LogTag® Data Logger Training Guide

Prepared for:

California Department of public health

Vaccines for Children Program

Outline

- Unpacking the Logger
- Installing Logger – vial/probe, probe cable & logger mount
- Software
  - Recommendations, System Requirements, Installing Software
- Configuring Logger
- Starting Logger
  - Button Actions Overview, Logger Display Overview
- Reviewing Daily Statistics – Min/Max, Alarms & Twice Daily Temperatures
- Viewing/Saving Data
- Troubleshooting

Unpacking the Logger

- Each kit includes a checklist that lists the contents of each kit.
- Each kit has been checked by our staff to ensure it is complete.
- If you are unable to find anything listed on the checklist please contact us at support@microdaq.com or by phone at 603-746-5524.

This Kit Includes

- ✓ 1 Spare Battery
- ✓ 2 Velcro Squares
- ✓ 2 Zip Ties
- ✓ 1 Wall Mount Bracket
- ✓ 1 USB Interface Cradle
- ✓ 1 TRED30 Data Logger Fridge
- ✓ 1 Probe with Matching Serial Number
- ✓ 1 Glycol Bottle
- ✓ 1 Calibration Certificate
- ✓ 1 Stop Notice

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# Match the Probe & Logger – **Important!!**
Each logger and probe/vial is matched by serial number.

Install the Vial and Probe Cable

- Place vial in center of refrigerator.

- Secure with tape or the included Velcro.
  - ➤ place vial in tray if used with wire rack

- Run probe cable through hinge side of door.

- Attach the cable with tape or with the zip ties included.

- Allow 2 to 3 hours for probe/vial to adjust to temperatures in refrigerator before starting to record with the logger.

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Example of installation on wire rack
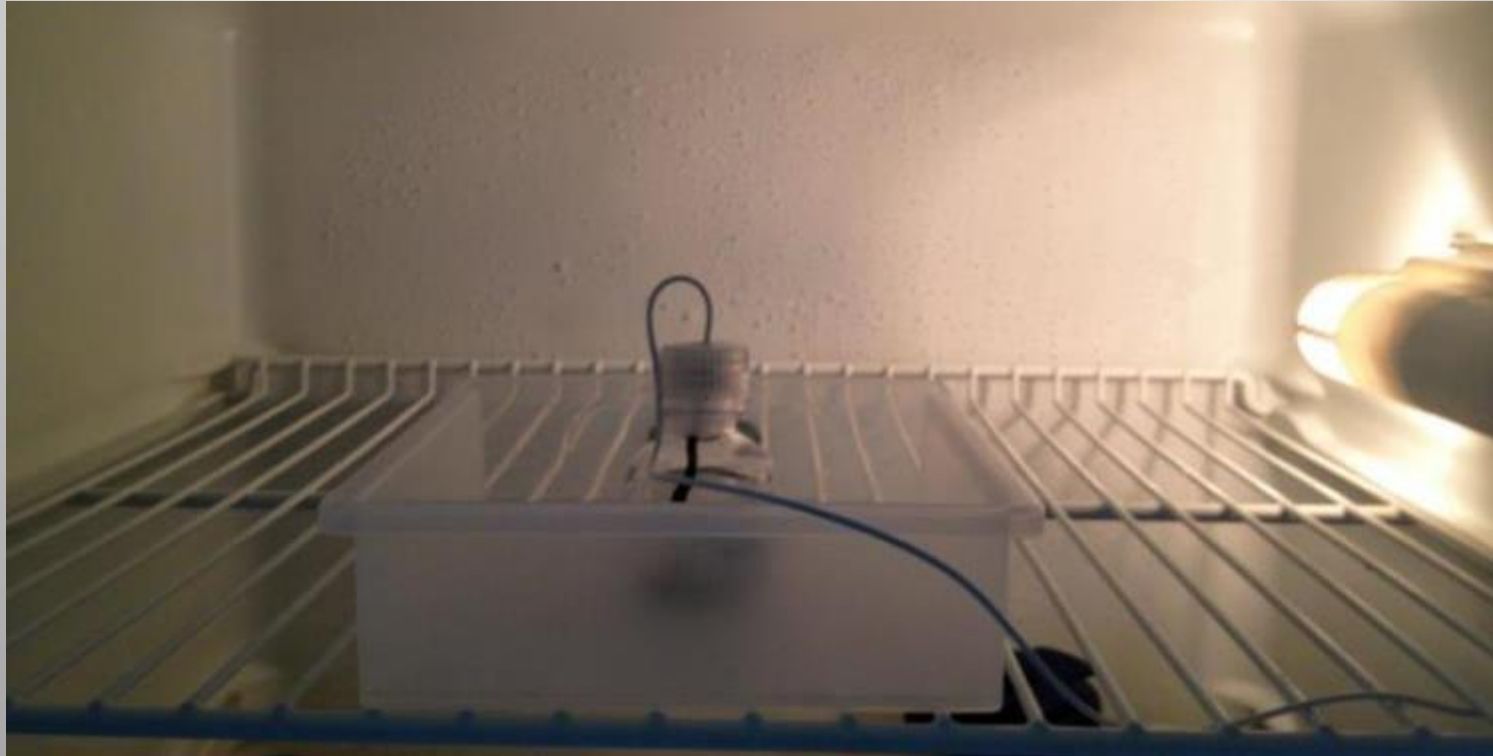
In this example a plastic tray is used to provide a solid base for the glycol-encased probe. The tray may or may not be necessary depending on the type of shelf you have. Make sure to place the glycol-encased probe in the center of the fridge in proximity to vaccines.
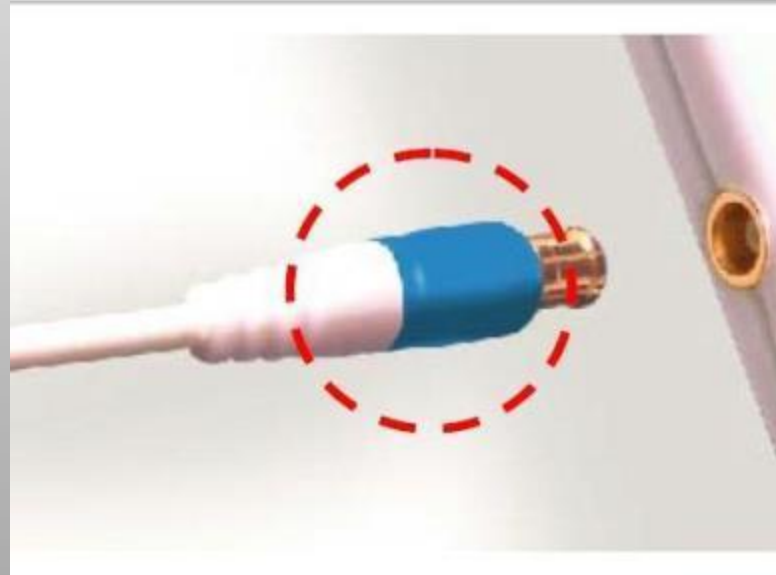
Installing the Logger

