



Automotive Parts Manufacturer Cuts Energy Consumption by Monitoring Multiple Utilities



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As a global manufacturer of automotive parts, costs associated with energy usage were significant to the bottom line. With this in mind, the company launched a major program to cut energy expenditures worldwide. Their mission was to reduce total energy consumption by adopting the following philosophy; "You cannot control what you cannot measure." This corporate philosophy was not limited to only electrical consumption, but applied to all utilities, including water, air, gas, electric, and steam (better known as WAGES).

The scope of this project included six manufacturing facilities, with nearly identical systems. At one facility, six PowerLogic power meters had been included in a previous switchgear installation by the field engineer, giving Square D PowerLogic an advantage over the competition. At each location, PowerLogic System Manager Software (SMS) was used to gather and log data from metering devices over an RS-485 serial network. This monitoring system was comprised of Power Meters to gather electrical data, and Momentum I/O modules to gather data for other utilities. Pulses from metering devices in the water, air, gas, and steam systems were counted from the main meters. The gas meter used digital I/O, while analog I/O is used to monitor flow rates on boiler gas, steam, return, and condensate. In addition to the System Manager Software, the Engineering Services organization configured a custom paging software to notify operators when operational conditions were out of specifications. This greatly reduced the number of people needed for monitoring, and provided another cost savings opportunity.

Each of the six initial installation sites included the following:

- 1 copy of SMS-3000 System Manager Software
- 1 copy of the Paging Module software
- 12 POWERLOGIC Power Meters
- 1 Momentum analog I/O with 16 points
- 1 Momentum digital I/O with 16 points
- 1 Square D custom built panel, including an industrial PC, SPE4, and the



Momentum components.

In the end, it was the foresight of the field engineer, and dedication for the team that won the day. Upon completion of the project, the customer was left with the perception that “Square D will take care of you”, and the relationships built during this project continue today. As a result of the installations at the six pilot facilities, the company was able to realize the following benefits: Total energy costs from utilities were decreased by over \$4 million, which equated to nearly a 25% reduction over a three-year period. By reducing energy consumption, the company also reduced pollution emissions by 75%. The efficiency of the software application and Paging module allowed the customer to reduce their number of operators from 21 to 9. By automating these functions, technicians were made available for other duties. PowerLogic system information was used to identify savings opportunities and verify the outcome of energy saving initiatives, such as repairing leaks, replacing chillers, major power house modifications, and more. The regimented program of training, monitoring, and shutdown check sheets were found to typically reduce electrical loads by 10%.

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