

Industrial Automation Group – Aeration Control Australia



Farmers Monitor Temperature in Silos with Sierra Wireless AirLink® Gateways 3G Connectivity

Aeration Control Australia, part of the Industrial Automation Group, focuses on the delivery of high-quality grain aeration control systems originally developed in association with Australia's foremost research organization, the Commonwealth Scientific and Industrial Research Organization (CSIRO).

BUSINESS CHALLENGE

Today's tough economic climate is seeing smaller farms bought out by larger neighbors, resulting in consolidated farming businesses dealing with more storage facilities spread out over a larger geographic area. In order to efficiently control grain facilities in multiple locations, farmers require remote monitoring of silos and control of fans from a central location. Featured on ABC Television's The New Inventors program, Aeration Manager™ - a grain storage control system by Aeration Control Australia - provides farmers with the means to remotely control the activation of fans to either dry or cool grain within their silos.

SIERRA WIRELESS AIRLINK® SOLUTION

With the help of the Sierra Wireless Raven XE intelligent Ethernet gateway, Aeration Manager is helping farmers monitor and control their grain storage facilities. The Aeration Manager system is three controllers in one, allowing for drying, cooling, and maintenance of grain, with fully automatic transition between the three stages. The Aeration Manager is equipped with control inputs and outputs for eight silos. Each silo can store a different type of grain and, as such, the controls are fully configurable to monitor a specific type of grain. The compact form factor and external Ethernet port of the Raven XE enables a straightforward integration within the Aeration Manager controller. Once integrated with the Raven XE, the Aeration Manager becomes a fully connected 3G remote data collection point no longer reliant on wired connectivity, which can be very difficult to install in remote locations.

"Being able to improve grain production and storage efficiencies through a simple piece of equipment is something that applies to the standard farmer," explained Henk de Graaf, managing director at Industrial Automation Group. "Using the Raven XE devices for cellular communication allows us to provide an affordable system that works well for both smaller farms and larger facilities."

APPLICATION:

INDUSTRIAL + INFRASTRUCTURE

CUSTOMER CRITICAL CHALLENGE:

- Multiple grain silos in remote locations require persistent wireless connectivity and remote monitoring capabilities for detection and notification of changing environmental conditions

SOLUTION:

- AirLink Raven XE gateways integrated with Aeration Manager system for 24x7 monitoring and control
- Provides persistent high-speed connectivity, remote two-way data transmission, and a rugged design for use in harsh industrial environments

BENEFITS:

- Reliable connectivity for transfer of critical storage condition data
- Ability to monitor conditions in silos spread across multiple farm locations
- Seamless integration with other monitoring solution components
- Elimination of travel time required for manual adjustments to grain storage facilities, saving time and money

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SIERRA WIRELESS AIRLINK® SOLUTION (CONT'D)

The Raven XE gateway is powered by ALEOS™ embedded intelligence for reliable and feature-rich operation, enabling remote configuration of over 500 parameters, packet-level diagnostics, and network session persistence. In addition, AirLink management software enables provisioning, managing, and troubleshooting of remote equipment from one central location. The combination of the comprehensive intelligence of ALEOS and easy to use AirLink device management software simplifies deployment and management of the solution, ultimately lowering total cost of ownership. Finally, the rugged design of the Raven XE, as well as the wide temperature ranges in which it can operate, ensures the gateway is strong enough to perform in harsh field environments.

RESULTS

Farmers are required to enter the condition (temperature, moisture, and oil content) of the grain when filling each silo and determine a target setpoint for the end product. With pervasive, two-way data communication provided by the Raven XE, farmers can access measurable silo conditions at anytime and from anywhere through a secure web interface. This centralized data access is particularly important for farmers with silos in multiple locations, allowing them to monitor and control silo conditions without having to travel to each location. In addition, farmers can set text and email alerts for notification of breaks in pre-determined environmental thresholds, which further helps them to catch potential issues before they can damage product and cause financial losses.



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AirLink Raven XE



POWERED BY:  ALEOS