- Identify mounting location outside of refrigerator.

- Be sure it's within reach of the probe & is easily accessible.

- Attach LTI-MOUNT (clear plastic mount) using the included double sided tape (located in mount).

- Slide logger into mount without the probe attached.

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Attach Probe to Logger

- **Important! - Make sure serial number on Logger matches serial number on Probe/Vial**

- Insert probe end into plug on logger.

- You should hear the probe "Click" into place.

- Care must be taken not to damage the probe tip.

- Inserting the probe into the logger at an angle will damage it.

Logger with probe attached in mount

Software Recommendations

- If you have an IT Department, we recommend that you have them install the software.

- We recommend being logged in with full administrator rights before installing the LogTag®Analyzer software.

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System Requirements

To ensure that the software will work on your computer the following minimum specifications are required:

- PC capable of running Windows XP SP2 or later, or Windows 2003 Server or later
- 60MB free disc space
- Internet Explorer 5.0 or later
- 1 available USB port
- 1024 x 768, or higher screen resolution
- 256 screen colors

The recommended specifications are:

- Processor equivalent to Pentium IV or later
- 512MB of available RAM
- Internet Explorer 6.0 or later
- 65535 (16bit), or more, screen colors

If you are unsure of your computer's specifications, please refer to your operating system's documentation or help function.

Install Software

- Download the LogTag Analyzer Software from the State of California page found on our website – www.MicroDAQ.com/California

State of California Department of Public Health Vaccines for Children Program

Software

LogTag Analyzer Software (Version 2.5.19)

Documentation

LogTag Training California (.pdf)
California DPH Logger Configuration (.pdf)
LogTag General Quick Start Guide (.pdf)
LogTag Analyzer Software Manual (.pdf)
What's New in LogTag Analyzer Software Version 2.4 (.pdf)
Resolving USB Installation Issues (.pdf)

How to Contact for Support

Additional technical support is available by Contacting Us via our Website or by calling (603) 746-5524 and pressing option "1". Support Hours are Monday through Friday: 9 am to 4:30 pm EST

Install Software

- Follow the on-screen instructions to complete the installation process

- The docking station (LTI-USB) should NOT be plugged in until the software installation is complete

- Additional instructions can be found by downloading the LogTag Analyzer Software manual also located on the website at www.MicroDAQ.com/california

- If after installing the software your computer doesn't recognize the docking station please review the document labeled "Resolving USB Installation Issues," also located on the website

Install Software

- Once software is installed plug the docking station (LTI-USB) into your PC by inserting the USB plug into an available USB port on your PC

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Install Software

- Locate the LogTag Analyzer (LTA) icon on your desktop and double click it to launch the software.

