

LABORATORY TEMPERATURE MONITORING & ALARMING USING A DATA LOGGER

ACCSENSE VERSALOG MULTI-CHANNEL TEMPERATURE RECORDERS



CAS DataLoggers provided the [laboratory temperature monitoring](#) and alarming solution for a medical research laboratory who required monitoring of product and sample temperature within multiple medical storage units and the ambient laboratory environment. As opposed to an expensive chart recorder, technicians needed affordable multichannel temperature monitoring, portability, and the ability to connect with thermistors as well as thermocouples.

INSTALLATION

We supplied the lab with an [Accsense VersaLog TC Temperature Data Logger](#) along with an Accsense VersaLog TH Thermistor Data Logger for an easy to use solution. These standalone recorders feature 8 channels for accurate monitoring in medical refrigerators, freezers, incubators and more. One TH data logger takes readings from 3 thermistors which are placed inside incubators while the TC data logger monitors 4 thermocouples placed inside the facility's group of 4 medical storage units. Each data logger also simultaneously records the ambient temperature of its environment.

USAGE

The Accsense VersaLog thermocouple data logger measures ambient temperature on 1 channel and also logs temperature on up to 7 external input channels which can connect to all types of [thermocouple](#) probes. The device can also be used as a small voltage data logger with an input voltage range as small as -2 mV to +12 mV.

The thermistor data logger also has one channel measuring the temperature of its environment along with 7 external channels to record data from thermistor sensors. It accepts standard thermistors that have a resistance value of 10K at 77°F (25°C). Using thermistors gives the lab high accuracy and reliable incubator measurement and alarming.



These battery-powered, standalone recorders are cost-effective compared to the cost of an external probe while the 16-bit analog-to-digital converter meets the lab's high-resolution requirements. For extended logging, Accsense VersaLog products all feature a rugged, splash-resistant aluminum enclosure, and their internal electronics are protected against moisture by a conformal coating. Due to their small size and light weight, the data loggers can be installed anywhere within a facility, preventing the need for long sensor cables. In the event of expansion, users can utilize multiple data loggers for a truly

comprehensive laboratory temperature monitoring solution to record a large number of channels.

USAGE CONT.

Accsense VersaLog temperature recorders are accessible via USB, modem or Ethernet connections for easy local and remote access. It's easy for technicians to power the data loggers and connect them to a PC via USB. The loggers store data in non-volatile flash memory for easy retrieval. The data logger's large 4MB memory stores up to 2 million measurements and lets users log for extended periods with the choice to stop or overwrite logging when the memory is full.

Users can program the data loggers ahead of time and start logging when needed. Two configurable alarm thresholds are available per channel, and the ALARM1 & A2/EXT terminals can be configured as alarm outputs so users can stay on top of sudden changes in their parameters. The onboard LED lights in red when in alarm condition, and with purchase of VersaLog SiteView software, the data loggers also report their alarm status to a host PC via USB, modem or Ethernet. Alarm delay is programmable at 0-10 minutes delay with 1-minute increments.

SOFTWARE

The Windows-based [VersaLog SiteView](#) software performs logger configuration, downloading, plotting, analysis and alarm reporting. These features give staff an easy way to visualize and present their data however they like. Using SiteView's simple graphic interface, users can configure Accsense VersaLog to log across a sampling interval anywhere from every 20 milliseconds to 12 hours. For fast downloading, SiteView supports fast communication speeds up to 115200 bps while multiple file loading makes it easy to run data comparisons to get a complete picture. Versatile custom equations and custom-line equations handle all complicated measurement requirements including unique laboratory algorithms.

Users can view all alarm triggers, zoom in on important data, add comments and label graph functions, and view dynamic statistics to provide a detailed view of results. Users can set low and high programmable alarm thresholds for the alarm outputs and trigger on/off external alarm devices such as warning lights, horns or alarm telephone dialers so the facility is alerted whenever inventory is threatened.

BENEFITS

Our Accsense VersaLog data loggers now ensure that this lab's users are never without a quick way to check their data. The lab now has its own distributed laboratory temperature monitoring system, demonstrating how data loggers can be used to easily monitor, alarm and log all refrigeration units and temperature sensitive environments across the standard laboratory temperature range.

Accsense VersaLog Product Manager Pete Martin comments, "Accsense VersaLog offers you 7-8 channel monitoring with high-precision data and your choice of connection. They're great for monitoring and alarming everything from medical storage units to incubators, and you'll find them a lot less expensive than chart recorders, and there is no maintenance or paper or pens to replace. Their memory, accuracy and software feature list is unmatched for the price."

For more information on [Accsense VersaLog](#) data loggers, [laboratory temperature monitoring](#) 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.