feet

- Simple, two-screw panel mounting or attach with DIN rail brackets (included).\*

#### UL/cUL and CE Approved

- Accepted worldwide.

\*For information on the DIN rail accessories kit, see page 128.



ATH AC current transducers will produce a signal proportional to the current used even when the controller is supplying power in one cycle increments. This is quite common as the "burst-fired" zero crossing switching method produces less harmonic distortion than phase-angle fired controls.

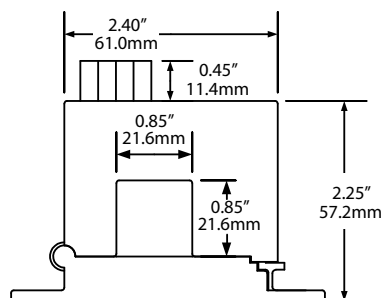
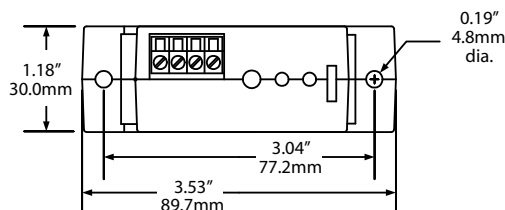
OEMs

#### Test & Evaluation Units for OEMs

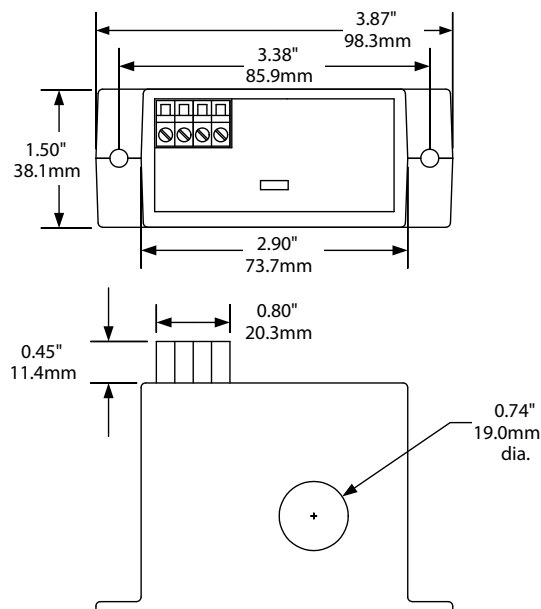
Free program expedites evaluation process. See page 3 for details.

## AC Current Transducer Dimensions

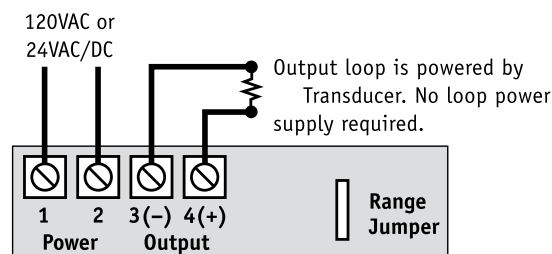
SP Case



FL Case



## AC Current Transducer Connections



## AC Current Transducer Specifications



<b>Power Supply</b>	<ul style="list-style-type: none"> <li>• 120 VAC (108–132 V) solid-core only</li> <li>• 24 VAC/DC (22–26 V) solid or split-core</li> </ul>
<b>Output Signal</b>	<ul style="list-style-type: none"> <li>• 4–20 mA</li> <li>• 0–5 VDC</li> <li>• 0–10 VDC</li> </ul>
<b>Output Impedance</b>	<ul style="list-style-type: none"> <li>• 0–5 or 0–10 VDC: 10 K<math>\Omega</math> min.</li> <li>• 4–20 mA: 500 <math>\Omega</math> max.</li> </ul>
<b>Response Time</b>	600 ms max., 250 ms at 100% power
<b>Isolation Voltage</b>	UL listed to 1270 VAC, tested to 5 kV
<b>Case</b>	UL94 V-0 Flammability Rated
<b>Environmental</b>	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing
<b>Listings</b>	UL/cUL, CE

## AC Current Transducer Ordering Information

Sample Model Number: ATH 1-420-24U-SP

AC current transducer, time proportioned, 4-20 mA output, 24 VAC or DC power supply, split-core case. (DIN rail adapters are included)

ATH (1) - (2) - (3) - (4)

(1) Range

0	2 and 5 A
1	10, 20 and 50 A
2	100, 150 and 200 A

(2) Output Type

420	4–20 mA
005	0–5 VDC
010	0–10 VDC

(3) Power Supply

24U	24 VAC or DC
120	120 VAC

(4) Case Style

SP	Split-core
FL	Solid-core

