

MONITORING TEMPERATURE & HUMIDITY IN OPERATION THEATRE

ACCSENSE SYSTEM PERFORMS AUTOMATIC ENVIRONMENTAL MONITORING



CAS DataLoggers provided a hospital with a system to monitor humidity in operation theatre conditions using the Accsense wireless system. Prior to the installation of the system, surgical staff had complained on several occasions about it 'raining' in their OR, meaning that the humidity had become high enough that condensation formed and started falling. Not only is this a violation of operating room standards, it poses a health risk since the drops form on unsterilized areas like the ceiling or light fixtures. The high humidity also makes staff feel hotter than their temperature control system

shows, making their work environment uncomfortable. Normally, the room is kept at or below 65°F during procedures, but the HVAC system wasn't originally designed to keep the room this cold. To compensate, the surgical staff wanted the room to be reliably maintained near 50% RH. The hospital wanted a monitoring system that would notify them when temperature or humidity got too high, possibly indicating an AC failure. For ease of installation, they wanted a wireless system and since this was in a critical area of the hospital they needed it to be fully compliant with [Joint Commission](#) standards.

INSTALLATION

CAS DataLoggers provided each of the 5 hospital OR's with an [Accsense A1-05 Wireless Temperature and Humidity pods](#). These were quickly mounted onto an inconspicuous wall with a supplied bracket. The A1-05 simultaneously measures the humidity and temperature in the operating theater using its internal digital sensor. An [Accsense B1-06 Wireless Gateway](#) was installed in a central location outside the rooms to collect data from all 5 rooms. The B1-06 receives the data sent via the

wireless interface of the pods and then uploads it to the Accsense cloud server using its built-in Ethernet interface. The overall installation of the temperature and humidity monitoring system was simple with minimal impact on the hospitals operation or computer network.



USAGE

Accsense is Web-based and simple to use with virtually no learning curve. There's no software installation or time-consuming set-up, and the transmitters can operate on either battery or AC power. The wireless communications between the transmitter and gateway provides a range of up to 250'. If there is a power or internet outage, the Accsense server will alarm the staff while the system keeps recording to on-board memory.

The operating room temperature and humidity are automatically sent to the gateway which in turn immediately sends it out via the network to the Accsense servers in the cloud. An easy to use, browser-based interface enables clinic staff to view data online in real time after logging into to their secure Accsense account. The customizable interface and measurement dashboard shows the most recent data from the data logger, and users can display historical data up to 2 years old.

The data can be downloaded in CSV format for use with other applications. Clinic staff can download the data for offline analysis, view it in reports, charts and graphs, and administrators can modify the Accsense configuration from anywhere they're connected to the Internet.

Users have already setup alarm states, so they receive alarms via email, cell phone, pager, or landline—Accsense even sends the same alarm to multiple recipients. Additionally, free software and free on-call technical support are included with all Accsense products.

BENEFITS

Post-installation, the Accsense system has greatly improved the hospitals operation by giving the surgical staff and maintenance crew immediate warning when the humidity in the operation theatre environment goes outside of standards. The system will even continue to log during power or internet outages and automatically upload data to the Accsense servers when the connection is restored. Since the data is all on the cloud for later reporting, maintenance crews can view the OR's conditions in detail which will help them if they decide to replace the HVAC system.

Accsense Product Manager Dana Kennedy comments, "We've provided Accsense systems to many hospitals and clinics for their environmental monitoring needs. For example if you've got a Joint Commission auditor asking to see your product or equipment data, with Accsense you can just print it out from the cloud and hand it over. With Accsense you're can be 100% compliant with all Joint Commission recommendations."

For more information on our [Accsense Wireless Monitoring Systems](#), measuring temperature and humidity in operation theatre environmental conditions 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.