Case Study | Backup Power

New Battery Pack Improves Data-Storage Power Backup

CUSTOMER PROBLEM: HIGHER DENSITY, MORE RELIABLE BATTERY BACKUP SOLUTION NEEDED FOR DATA STORAGE APPLICATION

In the course of upgrading their product line, a leading manufacturer of data storage units faced some new challenges with their backup power system:

- Longer battery life in order to handle potential long-term disruptions in primary power
- More stable electrical performance
- Better reliability over many years of usage
- Smaller physical size to minimize its real estate in the storage cabinet
- Compliance with environmental regulations, including Restriction of Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment (WEEE)

These design requirements led the storage system manufacturer to reconsider its lead-acid battery solution and to turn to Palladium Energy for answers.

PALLADIUM SOLUTION: UPDATED BATTERY MODULES FOR THE DATA STORAGE SERVERS

Palladium delivered a complete solution to the challenges that the systems manufacturer faced with regard to backup power. The Palladium engineering team recommended replacing the existing lead-acid battery system with lithium-ion battery packs.

The lithium-ion backup system dramatically improved the backup battery life, providing enough energy to power 1GB of the server's memory for three days under typical conditions. Palladium engineers also designed a switching regulator to control the continuous charging of the battery. "Smart battery" capabilities in each battery module deliver information about the battery's state over a standard Inter-Integrated Circuit (I2C) bus.

The lithium-ion battery packs also saved cabinet real estate, using 73% less space compared to the lead-acid batteries they replaced. The system vendor was able to use the reclaimed space for revenue-generating equipment, increasing the financial productivity of each cabinet.

Furthermore, the new battery packs meet all the necessary environmental certifications, including RoHS and WEEE compliance. Palladium's independent, UL 1642 and UL 2054 accredited and CTIA authorized testing facility—IQ Laboratories (IQL)—enabled the team to achieve rapid turnaround times for compliance approvals.

PALLADIUM TURNKEY SOLUTION ADDS VALUE TO DATA STORAGE

Storage system manufacturers face ever-escalating needs for reliability, density, and environmental agency compliance. Their backup power systems play a key role in meeting these requirements. Palladium can design and deliver a customized solution for backup power that adds value to the total design.

PALLADIUM energy™
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