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Speeding up the Wireless Condition Monitoring Revolution

Perpetuum's wSNAK powered by PMG17 is a quick and cost-effective Evaluation System



October 14, 2008 – World leader in vibration energy-harvesting for wireless sensor networks, Perpetuum, has developed a new wireless sensor node assessment kit, the wSNAK. The kit, which will be launched at this year's ISA Expo, is designed as a technology demonstrator to confirm to OEMs and end users the significant advantages and simplicity of condition monitoring systems powered by vibration energy-harvesting.

The wireless sensor nodes will also be available separately for integration in to OEMs own systems and can be adapted for other measurands such as pressure, temperature and flow.

wSNAK gives OEMs the opportunity to evaluate the concept quickly and to provide valuable feedback for the final design. As a result of the short assessment process, they can bring their own new product to market saving typically 12 months of development time and \$100,000s in prototype costs.

In the absence of any practical alternative, batteries have been used to power wireless sensor nodes despite end user objections. However, vibration energy-harvesting is now becoming the preferred option as there are none of the reliability, cost of replacement, transportation, safety and disposal issues which are associated with batteries.

End users will see the considerable benefits of installing wireless condition monitoring at very low cost without the problems of Management of Change and without the increased maintenance burden of changing batteries.

"These products will enable OEMs and end users to accelerate the wireless revolution," says Roy Freeland, CEO of Perpetuum. "It makes it possible for plant managers to quickly achieve the improvement in operational performance from increased reliability and lower costs that is so important to remaining competitive."

The kit consists of four energy harvester-powered wireless sensor nodes which send vibration and temperature data to a laptop-based receiver. Each sensor node runs an industry-standard IEPE accelerometer with integrated temperature sensor on a flying lead. Data is transmitted from each node via the IEEE 802.15.4 transmitter to a receiver situated up to 100m away. Vibration spectra and temperature trends can be displayed on a laptop and basic level alarms may be set similar to the ISO10816-3 standard.

The wSNAK can be installed in just a few minutes. It features an LCD display, so users can instantly observe the power being generated and select an optimum location for the node, while the accelerometer is located precisely where required on the equipment being monitored. It is IP65 rated for protection against the ingress of dust and water allowing OEMs to use it immediately in the field regardless of the weather conditions.

About Perpetuum:

UK-based Perpetuum Ltd is the world leader in vibration energy harvesting, producing the first commercially available vibration energy harvester for industry, the PMG17. Using normal vibration created by machinery as a source of energy, the PMG17 is an enabling technology for fast-growing wireless sensor node applications. Perpetuum's innovative power source enables continuous online monitoring for proactive asset management, helping organizations strive toward operational excellence. For more information, visit www.perpetuum.co.uk or email info@perpetuum.com.