



Power Monitoring for Energy Usage

Monitoring current provides accurate condition information in nearly all applications, but there are some places where power monitoring is a better solution.

For energy usage cost allocation, monitoring power is best because utility companies bill based on watts used rather than current. Adding a power transducer to monitor one specific area of a plant, or one specific process, will help management share the energy costs across the entire operation.

Power monitoring is ideal for applications where an inductive load, such as a motor or transformer, will be fully loaded sometimes and only lightly loaded at other times. With loads such as these, the power factor is poor when the load is light and better as the load increases. Current demand will not increase in a linear manner until the load requires roughly 50% of the nameplate full load amps.

Power monitoring is well suited for applications where the demand for power exceeds the feeding system capacity. When the load increases above a certain point, the power transducer output signal can be used to trigger load shedding events. More complex power monitoring devices can be used to monitor many electrical parameters at the same time: voltage, current, power factor, peak demand, harmonic content, time of day usage, apparent power and real power.

Power Monitoring Applications

- **Motors**
Measure motor power consumption when current alone provides insufficient resolution
- **Machine Tools**
Monitor finishing operations such as deburring
- **Car Wash Systems**
Sense brush entanglements
- **Pumping Systems**
Detect dry run or blockages
- **Cost Allocation**
Monitor the power usage of each machine

Power Monitoring Transducers— A Cost-effective Way to Monitor “True” Active Power

NK Technologies APT power transducers sense true, “active” power. Powered by 24V or 120V supply, the APT provides a fully isolated 4–20mA proportional output making it compatible with most supervisory controllers, panel meters and data loggers.

Housed in a compact, DIN-compatible enclosure, the APT accepts standard 5A or 0–333mV current transformer inputs.

APT power transducers are extremely easy to install. Connect the monitored circuit voltage, external power (120 or 24 volts AC), and current transformers. The output signal is scaled to represent the monitored circuit watts being used.

Satisfied customers who use the APT/APMR power transducers:

- Arteva Specialties
 - Birchwood Power/J-Power LLC - Coal Fired Power Plant Virginia
 - Holcim Apasco - Cement Producer
 - Papeles Higienicos de Mexico, S.A. de C.V - Paper Manufacturing
 - Transitions Optical - Philippines
- and many more...

