

ACC

Issue: 03/12

Anti-Sweat Heater Control

Why continue to waste energy on unnecessary heating of refrigerated cases with glass doors, when the ACC can provide immediate savings. The ACC will dramatically reduce energy consumption by regulating the power output to the anti-sweat heaters and still prevent condensation.

Heaters are installed into refrigerated display cases with glass doors to prevent condensation forming on the frame and glass. The heaters are typically unregulated and irrespective of the ambient humidity and temperature the power demand remains constant.

The ACC will dramatically reduce energy consumption by regulating the power to the anti-sweat heaters by maintaining the surface temperature at a fixed differential above the local dew point. The net result is reduced power consumption without condensation. Typical annual savings of between 40% and 60% are achieved in stores installed with the ACC.



The onboard processor calculates the required heater 'on' time based on the dew point and door temperature readings and modulates the output from the on board Triac accordingly.

Technical Overview

Each display case is fitted with a temperature sensor which monitors the frame temperature and is wired back to its respective ACC controller. A dew point sensor, typically located above the cases, measures the temperature and humidity from which the dew point is calculated. The dew point sensor is wired directly to an ACC controller however the data can be shared across multiple ACC devices by installing a communication cable.

Each ACC will modulate the anti-sweat heaters to maintain the frame temperature at a fixed differential above the dew point temperature. The high frequency pulsing of the power prevents damage to the heaters which can occur with competitors products when switched at low frequency. The switching is undertaken at the zero volt crossover of the power cycle to eliminate electrical noise.

ACC controllers can be networked to the E2 controller or operate autonomously. When networked to an E2 the temperatures, humidity and duty cycle can all be monitored remotely.

Features at a glance

- » Instant energy savings with fast pay-back
- » Easy to install
- » Minimum power for maximum benefit
- » Local dew-point calculation
- » Door/frame temperature measurement
- » Savings and performance visible through hand terminal or remotely via E2 supervisor

