Monitoring and Alarming Multiple Incubators with a Single Data Logger

Accsense VersaLog Uses 8 Channels for Multi-Point Monitoring

Application Overview:

Recently CAS Data Loggers provided the Accsense VersaLog temperature alarming and monitoring solution for an In Vitro fertilization clinic. The clinic needs to log temperature on three stacked automatic injection CO2 incubators used for culturing patients' embryos. The clinic was using paper chart recorders to monitor humidity and CO2 tank levels but wanted to replace their existing setup since it has become more expensive to get replacement parts.

Each incubator must be maintained at 37°C (98.6°F), and experiences temperature fluctuations from staff opening the doors, so the clinic needed a device with good accuracy to alarm all three units. Since simple monitoring and alarming were the main requirements, the clinic didn't want to purchase a complicated system with more features than they needed.

Installation and Sensors:

The clinic installed an Accsense VersaLog TC Temperature Data Logger, a cost-effective device for real time continual monitoring and alarming. It was easy for a technician to place the logger on a shelf next to the incubators and trail three Type J thermocouples out to the unit's analog inputs.

The Accsense VersaLog TC is an 8-channel thermocouple data logger. Its 7 external input channels accommodate Type E, N, J, K, and T thermocouples while the 8th channel is an internal thermistor doubles as a reference for the thermocouples and an ambient temperature sensor. Additionally this standalone recorder has a 16-bit analog-to-digital converter meeting the clinic's need for high-resolution measurements.

Accsense VersaLog data loggers are compact and lightweight with a built-in USB port offering connection to a PC for quick configuration, data download. The data logger also has an auxiliary serial port and a large 4MB memory storing up to 2 million measurements stored in non-volatile flash memory for easy retrieval. For extended operation the internal battery included with the logger has a life of about 10 years or the logger can be powered through the USB port. Users define data logging rates anywhere from once every 20 milliseconds (with external power) to once every 12 hours.

Alarms:

In this application users have programmed the data logger to with two configurable alarm thresholds per channel, and the ALARM1 & A2/EXT terminal strips have been configured as alarm outputs so that the clinic's alarm buzzer will announce temperature excursions simultaneously with the logger's red alarm LED. The VersaLog can also report its alarm status to a host PC via USB, modem or Ethernet device server.

Software:

SiteView software supports configuration, downloading, graphing, analysis and alarm reporting. This intuitive Windows-based application has an easy-to-use graphic interface and supports USB, serial port and Ethernet connections for easy local and remote access. Fast communication speed up to 115200 bps enables quick downloads. Users can zoom in and out and add comments to graphs to provide a detailed view of results.

Benefits:

Accsense VersaLog forms a reliable yet affordable temperature monitoring and alarming solution for the clinic's needs. Easy to setup and use, the logger's 8 channels record at a high resolution, and its large memory enables extended logging—a great value when compared to data loggers with similar functionality.

Meanwhile the logger's alarm and excitation output warns personnel the moment that any incubator goes outside its critical temperature setting. If the clinic needs to expand their monitoring points, users can utilize multiple VersaLog data loggers for a larger number of channels.