EATON | Cutler-Hammer

Cutler-Hammer® AUTOVAR® 600 Power Factor Correction System Helps A Not-for-Profit Score Big Savings

Technical Focus

Real-World Learning

Classroom style education is certainly a useful experience. But when that learning is put to real-world practice with the proper tools, the payoff is even greater.

This is precisely what TAC Industries, a Springfield, Ohio-based work activity center for mentally challenged adults, is now seeing — payoff. This payoff has come in the form of a dramatic energy savings, estimated in an excess of $50,000 over a four-year period, thanks to a team of University of Dayton engineering students and the implementation of a proven money-saver from the Eaton power factor correction portfolio, the Cutler-Hammer AUTOVAR 600 Capacitor System.

TAC Industries, a company whose roots in the Springfield community reach back into the early '50s, is a not-for-profit organization that contracts with other companies in the area to produce, assemble and repair a variety of parts, ranging from custom wood products to cargo nets used by the U.S. Air Force. Escalating energy costs, and a desire to be more environmentally sound, had TAC management looking for ways in which to reduce energy usage and save on overall costs. The search led TAC to the University of Dayton's Industrial Assessment Center.

"We contacted them," explains Eldon Storer, TAC's special projects manager, "and they said that while we fell outside the scope of their grant, they wanted to work with us as a community project for the university."

A Rapid ROI

A team of four undergraduate students and four graduate student volunteers came into TAC, conducted a thorough assessment, and presented Storer with an 80-page report outlining ways in which the company could save energy, and consequently money, to the tune of $50,000 or more. Storer was plenty impressed.

"The students were looking in basically every nook and cranny to find what they could to help save energy costs. One of our main issues was that on our roof we have several heating and air conditioning units with compressors, and during the summer months they were often kicking in at the same time. This caused a spike in our electrical usage on the meter. We started looking at ways to level that out, and one of the tools they recommended was the AUTOVAR. It looked to have a short period of payoff, which has since become proven."

The payoff is progressing exactly as planned. The cost of equipment and installation was under $10,000, and TAC Industries is now looking at savings of somewhere between $12,000 and $15,000 a year. "So you can see," Storer points out, "our return on investment is going to come around in less than a year." And for a small company such as TAC Industries, those are pretty considerable savings.

Substantiating the Numbers

Storer procured his Cutler-Hammer AUTOVAR 600 through TAC's electrical utility, Ohio Edison, which also was brought in to substantiate the University of Dayton team assessment.

"They came in," Storer explains, "established a baseline before the AUTOVAR went online, ran the figures that UD had provided and said, 'yes, this is going to be very close to the kind of savings you're going to generate.' When they called back in December, after the system had been online for about three months, they said the projected savings were the same savings we were, in fact, realizing.

"Our board has adopted the plan that came out of the assessment as our five-year plan for electrical usage."

Storer sums up: "In many manufacturing industries, there's electrical equipment that when started up in the morning, peaks your meters. And whatever it peaks at for that month, that's what you're going to get billed for — even though after it's started up, it may go back down and run at perhaps 75 percent of that peak. Most people don't realize that.

"The Cutler-Hammer AUTOVAR is the solution to that problem. And it's a very easy installation. It's definitely worked well for us."

Return on Investment Summary

Our sales and engineering professionals have the expertise to correctly apply Power Factor Correction Capacitor Banks. Without doing this, precious financial resources will be lost. Additionally, the proliferation of harmonic generating drives, soft starters, and other nonlinear loads further complicates the problem. Installation of these products may require that the entire system be evaluated to avoid damage and additional costs.

- Asset Optimization
  Outsource the responsibility for your electrical distribution system and associated equipment to Eaton. Offerings involve shared cost savings and performance guarantees for greater focus on your core business.
- Knowledge Management
  Collect and transform your system data to useful knowledge, allow for proactive planning, energy management, optimized decision making, failure prediction and ultimately, cost savings.
- Integrated Project Solutions
  Procurement, installation and commissioning of power systems equipment; a total turnkey approach.
- Power Systems Engineering Solutions
  Power systems automation, design engineering, training, predictive diagnostics, power quality and power systems studies/analysis to decrease costs and increase productivity.
- Power Systems Modernization
  Keep your system operating at peak efficiency, reliability and safety through equipment life extension and upgrade solutions utilizing new technologies.
- New Equipment Services
  Installation, testing and commissioning of virtually any electrical equipment.
- Field Services
  Power system and equipment service, maintenance programs, testing, upgrades and aftermarket solutions; 24/7 emergency service; crisis response.

For further information, please visit our Web site at: www.EatonElectrical.com and click on Solutions and Services or contact your nearest Engineering Services office.

Eaton Offers a Complete Line of Power Factor Correction Solutions

- Low and medium voltage fixed PFC systems — available from 1 to 400 kvar for motor and small facility loads.
- Low and medium voltage switched PFC systems — available in almost any configuration for industrial and varying loads.
- Passive harmonic filter versions — available for low and medium voltage products for the growing numbers of high harmonic applications.
- Active harmonic filters — available where IEEE519 must be met.
- Transient-free static switches — available to correct fast-acting applications such as spot-welding loads.

For further information, please visit our Web site at: www.powerfactorsolutions.eaton.com

Harmonic Correction Units

Fixed and Switched Power Factor Correction Solutions

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