

ALASKA IMMUNIZATION PROGRAM PROTECTS COLD SENSITIVE VACCINES

TEMPERATURE MONITORING SYSTEM ENSURES VACCINE POTENCY



CAS DataLoggers provided the data logging solution for [Alaska's Department of Health and Social Services](#), providing installation of a new temperature monitoring and alarm system for use in a statewide immunization program. Most of the centers contained at least one medical refrigerator and freezer, with some sites requiring additional monitoring. Across the healthcare industry, refrigerator temperatures were often kept too cold rather than too warm, but freezing temperatures could irreversibly reduce vaccine potency, forming a risk to patient health. Further, these damaging exposures to freezing tempera-

tures were not always obvious afterward and could lack any visible signs of freezing; therefore, these cold sensitive vaccines required highly accurate monitoring.

Heeding a recent Center for Disease Control estimation that anywhere from 20% to 33% of healthcare providers stored their vaccines at improper storage temperatures, the organization kept its commonly-administered vaccines at a temperature constant of 35°F to 46°F (2°C to 8°C). To help safeguard these precious substances, the organization began searching for an advanced temperature monitoring and alarm system that featured RTD and thermocouple inputs, sophisticated alarm capabilities with alert messaging, and power over Ethernet technology to decrease the number of wires required to install the network. This system would also need to be simple to set

up and use without requiring help from their IT department or extensive training sessions.

INSTALLATION

Alaska's DHSS installed 30 [A2-05 Ethernet Temperature Monitoring System](#) in their 26 public health centers handling storage and dispensation of critical medicines and vaccines. The A2-05 pods were connected to medical refrigerators and freezers to provide convenient monitoring for every unit in the clinics and automatically send their data to the secure servers at Accsense, where the data was stored in encrypted

form. This automated solution had quick installation and easy setup since the data loggers featured centralized management with no software to install--users simply plugged the monitor into a network port with a DHCP server or assigned it a fixed IP address with the Accsense utility. Additionally, the pods could be utilized with other Accsense wired and wireless monitors to form the ideal configuration for specific applications.



USAGE

Specifically designed for measuring temperatures in medical refrigerators, freezers, incubators, and in cryogenic storage, these LAN-wired temperature monitor pods featured inputs for two external RTD temperature probes with a temperature range of -100°C (-148°F) to $+100^{\circ}\text{C}$ ($+212^{\circ}\text{F}$) for use in refrigerators and freezers, and an additional input for 1 thermocouple measuring from -200°C (-328°F) to -100°C (-148°F) for use in cryogenic storage units. Each monitor included a power adapter and Ethernet cables, supporting power over Ethernet for a lower cost and easier maintenance compared to traditional wiring. In case of a power failure or network connection loss, the Accsense system could keep running for six hours on its internal lithium

battery, during which the data loggers would continue to buffer data. During outages, the pods could store up to 256 data points or until connection was restored, ensuring that the vaccines remained under monitoring.

Clinic personnel used the pods to access both live and historical data and set remote alarms to trigger whenever fridge or freezer temperatures went out of specification. Alarms could be sent by phone call, email, and text message to contacts. For convenience, multiple wired monitors could all be viewed from a single screen, even located across the clinic's statewide remote health centers. Users could also login using any Web browser to retrieve reports and graphs or modify the system's configuration from anywhere an Internet connection was available.

BENEFITS

The State of Alaska's Dept. of Health and Social Services benefitted immediately following installation of the Accsense temperature monitoring system in several keyways. The A2-05 Ethernet Wired Temperature Measurement Pods performed continual temperature monitoring for the medical refrigerators and freezers across the organization's 26 remote locations, offered advanced alarming features, and automatically sent the data to secure servers.

Additionally, the data loggers supported power over Ethernet for simple installation and setup, and personnel soon became knowledgeable in every aspect of the system's operation. The Accsense temperature pods entirely replaced the clinics' old alarm systems, increasing safety measures and decreasing staff response times. CAS also provided value-added tech support to the program as it got up and running with its new monitoring and alarming technology.

For more information on [Accsense Monitoring Systems](#), 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.