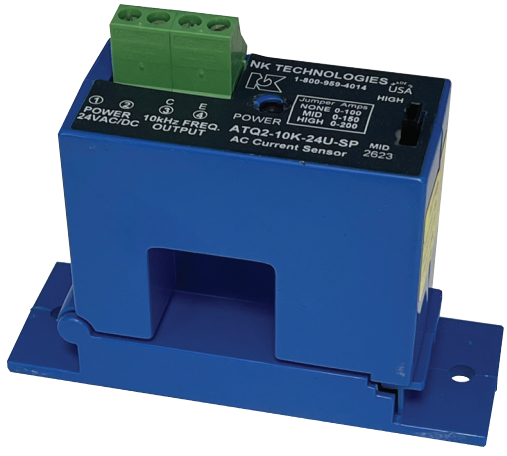
ATQ SERIES

Frequency Output AC Current Transducers



US Patent 6566855

The ATQ Series measures AC current like a standard current transducer, but instead of providing a traditional 4–20 mA or 0–10 V analog output, it delivers a frequency output proportional to the measured current. This allows the ATQ to interface directly with digital high-speed counter or frequency inputs on PLCs, panel meters, and programmable relays, making it a practical choice when analog inputs are not available.

AC Current Transducer Applications

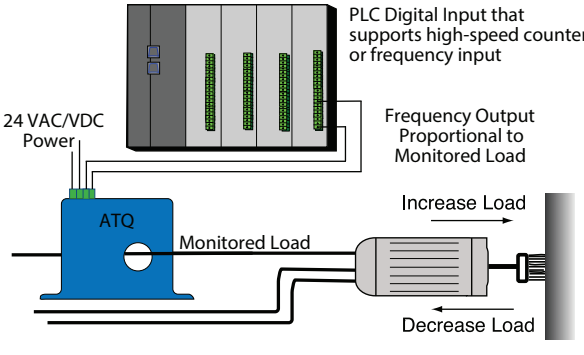
Motion and Motor Control

- Monitor the operating status of pumps, grinders, and fan motors.
- Detect conveyor belt jams and other load-related changes.
- Support motor control in deburring and brush applications.
- Sense overload or mechanical strain as an electronic shear pin.

Current Measurement

- Measure current in machine tools, polishing equipment, and cutting systems.
- Provide current data to compact PLCs that also track speed, runtime, and equipment demand.
- Monitor electrical load as part of overall machine performance.

Frequency Output Control



For additional Application Examples,

AC Current Transducer Features

Monitor AC Current

- Three models with jumper-selectable input ranges: 0–2 or 5 A, 0–10/20/50 A, and 0–100/150/200 A
- Selectable ranges provide installation flexibility and eliminate zero and span adjustments.

Output Frequency Monitor AC Current

- Output frequency is proportional to the measured AC current.
- Available in 0–5 kHz and 0–10 kHz versions.
- Functions like a conventional current transducer but uses frequency output instead of 4–20 mA or 0–10 V analog output.
- The 10 kHz model provides the highest resolution, while the 5 kHz model supports controllers with lower-frequency input capability.

Use with PLC Digital Inputs

- Interfaces with PLC digital inputs that support frequency measurement or high-speed counters.
- Ideal for applications where analog inputs are unavailable or already in use.
- Perfect for compact PLCs that accept frequency inputs through digital I/O.

Isolation

- Magnetically isolated output improves safety between the monitored circuit and control input.
- Non-contact sensing eliminates insertion loss and avoids voltage drop in the monitored conductor.

Easy Installation

- Split-core case installs without disconnecting the monitored conductor.
- Simplifies retrofit and reduces installation time.

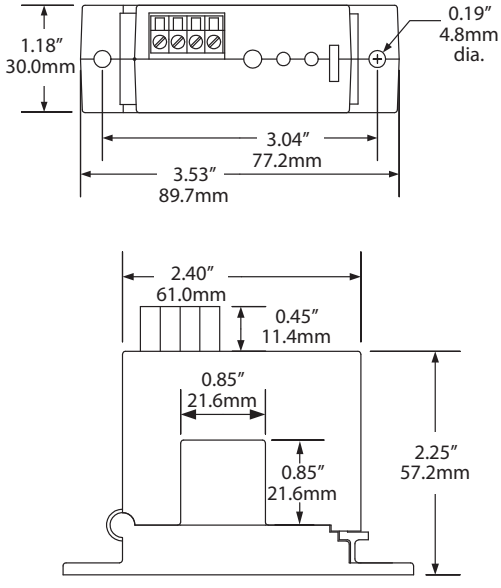
NK Technologies

FIVE YEAR 5 WARRANTY

RoHS Compliant

AC Current Transducer Dimensions

SP Case

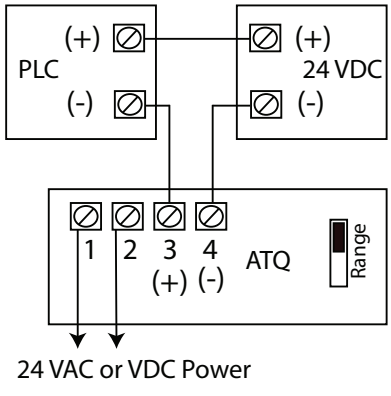


AC Current Transducer Specifications

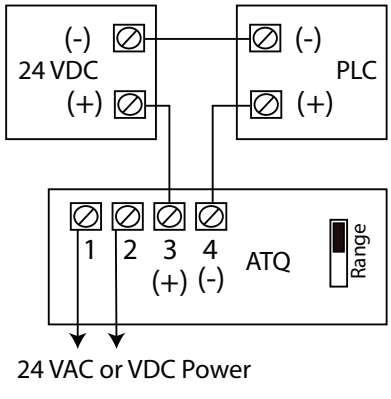
Power Supply	24 VAC/VDC (19–26 V)
Power Consumption	<1 VA
Output Signal	• 5 KHz at full range current • 10 KHz at full range current
Response Time	100 ms (to 90% step change)
Frequency Range	50-60 Hz (monitored)
Pulse Width	On: (5 kHz): 70-100 µS On: (10 kHz): 35-50 µS Off: Variable
Isolation Voltage	5 KV
Case	UL94 V-0 Flammability Rated
Environmental	32 to 122°F (0 to 50°C) 0–95% RH, non-condensing

AC Current Transducer Connections

Sinking Input Connection



Sourcing Input Connection



AC Current Transducer Ordering Information

Sample Model Number: ATQ1-05K-24U-SP
AC current transducer, 5K frequency at 10, 20 or 50 A, split-core case.
(DIN rail adapters are included)

	(1)		(2)			(3)			(4)	
ATQ		–				2	4	U	S	P

(1) Range

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

(2) Frequency Output

05K	5 kHz
10K	10 kHz

(3) Power Supply

24U	24 VAC/VDC power (external)

(4) Case Style

SP	Split-core

