

NEC ENERGY EXPANDS 12-VOLT HIGH POWER LITHIUM-ION BATTERY FAMILY WITH NEXT GENERATION PRODUCT

The ALM™ 12V7s product line offers up to twice the usable energy, 50X greater cycle life, and 50% lighter weight than comparable lead-acid batteries.

April 16, 2015 – Westborough, MA – [NEC Energy Solutions](#), a leading energy storage solution provider, announces the availability of its new generation ALM™ 12V7s product line of 12-Volt, 5 Amp-hour batteries that offers higher power, longer life, and robust safety compared to comparable lead-acid batteries or other lithium-ion products. The ALM 12V7s line builds upon the success of the earlier generation ALM 12V7 with additional capabilities including high current discharge, smart charger detection, and EverSafe™ battery protection technology, which provides immunity to short circuit, over voltage, under voltage, and other common accidental battery abuse conditions. In addition, system scalability is improved through support of self-balancing battery arrays of 24V, 36V, or 48V and up to 10 units in parallel for 50Ah capacity, with no additional BMS devices necessary. The ALM 12V7s batteries are drop-in alternatives to common 12-Volt, 7Ah lead acid batteries. They deliver high power discharge rates (up to 45A) with minimal reductions in nameplate capacity, making them ideal for short duration industrial uninterruptible power supplies (UPS), and deep cycling applications such as weak and off-grid power systems.

Gylling Teknikk AS, a distributor of batteries, labeling systems, and electromechanical products, has been integrating the ALM 12V7 since 2010. “Our mission is to offer our customers the latest in technology and the best possible solution for their tasks. We are evaluating the new ALM 12V7s HP from NEC Energy Solutions and look forward to the improvements in performance and safety that the new generation of ALM 12V7s batteries will offer to our solutions and customers,” said Einar Tolpinrud, Manager Battery Department of Gylling Teknikk AS.

The exceptional cycle and float life, high power performance and unparalleled safety features fundamentally change how power system developers may design, service, and support battery back-up systems. The key benefits of the ALM 12V7s batteries include:

- Up to twice the usable energy at fast discharge rates, reducing by up to 50% the number of similarly sized batteries required for high power applications.
- Charging rates up to 100X faster than lead-acid batteries and 2-10X faster than other lithium-ion solutions enable systems to remain in service longer, which reduces the total cost of ownership (TCO) and eliminates the need for oversizing that is typical for lead-acid systems that may not be fully recharged before the next grid outage.
- Operation from -40 °C to 60 °C, dramatically outperforming lead-acid batteries in harsh outdoor applications.

- Up to 5X longer calendar life significantly reduces service costs from frequent replacement of lead acid batteries, especially in remote and hard to reach installations.
- Fully integrated, redundant safety systems using NEC Energy Solutions' EverSafe™ battery protection technology provide multilayer protection at the cell, battery and system level, making the ALM 12V7s among the safest batteries in the industry.

“The ALM 12V7s batteries are compact and light weight and deliver exceptionally high power. Along with a long cycle life and robust safety, they are ideally suited for small cell telecommunications and industrial UPS applications. With this and the previously released ALM 12V35 product line, we are developing a world-class family of 12V lithium ion products designed for the toughest applications,” said Bud Collins, CEO of NEC Energy Solutions.

The ALM 12V7s product line provides the flexibility of two power level models to meet the most demanding applications. They are direct replacements of the first generation ALM 12V7.

- ALM 12V7s HP is a high power, 45A continuous discharge current battery. It is available now and shipping to initial customers.
- ALM 12V7s is a nominal power, 23A continuous discharge current battery. It is available for shipment to initial customers later in 2Q 2015.

About NEC Energy Solutions

NEC Energy Solutions is a leader in advanced energy storage, developing and manufacturing smart energy storage solutions for electric grid, backup power and lead-acid replacement applications. With system integration expertise focusing on high performance, efficiency, safety and reliability, NEC Energy Solution's products range from compact advanced industrial batteries to massive grid-scale energy storage systems. Its turnkey GSS™ (Grid Storage Solution) products have successfully operated in commercial revenue service since 2009 and have reached over 110MW deployed on the grid worldwide, while its commercial and specialty batteries provide solutions to fit the needs of telecom, IT backup, datacenter, medical, lead-acid replacement and other industrial applications. For more information, please visit www.neces.com.

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