

## Specifications

Current Measurement	To 0-1600A 300V CAT III
Output Signal	4-20mA, Loop Powered
Output Limit	23 mA
Accuracy	1.0% FS
Measurement	True RMS or Average Responding (See Model Number Key)
Frequency Range	ATR: 10/400 Hz AT: 50/60 Hz, Sinusoidal
Isolation Voltage	3kV (Board level)
Response Time	600 ms (to 90% of step change)
Power Supply	24VDC nominal, (12-32VDC)
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-4 to 122°F (-20° to 50°C) 0-95% RH non-condensing Pollution degree 2 Altitude to 2000 meters
Approvals	Overvoltage category II UL/cUL CE Compliance soon

### Caution! Risk of electric shock or personal injury



Safe operation can only be guaranteed if the transducer is used for the purpose for which it was designed and within the limits of the technical specifications. When this symbol is used, it means you should consult all documentation to understand the nature of potential hazards and the action required to avoid them.

### Caution! Risk of hazardous voltage



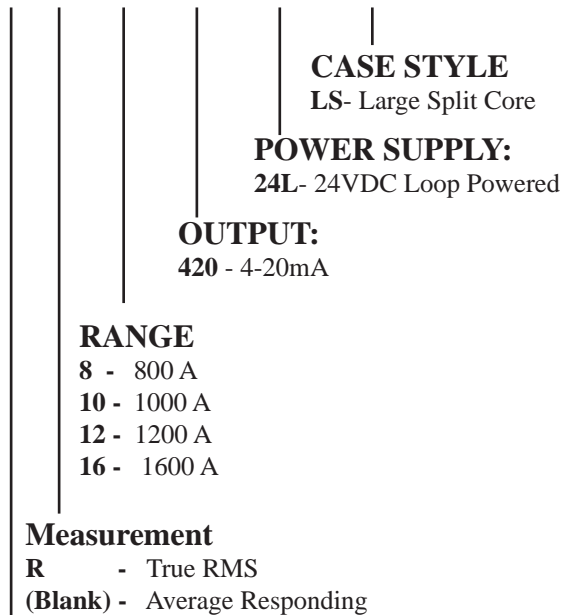
When operating the transducer, certain parts may carry hazardous live voltage (e. g. primary conductor, power supply). The transducer should not be put into service if the installation is not complete.

## Input Maximums

		-----MAXIMUM AMPS-----		
MODEL	RANGE	1 SEC	60 SEC	CONT.
AT/ATR-LS	All	6400A	1920	1600A

## Model Number Key

AT R 10 - 420 - 24L - LS



### SENSOR TYPE:

AT - AC current sensor, 4-20 mA output  
loop powered

## 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)



## NK Technologies

3511 Charter Park Drive, San Jose, CA 95136  
Phone: 800-959-4014 or 408-871-7510  
Fax: 408-871-7515  
sales@nktechnologies.com, www.nktechnologies.com



# INSTRUCTIONS



## AT & ATR -LS SERIES

AC Current Transducers  
Large Split Core, 4-20mA Output  
True RMS or Average Responding

### Quick "How To" Guide

1. Pop top section of sensing ring off by carefully prying clips away and lifting the section vertically.
2. Mount the sensor to a DIN rail or surface using screws in corners if needed.
3. Place conductor inside ring and replace top section until the clips snap firmly closed.
4. Connect output wiring.
  - A. Use up to 14 AWG 75/90°C copper wires.
  - B. Make sure output load does not exceed product specifications.
  - C. Connect 24 VDC power supply and load in series. Observe polarity.
5. Verify that the display or controller is reading the output correctly (4mA)
6. Energize the monitored circuit.

## Description

AT and ATR-LS Series transducers combine a current transformer and a signal conditioner into a single package. This provides higher accuracy, lower wiring costs, easier installation and save valuable panel space. Both AT and ATR are available in a large split core housing with 4-20mA output proportional to the primary AC current. ATR Series feature a True RMS output. They are designed for application on distorted current waveforms such as VFD outputs.

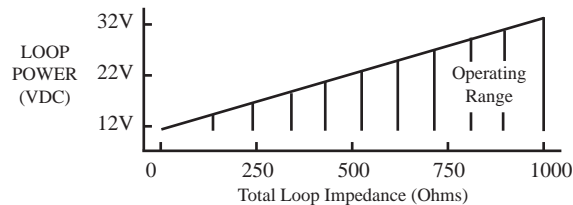
## Installation

Place wire or bus bar to be monitored through the sensing aperture.

AT and ATR Series transducers work in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. They can be mounted in any position or hung directly on wires with a wire tie. Just leave at least one inch distance between sensor and other magnetic devices.

## Power Supply

Minimum Power Supply = 12 VDC + Total Loop Voltage Drop



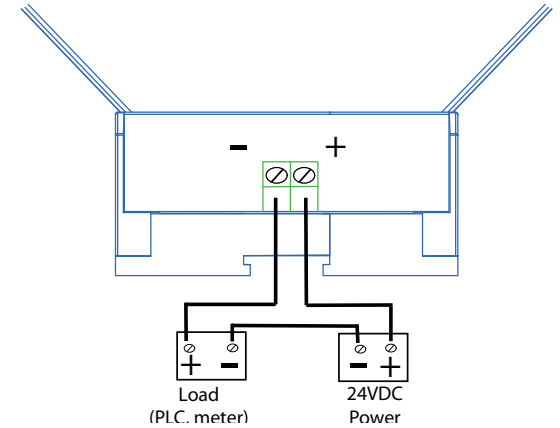
Use Class 2 power supply or fuse supply at 5 amps.

## Output Wiring

Connect control or monitoring wires to the sensor. Use up to 14 AWG 75/90°C copper wire and tighten terminals to 3.5 inch-pounds torque. Be sure the output load total impedance does not exceed 800 ohms.

### Connection Notes:

- Captive screw terminals.
- 14-22 AWG solid or stranded.
- Observe Polarity
- See ordering information and label for monitored circuit range



## Model Range Select

AT and ATR Series transducers feature factory calibrated ranges. This eliminates time consuming and inaccurate field setting of zero or span.

1. Determine the normal operating amperage of your monitored circuit using load specifications or a test

- ammeter.
2. Select the model with a range that is equal to or slightly higher than the normal operating amperage.

## Trouble Shooting

### 1. Sensor has no output

- A. Power supply is not properly sized. *Check power supply voltage and current rating.*
- B. Polarity is reversed. *Check and correct output wiring polarity.*

### 2. Output Signal Too Low

- A. The range may be too high for current being monitored. *Exercise care when selecting the model range.*
- B. The load current is not sinusoidal. *Select an ATR transducer for use with distorted waveforms.*

- 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. Sensor is always at 4mA

- A. Monitored load is not AC or is not on. *Check that the monitored load is AC and that it is actually on.*

### 4. Output Signal is always at 20mA

- A. The range is too low for current being monitored. *Select a model with a higher range.*