General Software Settings

The software will display temperatures in degrees Fahrenheit by default.
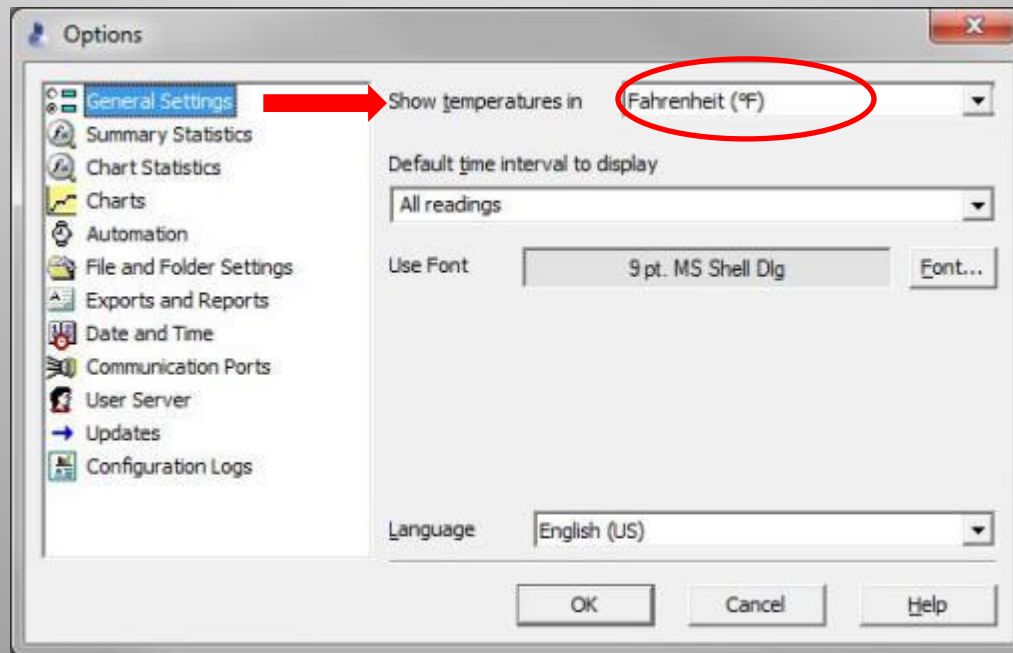
If you want to display your data in degrees Celsius:

- Choose "Edit" > "Options" to access the General Settings screen
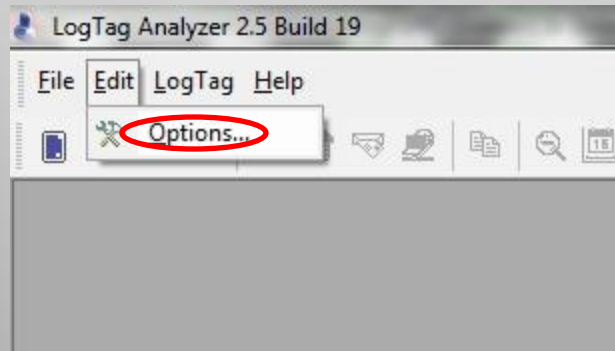
General Software Settings

- You can change temperature from Fahrenheit to Celsius by using the drop down menu next to the "Show temperatures in" field.

- To exit without making changes click "Cancel."

- If you made changes click "OK" to save them.

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Configuring the Logger

The loggers have been preconfigured for use based on settings specified by the California Department of Public Health. However, you will need to familiarize yourself with the configuration process so you can review your settings before each use and/or change your settings should you need to do so.

Sample graph from LogTag temperature report

Configuring the Logger

- Carefully unplug the probe from Logger – Important: Do not pull on the probe cable to unplug the probe from the logger as this can permanently damage the probe.

- To remove the probe grasp with fingers on probe end (blue band) and pull straight back from the Logger.

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Configuring the Logger

- Open LogTag Analyzer (LTA) software (if not already open).

- Drop Logger into docking station – Push down until you hear logger click into place.

- If this is your first time inserting the logger a notification box will pop up telling you that there is no data on the device.

- Message will time out or you can click "Cancel" to proceed.

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Configuring the Logger

- Launch the Configuration Wizard by clicking on the icon.

- This will open the LogTag Access Wizard window.

- Click "Next" to launch the Configuration Window.

Configuration Window Overview

- LTA will automatically populate each field with the logger's previous configuration data so most fields will already be completed.
- Even though the logger has been pre-configured it is highly recommended that you give it a unique User ID name.
- The default name for the logger is its serial number.

