

Keep Your C-Store Grab-and-Go Food Fresh

Convenience store customers tend to be short on time and quickly look for their favorite drinks, snacks, and small meals. They're often in a hurry to quench their thirst and hunger. Even in their rush in and out of your c-store, people don't want to sacrifice quality. They expect your food to be unquestionably safe to eat and satisfy their cravings.

To create loyal customers in these speedy shoppers, c-store managers must make food displays appealing at a fast glance and make sure their grab-and-go food and drink stay fresh and delicious. See how Wireless Sensors help convenience store managers remotely monitor refrigeration and freezer temperature and facility operations 24/7 using innovative solutions connected to the Internet of Things (IoT).

Spoiler alert: The ROI is significant, considering the franchisee's stores could now save thousands of dollars by preventing spoiled food and drinks. They did it with data from a wide variety of fast-install IoT sensors and meters. The solution is all easily managed using an online dashboard on a smartphone or computer. Plus, alerts via email, text, or call.

Challenges

The manager of a popular convenience store chain franchise had display coolers with varying temperatures that were causing produce and packaged food to warm up. He wanted to:

- Understand what was happening technically inside his refrigeration units.
- Maintain proper temperatures for the food and drinks in all of his coolers.

Recent inventory audits showed that spoilage of the c-store's produce and packaged food was increasing. Employees were providing most of the only feedback to management about how the coolers were performing. When they stocked the coolers, sometimes employees would report that the food already on the shelves didn't feel as cold as they thought it should be.

The manager admitted this intermittent manual monitoring didn't align with the chain's food safety standards and health regulations. He recognized that they might not be complying entirely with the Hazard Analysis Critical Control Point (HACCP) food safety management mandates of the U.S. Department of Agriculture (USDA). Plus, he knew that their process of manually tracking temperatures was not enough to protect them against the possibility of inventory loss.

Store management wanted:

- A more robust and reliable way to monitor refrigerator and freezer temperature and predict maintenance.
- A solution to alert them so they could implement a backup plan sooner when a temperature wasn't right, a cooler compressor malfunctioned, or another part needed repair or replacement.

They ultimately decided the store needed the automated Remote Monitoring Solution to track cooler, freezer, and food temperatures, fully comply with all critical food safety requirements, and streamline store operations using actionable data.



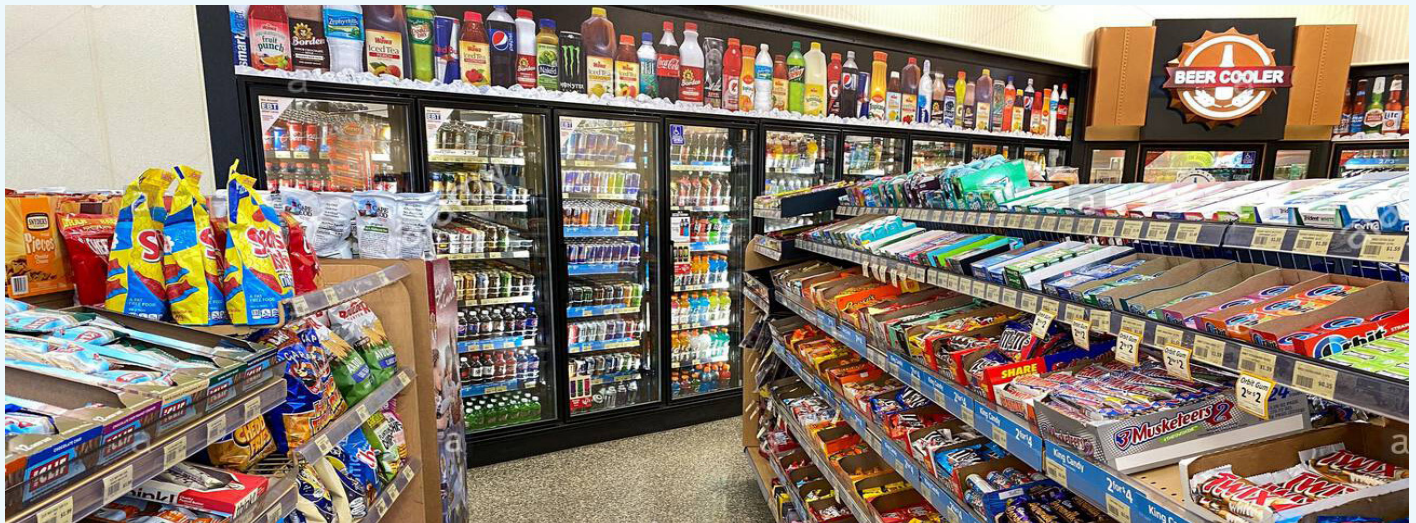
Solution

The convenience store manager self-installed:

