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Monitor Distorted AC Current with New ATPR Series Current Transducers from NK Technologies

"E-Out" AC current transducers combine a transformer and true RMS signal conditioner in a single package

SAN JOSE, CA – NK Technologies introduces ATPR "E-Out" Series AC Current Transducers. ATPR current transducers combine a current transformer with a true RMS signal conditioner in a single package. This enables the ATPR series to produce a 0-5 or 0-10VDC RMS output on distorted waveforms located in the output of variable frequency drives, phase angle fired heating controls, and on linear loads in "noisy" power environments.

"The ATPR series provides true RMS sensing, meaning output is proportional to the current flowing in the circuit even with high distortion or harmonic loads," says Philip Gregory, President, NK Technologies. "Field selectable ranges minimize inventory requirements and easily accomodate changes in load conditions, and a split core housing simplifies installation – users simply release the latch and snap it over the conductor. And the unit's DC voltage output is ideal for data acquisition systems, panel meters or controllers with only voltage inputs available."

The ATPR series is a perfect solution for monitoring the output of variable frequency driven loads, even when in bypass mode. They can also be used to measure phase angle fired heating controls and other SCR controlled loads. These current transducers respond quickly to element failure by monitoring current instead of temperature, and accurately measure power supply and ballast input power.

"Many building energy management controllers provide 0-5 VDC inputs, and many data loggers utilize 0-10 VDC inputs. ATPR series current transducers can be used in applications where the current wave is distorted or where it is sinusoidal with equal accuracy," explains Gregory. "Even when the amount of distortion is not known users can be certain the measurement will be accurate. With this sensor the

installer can use the industry standard for monitoring AC current, without having to use an external resistor that can add a degree of inaccuracy to the system."

Engineers designing switched mode power supplies work diligently to improve pulse width modulation so the controlled load will have the cleanest power applied, reducing harmonics to reduce overheating of transformers and motors in addition to reducing zero-crossing noise. The methods for doing this are expensive, so distortion in these types of power supplies will continue for the foreseeable future. Variable speed drives, electronic ballasts, uninterruptible power supplies and other devices that use switched mode power supplies are sources of current sine wave distortion and require frequent monitoring. ATPR series current transducers are a simple and cost effective solution for monitoring distorted AC current.

NK Technologies offers no-cost test and evaluation units to qualifying OEMs. Visit the Engineering Resources section of NK Technologies website for access to numerous application notes and a technology white paper on current sensing technology.

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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