Easily Monitor Current of Three-Phase Loads

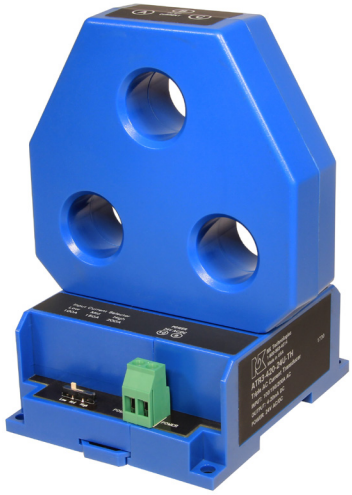
Many plant managers are interested in improving their predictive maintenance processes so that maintenance tasks can be performed during a scheduled shut down when it is convenient. Most guidelines for plant equipment maintenance have been learned from an individual's own experience or from a supervisor with years of experience. Guidelines such as,

- How often should a drive belt be checked for tightness, alignment and wear?
- How long between bearing lubrication?
- Should the equipment be washed down regularly or is the cleanliness of the equipment simply for appearances?

Monitoring electrical operated equipment that is critical to a manufacturing process is another very important part of plant maintenance. Measuring the current of each phase will provide valuable information that can prevent a failure or problem that might cause a complete beak down of the process. Any increase or decrease in the amperage could indicate a problem. Shaft alignment and bearing wear will result in higher than normal current use, while loose drive belts and open pump intake or discharge lines will be reflected in lower than normal current consumption. Imbalance of the current in each phase will point to other issues, such as incorrect voltage from the source or improper winding of a motor stator. Measuring current in all three phases is the best solution.

Rather than installing three sensors and connecting each to a data acquisition system through a maze of wires, the engineers at NK Technologies have designed a single transducer with one power supply connection. The need for current transformers or shunts is eliminated, along with the hazards they present. The current sensing elements are included in the sensor housing so there is no chance that these can be disconnected from the signal conditioning piece. Three sensing windows (apertures) are large enough to allow a wire capable of carrying 200 amps to pass through easily. The transducer can be mounted on a DIN rail or screwed to the bank panel of an enclosure for quick installation. Each transducer can be set at three different ranges with a slide switch, making the product more versatile and reducing the number of SKUs in inventory.

AT/ATR-TH Series Current Transducers for Monitoring Three-Phase Current



AT/ATR-TH Series Current Transducers monitor three-phase loads. The transducer outputs are powered from an excitation voltage of around 24 VDC, isolated from the monitored circuit.

The transducer provides a separate 4–20 mA signal proportional to the current used in each phase, plus another 4–20 mA signal representing an average of the three. Any of the four output signals can be used at the same time or not, the choice is yours.

The sensor mounts on a back panel or a DIN rail and is designed to accommodate wire sizes for loads up to 200 amps.