

Supermarket cuts anti-condensate heater energy consumption by 40 percent



Result

- Utilized emerson anti-condensate heater controllers to modulate case door heaters according to ambient dewpoint
- Reduced equipment runtime by 40 percent without affecting case performance
- Saved 2,559 kwh in two weeks at pilot store, expect annual savings of over \$8,000

Customer

A leading supermarket chain with more than 1,300 stores operating under various retail banners across Canada.

Challenge

The customer wanted to reduce the energy consumption of their glass door refrigerated cases without affecting product visibility or heater asset life. The energy saving properties of glass doors are attractive, but the door heaters that prevent condensation constantly consume energy, often when no heating is actually required.

Summary of results

ENERGY SAVINGS



2,559 kwh
Actual for 2 weeks

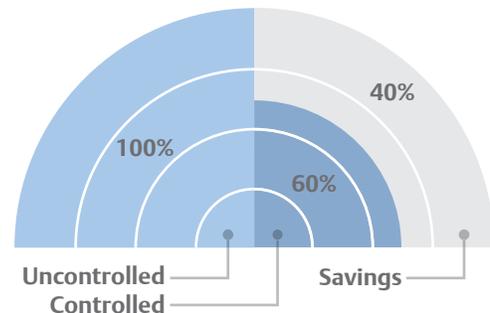
83,400 kwh
Annually

COST SAVINGS



\$8,340
Projected annual

Controlled vs uncontrolled runtime comparison



Uncontrolled door heaters ran nonstop, while the controlled ones ran only 60% of the time on average. That's an average savings of 40%.

Solution

Emerson's Control Link™ Anti-Condensate Controller provides optimum control of glass door heaters through patented closed loop algorithm. The Control Link ACC continually monitors ambient conditions and turns door heaters On/Off as necessary to keep door frame temperatures at a set differential above the dew point.

High speed solid state switching within the Control Link ACC permits continual adjustment of the door and frame heaters to minimize heater operation while maintaining a dew-free case. Not only does reducing heater runtime reduce energy consumption, but it also extends the asset life by reducing wear and tear.

Emerson personnel installed Control Link ACCs on 20 cases in a store in Halifax, Nova Scotia to assess the savings potential of optimizing anti-condensate door heaters. In just two weeks in the early summer of 2011, the store had saved 2,559 kWh. The controlled anti-condensate door heaters ran only 60 percent of the time and were shut off when the ambient dew point fell.

This savings rate will increase in winter months when dew points are lowest and could result in annual savings of \$8,340.

As a result of this successful program, the company is expanding their installation of Emerson Control Link Anti-Condensate Case Controllers and is monitoring their operations through their installed network of E2 Energy Management Systems.

Process

The improvement process begins with a rigorous analysis of your enterprise energy data. Emerson engineers review/analyze your operations for savings opportunities and design a curtailment program consisting of technology and services that fits your desired level of savings. Once your energy strategy and savings expectations have been set, Emerson will execute the program and monitor results.

“As a result of this successful program, the company is expanding their installation of Emerson Control Link™ anti-condensate case controllers.”



Control Link™ Anti-Condensate Controller

How Emerson improved the efficiency of the client's energy consumption

