

Major supermarket chain reduces case heater energy usage by 52%

Results

- Energy expenditure from heater operation was reduced by 52 percent
- High speed solid state switching eliminated electrical noise, thereby reducing stress and wear on the heaters
- Case displays were unaffected by the reduced heater operation and continued to provide the same benefits of full heater operation at a fraction of the cost

Application

A Control Link® anti-condensate controller (ACC) was installed in each of two 3.6 meter, five-door full-height glass cabinets, selected to provide archetypical insight for the industry. An E2 system was installed with power monitoring and networked to the Control Link ACCs. Remote connectivity was achieved through the use of GPRS. To achieve a baseline for measuring results, the cases' anti-sweat heaters were monitored for five days before the Control Link ACCs were enabled.

Customer

Morrisons, the 4th largest supermarket chain in the UK, with more than 450 stores

Challenge

The energy-saving properties of glass door refrigeration cases have caused the recent rise in their use across retail facilities, but their anti-condensate heaters can expend a lot of unnecessary energy in preventing case sweating. With refrigeration equipment-related costs already accounting for 65% of typical supermarket electricity expenditure, retailers like Morrisons must look for simple ways to save energy across their operation.



“We have saved what we expected to save and encountered very few problems with installation. With this controller, we find we can save more energy because of the door frame sensor. I chose it above competitors for this reason.”

Steve Davies
Regional Refrigeration and Energy Manager
Morrisons Supermarkets

Solution

Emerson's innovative Control Link® ACC provides optimum control of glass door cabinet heaters through a patented closed loop principle. The Control Link ACC continually monitors conditions and maintains the cabinet frame temperature at a predetermined differential above its dew point. High speed solid state switching within the Control Link ACC eliminates electrical noise, but permits the continual adjustment of the door and frame temperature to minimize heater operation without compromising the product display. Retailers gain energy savings that far surpass EISA legislation requirements and competitor offerings. Additionally, connecting the Control Link ACC to Emerson's E2 facility control system elevates the value proposition even further above competition, ensuring maximum savings that will be preserved.

Results were immediately apparent as displayed in **Figure 1**. The reduction in heater operation allowed 52 percent energy savings while the strategic operating pattern prevented the window from steaming up and



interfering with product display. As a result of this study, the supermarket decided to install 5,500 Control Link ACCs throughout their chain. Regional Refrigeration and Energy Manager Steve Davies said that other controllers on the market had not provided comparable savings to the Control Link ACC. Nearly three years later, they are still pleased with the results.

Since the case study took place, the Control Link ACC has been redesigned for additional functionality and increased ease of installation.

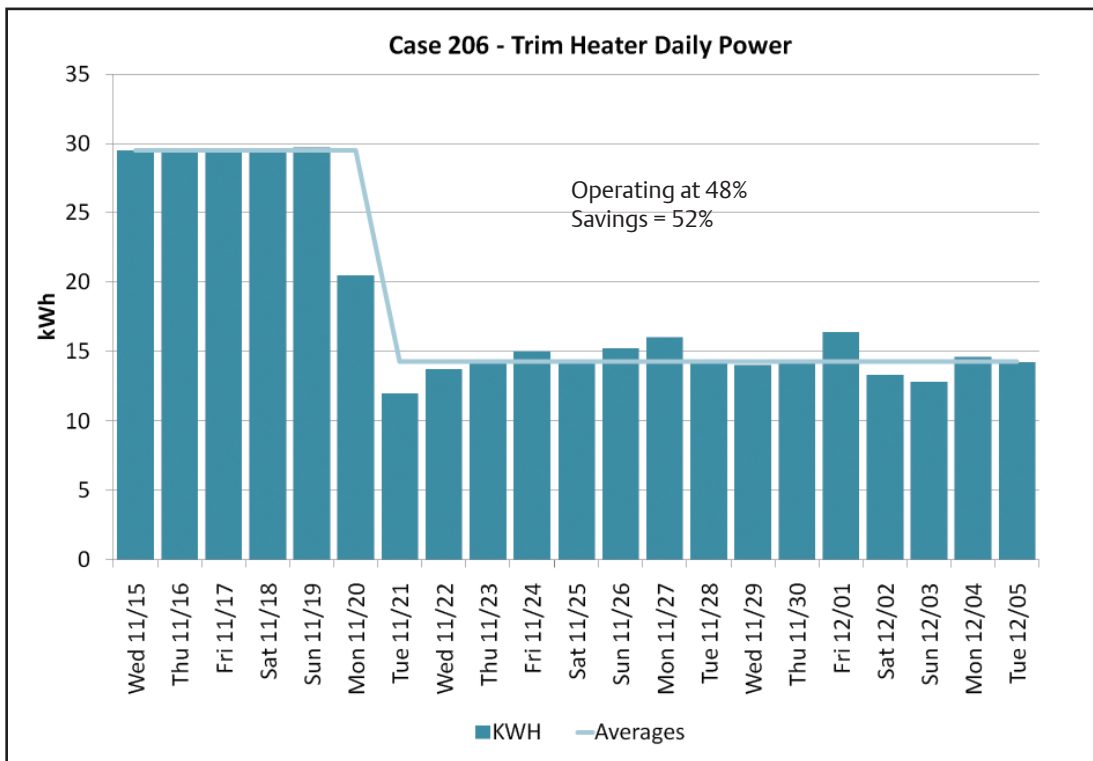


Figure 1

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