![MadgeTech - WE BUILD DATA LOGGERS]

ATS **Cryo-Temp**

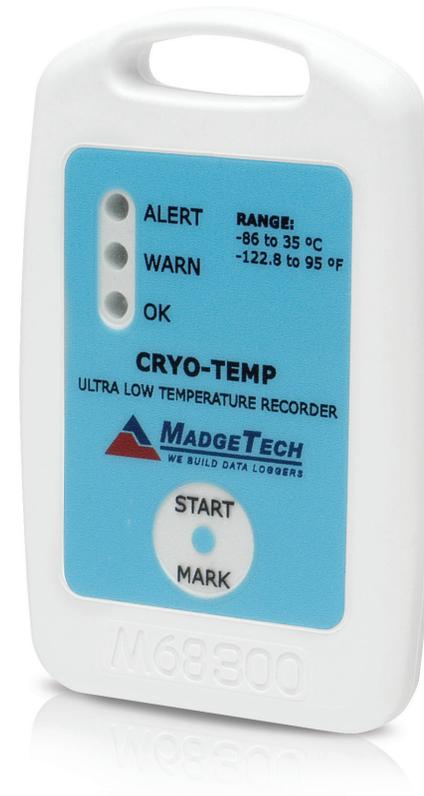| Description	Cryo-Temp
Temperature Sensor	NTC Thermistor
Temperature Range	-86 °C to +35 °C (-122.80 °F to +95 °F) recommended, may be used up to +55 °C (131 °F)
Temperature Resolution	0.1 °C (0.18 °F)
Calibrated Accuracy	±1.0 °C
Memory	32,767 readings; software configurable memory wrap
Reading Rate	1 reading every 5 seconds up to 1 reading every 30 minutes
LED Indicator	Red, Green & Yellow
Manual Start	Yes
Required Interface Package	IFC300
Baud Rate	38,400
*Battery Type	3.6V lithium battery (LTC-7PN); *Must be sent to MadgeTech for battery replacement.
Battery Life	2 years at +25 °C, 1 min. reading intervals 1 year at -80 °C, 1 min. reading intervals
Operating Environment	-86 °C to +35 °C (-122.80 °F to +95 °F), 0 %RH to 100 %RH
Submergible	Splash Resistant (IP64)
Material	ABS plastic, white, polycarbonate labeling
Weight	1.4 oz (40 g)
Dimensions	3.3 in x 2.1 in x 0.4 in (83 mm x 54 mm x 11 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

Cryo-Temp
Ultra Low Temperature Data Logger

Red 485
Dark Blue Pantone 289
Light Blue 58% of Pantone 289

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To view the full MadgeTech product line, visit our website at www.madgetech.co.nz

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.

Submergibility

The Cryo-Temp is splash resistant, rated IP64.

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

LEDs

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

Close-up of the start/mark switch

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.
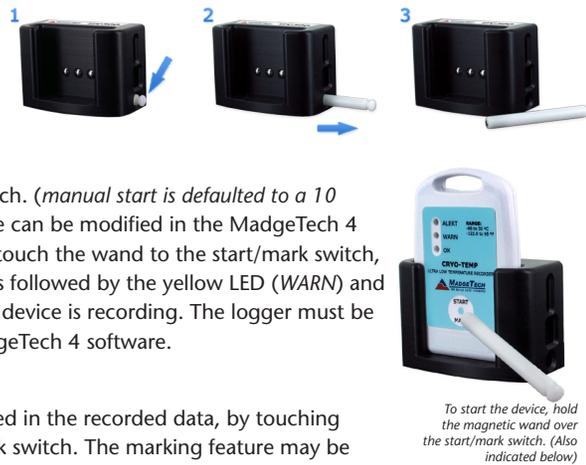
Set Password

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.

Installing the software

Insert the MadgeTech4 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.*

Device Operation

Connecting and Starting the data logger

- Once the software is installed and running, insert the Cryo-Temp 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 Cryo-Temp must be sent to MadgeTech for battery replacement.

Recalibration

The Cryo-Temp standard calibration is two points at -80 °C and 25 °C.

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