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Configuring the Logger
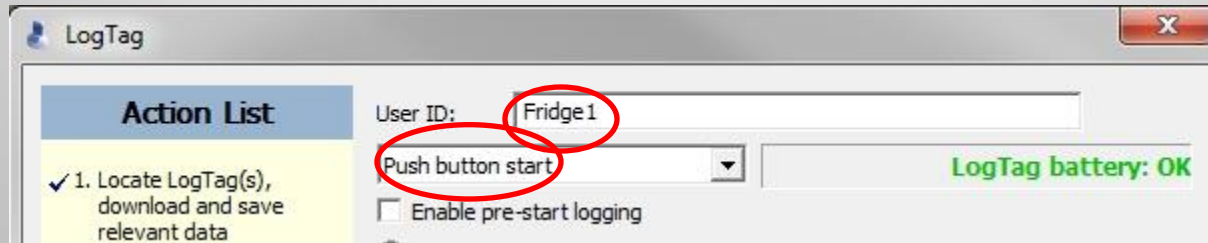
- User ID: Give each logger a unique name for easy identification.

- Example shown uses the User ID: Fridge1.

- The default name uses the serial number of the logger.

- Confirm that "Push button start" is chosen.

Configuring the Logger
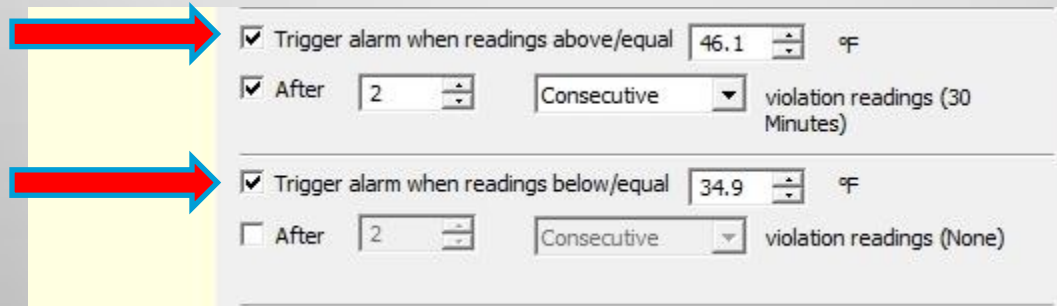
Confirm the following settings

- "Record readings so that:" is selected.

- Set "Record a reading every" to 15 Minutes.

Configuring the Logger
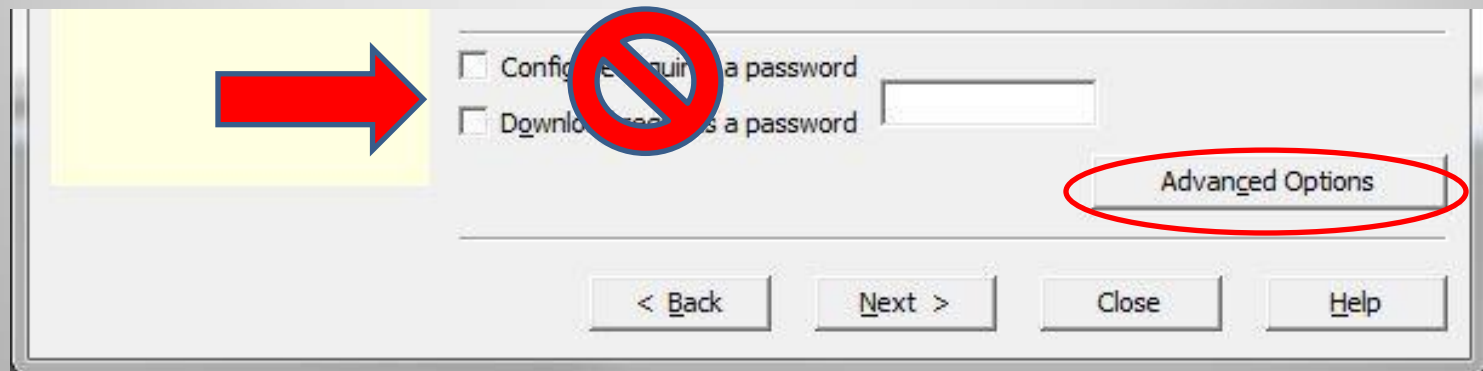

Confirm the following settings

- Box checked next to "Trigger alarm when readings above/equal": 46.1°F

- Box checked next to "After" and enter "2" "Consecutive" violation readings (30 Minutes)

- Box checked next to "Trigger alarm when readings below/equal": 34.9°F

- Box <u>unchecked</u> next to "After" for cold temperatures.

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Configuring the Logger

- We recommend leaving the "Configure requires a password" and "Download requires a password" options unchecked.

- If enabled and the password is lost the logger will require factory support to unlock.

- Click the "Advance Options" button to continue.

