

Convenience  
Store

Business Solutions for Retail Decision Makers

# Decisions

Cost Savings,  
Convenience

Square D® IPaCS™ lighting control system  
provides both for Beachler's Servicenter



# Reducing Operating Costs Through Innovation

Lighting control system translates to enhanced convenience, savings for Beachler's Servicenter.

**M**ANY BELIEVE BETTER LIGHTING can improve retail sales. But as one business owner found out, automated lighting can not only increase profits, it can also help make running the business more convenient.

Terry Beachler, owner and president of Beachler's Servicenter & Car Wash in Peoria, Ill., discovered the validity of this concept when he investigated and eventually implemented an automated lighting control system in his third-generation business.

When his father, Bob Beachler, opened Beachler's Standard in 1951, it was a simple two-bay service station. Terry Beachler began working there to learn automotive repair in 1958, two

years before graduating from grade school. Even then, lighting, and operating costs in general, were a challenge.

"In those days, every time we opened and closed we had to turn the lights on and off manually, and there were many times I forgot," Beachler said. "We were constantly working to organize the lights and color-code the circuit breakers. We watched other businesses and how they managed their lighting, but it seemed there was no perfect answer."

In 1984, Beachler and his brother, Don, assumed care of the family business, which grew over the years to include a five-bay service center, convenience store and PDQ LaserWash car wash business. Like many service centers and convenience stores, the biggest

challenge Beachler's faced regarding lighting was the unreliability of manual management. Sometimes canopy lights were left on in the morning, wasting energy and money; occasionally, the bay lights were left off in the evening, giving potential customers the impression that the business was closed.

But, Beachler said, once he started looking into reliable solutions, options became available. After the requisite due diligence, he partnered with Schneider Electric to introduce the Square D Integrated Power and Control Solutions (IPaCS) Lighting Manager-5CB lighting control system. The system provided immediate cost savings. But convenience was also a big key, particularly for his employees.

"At our business, there is one cashier on duty for the convenience store, and that cashier is fairly limited in being able to go out to the parking lot or the car wash to make sure the right lights are turned on or off," Beachler said. "It's especially frustrating when you're open for business and you give the impression that you're really not."

## SEEKING A LIGHTING SOLUTION

In 2002, Beachler began looking for a lighting control solution that wouldn't force his cashier to leave the convenience store unattended to inspect and adjust lighting. When visiting a friend's store in nearby East Peoria, he found it.

It was there that he discovered the concept of an automated lighting control system. His friend's description of how it was capable of handling light-



In 1984, Terry Beachler (right) and his brother, Don, assumed care of the family-owned Beachler's Servicenter, pictured here with son, Brett, who manages the service operation.



## Power Surge

Billing date	Total electric bill	kWh used per day	Lighting cost per day	Cost per kWh	% change in kWh usage per day	Monthly cost savings compared to previous year
1.15.2003	\$1,273.00	607.06	\$37.44	0.062		
2.14.2003	\$1,308.00	666.67	\$43.60	0.065		
3.17.2003	\$1,170.00	628.97	\$40.34	0.064		
<b>4.14.2003</b>	<b>\$1,038.00</b>	<b>542.86</b>	<b>\$37.07</b>	<b>0.068</b>	<b>-0.127</b>	<b>\$123.00</b>
5.14.2003	\$1,068.00	495.00	\$33.38	0.067	-0.203	\$17.00
6.16.2003	\$1,246.00	510.97	\$40.19	0.079	-0.175	\$185.00
7.16.2003	\$1,326.00	557.50	\$41.44	0.074	-0.136	\$175
8.14.2003	\$1,276.73	579.31	\$44.03	0.076	-0.125	\$154.27
9.17.2003	\$1,427.02	585.88	\$41.97	0.072	-0.100	\$18.98
10.11.2003	\$887.22	513.33	\$36.97	0.072	-0.146	\$299.78
11.13.2003	\$1,061.54	523.87	\$34.24	0.065	-0.096	\$50.46
12.16.2003	\$1,144.15	567.50	\$35.75	0.063	-0.061	-\$0.15
1.19.2004	\$1,187.00	569.41	\$34.91	0.061	-0.062	\$86.00
2.17.2004	\$1,150.00	637.24	\$39.66	0.062	-0.044	\$158.00
3.17.2004	\$1,089.09	608.57	\$38.90	0.064	-0.032	\$80.91

