

Description	LyoTemp
Temperature Sensor	NTC Thermistor
Temperature Range	-60 °C to +75 °C (-76 °F to +167 °F)
Temperature Resolution	0.1 °C
Calibrated Accuracy	±0.5 °C
Memory	32,767 readings; software configurable memory wrap
Reading Rate	1 reading every 5 seconds up to 1 reading every 30 minutes
LED Status Indicators	Red, Green & Yellow
Manual Start	Yes
Required Interface Package	IFC300
Communication Rate	38,400 bps
*Battery Type	3.6V lithium battery (LTC-7PN); <b>*Must be sent to MadgeTech for battery replacement.</b>
Battery Life	1 year typical at a 10 minute reading rate.
Operating Environment	-60 °C to +75 °C (-76 °F to +167 °F); 0 to 100% RH
Ingress Protection (IP Rating)	IP50
Material	ABS plastic, white, polycarbonate labeling
Weight	1.4 oz (40 g)
Dimensions	Body: 3.25" x 2.10" x 0.41" (82.5 mm x 53.3 mm x 10.3 mm)  Probe Length: 48" (1219 mm)
Approvals	CE

### Battery Warning

**WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 100 °C (212 °F).**

*Specifications subject to change.*

See MadgeTech's terms and conditions at [www.madgetech.co.nz](http://www.madgetech.co.nz)



**LyoTemp**  
Lyophilization Data Logger

## Product Notes

### Manual Start

To start the data logger with the **Manual Start** option, use the magnetic wand provided (in the IFC300) to touch the start/mark switch. (manual start is defaulted to a 10 minute reading rate) The reading rate can be modified in the MadgeTech 4 Software. Connect the data logger, touch the wand to the start/mark switch, the green LED (OK) will blink 5 times followed by the yellow LED (WARN) and the red LED (ALARM), indicating the device is recording. The logger must be manually stopped through the MadgeTech 4 software.

### Marking Feature

A date and time stamp may be placed in the recorded data, by touching the magnetic wand to the start/mark switch. The marking feature may be configured to clear the alarm and warn indicators, while the logger is still active.

### Ingress Protection/IP Rating

The LyoTemp is rated IP50.

### LED Status Indicators

- **Green:** Blinks to indicate safe conditions during logging.
- **Yellow:** Blinks to indicate warn limits have been exceeded.
- **Red:** Blinks to indicate alarm criteria (limits/delay) have been exceeded.

### Alarm Settings

To change the settings for the temperature alarm;

- Select **Alarm Settings** from the **Device Menu** in the MadgeTech Software. A window will appear allowing to set the high and low temperature alarms and warning alarms.
- Press **Change** to edit the values.
- Check **Enable Alarm Settings** to enable the feature and check each high and low, warn and alarm box to activate it. The values can be entered in the field manually or by using the scroll bars.
- Click **Save** to save the changes. To clear an active alarm or warn, press the **Clear Alarm** or **Clear Warn** button.
- To set an alarm delay, enter the duration of time into the **Alarm Delay** box in which the readings can be outside of the alarm parameters.

### Set Password

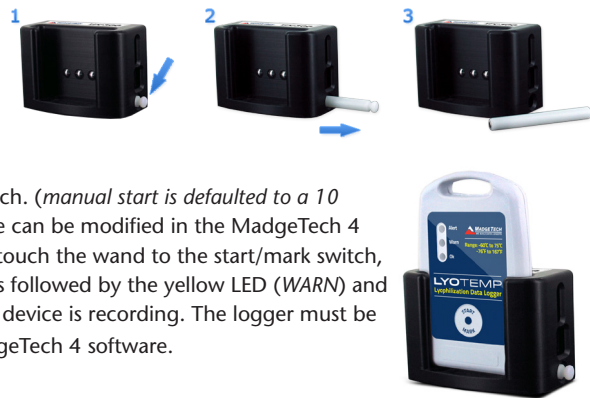
To password protect the device so that others cannot start, stop or reset the device;

- In the **Connected Devices** panel, click the device desired.
- On the **Device** Tab, in the **Information** Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
- On the **General** Tab, click **Set Password**.
- Enter and confirm the password in the box that appears, then select **OK**.

## Installation Guide

### Installing the Interface cable

- IFC300
- Refer to the "Quick Start Guide" included in the package.



To start the device, hold the magnetic wand over the start/mark switch. (Also indicated below)



Close-up of the start/mark switch

### Installing the software

Insert the MadgeTech 4 Software Flash Drive in an open USB port. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Installation Wizard. The Software can also be downloaded from the MadgeTech website at the following link: [www.madgetech.com/software-download](http://www.madgetech.com/software-download).

## Device Operation

### Connecting and Starting the data logger

- Once the software is installed and running, insert the LyoTemp into the IFC300 docking station.
- Connect the USB end of the interface cable into an open USB port on the computer.
- The device will appear in the Connected Devices list, highlight the desired data logger.
- For most applications, select "**Custom Start**" from the menu bar and choose the desired start method, reading rate and other parameters appropriate for the data logging application and click "Start". ("**Quick Start**" applies the most recent custom start options, "**Batch Start**" is used for managing multiple loggers at once, "**Real Time Start**" stores the dataset as it records while connected to the logger.)
- The status of the device will change to "**Running**", "**Waiting to Start**" or "**Waiting to Manual Start**", depending upon your start method.
- Disconnect the data logger from the docking station and place it in the environment to measure.

Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.

### Downloading data from a data logger

- Connect the logger to the interface cable.
- Highlight the data logger in the Connected Devices list. Click "**Stop**" on the menu bar.
- Once the data logger is stopped, with the logger highlighted, click "**Download**". You will be prompted to name your report.
- Downloading will offload and save all the recorded data to the PC.

## Device Maintenance

### Battery Replacement

The LyoTemp must be sent to MadgeTech for battery replacement.

### Recalibration

The LyoTemp standard calibration is two points at -60 °C and 25 °C.