ATR SERIES
AC Current Transducers



ATR Series AC Current Transducers combine a current transformer and a True RMS signal conditioner into a single package. These current transducers provide True RMS output on distorted waveforms found on VFD or SCR outputs, and on linear loads in "noisy" power environments. The ATR Series AC Current Transducers are available in a solid- or split-core case.

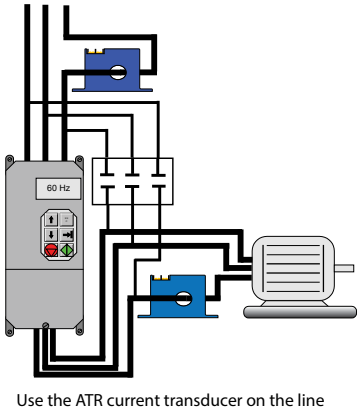
AC Current Transducer Applications

VFD Controlled Loads
- Monitoring VFD output indicates how the motor and attached load are operating.

SCR Controlled Loads
- Accurate measurement of phase angle fired (time proportioned) SCRs.
- Current measurement gives faster response than temperature measurement.

Switching Power Supplies and Electronic Ballasts
- True RMS sensing is the most accurate way to measure power supply or ballast input power.

Monitoring a Motor Driven with a VFD



Use the ATR current transducer on the line or load side of the drive and the signal will be accurate in either position.

For additional Application Examples,

AC Current Transducer Features

True RMS Output
- True RMS technology is accurate on distorted waveforms like VFD or SCR ouputs.

Jumper-selectable Ranges
- Reduces inventory.
- Eliminates zero and span pots.

Isolation
- Output is magnetically isolated from the input for safety.
- Eliminates insertion loss (voltage drop).

Panel Mount (or DIN Rail)
- Attach directly to panel with screws or use included DIN rail adapter.

UL/cUL Listed and CE Certified
- Accepted worldwide.

Selecting the right transducer:

The current waveforms of a typical linear load is a pure sine wave. In VFD and phase angle fired SCR applications, however, output waveforms are rough approximations of a sine wave. There are numerous spikes and dips in each cycle. ATR transducers use a mathematical algorithm called "True RMS" which integrates the actual waveforms over time. The output is the amperage component of the true power (heating value) of the AC current waveforms. True RMS is the only way to accurately measure distorted AC waveforms. **Select ATR transducers for nonlinear loads in "noisy" power environments.**

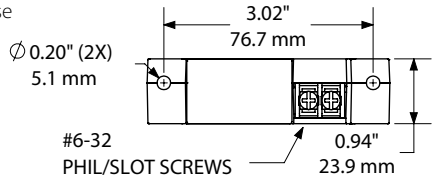
NK Technologies

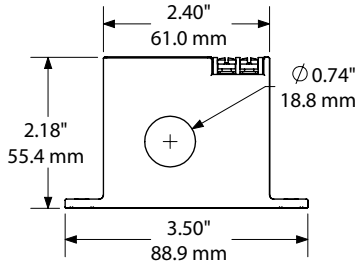
FIVE YEAR 5 WARRANTY

RoHS Compliant

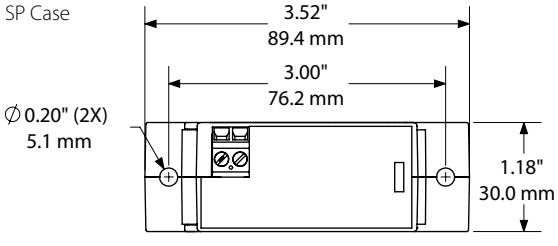
AC Current Transducer Dimensions

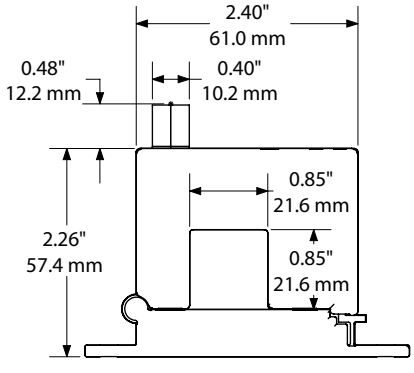
FT Case



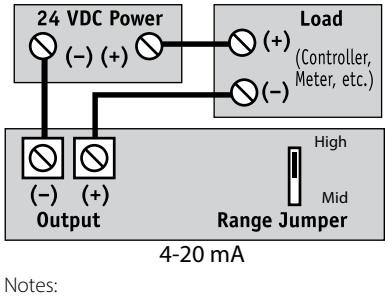


SP Case





AC Current Transducer Connections



4-20 mA

Notes:
Combination screw terminals (-FT case).
14-22 AWG solid or stranded.
Observe polarity.

AC Current Transducer Specifications

Power Supply	24 VDC (12-35 VDC)
Output Signal	4–20 mA loop-powered, True RMS
Output Limit	23 mA
Output Loading	<600 Ω @ 24 VDC
Accuracy	1.0% FS
Response Time	600 ms (to 90% step change)
Frequency Range	10–400 Hz
Isolation Voltage	2200 VAC
Input Range	0–200 A (jumper selectable)
Case	UL94 V-0 Flammability Rated
Environmental	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing
Listings	UL/cUL Listed to UL 508 (E129625), CE

AC Current Transducer Ordering Information

Sample Model Number: ATR1-420-24L-SP
True RMS AC current transducer, 10/20/50 A ranges, 4–20 mA output, 24 VDC loop-powered in a split-core case. (DIN rail adapters are included)

	(1)		(2)			(3)			(4)	
ATR		–	4	2	0	2	4	L		

(1) Full Scale Range

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

(2) Output Signal

420	4–20 mA

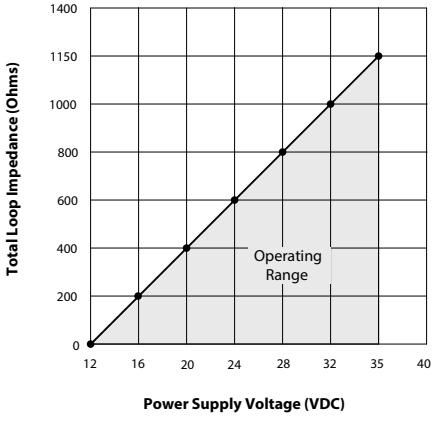
(3) Power Supply

24L	24 VDC loop-powered (4–20 mA output ONLY)

(4) Case Style

FT	Solid-core, top terminals
SP	Split-core

Power Supply Requirements



NK Technologies