

# Supermarket cuts heating energy consumption by 16% with RCB pulse



## Result

- Reduced power consumption and minimized rapid compressor cycling, resulting in energy savings of 16%
- Maintained customer comfort
- Applied network solution with remote logging and programming for each facility
- One month test application in two stores shows potential for significant savings when implemented year-round across all locations

## Customer

A regional supermarket chain with more than 190 stores in the United States.

## Challenge

Reduce the energy consumption of their HVAC system without affecting customer comfort. They also wanted to implement a networked solution with remote logging and programming capabilities.

## Summary of results

### ENERGY SAVINGS



**16%**

One month reduction



**4,480 Therms**

Reduced heating energy consumption

### COST SAVINGS



**\$9,851**

Annual savings



**2**

Stores

## Solution

Emerson's Multiflex Rooftop Control Board with pulse capabilities (RCB-P) provides optimum control of heating and cooling stages through a patented closed loop algorithm. The RCB-P continually monitors HVAC supply air temperature and pulses heating and cooling stages on/off as necessary to reduce energy consumption while maintaining customer comfort and minimizing rapid compressor cycling.

Unlike traditional control methods which utilize only space temperatures to determine when to turn on heating, the Multiflex RCB-P monitors supply air temp and other system parameters to ensure maximum efficiency. For example: the RCB-P will not pulse while the system is in a dehumidification state or when the compressor has recently been turned on/off. Additionally, when used in conjunction with an E2 energy management system, the Multiflex RCB-P can be remotely programmed and commissioned.

The customer identified four stores with similar operating characteristics and had Emerson personnel install Multiflex Rooftop Control Boards with pulse capabilities on 25 rooftop units in two of the stores to assess the savings potential of optimizing compressor staging during heating periods. Results will also be applicable to cooling staging during the summer.

“ As a result of this successful program, the customer is expanding their installation of Emerson Multiflex RCBPs and are monitoring their operations through their installed network of E2 Energy Management Systems . ”



Multiflex Rooftop Control Board - Pulse (RCB-P)

### How Emerson reduced heating energy consumption for the client

