Specifications

Power Supply	24 VDC nominal, (12-32 VDC) Use with 100 VA max or Class 2 DC power supply
Input Range	Up to 0-1600 A 600 VAC line-to-line
Output Signal	4-20 mA, Loop powered
Output Limit	23 mA
Accuracy	1.0% FS
Frequency Range	ATR: 20-400 Hz (True RMS responding) AT: 50/60 Hz (Sinusoidal, average responding)
Isolation Voltage	UL listed to 2200 VAC isolation, monitored conductor to output terminals
Response Time	600 ms (to 90% of step change)
Sensing Aperture	3.44" x 2.32" (87.4 x 58.9 mm) slot
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 6561 ft (2000 meters)
Listings	UL/cUL, CE

For products intended for the EU market, the following is applicable to the CE compliance of the product:
The AT & ATR-LS 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. Use twisted pair for all connections.

Warning! 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.

Warning! 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.

Model Number Key

AT R 10 - 420 - 24L - LS

CASE STYLE:
LS- Large Split-Core

POWER SUPPLY:
24L - 24 VDC Loop Powered

OUTPUT:
420 - 4-20 mA

RANGE:
8 - 800 A
10 - 1000 A
12 - 1200 A
16 - 1600 A

Measurement:
R - True RMS
(Blank) - Average Responding

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

Input Maximums

		----------MAXIMUM AMPS----------		
MODEL	RANGE	1 SEC	6 SEC	CONT
AT/ATR-LS	All	6400 A	1920 A	1600 A

Know Your Power

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NK Technologies

INSTRUCTIONS

AT & ATR -LS SERIES

AC Current Transducers

Large Split-Core, 4-20 mA 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 22-14 AWG copper wires rated 75°C minimum and tighten terminals to 5-7 in-lbs.
   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 (4 mA).
6. Energize the monitored circuit.

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Description

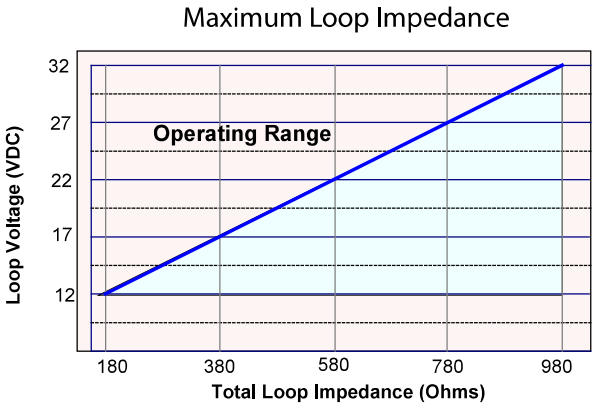
AT and ATR-LS Series transducers combine a current transformer and a signal conditioner into a single package. This provides higher accuracy, lower wiring costs, easier installation and save valuable panel space. Both AT and ATR are available in a large split-core housing with 4-20 mA output proportional 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.

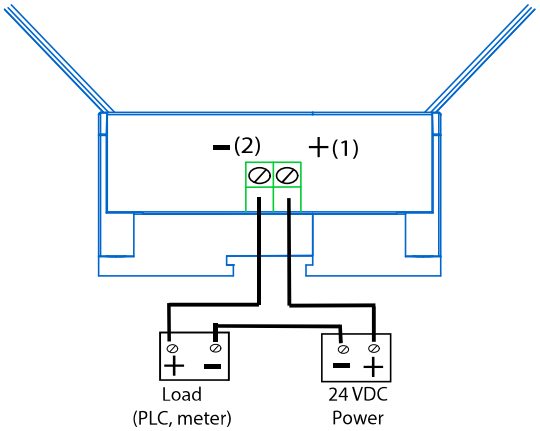
Power Supply



Loop impedance (ohms) = $\frac{\text{V (supply voltage) - 7.5 V}}{\text{0.025 A}}$

Output Wiring

Connect control or monitoring wires to the sensor. Use No. 22-14 AWG copper wires rated 75°C minimum copper wire and tighten terminals to 5-7 inch-pounds torque. Be sure the output load total impedance does not exceed 660 ohms @ 24 VDC.



Connection Notes:

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

Intended for use with a Class 2 source or max 32 VDC source with the secondary fused to limit power to a maximum of 100 VA.

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 4 mA

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 20 mA

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