

Micropelt TE-Power PROBE Replaces Batteries

New Thermoharvester offers more power and infinite life to industrial sensors

Freiburg, 28.04.2010 - Micropelt, thermal energy harvesting specialist, launched a new commercial energy harvester, which can outperform primary batteries as an energy source for wireless applications. The TE-Power PROBE can fully replace or largely extend the life of batteries of modern WirelessHART, ISA100 and similar transmitters. Mounting the device to a hot side of 20° C above ambient results in a milliwatt net output, equal to about 3 AA cells per year. Between 25° C and 90° C 10 mW net are generated, equivalent to as much as 30 AA cells worth of energy as an annual budget for a 3 Volt application.

The TE-Power PROBE collects thermal energy at the most optimal hot spot in proximity to its sensor to be powered. Thus the thermoelectrically harvested power is maximized in favor of more energy and better flexibility for the connected application. The Thermoharvester with its cylindrical 2" (52 mm) diameter by 4.2" (80 mm) long aluminum body easily connects to the heat source via a threaded copper thermal input pin.



Thermo-Harvester TE-Power PROBE

The TE-Power PROBE is offered with different levels of power conditioning, including Thermogenerator DC output, externally configurable 1.6V to 5V, and fully regulated discrete voltages including 2.4V, 3.6V and 4.5V. The TE-Power PROBE is priced at 730 Euros for single units and will be sold through Mouser as a worldwide distributor, starting with the 4.5V version.

"This Thermoharvester eliminates all the battery-related operational costs of wireless sensors while giving them virtually infinite service life," says Fritz Volkert, Micropelt's CEO. "When ordered in batches the unit price will be very competitive. Our customers thus can take full advantage of deploying sensors wherever useful for better process management or more efficient maintenance."

"This self-sustaining green power source can make battery service a thing of the past for the growing installed base of wireless instruments," says Burkhard Habbe, VP Business development at Micropelt.

About Micropelt

Micropelt GmbH, a 2006 spin-off from the research cooperation between Infineon Technologies and Fraunhofer Institute IPM Freiburg, develops and markets the world's smallest and most effective thermoelectric elements for clean-tech power generation (energy harvesting) for sensing, cycling and cooling. Readily available standard products from the pilot-production plant at the company's headquarters in Freiburg, Germany are currently being evaluated by and incorporated into the products of more than 40 customers. A large-scale production facility fully financed and currently under construction in Halle, Sachsen-Anhalt, Germany, is expected to raise capacity to some 10 million devices per year by mid 2010.

About Micropelt's Thermoelectric Elements

Micropelt's thermoelectric elements are based on a proprietary scalable MEMS (Micro Electro-Mechanical Systems) micro-structuring platform technology. Compared to conventional thermoelectric elements, Micropelt's unique and patented technology reduces component and feature sizes by orders of magnitude, yielding 10 times higher cooling or heating power densities. Economies of scale through volume production break the existing cost and price barriers of conventional thermoelectrics, enabling Micropelt's devices to scavenge free electric power from waste heat to replace or recharge batteries in low power wireless sensor networks. For more information contact Micropelt at +49 (0) 761 156 337 0, info@micropelt.com, or visit our website at www.micropelt.com.