

Reliability of
industrial
installations

Increase Your Systems Reliability by Quality of Measurement

Applications

- **Automation systems**
Analog current reading for remote monitoring (e.g. motor) and software alarms.
- **Data loggers**
Self-powered transducer does not drain data logger batteries.
- **Panel meters**
Simple connection displays power consumption.

Features

- Calculation of RMS value for AC signals
- Current or voltage output signals
- Self powered for voltage outputs
- loop powered for 4-20mA outputs
- Isolation up to 5kV
- Jumper selectable ranges
- Panel and DIN mounting

Reliability of industrial production systems is paramount. Control systems are composed of several modules. It is necessary to have good communication without data losses between them. How do we distinguish between sensor failure and the functioning state of machine ?

In industry, fast and reliable communication between several modules contribute to the production quality. A distorted signal can cause a failure in the process.

Today, a lot of digital transmissions are used (Ethernet, Profibus,...), however, analogue signal are very widespread.

Using voltage signals for long distances is not recommended. insertion losses added to magnetic perturbations effects induce a difference between output signal and measured signal.

Using a current signal allows to reduce these losses and perturbations.

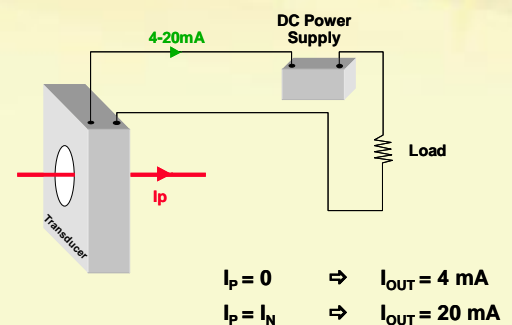
Otherwise, when the output is null, it's necessary to differentiate between a real measurement at zero and a sensor fail.

An adopted standard by integrators is a 420mA. A transducer output is equal to 4mA when the primary current is null, equal to 20mA when primary current is at full range and equal to zero in the case of sensor dysfunction.

Based on these recommendations, LEM propose a complete range of current transducers easy to integer in your installations.

These products allow to measure AC currents and their output is according to 4-20mA standard.

Loop Powered Principle



Its calculate directly the RMS value of the AC current and economize you to use an adding AC/DC converter for signal analyzing.

An isolation is insure between power and electronic circuits.

For mechanical fixation, products are adapted for panel or DIN mounting.

CURRENT TRANSDUCERS : **AK-C420L**, **AK-B420L**, **AKR-C420L** and **AKR-B420L**

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Application Note

Safety Light Monitoring



Safety lights on smokestacks, towers and airport runways are frequently monitored with a photocell. This method works fine if there is no contamination from other light sources. This method also requires a sensor at the lamp, which translates to long wiring runs and high installation costs.

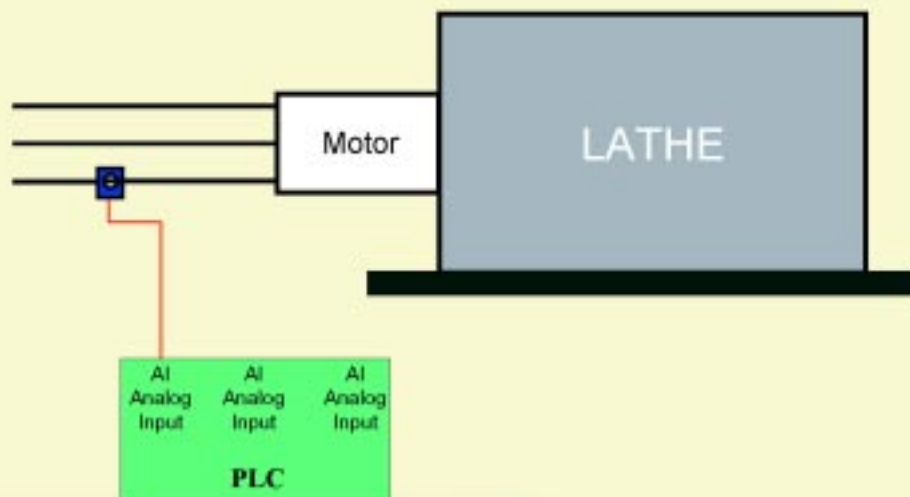
A simple and more cost-effective method is to monitor lamps directly from the lamp control panel. To monitor a single lamp, install a current transducer on the lamp lead. Alternately, you can install a current transducer at the control panel to read current change and detect failure of any lamp in the circuit.

Because current transducers measure power rather than light, there is no risk of light contamination. This ensures a reliable reading of lamp status.

Dull Tool Indication

Replacing or sharpening cutting tools before you need to is a waste of money. However, delaying this operation for too long can result in a quality of rejected material. A good indicator of a tool's effectiveness is the motor's current draw.

By installing a current transducer on the cutting tool, you can determine when the motor is drawing too much current. This is an indication that the tool is dull and should be sharpened or replaced. Using a current transducer eliminates the need for panel writing.



CURRENT TRANSDUCERS : [AK-C420L](#), [AK-B420L](#), [AKR-C420L](#) and [AKR-B420L](#)

