Specifications

Power Supply	24 VAC or VDC (+/-10%) - *Intended for use with a Class 2 source or max 40 VDC source with the secondary fused to limit power to a maximum of 100 VA.* 120 VAC (+/-10%) (solid-core only)
Power Consumption	<2 VA
Output Signal	0-5 VDC, 0-10 VDC or 4-20 mA proportional to the RMS Current
Output Limit	4-20 mA (20 mA maximum) 0-5 VDC (5 VDC maximum) 0-10 VDC (10 VDC maximum)
Output loading	10K Ω Minimum (Voltage Output) 500 Ω Maximum (Current Output)
Response Time	<30 ms + duty-period (FL) for 90% step change <40 ms + duty-period (SP) for 90% step change <50 ms + duty-period for 100% step change <400 ms for 100% duty cycle PWM cycle period: 12 ms (min), 54 sec (max) 79 sec for timeout to default period 206 ms for default period when absence of signal for 79 sec
Frequency Range	40-400 Hz
Accuracy	1% FS
Isolation Voltage	Tested to 1240 VAC
Case	UL94 V-0 Flammability rated thermoplastic
Sensing Aperture	0.75" (19.1 mm) diameter FL case 0.85" (21.6 mm) square SP case
Environmental	-4 to 122°F (-20 to 50°C) 0-95% RH, Non-condensing Pollution Degree 2 Altitude to 6561 ft (2000 meters)
Listings	UL/cUL Listed E342812, CE

For products intended for the EU market, the following is applicable to the CE compliance of the product:
The ATH Series may comply with EN 61010-1 CAT III 300V max line-to-neutral measurement category. The voltage rating of the measurement category can be improved according to the characteristics given by the cable manufacturer.

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

ATH 1 - 010 - 24U - SP

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

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

OUTPUT:
005 - 0-5 VDC
010 - 0-10 VDC
420 - 4-20 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

Input Maximums

MAXIMUM INPUT AMPS

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

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INSTRUCTIONS



ATH SERIES

Time Proportioned
RMS AC Current Transducers
0-200 A Input Maximum Range
0-5 VDC,0-10 VDC or 4-20 mA Output

Quick "How To" Guide

1. Run the wire you are monitoring through aperture.
2. Mount the sensor to a surface if needed.
3. Connect output wiring.
   A. Use 22-14 AWG copper wires, rated 75°C minimum. Tighten to 5-7 in/lbs torque.
   B. 0-5/10 VDC Models: Make sure output load is at least 10 K Ω to achieve stated accuracy.
   C. 4-20 mA Models: Maximum load connected to the output is 500 Ω.
4. Choose correct range by positioning the Range Jumper.
5. Energize the sensor by connecting the appropriate voltage source to the power supply terminals.

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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.

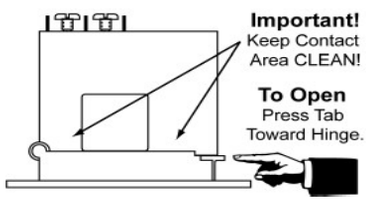
ATH Series transducers are available in solid or split-core enclosures and with 0-5 VDC , 0-10 VDC or 4-20 mA analog outputs. Custom input and output ranges may also be available; please consult with the factory. ATH Series transducers are RMS responding and designed for use in variable heating applications, 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.

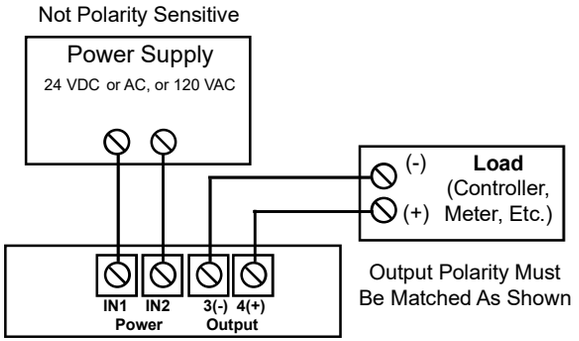


KEEP SPLIT-CORE SENSORS CLEAN.
Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt onto the grease in the contact area. Operation can be impaired if the mating surfaces do not have good contact. Check visually before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

Output Wiring

Connect control or monitoring wires to the sensor. Use 22-14 AWG copper wire 75°C minimum and tighten terminals to 5-7 inch-pounds torque.

Connection Notes:
- Deadfront captive screw terminals
- 22-14 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 that 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 10 K Ω for voltage output models, 500 Ω 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.

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