

## MONITORING MEAT COLD STORAGE AND SHIPMENTS FOR SLAUGHTERHOUSE

TRANSIT LOGGERS PROVIDE REAL-TIME TRACKING IN COST-EFFECTIVE SOLUTION



CAS DataLoggers provided the data logging solution for a slaughterhouse that frequently shipped chilled and frozen meat products to far-off distribution centers and markets. The slaughterhouse had a constant and critical need to maintain the temperature of its meat cold storage and avoid spoilage during processing, storage, and especially transport. Proof of adequate product handling was always necessary for management, as they could face serious financial losses and a damaging loss of customer confidence if they were unable to demonstrate that the correct temperatures had been maintained throughout transit.

The frozen food needed to be kept at  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ), and the fresh meat at  $-1.7^{\circ}\text{C}$  ( $+29^{\circ}\text{F}$ ). If these mandatory temperatures were not stabilized throughout the entire shipping link of the client's cold chain, the meat would deteriorate and could in the worst-case scenario cause food poisoning. Therefore, it was essential that accurate temperature records be maintained during shipping until the products reached their destination.

## INSTALLATION

The slaughterhouse placed [Cydiance Lorca Temperature logger/transmitter](#) for each shipment inside the transport vehicle. The Lorca's internal temperature sensor operated at a range of -20°C (-4°F) to +60°C (140°F), monitoring at a resolution of 0.01° and with a high accuracy of  $\pm 0.5^{\circ}\text{C}$  (1.0°F). The Lorca has built-in communications using cellular networks which also provides LBS, location-based service position tracking. Both the temperature and position data is transmitted to a cloud server over the cellular network allowing remote monitoring of the shipment.



The cloud interface displays the highest, lowest, and average temperatures as well as the mean kinetic temperature calculation together with a map display of the route. For long hauls, the temperature logger could store up to 100 days of data at 15-minute sample intervals. Slaughterhouse management could download the historical record of the temperatures and the route taken after deliveries to ensure best practices were followed.

## USAGE

The Cydiance Lorca served as a low-cost solution for the slaughterhouse, featuring local LED display to indicate operation and a LED to indicate if a temperature excursion had occurred. The Lorca was a durable solution at a small size; 85 x 59 x 25.

Slaughterhouse management also utilized the data logger's free [Cydiance Cloud Tracking Platform](#) for remote monitoring and download, finding it to be intuitive and easy to use for setup and operation.

With immediate reading of minimum and maximum temperatures as well as the mean kinetic temperature, MKT, calculation, the cloud service gave management immediate feedback on the status of their shipments. Additionally, the Cydiance software supported data transfer to generic formats such as Excel for quick accessibility and organization of the information. Users were also able to view real-time conditions through Web.

## BENEFITS

The slaughterhouse benefitted from installing the Cydiance Lorca temperature loggers in all their meat cold storage and shipments across several important factors. The data loggers easily monitored the chilled food so management would know if the meat temperatures went out of specification, quickly identifying which parties were accountable. The results of the Cydiance Cloud Platform software's MKT formula were recorded together with the temperature profile of the delivery, providing proof to third parties of the slaughterhouse's correct procedures. This simple safeguard usually resulted in protection from lawsuits, prompt settlement of claims, and successful negotiation with any liable processors, warehouses or shippers. Any conditions that had gone out of specification were also heavily inspected to optimize the integrity of the customer's own cold chain, guaranteeing their high-quality product and reputation.

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For further information on the [Cydiance Lorca Temperature Logger](#), other [Cydiance Transit Loggers](#), meat cold storage monitoring or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or [www.DataLoggerInc.com](http://www.DataLoggerInc.com).

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