

Case Study - Food Retail

French retailer **saves up to 46 %** on the energy bill

By integrated control of refrigeration, HVAC and lighting, leading French retailer saved 46 % on the energy bill during nighttime and weekends, and 20 % during daytime. The integrated control system has now been implemented in more than 700 stores across France.

Substantial energy savings with integrated store control

Every cent saved on the energy costs of the supermarket contributes to the bottom line. But what does it take to achieve the savings, what installations are most efficient and what is the pay-back time? A leading French retailer set out to find the answers to these questions and many more in one of the chain's discount stores before implementing the solution company-wide.

In close cooperation with Danfoss, the retailer installed frequency converters on the pack and introduced integrated electronic control of evaporators, cold rooms, air conditioning, heating, and lighting inside the supermarket and outside on the parking lot.

"We took a major step with the Smart Store installation at a demo-store in France and proved that by adding few and simple technologies you can achieve significant energy savings. Since then, the interest in the smart solution has been large, and by now we have fitted more than 700 stores with similar solutions", says Serge Louvet, Sales Director for Food Retail solutions in France.



Simple solution with a pay-back time of less than one year

BEFORE Smart Store installation	AFTER Smart Store installation
<ul style="list-style-type: none"> • Store lighting: manual by switch • All lighting is turned on from the arrival of staff and for the whole day, even during the midday close • No light zoning • Continuous lighting of parking lot during night • Cooling not optimized: despite the presence of curtains on the cabinets, the set points were not lowered at night • The floating HP was not activated and the pack was oversized in winter and mid-season 	<ul style="list-style-type: none"> • Variable speed installed on existing compressor and condenser, enabling floating HP setting and night set-point modification • Existing controller replaced by SC 255 for integrated control of refrigeration, light and HVAC • Light zoning introduced inside store and on parking lot • Reversible heat pump runs based on scheduled hours and thresholds (high in winter and low in summer) linked to the outdoor temperature

The savings:

The tests returned average energy savings of up to 46 % during night time and weekends, and up to 20 % during daytime.

"The test installation in France has proved that new pack control and variable speed on compressors and condensers combined with integrated control of all electrical installations in the supermarket return substantial energy savings without compromising food safety or shopper convenience. We are glad to see the solution replicated in many stores today in order to save energy and tackle the global warming caused by excessive energy consumption", ends Serge Louvet.

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