Configuring the Logger

Configure - Advanced Options

☐ Clear and reset alarm when STOP/Clear button pressed

☑ Alarm remains on even if readings return to non-violation range

☐ Pause alarm/statistics processing for [0] readings when button pressed (None)

Temperature display unit: [Fahrenheit ▼]

☑ Switch off display after 30 seconds (Power save)

☑ Allow logging stop with STOP button

☐ Allow reset of logger with START button

☑ Show total summary days collected

[OK] [Cancel] [Help]
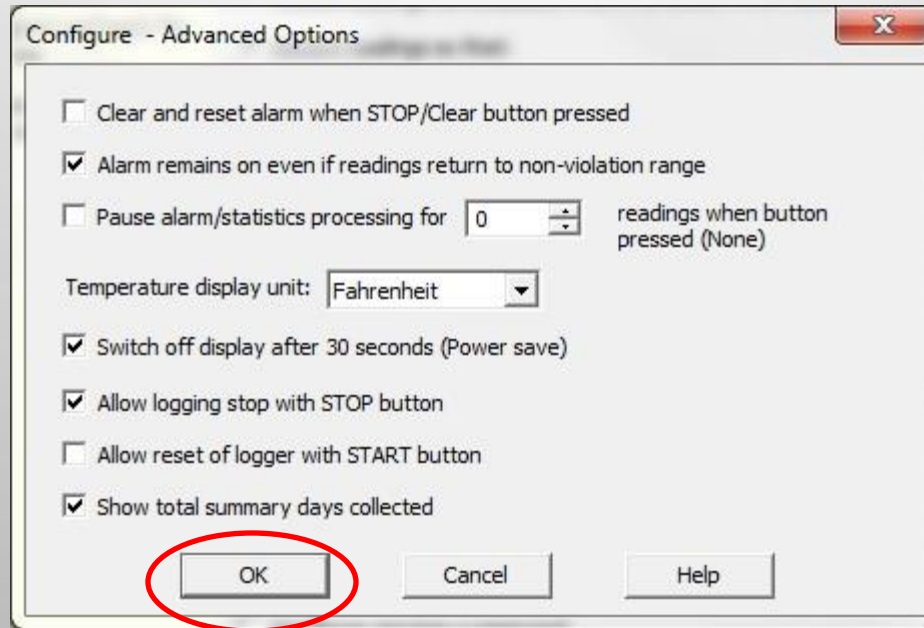
Confirm the following settings

- Box is checked for "Alarm remains on even if readings return to non-violation range."

- Box is checked for "Switch off display after 30 seconds (Power save)."

- Confirm that "Temperature display unit:" is set to the desired scale.

- Box is checked for "Allow logging to stop with STOP button."

- Box is checked for "Show total summary days collected."

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Configuring the Logger
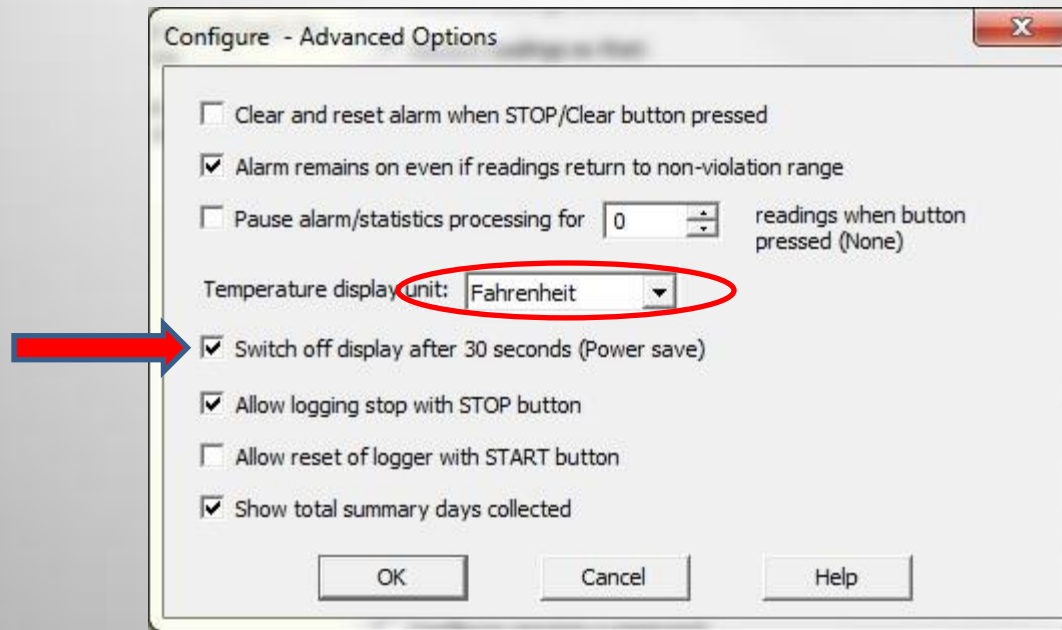
- The logger will display temperature in Fahrenheit by default. If you would like to change it to Celsius you can do so by selecting it in the drop-down menu.

- With "Power Save" enabled the logger display will turn off after 30 seconds in order to maximize battery life. To turn on the display simply press the "Review" button on the logger.

- The logger continues to record even when the display is off.

Configuring the Logger

Click the "OK" button to continue

Configuring the Logger

Click "Next" to send configuration to the logger.

