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Control Energy Costs by Using the New APN Series Digital Power Monitor from NK Technologies

The APN Series measures three phases of current and voltage and computes fourteen values necessary to track power usage

SAN JOSE, CA – [NK Technologies](#) introduces the [APN Series Power Monitoring Sensor](#). The APN Series Power Monitor measures three phases of current and voltage and computes fourteen values necessary to track power usage in the RS485 Modbus RTU format. The monitor uses current transformers to measure the amperes. The line voltage connects directly to the transducer, up to 600 VAC.

“This sensor is a big step forward from analog signal reporting watt consumption to a digital format allowing information on the system voltage, current, and power factor along with wattage,” says Philip Gregory, President, NK Technologies. As the cost of electrical power increases, the desire to use less energy also increases and the need to measure power consumption becomes a necessity, explained Gregory.

Electrical energy is measured in watts over time. To measure watts in an alternating current circuit, the supplied voltage is compared with the current, and whether the current peaks before the voltage (leading power factor in a mostly reactive circuit) or the current peaks after the voltage (lagging power factor in a more inductive circuit), the real power is measured.

“Electronic Smart meters” are used to measure watts, but they only provide information about the entire service consumption. To monitor individual loads or processes, watt transducers or power monitors can be installed. The purpose is to obtain information to help isolate potential problems such as phase loss or voltage sags and voltage spikes, unbalanced current phase to phase, and can help avoid utility surcharges levied for poor power factor.

The APN's RS485 Modbus RTU format is compatible with many programmable logic controllers and fits seamlessly into industrial communications networks, both hard wired and wireless depending on the specifics of the application. The APN can be configured to accept standard 5 amp current transformer inputs or sensors producing 333mVAC proportional to the AC current of the circuit, or they can use factory matched Rogowski coil inputs. The primary circuit voltage is connected directly to the monitor for 600 VAC or lower, or through a potential transformer for monitoring circuits of higher potentials.

The APN is powered from an external supply, improving measurement accuracy of the measurement data. The APN series also provides a pulse contact to open and close as watt hours are accumulated. This feature allows for a less complex data acquisition device for applications where the need to monitor circuit voltages or the other data points is minimal.

ABOUT NK TECHNOLOGIES

Founded in 1982, NK Technologies designed the first the low-cost solid-state current sensing technology that underlies the industry today.

Today NK Technologies is a leading provider of current sensing, ground fault detection and power monitoring products to the [industrial and factory automation markets](#), with a product portfolio that includes more than 1300 models to satisfy a wide range of specific application needs. As the needs of these markets change, NK Technologies is well-positioned to respond with sophisticated new product designs and improved product functionality necessary to meet those applications.

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