



NK Technologies

ATR Series



True RMS AC Current Transducers

'ATR' transducers from NK Technologies combine a current transformer and a True RMS signal conditioner into a single package. The ATR Series provides True RMS output on distorted waveforms found on VFD or SCR outputs and on linear loads in "noisy" power environments. Available in a solid or split core case.

Selecting the right transducer:

VFD and SCR 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 waveform over time. The output is the amperage component of the true power (heating value) of the AC current waveform. True RMS is the only way to accurately measure distorted AC waveforms. *Select ATR transducers for nonlinear loads or in "noisy" power environments.*

The current waveform of a typical linear load is a pure sine wave. AT transducers measure the peaks of these sine waves, then calculate the average amperage. This works well on constant speed linear loads in a "clean" power environment. *Select AT transducers for strictly linear loads on "clean" power.*

Applications

VFD Controlled Loads

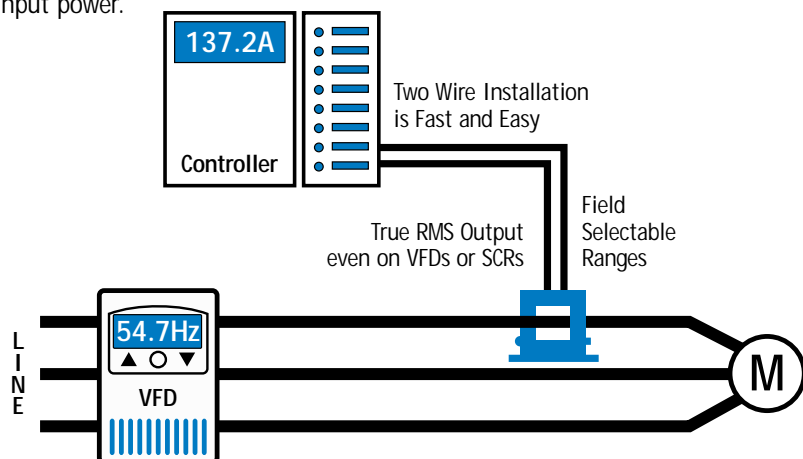
VFD output indicates how the motor and attached load are operating.

SCR Controlled Loads

Accurate measurement of phase angle fired or burst 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.



Features

True RMS Output

True RMS technology is accurate on distorted waveforms like VFD or SCR outputs.

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).

UL, CUL and CE Approval

Accepted worldwide.

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Know your power...

because with knowledge comes control.

Specifications

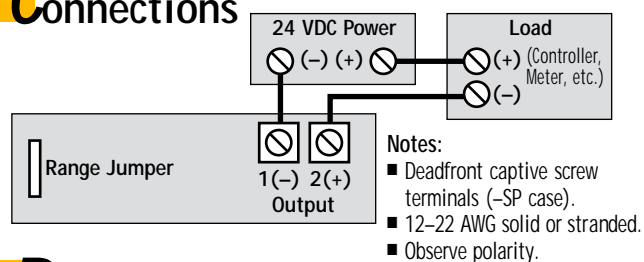
Output Signal	4–20mA, Loop-powered, True RMS
Output Limit	23mA
Accuracy	0.8% FS
Response Time	600mS (to 90% step change)
Frequency Range	10–400Hz
Power Supply	24VDC Nominal, 40VDC Maximum
Isolation Voltage	UL listed to 1,270VAC, tested to 5KV
Input Ranges	Field selectable from 0–200A (see Ordering Information). Consult factory for custom ranges.
Sensing Aperture	<ul style="list-style-type: none"> —FT Models: 0.75" (19mm) dia. —SP Models: 0.85" (21.5mm) sq.
Case	UL 94V-0 Flammability rated
Environmental	–4 to 122°F (–20 to 50°C), 0–95% RH, non-condensing
Listings	UL 508 Industrial Control Equipment (USA & Canada), CE (Pending)