Configuring the Logger

Configuration is now being transferred to the logger.

Action List

Please wait while the updated configuration settings are uploaded to the LogTag(s).

✓ 1. Welcome and general instructions

✓ 2. Locate LogTag(s), download and save relevant data

✓ 3. Configure LogTag(s) for next use

▶ 4. Prepare LogTag(s) for next use

Do not remove LogTag(s) or disconnect interface during this process.

Location	Interface Model	LogTag ID
USB	LTI/USB	1060016932

Progress bar

60%

Again

< Back   Next >   Close   Help

Configuring the Logger

- Once progress bar reaches 100% you can remove the Logger from the dock and click "Close."

Configuring the Logger

- You can now bring the logger back to its proper location and carefully reattach the probe.

- **Important** – Loggers must be plugged into serial number matched probe.

Button Actions Overview

**Review/Mark button**
Press to enter REVIEW mode and then press again to advance through the day statistics.
This action also places an inspection mark in the log if recording is active

Start/Clear/Stop button
Press to start recording
Press to clear alarm (if function enabled)
Press to Stop recording (if function enabled)
Press to exit day summary review.

Display Overview
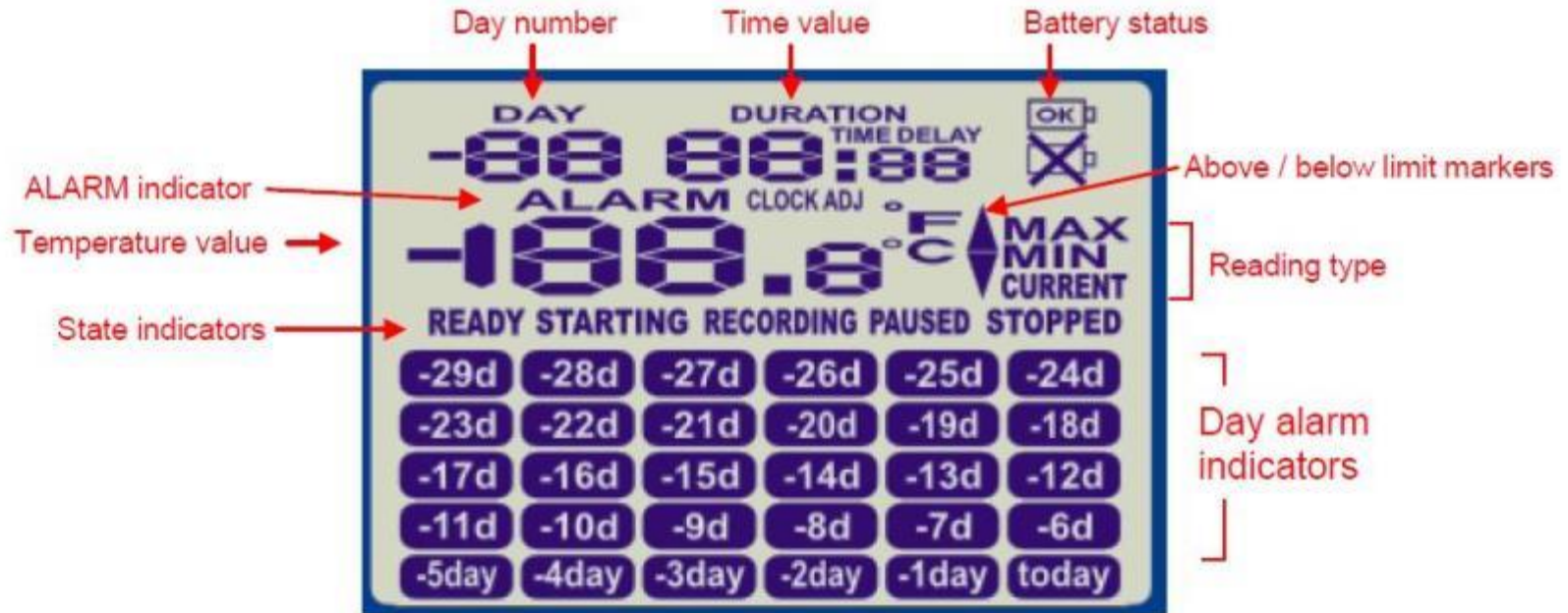
Temperature Value - Temperature value (in °C or °F)

Reading Type - CURRENT = The temperature of the last reading taken
MAX = The maximum reading in a given 24hr period
MIN = The minimum reading in a given 24hr period

ALARM Indicator – ALARM appears when an alarm is triggered

Display Overview

Time value - The time (in HH:MM) can be current time, time remaining to start of delayed start, or duration of a given max/min value above/below the specified limits.

