



Infinite Power Solutions®

# PRESS RELEASE

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## **INFINITE POWER SOLUTIONS LAUNCHES INFINERGY MICRO POWER MODULE PRODUCT FAMILY**

### **Miniature, Self-Charging Power Modules Enable Maintenance-Free Perpetually-Powered Wireless Sensors and Other Micro-electronic Devices**

**Littleton, Colo., Nov. 2, 2009**—Infinite Power Solutions, Inc. (IPS), a global leader in the development and manufacturing of solid-state, rechargeable, thin-film energy storage devices, today formally unveiled its INFINERGY™ Micro Power Module (MPM) products at the Energy Harvesting & Storage USA conference in Denver, Colorado. INFINERGY MPMs are miniaturized “plug & play” power modules with integrated power management and solid-state energy storage that simplify the design and adoption of self-powered, micro-electronic systems using ambient energy. These novel MPM products are designed specifically for variable AC and DC charge energy from common energy harvesting devices, and outlive and outperform conventional rechargeable batteries and supercapacitors. MPMs serve a variety of off-grid applications, including autonomous wireless sensors, actuators, smart building and factory automation systems, Real Time Clock (RTC) and memory backup power systems, active RFID tags and Real Time Locating Systems (RTLS). When combined with energy harvesting devices, such as photovoltaic cells, piezo-electric materials, or thermal-electric generators, INFINERGY MPMs are continually recharged and provide perpetual power that lasts the lifetime of the system, thus eliminating the cost of conventional battery replacement. As the Gold Sponsor for Energy Harvesting & Storage USA, IPS will be demonstrating its INFINERGY MPM product family to attendees interested in learning more about this compelling solution for deeply embedded power management and storage of harvested ambient energy.

The unique INFINERGY MPMs feature three functional elements—near loss-less energy storage, highly efficient power management electronics, and regulated output voltage—all in a miniaturized footprint.

**-more-**

For more information on this and other IPS products, please visit the IPS web site, or contact us by email or phone.  
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For the energy storage element, IPS leverages its industry-leading THINERGY™ Micro-Energy Cell (MEC) products to provide unmatched energy storage performance with high continuous discharge current (compared to coin cells), ultra-low self-discharge rate (<1% charge loss per year), and the best cycle life in the industry (greater than 10,000 cycles at 100% depth of discharge). IPS' patent-pending, Passive Power Management Unit (PPMU™) serves as the power management element. The ultra-efficient PPMU provides a simplified electronic interface between the ambient energy harvester and the THINERGY MEC. While charging the MEC, the PPMU circuit consumes less than 3nA, allowing charge efficiencies greater than 98%. In addition to providing the raw battery output, the MPMs feature an integrated Low Drop Out (LDO) voltage regulator tailored to the voltage requirements of micro-electronic applications, such as the micro-processor and radio integrated circuits used in wireless sensors. All together, the elements of an INFINERGY MPM create the most efficient, longest-lasting, power management and energy storage solution in the industry for remote/off-grid applications that leverage energy harvesting.

The INFINERGY MPM101 is packaged in a 20-pin SMT configuration that can be “pick & placed” and reflow soldered to a PCB for volume manufacturing. It is ultra-thin (<3mm) and compact with a footprint of only 29mm x 29mm. The D-MPM101 is a system development version that has the same functionality as the MPM101, but is packaged in a multi-connector configuration and comes with mating connectors and pig-tail wiring harnesses for rapid system prototyping. This module has a thickness of 4mm and a footprint of only 25mm x 26mm. Both MPMs are available with options for discharge current, discharge capacity and output regulator voltage.

“INFINERGY Micro Power Modules represent the most efficient and powerful integrated power management and solid-state energy storage solution to enable perpetually-powered systems using all forms of ambient energy harvesting,” said Tim Bradow, IPS' vice president of technical marketing and business development. “They greatly simplify the design effort to incorporate energy harvesting, requiring only a 2 wire interface, and supports both AC and DC inputs simultaneously. Their miniature size, negligible leakage current, and decades of service life make INFINERGY MPMs the ideal choice for off-grid, self-powered applications. INFINERGY MPMs change the paradigm for what is possible in designing electronic devices, enabling the development of “green electronics” that rely only on power from the environment.”

Most ambient energy harvesting transducers do not provide adequate peak power or the power reliability needed to perpetually power micro-electronic applications requiring autonomy, such as wireless sensor nodes, active RFID and RTLS tags, consumer wireless remote controls or security systems. INFINERGY MPMs, when combined with ambient energy harvesters, address this gap by accumulating energy from low power, intermittent energy from harvesting devices, efficiently managing that energy without active electronics, storing that energy in a near loss-less storage device, and providing high discharge currents with a regulated output voltage required by the target application.

Previews of the INFINERGY Micro Power Module product family were provided to initial access customers since early 2009 and have elicited enthusiastic responses. IDTechEx's Energy Harvesting Conference UK (May) heralded INFINERGY MPMs as the "Best Technology Development" in the area of energy harvesting, while *Sensors Magazine* bestowed its "Best of Sensors Expo 2009" silver award (June). These recognitions came in addition to IPS' core THINERGY™ Micro-Energy Cell technology being recognized by VDC Research Group with an "Embeddie" award for the most significant new hardware product at the Embedded Systems Conference-Boston (October).

IPS will be demonstrating the INFINERGY Micro Power Module product family at the Energy Harvesting & Storage USA conference being held at the Hyatt Regency DTC in Denver, Colorado, November 3-4, 2009. INFINERGY MPMs are available now to qualified customers and can be purchased directly from the factory. For more information about INFINERGY Micro Power Modules or THINERGY Micro-Energy Cells, visit [www.InfinitePowerSolutions.com](http://www.InfinitePowerSolutions.com).

***About Infinite Power Solutions, Inc.***

Infinite Power Solutions, Inc. (IPS)—a U.S.-based, clean-technology company—is the global leader in developing, marketing and manufacturing solid-state, rechargeable, thin-film micro-energy storage devices for a variety of micro-electronic applications. Founded in 2001, IPS is privately held with corporate headquarters and manufacturing in Littleton, Colo. The company manufactures its revolutionary THINERGY™ family of thin-film micro-energy cell (MEC) products at its new state-of-the-art facility, which is the world's only volume manufacturing facility for solid-state, thin-film batteries. The company's energy storage products, with unrivalled performance, size and service life, displace coin cells, supercapacitors, and other micro-batteries in a variety of applications. The company's THINERGY™ MECs and INFINERGY™ Micro Power Modules uniquely enable ambient energy harvesting solutions to create miniature, autonomous, perpetual power supplies to address the growing demand among customers in the wireless sensor, active RFID, powered smart card, medical device, consumer electronics, automotive and civil/military/aerospace markets. Additional information about IPS is available at [www.InfinitePowerSolutions.com](http://www.InfinitePowerSolutions.com).