BERT

FAIRFIELD AREA SCHOOL DISTRICT

Fairfield Area School District (FASD) prides itself on providing high-quality education to students while remaining focused on delivering high taxpayer value.

Since money spent on facilities operations or overhead cannot be spent on students, the district seeks efficiencies of every kind. One such area is plug load energy usage. Before BERT®, the district spent $440,000 annually on electricity, of which approximately $100,000 was plug loads. FASD realized plug load control would free up money for extracurricular activities, athletics, and educational supplies.

Solution

The district hired Siemens Building Technologies, a performance contracting market leader. Besides implementing major lighting and chiller upgrades and building envelope improvements, Siemens installed BERT devices for plug load control.

Devices such as classroom electronics, break room and office equipment, vending machines, and charging carts consume power 24/7, even when placed in standby mode. BERT eliminates this load by turning devices off during nights, weekends, and holidays when buildings are not in use. This translates into real savings because schools and other commercial buildings are unoccupied many more hours per year than they are open.

BERT is ideal for districts like FASD since their buildings are only occupied about 35 percent of the time. Using BERT, devices are now turned off more than 5,700 hours each year.

Project at a Glance

ABOUT

Located in South Central Pennsylvania, Fairfield Area School District is a small, rural public school district serving 1,100 students.

OPPORTUNITY

FASD wanted to save money by turning plug load devices off during nights and weekends when buildings are not occupied.

SOLUTION

250 BERT Smart Plugs with Analysis and Control

RESULTS

65%
Standby Load Reduction

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At FASD, the plug load devices are organized into logical groups for scheduling purposes. Devices are grouped by building (ES, MS, and HS) and by device type (TVs, projectors, etc.). Once devices are grouped, schedules are applied to the groups. Fairfield created unique schedules for each building because each building has different occupancy hours. Some districts also create summer schedules to turn plug load devices off entirely during summer vacation months for additional savings.

According to Howie Kessel, Director of Buildings and Grounds at FASD, "We've taken steps to reduce our heating and cooling costs. Based on the suggestion from Siemens, we're now able to control our plug loads as well with BERT. We know that cutting power to those devices lowers our electric bill."

Results

FASD reduced their overnight standby plug load energy expense by 65 percent.

The Power of BERT

When it comes to intelligent buildings, BERT controls the small things and delivers big. With 120,000 units installed in over 700 buildings, BERT's end-to-end solution typically lowers plug load expense by 40 percent, saving users over 13 million kWh annually.

Using patented technologies and the facility's existing Wi-Fi network, BERT remotely measures, analyzes, and controls plug and hardwired loads, ranging from individual 120V/15A devices to 277V/20A circuits. Frequently installed as a standalone solution, BERT delivers even greater value by integrating miscellaneous electric loads into Building Automation Systems (BAS), enabling the BAS to control all building loads and to collect additional measurement, temperature, and other building data for increased efficiency and comfort.

Learn how K-12 schools, colleges, offices, local governments, and sporting venues save money and energy by visiting bertbrain.com.

BERT's standard BertBrain software offers a robust range of functions.

CONTROL

Automatically power loads off during nights, weekends, and holidays when buildings are unoccupied. Each device, group of devices, building, or group of buildings can have unique schedules based on specific operating hours.

MEASUREMENT

Get real-time energy usage data and historical power usage by hour, day, month, year, and user-defined time-period. BERT uses measurement data to establish the Baseline Load for M&V.

ANALYSIS

Centralized server software makes analysis a breeze, with features like the BERT User Interface, a comprehensive reporting system to analyze energy consumption for schedule optimization and savings verification, and a detailed event log.

THRESHOLD

User-defined power threshold settings prevent devices from turning off until the normal shutdown cycle is complete. Every time the device is scheduled to switch off, the threshold is checked. This prevents the device from turning off until the power level falls below the threshold.

TEMPERATURE

Customers can control devices such as PTAC, AC units, and heaters using high and low temperature set points.