Display Overview

The value displayed is indicated by the following:
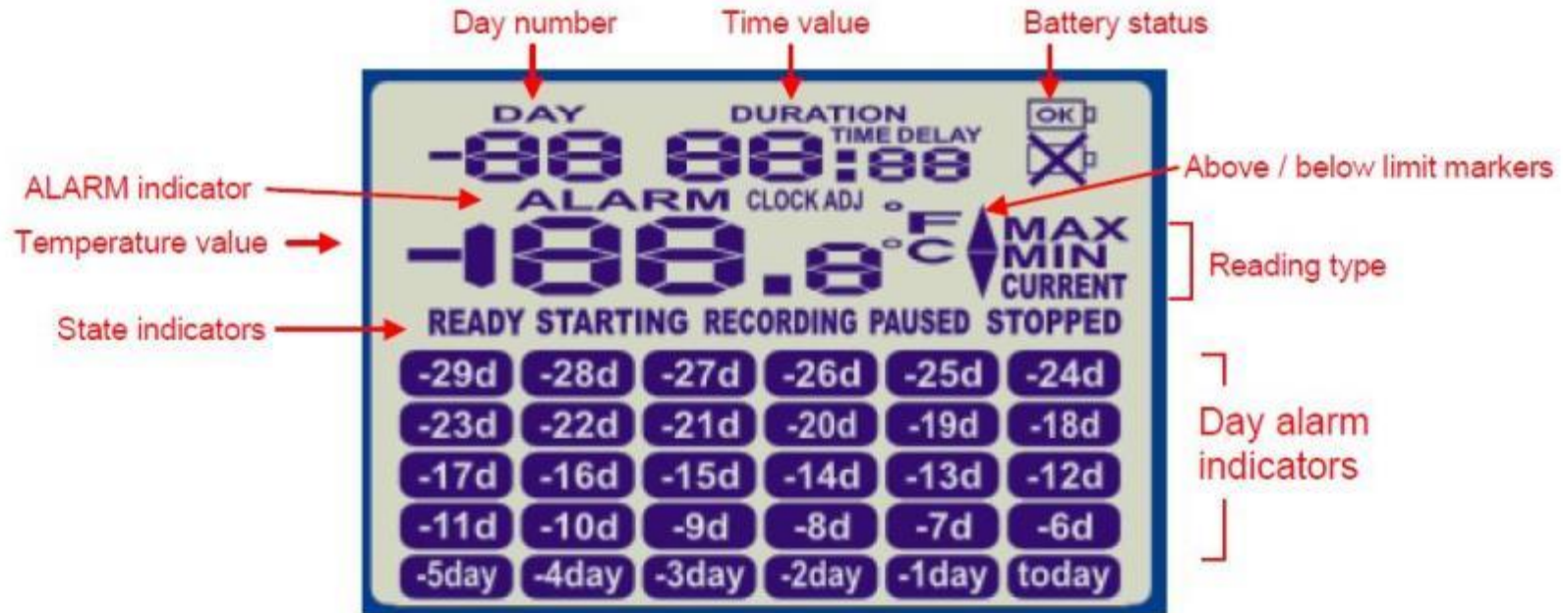
TIME = Displaying Current Time (READY & RECORDING modes)

TIME DELAY = Displaying remaining time to recording start when a DELAYED START time has been configured (STARTING MODE)

DURATION = Displaying duration of a given MAX/MIN statistic above/below the limits in a given day (REVIEW MODE)

Display Overview
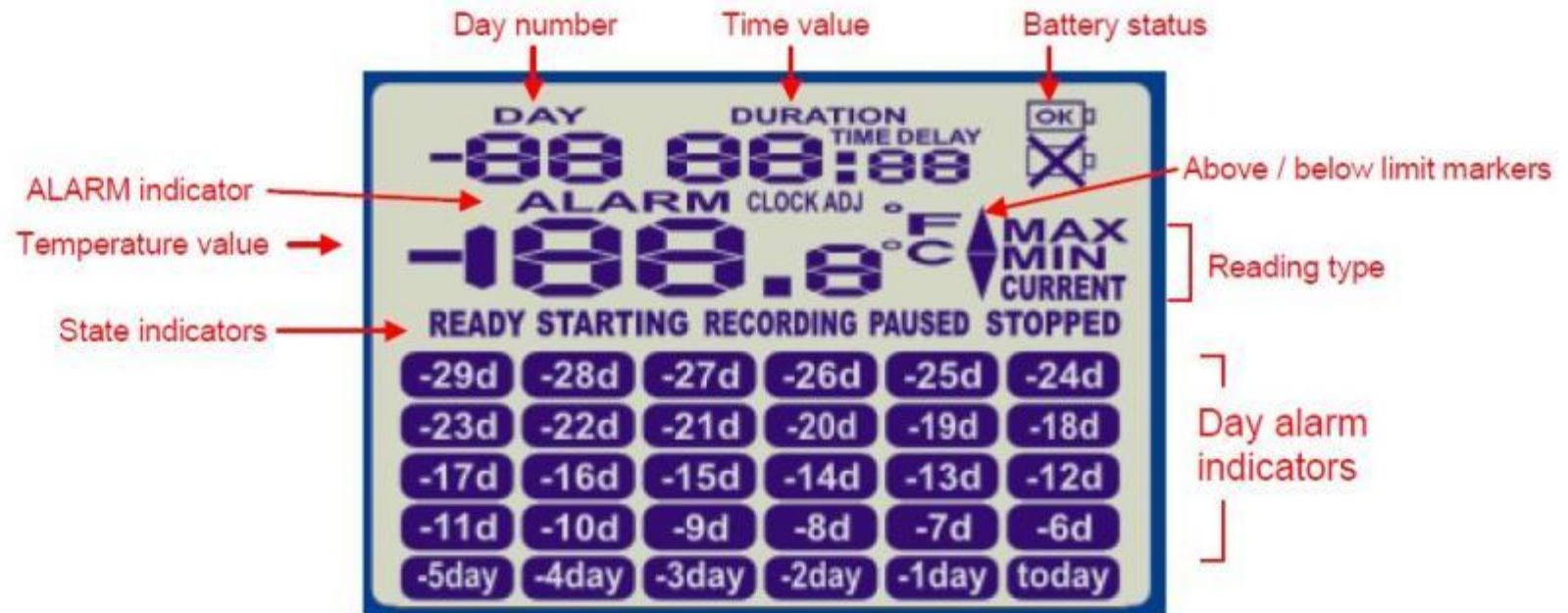
Battery status – Performs battery test hourly

