## Black Bear Diner in Glendale, AZ - Case Study

*Decreases Kilowatt Usage with Small Box Energy's chameleon™ Savings Needed During the Summer Months*

### OVERVIEW:

Over the summer months in Arizona, electric consumption is especially high and sales are often down. No matter the season, however, restaurants use about 5 to 7 times more energy per square foot than other commercial buildings (according to EnergyStar.com), with family dining restaurants potentially using up to 10 times more energy. In fact, energy use often ranks fourth among expenses for restaurants and convenience stores, with lighting and refrigeration taking up much of the rest.

Small Box Energy, located in Chandler, AZ, has developed a custom software platform that monitors room temperatures and provides early equipment diagnostics to reduce maintenance expenses and conserve kilowatt usage. Small Box Energy partners with some of the largest restaurant chains in the world by installing hardware that monitors temperatures for food safety and educates restaurateurs on the use of equipment that consumes the most energy; HVAC, lighting and walk in coolers/ freezers

### INDUSTRY FACTS:

According to the National Restaurant Association, a majority of operators across all restaurant segments plan to invest in energy-saving kitchen equipment, including more than 70 percent of casual-dining and fast-casual operators. Diners are also taking notice. More than 40 percent of adults say they are likely to make a restaurant choice based on an operation's conservation practices.


### THE CHALLENGE:

Black Bear Diner located in Glendale, AZ., aimed to maximize energy savings while producing quality home-style comfort food. Black Bear turned to Small Box Energy to find a solution that would provide financial relief from rising energy expenses as business volume continued to increase.

### THE SOLUTION:

Black Bear Diner chose to implement chameleon™, Small Box Energy's award winning energy management solution. Its' adaptable solution provides real-time information for better control, alarm and alert management, resulting in operational efficiency. The chameleon™ energy solution was developed for the world's largest restaurant chain and has been proven to be a turnkey solution for 26 key restaurant brands in the United States and abroad. By providing information that can be seen and measured on a dashboard, and reducing or even eliminating employees from making major temperature adjustments, chameleon makes a significant difference for its users, specifically reducing operational costs and energy consumption. For example, chameleon helps:

- Prevent food loss or spoilage with diagnostics that detect equipment maintenance needs while-

## THE SOLUTION:

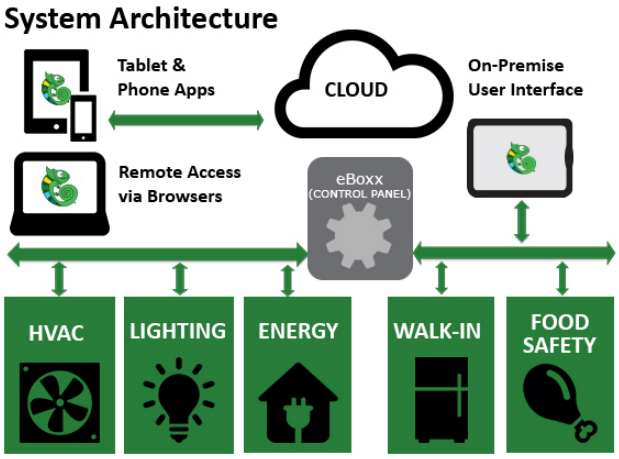
sensors detect temperature and technology controls walk-in cooler. Be alerted when equipment fails, and manage and monitor food temperature

- Keep lights from being left on 24 hours a day, with an astronomical clock that automates sunrise and sunset and photocell that manages lights on cloudy/stormy days
- Reduce temperature complaints from customers, with set points scheduled and locked through the dashboard or remotely
- Reduce the trend of rising energy costs by only consuming & paying for what is needed

## KEY RESULTS:

Black Bear Diner hoped to achieve savings and conserve kilowatt usage. Small Box Energy used sub-metering equipment to show an overall measured savings of 24 percent kWh. This test was done during the winter and is expected to have even higher results during the summer. According to Chuck Riske (Vice President, Operations) “Black Bear Diner, located in Glendale, AZ, has seen a 10% decrease on electricity expenses over the course of five months”. Many restaurants solely focus on lowering their HVAC costs, which is a large portion of an electric bill, but the chameleon™ energy solution also allows expandability to include refrigeration energy reduction, food safety, and temperature monitoring and early detection equipment diagnostics. This energy component helped Black Bear Diner exceed their energy saving goals.

## HOW IT WORKS




- Small Box Energy’s chameleon™ Energy Management System decreases total HVAC energy usage by 33%
- Through visabilty provided by chameleon™ walk-ins showed an increase by 4% due to compressor thermal overload and fan motor failure
- The system generated real-time data, creating an effective call to action for more efficient operations
- An 873 total kWh reduction = 24% – summer months will reflect a greater reduction in kWh

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