### ELECTRIC BILL SAVINGS – YEAR 1

**\$1,348.25**

Yellow row indicates month Square D iPaCS Lighting Manager-5CB was purchased. Variables include rate fluctuations and weather conditions that predicated less or more heating and cooling.

Beachler chose to implement six total lighting zones at the business, all of which control exterior lighting. The areas with simple lighting needs, such as the convenience store interior and service bays, are controlled with manual switches, but for the other areas he set up zones with specific lighting programs. There are two zones for the large signs that identify the business; two more for the islands with the gasoline pumps; and two more for the building exterior, which includes perimeter lights around the edge of the property, along with soffit and fascia lights.

"The two zones for the large signs up front include a sign that is on any time it's dark and our logo sign that goes off at the close of business," Beachler said. "There is also a sign for our service operation, which we turn off from midnight to 6 a.m., and perimeter lights that turn on when it gets dark and are turned off from midnight to 6 a.m."

Since unattended fueling is available on two of the six pumps from midnight to 6 a.m., two-thirds of the canopy lights are shut down automatically. With the lighting control system, employees never need to manually turn on or off an exterior light.

Sometimes lighting controls need to be more adaptive than simple schedules executed by an electronic or mechanical time clock. That's why Beachler chose to integrate ambient light-level sensors into his system. When

ing based on time, sunrise and sunset, and hours of operation was the impetus for Beachler to investigate a similar system for his own establishment.

Beachler said. "The biggest criterion for choosing a lighting control system was the ability to control the lights by more than just the time of day. Purchase cost was an issue, of course, but capabilities that matched our needs were more important," Beachler said.

The lighting system had the automated lighting control Beachler was looking for to save energy, reduce elec-

trical costs and maximize efficient operation of his lighting loads. He was able to replace many manual controls with a single-enclosure solution that uses ambient light sensing, digital controls and power switching of lighting circuits.

### INSTALLING THE SYSTEM

In April 2003, Beachler installed the Square D iPaCS Lighting Manager-5CB lighting control system. With lighting panels already in place, installation and system programming took less than a day.

inclement daytime weather creates night-like light levels, the system automatically activates sufficient lighting. It also gives his business a decided edge in those situations.

"If there is a thunderstorm, the competition's lights don't come on when the sky gets dark, but we're automatically illuminated and people know that we're open," Beachler said. "With the Lighting Manager-5CB system, the lighting automatically goes on, and then off when the storm passes, which helps make us look better than the competition."

Likewise, with the sunrise and sunset time changing each day, Beachler knows his system has technology built in to adapt automatically to turn lighting on or off at precisely the



**Changes to Beachler's Servicenter's lighting schedule can be made without even opening the control box.**

right time. Changes to the lighting schedule can be made without even opening the control box. Using a password-protected keypad on the front of the control box, Beachler can make changes to the time schedule, adjust brightness levels, or alter a host of other variables in minutes.

## ENJOYING THE REWARDS

It only took about a year for Beachler to see complete return on his investment in the Square D IPaCS Lighting Manager-5CB system. Beachler estimates his monthly electrical bill would be up to 15% higher, or roughly \$100 to \$200 per month, without the system.

But while monetary savings is definitely important, there's a practical side to it as well, which, Beachler added, can lead to increased sales. "Lights are on and off when they're supposed to be. Having the main signs lit up all the time sends the message that we're open," he said. "Being able to create lighting scenes when it gets darker makes the business look more attractive."



# IPaCS

Integrated Equipment

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