Improve Food Delivery Safety and Quality with the Help of Zebra Electronic Temperature Sensors

Temperature-monitoring solutions for food manufacturers, distribution centers, grocery deliveries and more

Food delivery has undergone incredible changes. Deliveries have expanded beyond shipping food to distribution centers, grocery stores, restaurants and other end customers. Today, food shipments include grocery stores providing home deliveries and buy-online-pickup-in-store and curbside options. Companies also ship food via mail direct to customers. In every delivery of temperature-sensitive food products, temperature monitoring is crucial. Otherwise, companies risk failing to meet compliance, delivering unsafe food and potentially causing food-borne illnesses, incurring customer dissatisfaction and increasing overall costs.

Objectives

- Increase temperature-monitoring visibility and accuracy
- Speed delivery workflows
- Automate data collection for reporting and analysis
- Improve customer satisfaction and confidence

Challenge

Preconfigured, USB-based temperature sensors increase manual tasks, slow delivery workflows, prohibit continuous monitoring, limit application uses and increase device inventory costs.

Zebra's Solution

Zebra's electronic temperature sensors are wireless, Bluetooth®-enabled devices that give food delivery providers more monitoring control, smarter access to temperature data, and greater management capabilities for every temperature-sensitive food shipment, whether shipments involve refrigerated trucks or food coolers.

Other Solutions Introduce Risk and Slow Workflows

USB-based temperature sensors monitoring food transported in refrigerated trucks, food coolers or packages, and manual thermometers used in storage applications both introduce unnecessary and preventable risk, while slowing down what could be speedier, more accurate processes.

Manual Readings for Storage Applications Give Temperatures Only at One Point in Time

Manual readings cannot identify excursions between readings. If excursions occur and were corrected (e.g. if a refrigeration unit lost power but regained power in time to cool the unit to desired temperatures), the manual reading would not identify the past excursion, leading to potential oversite of product damage.

USB-Based Temperature Sensors Require Physical Connection to a Computer

Drivers often do not have computers in their trucks, and so excursions in refrigerated trucks or food coolers can only be identified after sensors are returned to an office location for download, possibly long after products have been exposed to non-compliant temperatures. Additionally, there is no way of knowing the status of enclosed USB-based sensors until the product arrives at its destination and is unpacked.

No Confirmation Devices Are Working

Because they are not wireless with Bluetooth capabilities, it's not possible to confirm if USB-based sensors are functioning properly until the cooler or package is opened upon receipt or mid-shipment. If devices can not be detected wirelessly after closing the box, there is no way to be assured that the devices were started correctly or didn't fail.

Environmental Integrity Can Be Threatened

Coolers and packages must be opened to check that devices are working and to retrieve data, thereby threatening environmental integrity critical to product stability.

Physical Collection Increases Time and Potential For Errors

USB-based devices require data to be downloaded physically via USB connection to a computer. The data is often in a PDF format, limiting its use for analysis. It must be emailed to quality-control personnel who will review for excursions or compliance issues. This process can take anywhere from 15-30 minutes per device, versus less than a minute with a wireless temperature sensor. Additionally, physical collection of multiple devices increases the potential for mixing up devices and mismatching data causing problematic setbacks in time, reporting and compliance.

Preconfigured Devices Limit Applications

Most USB-based devices are preconfigured or allow little to no customization. Users are required to purchase different devices for different product temperature requirements, increasing device inventory and overall costs.

USE CASE APPLICATION
FOOD DELIVERY AND STORAGE

Zebra Empowers Users with Connectivity and Visibility

Zebra's electronic temperature sensors are portable, wireless, Bluetooth®-enabled devices to empower food delivery companies with exceptional visibility and monitoring capabilities to minimize risk. With mobile connectivity and cloud-based data-sharing, Zebra helps ensure the successful shipment of every temperature-sensitive food product.

Automate Temperature Data Collection at the Start of Deliveries

Zebra devices allow you to automatically upload temperature data for immediate, remote access to device data via the cloud. Using a Bluetooth gateway, you can access temperature data after products are enclosed in trucks, coolers or packages to confirm devices are working and shipments are in compliance.

Read Temperatures Through Vehicles, Coolers and Containers

Zebra devices allow you to retrieve and record temperature data through coolers, packing materials, containers and vehicles. This convenience makes it easier to quickly view temperature data without opening containers or threatening environmental integrity. Not only do you limit products' exposure, you reduce worker hours and speed workflows.

Access Data Mid-Delivery

Zebra devices allow for immediate temperature readings at any time by using a Zebra, Android™ or iOS mobile computer, or when devices pass through a Bluetooth gateway at an intermediary point.

Get Alerts About Temperature Excursions

One of the most powerful benefits of Zebra devices is the visibility to the temperature status, whether it be viewing the current status on the EDGEVue Mobile App or through the automated alerts when connected to the cloud. With data in the cloud, your team has better access to the data, whether it be the driver who can make a change when viewing the status in the EDGEVue App, or remote staff when an OCEABridge is installed in a truck and allows automated alerts if temperature excursions occur.

Monitor Deliveries in Closed-Loop or Third-Party Delivery

Zebra devices provide visibility during both closed-loop systems and third-party deliveries. In closed-loop deliveries, company drivers can use Bluetooth gateways at shipping and receiving ends and Zebra's EDGEVue app and EDGECloud™ services to enable wireless readings and uploads to the cloud.

Similarly, third-party companies can be required to download Zebra's EDGEVue app or enable Zebra Bluetooth gateways to take mid-delivery or shipment reads for greater continuity in remote visibility.

Get the Data to Improve Customer Confidence

Distribution centers can place Bluetooth gateways at their docks, or drivers can use the EDGEVue Mobile App on their Zebra Android or an iOS device to automatically upload temperature data to the cloud. This level of data can increase consumer confidence in the safety of food deliveries.

Speed Reporting and Trend Analysis

Data in the cloud streamlines data sharing, storage, and reporting for compliance. Over time, the data is more easily analyzed for trends to improve operations, such as driver or route efficiencies or comparisons of fiscal quarters.

Customize Settings, Reduce Device Inventory

Zebra devices are among the most customizable in the market, giving users a wide range of options and controls over settings, start time, reading intervals and alarm limits.

Application Uses Include Food Facility Monitoring

Zebra devices can also monitor stationary food storage facilities in warehouses or grocery stores. They can be configured in several ways to ensure compliant temperatures for storage refrigerators, with all the automated features of data collection and alerts.

Learn more about Zebra's Electronic Temperature Sensors.
Please visit **www.zebra.com/electronictempsensor**

NA and Corporate Headquarters
+1 800 423 0442
inquiry4@zebra.com

Asia-Pacific Headquarters
+65 6858 0722
contact.apac@zebra.com

EMEA Headquarters
zebra.com/locations
contact.emea@zebra.com

Latin America Headquarters
+1 786 245 3934
la.contactme@zebra.com