Ultra-Low Temperature Recording

- Cryo-Temp

Application Summary

The need for ultra-low temperature data loggers has grown considerably over the past few years. The biomedical field for example, needs to validate the temperature of goods and products during shipping, transportation, and storage. Plasma, frozen tissue, and pharmaceutical products are examples of critical and temperature sensitive items that could benefit from the use of an ultra-low temperature data logger. Although it is possible to use a data logger with an external probe, it is more desirable to have a "Probeless" version with visible status LED indicators. An all in one device can be programmed to record temperature at various intervals and placed directly into the environment of interest for days, weeks, and even years. This is particularly desirable for use when products or materials are shipped in dry ice.

MadgeTech's Solution:

When accuracy and reliability is important, protecting the integrity of high quality products is a must. Compared to other ultra-low temperature data loggers, MadgeTech's Cryo-Temp offers several advantages, such as being simple, reliable, accurate, splash proof, lightweight, and highly portable. The Cryo-Temp also has a much larger memory capacity which can record over 11,000 more readings than its competitors. MadgeTech's Cryo-Temp can monitor the storage and shipment of selected biologicals, as well as pharmaceuticals, refrigerators, freezers, blood banks, and dry-ice containers. Where ultra-low temperature solutions are needed, the Cryo-Temp offers this ability with accuracy and reliability.

Cryo-Temp:

A splash proof enclosure, one year battery life, and an impressive sampling rate are all standard with MadgeTech's new Cryo-Temp data logger. The Cryo-Temp also features a large memory capacity (32,767 readings), a built in thermistor type sensor, and an effective operating environment of -86°C to +35°C (-122°F to +95°F) in 0-100% relative humidity (%RH). External probes are not required.

What distinguishes the Cryo-Temp from other solutions is that by using the MadgeTech software, the Cryo-Temp can be configured to notify the user upon exceeding high and low alarm limits, as well as high and low warning limits. The user can set the alarm limits in the range required for the goods or products to be stored, and or maintained. The warn limits can be set to alert the user when the temperature is approaching a high or low alarm limit. The alarm and warning settings directly correlate to the three LED indicators on the device.

These advanced alarm features, and multiple start options (immediate, delayed, or pushbutton), combined with the ability to accurately and easily record ultra-low temperatures down to -86°C makes the Cryo-Temp a welcomed addition to MadgeTech's broad range of temperature products. The Cryo-Temp can be used in a wide variety of applications such as dry ice shipment and monitoring, pharmaceutical storage and shipment, blood banks, freezers, and medical devices. It is an ideal temperature solution for any application involving low temperature monitoring, recording, and validation.

Alarm Settings:
The Cryo-Temp has an advanced alarm setting feature which can be accessed from the 'Device Detail' form within the MadgeTech software. By clicking the 'Alarm Settings' button and then 'Change', the user can set the Alarm Settings to alert the user when a temperature exceeds a configured High and Low Alarm. Exceeding a high or low alarm is indicated by a red LED on the device that blinks every three seconds.

Warn Settings:
The Cryo-Temp has an advanced warn setting feature which can be accessed from the 'Device Detail' form within the MadgeTech software. By clicking the 'Alarm Settings' button and then 'Change', the user can set the Warn Settings to alert the user when a temperature exceeds a configured High and Low Warn.

Alarm Delay:
Along with Alarm and Warn settings, the Cryo-Temp features a unique option that can delay an alarm from occurring. An instance where this would be applicable is when a freezer door is opened and a temperature spike occurs. This temperature spike may exceed the alarm or warn settings without the alarm delay option set. However, if the user wants the device to accept a temperature spike as a result of a normal, or otherwise inevitable operation (such as opening a refrigerator door, retrieving contents, then closing the door), the alarm delay can prevent this.

Another instance may be when pharmaceutical or medical storage containers are opened in order to retrieve its contents. In this case, when the storage container is opened, and its contents removed (e.g. blood samples, vaccines) a temperature spike may occur. This temperature spike may be typical if opening the storage container and removing its contents is deemed a normal or inevitable operation. Another instance may be when the Cryo-Temp unit itself is moved to another location. In this case, the alarm delay can be set to allow the Cryo-Temp to exceed set alarm and warning conditions, thus eliminating an erroneous alarm.

LED feature:
The Cryo-Temp features three LEDs which indicate the device status in regard to normal data recording, and when readings approach a set alarm or warn limit.

- The green, yellow, and red LED indicators will blink when the temperature alarm and or warning limits have been exceeded.
- The green LED will blink every fifteen seconds to indicate the device is logging data.
- The yellow LED will blink every three seconds when the temperature has exceeded the warning limits.
- The red LED will blink every three seconds when the temperature alarm has been exceeded.

Docking Station (IFC300):
Since the Cryo-Temp can be placed directly into the environment being monitored, it does not require a constant connection to an interface source until the data is ready to be downloaded. Similar to the IFC200 interface package, the IFC300 utilizes a fast USB protocol to communicate data quickly and efficiently. Different from the IFC200, the IFC300 docking station allows the user to place the Cryo-Temp directly into the docking station without attaching an interface cable each time data is to be analyzed or downloaded. This effectively increases the Cryo-Temp's portability, as it can be inserted and removed from the docking station without connecting any cables.

WessexPower Solutions for High-tech Instrumentation www.wessexpower.co.uk
LSTechnology E-commerce Instrumentation www.loggershop.co.uk
Telephone: +44 (0) 1929 459 459 | Email: Sales@WPLS.co.uk