APPLICATION NOTE

CAS DATALOGGERS

Monitoring Seed Corn Drying Temperature to Optimize Product Quality

Accsense Wireless System for Continuous Data Recording

Producing quality seed corn takes much more effort than simply planting and harvesting. Agricultural producers understand how the time and temperature during the drying cycle of their seed corn affects both product quality and energy consumption. To optimize energy usage and product quality, producers must be able to gather and view the time and temperature during the seeds' drying phase. If the seed corn hasn't been dried enough, it can easily mold and be ruined, but if the product is dried too much, expensive energy is wasted. Therefore, graphs of these conditions are necessary to optimize drying operations. After analyzing this specific application for a customer, CAS DataLoggers specialists recommended the Accsense Monitoring System which included a Wireless Gateway and Wireless Temperature Data Logger Pods for continual corn drying temperature monitoring and data recording.

Installation

Installation of the Accsense system was easy to adapt for outdoor use. Each of the seed drying silos contained an Accsense wireless pod placed within a weatherproof plastic enclosure on the outside wall to avoid any damage from the elements. The wireless gateway was installed above the metal of an office building out of the way of the weather and near to an internet connection, allowing good reception for its signals.

Usage

Using Accsense for automated data logging and temperature monitoring allowed the customer to monitor their multiple silos simultaneously. The system also gave drying operators the ability to access data from any web browser at any time, freeing up time for more pressing jobs and eliminating undue stress. Because this operation was seasonal, the equipment had a longer life span since it was maintained in a weather-protected e nvironment. Users could immediately see the status of each of the multiple silos, and any silo out of temperature was clearly graphically indicated by a red alarm clock.

The wireless Accsense gateway also continually monitored the time seeds spent within a specified temperature range, and supported data recording and alarming for whenever the temperature fell below or exceeded the temperature limits required to produce the optimal product, instantly triggering an alarm. When these alerts were activated, the drying operators could log in at any time from any web browser, even at home, to see the current status of the drying operation. This feature made the owners' nights and weekends much less stressful.

The system's stored data was also used to establish a drying cycle. Users generated a graph of their 5-day drying cycle at approximately 100oF (38oC). Both upper and lower temperature limits were set, and the data loggers' high sample rate ensured a fast response in the case of sudden out-of-limit temperature shifts.

Benefits

The customer now uses their Accsense monitoring system annually to maximize quality and minimize production cost. Since the system is used during the busy harvest season, the extreme ease-of-use and convenience of the automated alarming features are appreciated by the producer. The ability to view the temperature data as graphs also helps standardize the drying cycle, resulting in a repeatable high-quality product.

For further information on Accsense Monitoring Systems, monitoring corn drying temperature 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.