



# Automotive company puts the brakes on power issues

**Location:**  
Columbia, S.C.

**Segment:**  
Automotive

**Problem:**  
The company sought a robust, centralized UPS solution capable of providing significant backup time in the event of a power failure.

**Solution:**  
Eaton® 9390, Service

**Results:**  
Akebono gained a highly reliable, centralized backup power solution capable of keeping operations up and running even during an outage.

*“This was the best unit to serve us based on our needs, how well it tested, our capacity requirements, and the fact that it had the best price.”*

*Michael Petruso, program manager*

## Background

With more than 75 years of brake design and production expertise, Akebono provides the world's automotive industry with advanced braking and noise, vibration and harshness (NVH) solutions. The company's commitment to innovation, process improvement, quality control and customer service has positioned it as a key resource for leading OEMs, Tier I brake suppliers and the automotive aftermarket. Key OEM customers include Audi, Chrysler, Ford, General Motors, Honda, Isuzu, Mitsubishi, Nissan, Toyota and Volkswagen.

Akebono manufactures a wide range of brake friction materials and foundation brake assemblies, including disc brake calipers and drum brakes, employing the Akebono Production System (APS). This business approach features proven quality control techniques to guarantee minimal process variation in all phases of production. Embraced throughout the organization, APS enables the company to consistently achieve nearly zero defects per million parts produced.

Akebono operates R&D technical centers in the U.S., Japan and France, and manufactures materials and components in 30 wholly owned or affiliated facilities worldwide. A total of 6,800 people are employed by the company, including 1,900 in North America. In 2009, Akebono's worldwide sales totaled \$1.2 billion.

## Challenge

Even a slight power glitch at Akebono's South Carolina plant has the potential to wreak havoc not just at that facility, but at the company's Tennessee plant, as well. That's because the entire array of computer systems and servers for both facilities are tied to a single network, which requires the highest level of protection available.

“If we had an outage, we wouldn't be able to ship to our customers,” emphasizes Michael Petruso, program manager. “It would shut down both plants, and that's something we wouldn't be able to work around.”



Powering Business Worldwide

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The ability to maintain continuous uptime was a driving factor behind Akebono's search for a new uninterruptible power system (UPS) in 2009. At the time, the company had more than 40 individual units scattered throughout the plant. "We wanted to replace all of the small units with one UPS that would offer easier manageability from the centralized unit," Petruso explains.

In addition, Akebono needed a UPS with a large capacity that the company could grow into, as well as one that could provide several hours of battery runtime. Finally, the company was looking for a solution at an attractive price.

### Solution

With the purchase of a 40 kVA Eaton 9390 UPS, Akebono put itself in the driver's seat when it comes to steering clear of power anomalies. With a double-conversion design that offers the highest level of protection available, the unit shields equipment from the most common power problems, including outages, sags, surges, spikes, brownouts, line noise, frequency variation, switching transients and harmonic distortion.

Offering a best-in-class combination of power performance, battery management, scalable architecture, flexibility, power density, and warranty and service, the 9390 delivers everything Akebono needs to ensure continuous operations at both of its facilities in a single, centralized solution.

In addition to exceptional reliability, the UPS features a low total input harmonic current distortion (THD) of less than 4.5 percent, which enhances compatibility with upstream power systems, most notably generators. Furthermore, the unit's input power factor of 0.99 minimizes auxiliary generator sizing requirements. These factors proved especially advantageous to Akebono, as the company relies on a generator to help ensure continuous uptime during a power failure.

"We have a generator to backup our system so we don't run on the UPS battery any longer than we absolutely have to," Petruso explains.

Even more, the runtime afforded by the 9390's internal battery gives the company a sufficient window to remedy any potential problems in the event of an extended outage.

"It provides plenty of time for us to keep operating if something goes wrong with the generator," Petruso says, noting that during one outage, the generator did not start and had to be repaired. "But the UPS has so much runtime that it did not create an issue," he reports. "Our old units only have us an hour."

Another key selling point for Akebono was the scalability of the 9390, which allows up to four equivalent modules to be paralleled for additional capacity or redundancy. This ensures that the growing company can bolster its power protection solution when needed. "We can expand on it even though we're not using the full capacity today," Petruso confirms.

Also beneficial to Akebono is the fact that the 9390 offers the smallest footprint in its class — 35 to 50 percent less than competitive models. "It fits nicely in the equipment room," Petruso reveals.

The small footprint also reduces installation time and costs, coupled with the flexibility to install the unit against walls, using top- or bottom-entry cabling. Furthermore, convenient front-panel access for all services and operation increases serviceability and reduces repair time, a benefit that was particularly appealing to Petruso. "We wanted a unit that was easy to maintain and had low maintenance costs," he says.

Delivering unmatched power performance with a high efficiency rating of 94 percent and output power factor of .90, the 9390 also lowers total cost of ownership for Akebono by reducing the cost of power to support protected loads. And because the 9390 runs efficiently and produces less heat, it also lowers facility cooling costs. "The unit's efficiency was a nice added bonus," Petruso says.

Further enhancing the reliability of the 9390 is the unit's superior battery management system, ABM<sup>®</sup> technology, which extends battery life and optimizes recharge time. In addition, an integrated battery management system tests and monitors battery health.

Indeed, Akebono couldn't be happier with everything under the hood of the 9390. "This was the best unit to serve us based on our needs, how well it tested, our capacity requirements, and the fact that it had the best price," Petruso sums up. "We haven't had any issues at all with the unit since it's been here."

### Results

With the 9390 in place, Akebono doesn't have to worry about braking for power disturbances. "It has always performed as intended," Petruso reports. "We lose power here two to three times a year and it has always kicked in and worked great."

The 9390 enables the company to:

- Maintain continuous uptime at both its South Carolina and Tennessee facilities
- Keep operations running for hours even if its generator fails to function properly, thanks to the runtime afforded by the 9390
- Save time and expense on maintenance with the centralized solution
- Easily expand if its power requirements increase with the unit's scalability
- Preserve valuable space with the 9390's small footprint
- Enjoy low total cost of ownership and exceptional value



Eaton 9390

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