



Infinite Power Solutions®

PRESS RELEASE

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INFINITE POWER SOLUTIONS ANNOUNCES NEW THINERGY MICRO-ENERGY CELL PRODUCT FAMILY *Inherently Safe, Low-Cost Solid-State Battery Provides Industry-Leading Performance*

Littleton, Colo., Nov. 8, 2011—Infinite Power Solutions, Inc. (IPS), a global leader in manufacturing innovative solid-state, rechargeable, thin-film batteries, today announced its THINERGY MEC200-Series family of micro-energy cell (MEC) products. As the world's most powerful batteries for their size, THINERGY MECs provide unmatched power density and cycle life in a flexible and paper-thin form factor. With their ultra-low self-discharge rate, MECs provide a near loss-less 4.1V energy storage solution. They outperform rival primary and rechargeable micro-batteries, including lithium (Li) coin cells, printed batteries and all other solid-state thin-film batteries (TFBs). Extremely small and powerful, these novel MECs are reliable, inherently safe and eco-friendly. Unlike conventional batteries, THINERGY MECs contain no heavy metals or organic materials that lead to environmental or safety concerns, nor do they exhibit chemical instability or premature device degradation. This allows MECs to deliver unprecedented performance and decades of service life.

The MEC200-Series products feature a new patented flex circuit encapsulation that is unique to the battery industry. There is an insulating layer on the top side of the cell for short circuit protection. The positive and negative terminals are on the same edge of the cell, making the cells easier to stack (for more power and capacity) and solder to a rigid or flex printed circuit board. When recharged over their lifetime, THINERGY MECs provide tens of watt-hours of energy – more than most traditional primary cells that are hundreds of times larger in total volume. In essence, MECs are a permanent battery solution for the life of an application. They provide the lowest total cost of ownership compared to other conventional batteries, and change how the power source for micro-electronic systems is designed now and in the future.

The extraordinary high discharge current and cycle life demonstrated by THINERGY MECs makes them the only devices suitable for replacing supercapacitors in many applications. When combined with ambient energy-harvesting transducers, such as solar cells, thermoelectric generators, piezoelectric materials, etc., THINERGY MECs deliver continuous, autonomous power to wireless sensor nodes, powered cards, medical devices and other micro-power systems for decades of maintenance-free operation. As a result, these unique MEC products represent a new class of electronic component that bridges the performance gap between batteries and supercapacitors.

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The first products in the THINERGY MEC200-Series product family include four standard devices. Available now are the THINERGY MEC225, MEC220, and MEC201, with capacity options up to 0.13mAh, 0.4mAh, and 1.0mAh, respectively. The fourth product, the MEC202, with a capacity of up to 2.5mAh (the highest capacity in the solid-state thin-film battery industry), will be available in early 2012. Key features of the cell family include:

- Ultra-thin (0.17mm) and flexible package fits and conforms where other solutions cannot
- High-power discharge eliminates need for external boost capacitors for high-pulse currents
- Stackable for increased energy and power without increasing board footprint
- Lasts the lifetime of the system for zero maintenance or replacement cost
- Solderable terminals ensure reliable electrical connections
- Superior charge acceptance, even at low charge currents of less than one microamp
- Supports 100,000 recharge cycles – more than any other rechargeable battery
- Rapid recharge in seconds to minutes, depending on the state of charge
- No difficult charge algorithms – simple 4.1V constant voltage (CV) charge method
- All solid-state chemistry with no liquid or polymer (organic) electrolyte used
- Ultra-low leakage (~three nanoamps) provides near loss-less energy storage
- Extremely broad operating temperature range of -40°C to +85°C – beyond most other batteries
- Safe and RoHS-compliant; contains no heavy metal or toxic chemicals
- Lowest total cost of ownership for long-life battery powered applications

Beyond some of the features listed above, IPS has published a [Standard Product Selection Guide](#) that summarizes some of the key specifications and performance metrics surrounding its THINERGY MEC200 family. This matrix illustrates that THINERGY MECs truly outperform other rechargeable micro-batteries across all key specifications, including operating temperature range, internal resistance, discharge current, cycle life, fast recharge time, service life and self-discharge current.

Bucking the trend of outsourced manufacturing, IPS makes THINERGY MECs in its own Colorado-based factory, which is ISO 9001 certified and the world's first and only volume manufacturing facility for solid-state thin-film batteries. In addition to the "green" technology aspects of the battery itself, the IPS manufacturing facility is truly "clean tech," since it is a zero-discharge facility and uses no toxic materials or chemicals in the fabrication of cells.

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THINERGY MEC products are currently available in production quantities and can be ordered directly from the factory or from multiple franchised distributors, including [Arrow Electronics](#). Visit the [IPS Web site](#) for a complete list of distributors and other product and company information.

IPS will showcase its THINERGY MEC products and related evaluation kits in booth #11 during the Energy Harvesting & Storage USA 2011 conference, which is co-located with the Wireless Sensor Networks & RTLS USA 2011 conference being held November 15-16 in Boston, Mass. Editors interested in meeting with IPS executives to learn more about IPS and its transformational energy storage technology can contact Terri Sundseth at tsundseth@IPSBatteries.com.

Note to Editors: Photos of the THINERGY MEC200 family are available [upon request](#).

About Infinite Power Solutions (www.InfinitePowerSolutions.com)

Infinite Power Solutions, Inc. (IPS)—a U.S. clean-technology company—is a global leader in manufacturing solid-state, rechargeable, thin-film micro-energy storage devices. Founded in 2001, IPS is privately held with corporate headquarters and volume manufacturing in Littleton, Colo. The company is the only ISO 9001 certified manufacturer of all-solid-state, thin-film batteries and its energy storage products provide unrivalled performance, size and service life to displace conventional coin cells, supercapacitors, and other printed and solid-state micro-batteries in a variety of applications. THINERGY® Micro-Energy Cell (MEC) products are paper-thin and provide unprecedented efficiency in micro-energy storage and uniquely enable embedded power and ambient energy-harvesting solutions to create miniature, autonomous, perpetual power supply solutions. THINERGY MECs uniquely serve battery powered applications such as wireless sensors, active RFID tags, real-time clocks, powered cards, medical devices, and consumer electronics.

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