

# Prevent Food Spoilage and Food-Borne Illness Across Your Production

For production processes in perishable food manufacturing, maintaining proper food, storage, and environment temperatures is critical. A simple mistake—such as not shutting a door—or a refrigerator unit’s malfunction can cause an entire batch to perish.

Dairy products, in particular, are among the foods that can be at medium to high risk during manufacturing. Milk is nutritious food in all of its forms, but it has a short shelf-life, and you must handle it with care during processing and storage. Dairy foods can be highly perishable because they can grow microorganisms—mainly bacterial pathogens—that can produce spoilage and disease.

See how Monnit® helps [perishable food manufacturers remotely monitor](#) temperature and facility operations 24/7 using innovative solutions connected to the Internet of Things (IoT).

***Spoiler alert: The ROI is significant. A perishable dairy product manufacturer could now save tens of thousands of dollars by preventing spoilage due to temperature damage. They did it with data from fast-install IoT sensors and meters. The solution is all easily managed using an online dashboard on a mobile device or computer. Plus, alerts via email, text, or call.***

## Challenges

A large dairy product manufacturer called Monnit about fluctuating temperatures within one of its environmentally controlled processing areas. According to FDA guidelines, the facility manually monitored temperatures. At set intervals, employees recorded the room’s temperature, and they discovered a trend of how quickly the area’s climate could change. Employees found that the main door wasn’t sealing when they left the room, causing the temperature to rise in a short amount of time.

The incident resulted in the loss of product for the entire room—tens of thousands of dollars in value. Production leaders decided they wanted to:

- Implement a reliable temperature monitoring system to alert their managers if temperatures were out of compliance instantly
- Automatically track and record temperatures in their regulation logs using a customized solution to human error and fast-changing temperatures.

Company managers realized that their process of manually tracking food, equipment, and environment temperatures was not enough to protect them against the possibility of inventory loss. Management was also concerned that even slight deviations from manual processes might move them away from the [Hazard Analysis Critical Control Point \(HACCP\)](#) food safety management mandates of the U.S. Department of Agriculture (USDA).

They ultimately decided the company needed automated Monnit Remote Monitoring Solutions to track temperatures, log and report data, and streamline production using actionable data.



## Solution

The company's facility managers self-installed:

- A system of Temperature and Humidity Sensors in its temperature-controlled rooms and production areas and its cooler, freezer, oven, and other cooking units
- Food Probe Thermometers in its food production areas
- Open-Closed Sensors on facility doors to alert staff if they were ajar
- The iMonnit Sensor Management and Remote Monitoring Software on manager smartphones and computers
- A gateway to protect and communicate data sent to and from Monnit Sensors

Sensors sent data wirelessly to the gateway, then the gateway aggregated the data and sent it to the iMonnit Software. The sensors were set up in iMonnit to check temperatures every few minutes and record data every 10 minutes. Managers set up notifications to alert them when doors weren't shut and when temperature readings went out of preset limits, allowing staff to respond immediately.



## Results

The dairy manufacturer made an immediate return on its investment in Monnit Remote Monitoring Solutions. Within the first month alone, the system alerted staff of three separate incidents that could have cost the company possibly three times as much as it lost before implementing Monnit Solutions. Plus, the prevention of a single incident saves them more than 20 times the cost of their investment in temperature and facility access monitoring.

Using Monnit's comprehensive monitoring solution, the business can:

- Avoid potential product spoilage by using sensors in its temperature-controlled production areas.
- Be alerted if doors aren't closed properly, preventing temperature fluctuations.
- Automatically track and document processing area temperatures per FDA requirements.
- Ensure that dairy products within and leaving its facilities stay within required temperature parameters.

**ROI:** After only a couple of days using the Monnit Solution, managers optimized their remote monitoring. Most importantly, they could save thousands of dollars by avoiding food spoilage.

With the new Monnit Remote Monitoring Solution in place, the company also improved and automated record-keeping practices to comply with [Title 21 Code of Federal Regulations Part 11B](#) from the U.S. Food and Drug Administration (FDA). Our Temperature Sensors delivered reliable readings that are authentic, encrypted, and confidential. We helped ensure sensor readings and records were secure and logged appropriately. Our solution also helped the company meet the temperature requirements of its HACCP compliance program.

# Monnit Sensors and Meters Help Keep Food Production Temperatures Safe



1

## Standard and Digital Temperature Sensors

Perfect for walk-in coolers, freezers, refrigeration, and any temperature-controlled environment, Monnit Standard and Digital Temperature Sensors measure a range from -40°C to +125°C (-40°F to +257°F). These Temperature Sensors are easy to install in 15 minutes or less.

2

## High Temperature Sensors

Monitor and log the commercial and industrial ovens' temperature in food production facilities with Monnit High Temperature Sensors. These robust sensors can sense within a span of -50°C to +370°C (-58°F to +700°F) to track high-temps during food processing.

3

## Food Probe Sensors

When you're working fast on the production line to create dairy foods, temperature checks need to be quick and accurate. Our Wireless Food Probe Thermometer can help you do it and is 21 CFR Part 11B and HACCP compliant with automated data logging.

4

## Humidity Sensors

The scientific-grade Monnit Humidity Sensor remotely monitors relative humidity (RH) with a +/- 3% accuracy (between 10–90% RH), temperature, and dew point in facilities. Available in Wireless and PoE options to instantly alert you via text, email, or call.

5

## Open / Closed Sensors

You can know in an instant if a production room or facility door has been left open. Keep all your food, equipment, and restricted areas safe. Our Open-Closed Sensor features a switch and trigger magnet to detect open-close status. It's ideal for lids, windows, and gates too.

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**MONNIT**

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