



## Monitoring AC Current Using Digital Controller Inputs

Supervisory control of an electrical system is easy when the budget allows for purchase of programmable logic controllers (PLC) or similar devices that have the capacity to accept analog signals from sensors. However, most analog input modules cost much more than digital input modules. A programmable relay with trimmed down features can replace a full PLC in many applications at a lower installed cost.

As these devices have matured in design, the features have expanded to include high speed counter and frequency inputs. Many manufacturers of programmable logic controllers include high speed counter inputs into their lower cost models to accommodate rotary encoder signals for position or travel control. The cost is kept lower than analog due to the similarity of pulse-type sensor outputs compared with the huge variety of available analog signals. An analog signal might be current or voltage, and it can be alternating or direct current. It is obvious that standard signals require much less complex systems to read and understand.

### Applications

#### Motion and Motor Control Applications

- Motor status for pumps, grinders, and fans
- Conveyor belt jam sensing
- Motor control in deburring/brush operations
- Detect strain, acts as an electronic shear pin

#### Current Measurement Applications

- Measure current use in machine tools, polishing, and cutting operations



Eaton EZ Series Programmable Relay

## ATQ Frequency Output Current Sensor

NK Technologies' ATQ sensor provides the system designer with a highly accurate method to monitor the current used by a machine without the need to purchase a logic controller with more complexity and larger I/O capacity than required. This sensor is designed to be used in most applications where a motor is controlled across the line, or for monitoring heating and lighting loads controlled with a contactor.

The split core sensor housing allows the installer to add current sensing to their control scheme without the need to disconnect the existing power cables. Select from three models with multiple range selection, from 0–2 to 0–200 amps AC, to cover a wide range of applications with fewer sensors in inventory. ATQ sensors save you installation time, controller cost, and parts inventory while providing an extremely accurate signal with very high resolution. The ATQ Series will solve your need for small machine control and condition monitoring while fitting the requirement of budget constraints.

