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.

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 crossingwitching method produces less harmonic distortion than phase-angle fired controls.

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 optional DIN rail brackets.*

UL/cUL and CE Approved
- Accepted worldwide.

*For information on the DIN rail accessories kit, see page 122.

For additional Application Examples, go to www.nktechnologies.com/applications

OEMs Test & Evaluation Units for OEMs
Free program expedites evaluation process. See page 1 for details.
**AC Current Transducer Specifications**

| Power Supply | • 120 VAC (108–132 V) solid-core only  
| Output Signal | • 4–20 mA  
| Output Impedance | • 0–5 or 0–10 VDC: 10 KΩ min.  
| Response Time | • 4–20 mA: 500 Ω max.  
| Isolation Voltage | 600 ms max., 250 ms at 100% power  
| Case | UL listed to 1270 VAC, tested to 5 kV  
| Environmental | UL94 V-0 Flammability Rated  
| Listings | 0–95% RH, non-condensing  

**AC Current Transducer Ordering Information**

Sample Model Number: ATH1-420-24U-SP

AC current transducer, time proportioned, 4–20 mA output, 24 VAC or DC power supply, split-core case.

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(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  
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**AC Current Transducer Dimensions**

**SP Case**

**FL Case**

**AC Current Transducer Connections**

Output loop is powered by Transducer. No loop power supply required.