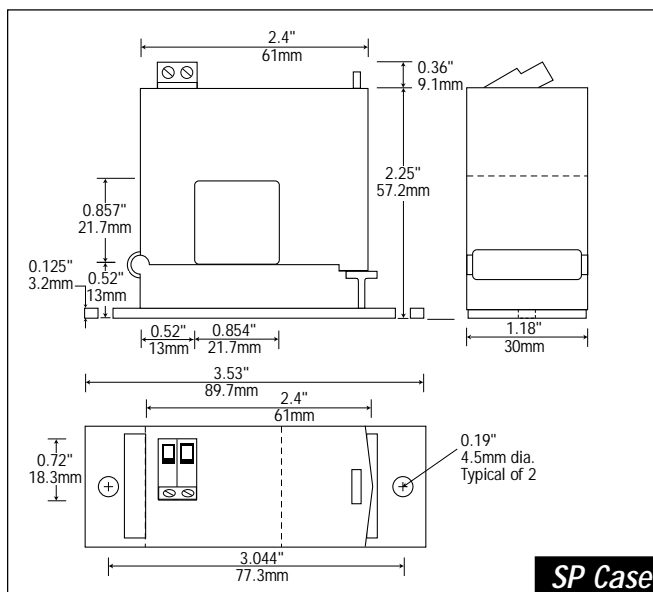
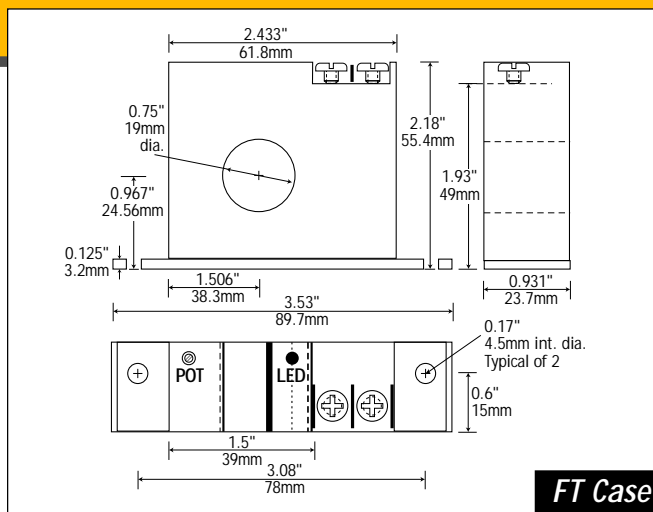
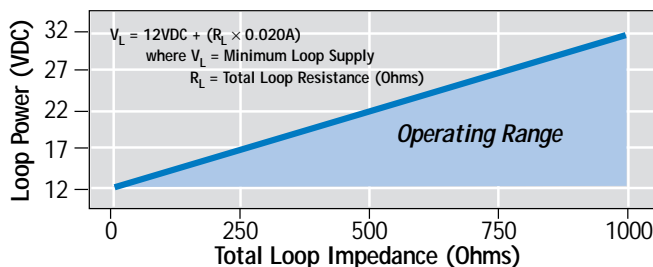
Input Ranges

Model	Range	Continuous	MAXIMUM 6 Sec.	1 Sec.
ATRO	2A	80A	125A	250A
	5A	100A	125A	250A
ATR1	10A	80A	125A	250A
	20A	110A	150A	300A
	50A	175A	215A	400A
ATR2	100A	200A	300A	600A
	150A	300A	450A	800A
	200A	400A	500A	1,000A

Connections



Power Supply (4–20mA output only)



Ordering Information

Example: ATR1-420-24L-SP

True RMS AC current transducer, 10/20/50A ranges, 4–20mA output, 24VDC loop-powered in a split core case.

ATR	–	420	–	24L	–	SP
Full Scale Ranges		420 4–20mA		24L 24VDC Loop-powered		Case FT Fixed Core, Top Term. SP Split Core
0 2 & 5A						
1 10, 20, 50A						
2 100, 150, 200A						

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