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ABB launches new lithium-ion battery systems for ABB UPS solutions

ABB launches a lithium-ion battery system that perfectly suits a comprehensive range of ABB uninterruptible power supply (UPS) solutions.

Low cost of ownership, long life span, lightweight, high safety level and compactness are just some of the advantages that lithium-ion technology has over the sealed lead-acid batteries that have been the workhorse of the industry until now.

Valve-regulated lead-acid (VRLA) batteries – sometimes known as sealed lead-acid batteries – have traditionally been the battery of choice for backup power in UPS systems. However, lithium-ion battery technology has progressed rapidly in recent years, making it an attractive option – especially where high-energy density and low weight are important.

Other advantages over VRLA batteries - such as longer life span, better availability, smaller size, shorter recharging times and continually falling prices - only add to the appeal of lithium-ion battery solutions. Lithium-ion batteries are much more tolerant to changes in environmental temperature and can operate over a broad temperature range - a decisive factor in hot countries and a feature that keeps cooling costs down.

The ABB lithium-ion battery solution is accommodated in a standard 19" cabinet. All connectors are front-facing for ease of installation, maintenance and replacement. A single cabinet configuration of 34.6 kWh comprises a switchgear element, a switched-mode power supply (SMPS) and 17 battery modules. Each module contains eight series-connected 67 Ah, 3.8 V cells and a dedicated battery management system (BMS) with cell balancing functionality. The switchgear collects all information about each battery cell, calculating the state of charge (SoC) and state of health (SoH). The SMPS supplies the power for the BMS and communicates with the UPS and other connected cabinets. Battery cabinets are compact, thus saving real estate and increasing power density, and may be connected in parallel to achieve the power needed.

Lithium-ion batteries are easy to handle - they do not contain mercury, lead, cadmium, or other hazardous materials. In most cases, traditional batteries would need to be replaced multiple times before a lithium-ion battery is replaced once. These characteristics lower maintenance overheads.

Federico Resmini, product manager for ABB's Energy Storage Solutions, said: "Lithium-ion battery systems employ the very latest in battery technology and directly address the two top concerns of critical power users: availability and total cost of ownership."

The high-reliability and high-availability lithium-ion battery solution provides peace of mind for operators using UPSs in data centers, hospitals and medical centers, offices, banks, education centers, transportation and manufacturing, to name but a few.

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