APPLICATION NOTE

CAS DATALOGGERS

Environmental Data Collection Protects Medical Warehouse

T&D Data Loggers Monitor Performance Qualification

A medical device company required a temperature and humidity monitoring system to ensure optimal temperature and relative humidity conditions in its warehouse facility. The customer installed an RTR-500 wireless data logging system to measure and record the air temperature and relative humidity in its 145,000 square foot warehouse. The company provides inspection, packaging, distribution, and warehousing of medical instruments and implants, with a primary focus on the orthopedics market. CAS DataLoggers presents this T&D application note and also provides T&D Data Loggers for environmental data collection applications like this everyday.

Quality Control Requirements

Due to the sensitivity of its products, the engineers must maintain specific temperatures and relative humidity levels within warehouses facilities at all times. The company serves multiple clients who require warehousing temperatures be kept between 64°F to 74°F, with RH levels below 90%.

In the past, the engineering staff at the facility relied on several standalone dataloggers or environmental data collection. These loggers were deployed in quality-critical areas where users would return each month to manually offload the data onto a PC for analysis. However this monthly ritual was very time-intensive, and because the loggers were only used in a limited number of areas, there was no assurance that the facility's environment as a whole was being properly maintained.

While staff could have deployed more stand-alone data loggers to more accurately monitor the entire facility, management decided that the labor involved in offloading the data would make the effort unfeasible.

Compact Environmental Monitoring Solution

To overcome these limitations, CAS Dataloggers application engineers helped the customer decide on the RTR-500 Wireless data logging system from T&D. This system logs the data and checks for out of tolerance conditions at user defined intervals. Data is transmitted wirelessly from the data logger to the network connected data collector on a weekly basis for archival. To create this wireless monitoring network, the facility's chief engineer deployed 20 RTR-503 Temperature and Humidity data loggers throughout the facility. The data loggers were spaced out 100 feet apart to create a perfect grid within the 300 x 500 foot space. Additional data loggers in quality-critical areas were deployed for redundancy.

The software provided by T&D together with the Free cloud storage proved to be easy to use and provide great value. Throughout the facility the wireless dataloggers were installed on support beams, wall mountings, and on storage racks. Each T&D logger is powered by an internal battery with a 10-14 month life. An optional large capacity battery provides 3-4 years of lifetime and an AC adapter option also exists. A low battery level warning is also provided by the T&D system which simplifies keeping the loggers operational. In addition, a wireless logger with a low-temperature sensor is deployed inside the facility's -25°F freezer.

Now this new warehouse temperature and humidity monitoring system records and transmits Temperature and Relative humidity readings every five minutes to the data logger's internal memory. Data is pulled from each logger to the network connected data collector each week and automatically archived on the company's servers.

In addition, the data collector will query each logger every 10 minutes to determine if an out of tolerance condition exists, sending an e-mail to the responsible parties for action when such an event occurs. The no-cost, webstorage-service cloud portal provides access to the near real-time data to Quality, Operations, and Engineering management staff via any Internet connected web browser.

Business Benefits

As a result of deploying the T&D wireless data logging system, facility engineers no longer need to spend hours retrieving data from individual stand-alone data loggers. This is a welcome change to their schedules, providing more time to focus on other projects. Additionally, the RTR-500 system's near real-time data collection allows engineering staff to quickly address environmental issues that arise on a 24/7 basis, as opposed to only a monthly one. This helps improve operations and business reputation.

Once a month, engineers generate graphs of environmental conditions for management review. Not only do these charts provide management with an accurate assessment of the facility's environment, they also serve as sales tools for securing new clients and help provide assurance of environmental conditions for existing clients. With this valuable data, company management, prospects, and customers are all assured that the facility is well-monitored and maintained.

By adding additional data loggers to monitor the ceiling conditions, the customer is able to increase rack height therefore increasing operating space and revenue.

For further information on T&D RTR Wireless Data Logging Systems, environmental data collection, or to find the ideal solution for your application-specific needs, contact a CAS Data Logger Application Specialist at **(800) 956-4437** or www.DataLoggerInc.com.