

PHARMACY TEMPERATURE MONITORING AND ALARMING

TANDD'S HIGH-QUALITY DATA LOGGERS PROTECT PRESCRIPTION MEDICATIONS



CAS DataLoggers provided the temperature logging and monitoring solution for a nationwide security company with a pharmacy client. The security company provided a standard burglar alarm for the pharmacy, but FDA regulations require accurate records of the pharmacy refrigerator temperatures. The pharmacy had 3 vaccine refrigerators that contained extremely temperature-sensitive prescription medicine such as vaccines and amoxicillin, which required continual monitoring with a high level of accuracy. In addition, the pharmacy asked for alerting via the existing alarm system if the temperatures were out of range. Manual

temperature logs had proved to be inaccurate and time-consuming and provided no alarming in the event of temperature excursions or records when the pharmacy was closed. The security company needed a [pharmacy temperature monitoring system](#) in order to meet the needs of their client.

INSTALLATION

The security company contacted us and we recommended that they install a [T&D RTR-500BW Wireless Data Collector](#) close to the alarm panel. The RTR-500BW features a relay output that is activated if one of its associated temperature loggers goes into an alarm state. This relay was wired directly to an available digital input on the building alarm system to provide notification through the existing system. Then three [T&D RTR-502B Wireless Temperature Data Loggers](#) were installed, one on each

of the refrigerators. Each logger has an external temperature probe which was routed into the inside of the refrigerator compartment and placed so that it would be located in an area with a stable temperature. A glycol bottle was fitted to each probe to dampen temperature swings due to compressor cycling or door openings to add/remove products. The data loggers record each refrigerator's temperature with an accuracy of 0.3°C., well within the [FDA guidelines](#) for digital data loggers (DDL). The current temperature reading was displayed on the LCD of the datalogger along with an indication if the device was in an alarm state or if the battery was getting low.



Using their built-in wireless communications, the loggers could easily send the data for both the current readings and the recorded values to the RTR-500BW data collector which was in turn connected to the existing LAN in the pharmacy. If any of the temperature loggers went into alarm state, the base station closed the relay which was wired to the building alarm system. This would trigger a general alarm so that personnel would instantly know that there was a problem with the equipment. The refrigerator monitoring feature allows pharmacy personnel to react to the out-of-tolerance condition and prevent vaccine spoilage. With a wireless range up to 500 ft, the individual temperature loggers

could easily send the data to the RT500-BW, and if needed, the distance can be extended even further by using a repeater module. Each logger's memory capacity of 16,000 readings gave 333 days of temperature history when set at a recording interval of every 30 minutes providing more than enough backup in case there was ever a communication interruption.

ADDITIONAL USAGES

The customer took advantage of the free WebStorage service provided by T&D to

allow them to monitor the temperatures using a web browser on a PC or mobile device from anywhere. The pharmacy configured the base station to automatically download the data from the dataloggers and then send that data via the LAN connection to the WebStorage Service. All of the recorded data from the three loggers were periodically uploaded to the cloud to be presented on a dashboard and in charts. The WebStorage service also has the ability to send alarm notifications to up to four email addresses in case the user was not able to receive alerts from the security system. Finally, the WebStorage service includes a watchdog alarm notification if it does not receive an update from the RTR500-BW within 2 hours to indicate a loss of connectivity due to a network problem or power outage.

BENEFITS

As a result of installing the [wireless temperature data loggers](#) for pharmacy monitoring, the customer satisfied regulatory requirements for continuous temperature monitoring. They gained the ability to react to issues quickly enough to save the vaccines. Together, the medical refrigerator temperature monitoring system prevented unnecessary loss of inventory in the event of a refrigerator failure. Using the WebStorage Service, the pharmacy could easily generate compliance reports showing that the different medicines had been properly stored.

For more information on the [pharmacy temperature monitoring systems](#), or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or [request more information](#).