CASE STUDY

storeconnect

StoreConnect's Defrost Recovery Algorithm Feature

Provides Predictive Intelligence to Future Defrost Failures in Commercial Refrigeration Equipment

THE MARKET CHALLENGE

Commercial refrigeration equipment should perform at optimal levels, which are typically programmed during commissioning and recommissioning events. However, during the course of service and the asset lifetime, defrost applications, setpoint application and asset product strategies may have shifted, leaving the asset performance in question. When a case does not come back to setpoint after a defrost, there can be serious consequences to products, quality, service and uptime.

StoreConnect's Defrost Recovery feature was developed to address the challenges in the refrigeration industry pertaining to defrost issues:

Lack of Time and Resources

- Retailers have tight schedules and operating hours, along with limited resources that do not leave room for commercial refrigeration equipment failure, especially failures that have an impact on product and shopper experience.

Multiple Alarms a Day

- On average, retailers are faced with hundreds to thousands of refrigeration system alarms a day that are not easily identifiable, causing unnecessary stress and panic. StoreConnect needed to find an easy way to predict problems in order to limit the high frequency of last-minute alarms.

Defrost Equipment Failures

- One of the most common issues with commercial refrigeration is defrost equipment failure, leaving retailers with less than ideal visual merchandising conditions and potential expenses due to damage. WHY NOT GET IN FRONT OF FAILURES?

THE STORECONNECT SOLUTION

To address these challenges, StoreConnect implemented the Defrost Recovery Analysis feature to the existing line of critical refrigeration algorithms in the solution today.

Monitoring Temperature

Over a period of time, Defrost Recovery Analysis monitors and trends multiple data points, covering many different asset defrost periods. StoreConnect delivers a notification to users if the analysis suggests that an ice build-up or maintenance issue exists. Upon discovery of an issue, a notification is immediately sent to technicians, allowing technicians to quickly arrive to fix the issue before any controller alarm or major product issue is ever exposed.

More information on back.

DEFROST RECOVERY ANALYSIS EXAMPLES

Examples of real situations that Defrost Recovery Analysis quickly solved:

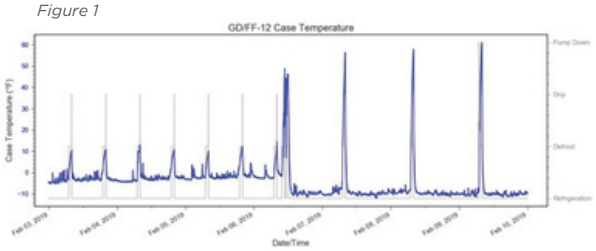
EXAMPLE 1:
Upon notification of a case not returning to the setpoint, technicians discovered a case evaporator had significant ice build-up due to a plugged drain. After clearing the drain, the case temperature returned to normal.

EXAMPLE 2:
Upon notification of a case not returning to the setpoint, technicians found a case coil had been partially iced over. Afterwards, they checked the defrost operation and found that the output fuse for the contactors was blown due to a shorted wire in the defrost termination switch. (See Figure 1)

EXAMPLE 3:
Upon notification of a case not returning to the setpoint, investigative work revealed that store employees kept the door to a freezer case open for hours after use. Technicians then installed door sensors to help eliminate this behavior.

EXAMPLE 4:
Upon notification of a case not returning to the setpoint, technicians found the top gravity coil of a freezer case iced up because the EEPR valve was not closing fully. After resetting the valve, it began to close properly, and the ice build-up melted.

Figure 1



The Case Temperature graph for the case in Example 2. Before February 6th, the case would not reach above 10 ˚F during defrost and high temperatures during refrigeration, indicating an ice build-up. After the technician cleared the ice build-up and replaced the output fuse, the case temperature during defrost would return to expected levels.

THE RESULTS

STORECONNECT'S DEFROST RECOVERY ANALYSIS HAS PROVEN TO PROVIDE AN ACCURATE, REAL-TIME SOLUTION TO THE CHALLENGES WITH DEFROST STRATEGY OR EQUIPMENT NOT WORKING PROPERLY.

The automated monitoring and reporting of the algorithm isolations feature means less critical equipment down notifications and more conditioned based maintenance activities. When the system alerts that the asset is failing to defrost, technicians are quickly dispatched to fix the issue. Technicians are prepared with vital asset data to resolve the issue during the first trip, meaning the retailer experiences less down time of revenue generating assets and potentially reduced service fees. Defrost Recovery provides the tools needed to extend operating life of store equipment and properly maintain temperature of refrigeration cases for optimal product life.

BECOME A PART OF THE STORECONNECT SOLUTION TODAY!

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