ATCR SERIES
AC Current Transducers



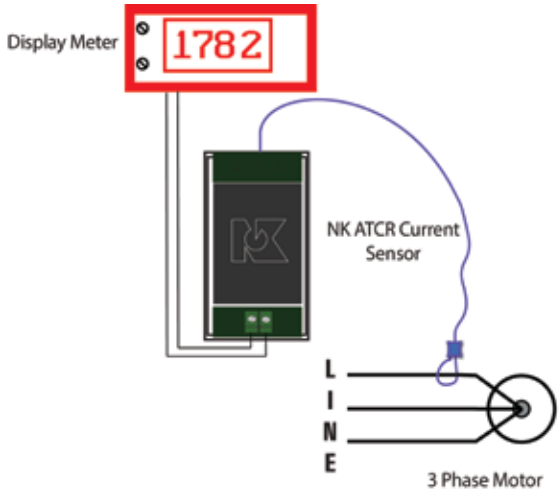
ATCR Series AC Current Transducers combine a sensing coil and a True RMS signal conditioner as a matched, factory-calibrated set. The ATCR Series AC Current Transducers are designed to produce an analog 4–20 mA signal proportional to AC current up to 2000 A. The coil opens to pass over the installed conductors. When connected to a controller or data logger, the sensor output is directly proportional to the primary current.

AC Current Transducer Applications

Monitor Large Machines
- Monitoring resistive or inductive load to detect current.
- Industry standard 4–20 mA output for connection to PLC or data loggers.

Flexible Coil Surrounds Conductors Without Disturbing Wiring
- Install over bus bars, or single or multiple conductors easily.
- Fast response to changes in operating conditions.

Two-Wire Loop-powered Output



For additional Application Examples, go to www.nktechnologies.com/applications

AC Current Transducer Features

True RMS Output
- True RMS technology is accurate on distorted waveforms like VFD or phase angle-fired SC outputs.

Single Range
- No chance of field range selection errors.
- Eliminates zero and span pots.

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

Compact DIN Rail Mounted Case*
- Space saving 35 mm wide enclosure mounts quickly.

UL/cUL and CE Approved
- Accepted worldwide.

*For information on the DIN rail accessories kit, see page 128.

AC current monitoring of large loads:

Loads drawing large amounts of power are connected to the supply using large wire or a bus bar. Disconnecting the conductors and threading them through a solid sensing ring or current transformer is difficult and time consuming. With this new design, the sensing is accomplished using a coil without a magnetically permeable core. This allows the installer to pass the coil around the conductors after they are connected without the need to disconnect. The coil is attached to a signal conditioning circuit, and the output signal is powered from the 24 VDC nominal loop voltage. Simple, easy to install, the ATCR Current Sensor can monitor sinusoidal or distorted current waveforms at frequencies to 400 Hz, and is designed for industrial uses.

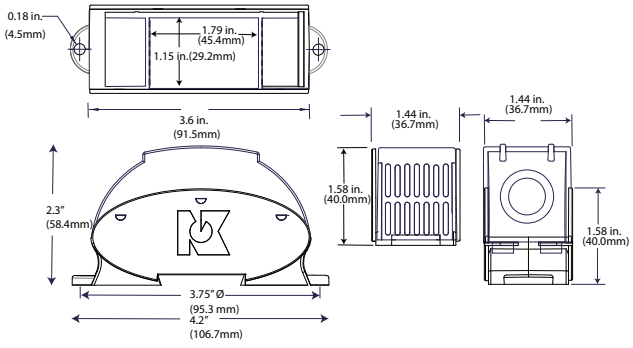
OEMs **Test & Evaluation Units for OEMs**
Free program expedites evaluation process. See page 3 for details.

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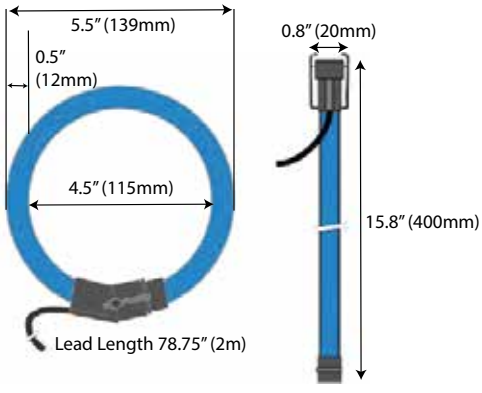
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AC Current Transducer Dimensions

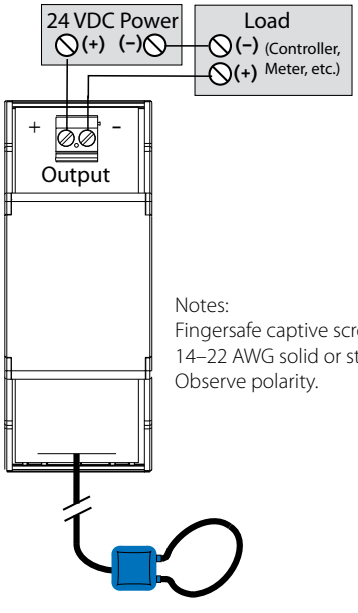
Base



Coil



AC Current Transducer Connections



Notes:
Fingersafe captive screw terminals.
14–22 AWG solid or stranded.
Observe polarity.

AC Current Transducer Specifications

Power Supply	24 VDC nominal (12–36 VDC)
Output Signal	4–20 mA loop-powered, True RMS
Output Limit	23 mA
Output Impedence	<750 Ω @ 24 VDC
Accuracy	1.0% from 10–100% of range
Response Time	600 ms (90% step change)
Frequency Range	40–400 Hz
Isolation Voltage	UL listed to 1270 VAC, tested to 5 KV
Input Range	Single range, custom ranges available; consult factory
Case	UL94 V-0 Flammability Rated
Environmental	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing
Listings	UL/cUL, CE

AC Current Transducer Ordering Information

Sample Model Number: ATCR1-420-24L-D

True RMS AC current transducer, 500 A range, 4–20 mA output, 24 VDC loop-powered, coil sensor connected to DIN rail mounting case.

	(1)		(2)			(3)				(4)
ATCR		–	**4**	**2**	**0**	–	**2**	**4**	**L**	–	**D**

(1) Full Scale Range

1	500 A
2	1000 A
3	1500 A
4	2000 A

(2) Output Signal

420	4–20 mA

(3) Power Supply

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

(4) Case Style

D	Coil connected to DIN rail mounting case

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