

# **Freezer Alarms, Refrigerator Alarms, Temperature Alarms**

## **Freezer Alarms – an overview**

Freezer alarms have become essential to the laboratory and hospital industries. JCAHO the largest player in the certification field recently issued a new standard for monitoring tissue storage. They now require that freezers where tissue is stored be monitored twenty-four hours a day, seven days a week. They must be monitored, documented and alarmed.

### **How can freezers be monitored?**

Manual method.

Most freezers were, until fairly recently, monitored with a manual method. An employee would jot down the temperature once a day or shift on a piece of paper stuck to the side of the freezer. There is no way to alarm a freezer that is being manually monitored unless an employee is assigned to watch the thermometer all the time.

Mechanical Method

Chart Recorders have been around a long time. They use a paper chart that turns at a set speed while a pen draws a line at the current temperature. Although the paper charts are easily stored they have the disadvantage of having to be replaced every 7 or 31 days. Also because of the mechanical nature of the chart recorder it must be maintained and will eventually have to be replaced. Many chart recorders now come with a relay, which can trigger an alarm if temperature gets unsafe.

Electronic Method.

Data loggers are an obvious improvement over both the manual and the mechanical method of monitoring temperature. They will collect large amounts of data that can be downloaded into a computer to generate a paper record and they are usually less expensive than the chart recorders. They do however have two main drawbacks. They are relatively sophisticated pieces of equipment that have to be programmed before they can be used and secondly there is no way to see what the temperature is or has been until it is downloaded into a computer. They do tie in nicely to alarms so that a technician can be alerted if temperature begins to move into unsafe ranges.

## **[A better solution?](#)**

There is one device now on the market that combines the best features of chart recorders and data loggers. The ThermaViewer doesn't use paper charts, pens or computers. It is a stand-alone device that monitors and documents freezer temperatures using one or two remote probes. It also draws an electronic chart on a display so that the user sees the last several hours, days, weeks, or even months of temperature history. It doesn't require a computer to program although its collected data can be downloaded to a computer to print out a paper chart covering up to 10 months of temperature history. A relay triggers either a local alarm (strobe/siren) or a dialer if the freezer temperature becomes unsafe. It is being used in many hospitals and laboratories to satisfy the requirement of the [JCAHO standards](#).