- Leaded Temperature Sensors under the coolers' display edge—making them inconspicuous—with temperature probes running to hard-to-reach areas
- Temperature Sensors outside of walk-in coolers and freezers with temperature probes running between door seals and attached inside
- Open-Closed Sensors on cooler and freezer doors to alert staff if they were ajar
- The Wireless Sensor Management and Remote Monitoring Software on staff smartphones and computers
- A gateway at one end of the store to protect and communicate data sent to and from sensors

Sensors sent data wirelessly to the gateway, then the gateway aggregated the data and sent it to the Wireless Software. The Temperature Sensors were set up in the software to check and record temperatures every 15 minutes. The manager set up notifications to alert staff when any door wasn't shut and when temperature readings rose above preset limits, allowing staff to respond immediately.

We helped the store add its Food Probe Sensors, AC Current Meters, and Water Detection Sensors to create a more comprehensive convenience store management solution.



Results

We recommended that the store manager place Wireless Temperature Sensors at various locations within the display coolers. Doing this allowed the manager to monitor temperature and determine if there were variances between areas in the coolers. Soon after the Temperature Sensors were connected, the solution alerted staff about a produce cooler having warmer spots than others.

Confirming this situation based upon sensor placement helped the staff rearrange various products according to storage temperature recommendations. They could now strategically and significantly reduce food spoilage and waste.

Three months later—the store saved even more—when a Wireless Sensor alerted the manager of rising cooler temperatures caused by a faulty compressor. Employees quickly moved the cooler's inventory to another one before the maintenance problem caused any spoilage. This event led the franchisee to deploy additional Remote Monitoring Solutions in his other convenience stores.

Using our comprehensive monitoring solution, the C-store franchise management can:

- Avoid potential product spoilage by using Temperature Sensors in their coolers and freezers.
- Be alerted if doors are not closed properly, preventing temperature fluctuations.
- Automatically track and document food storage temperatures per regulations.
- Minimize costs related to spoiled inventory and waste removal.
- Maintain food, staff, and customer safety procedures across store operations.

ROI: After only a couple of days using the Wireless Solution, store managers optimized their temperature monitoring and saved thousands of dollars by avoiding food spoilage and better managing cooler maintenance.

With the new Remote Monitoring Solution in place, the stores also improved and automated data-logging practices to comply with Title 21 Code of Federal Regulations Part 11B from the U.S. Food and Drug Administration (FDA). Our Temperature Sensors deliver reliable readings that are authentic, encrypted, and confidential.

We helped ensure store sensor readings and records were secure and logged appropriately via automated data-logging to the cloud for easy access and retrieval. Our solution also helped the franchisee meet the temperature requirements of its HACCP compliance program.

Sensors and Meters Help Turn Convenience into Better Business



1

Temperature Sensors

Standard Temperature Sensors measure a range of conditions from -40°C to +125°C (-40°F to +257°F), and our Low Temperature Sensors monitor -200°C to +162°C (-328°F to +325°F) with easy auto data-logging and graphing.

2

Open / Closed Sensors

You can know in an instant if a freezer, cooler, or refrigerator door has been left open. Our Open-Closed Sensor is ideal for lids, windows, and gates too. Keep all your food storage and restricted areas safe.

3

Food Probe Sensors

When you're working on getting good food into your customer's hands fast, temperature checks need to be quick and accurate. Our Wireless Food Probe Thermometer can do it and is 21 CFR Part 11B and HACCP compliant.

4

AC Current Meters

It's easier to know if your C-store equipment needs maintenance with an AC Current Meter. Available in 20-, 150-, and 500-Amp options, you can monitor abnormal power draw and fix it before failure.

5

Water Detection Sensors

A Wireless Water Detection Puck or Wireless Water Rope Sensor can help you keep employees and customers safe from slips and falls. And they can help prevent damage from a plumbing leak.

02/2021