OK — displayed when battery is tested OK.

— displayed when battery is tested LOW.

Display Overview
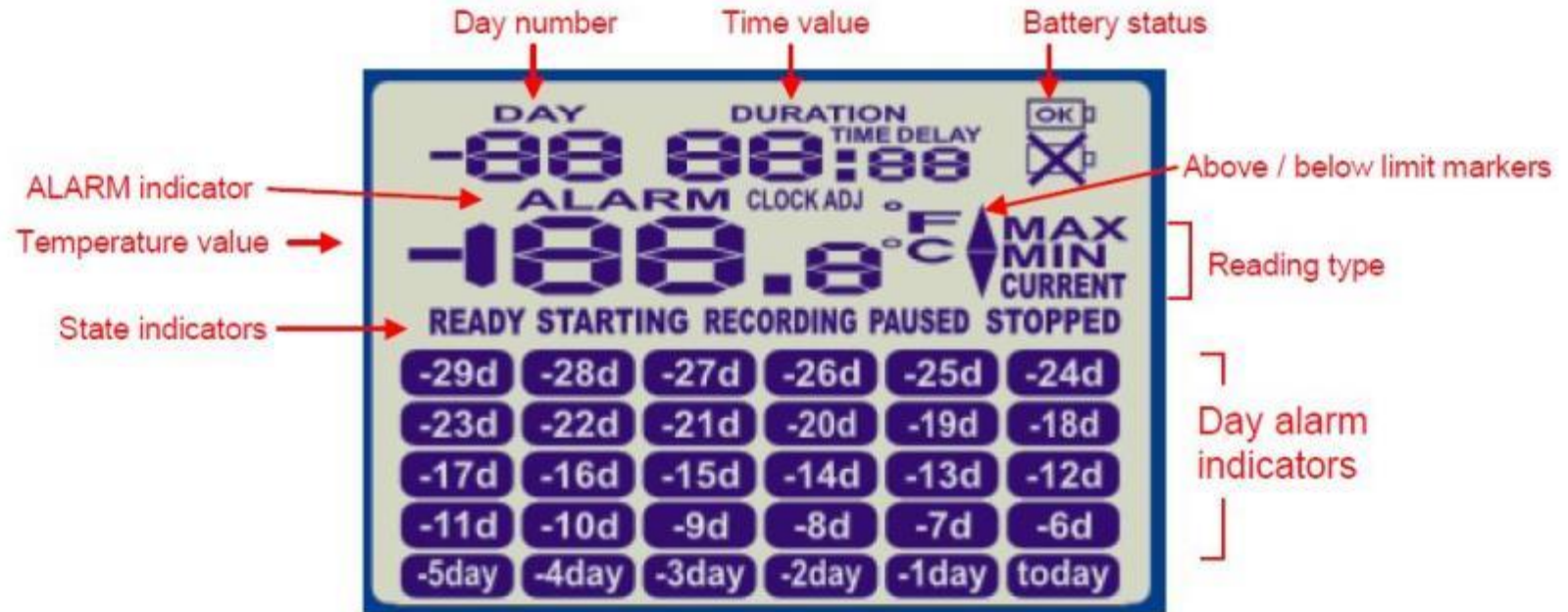
State Indicator

READY = Ready to start recording

STARTING = Preparing to start recording. If a delayed start is configured then displays time remaining to recording start

RECORDING = Logger is recording (logging data)

Display Overview

State Indicator

PAUSED = Max/Min statistics paused due to button press activity (if so configured)

Stopped = Recording has stopped

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Display Overview
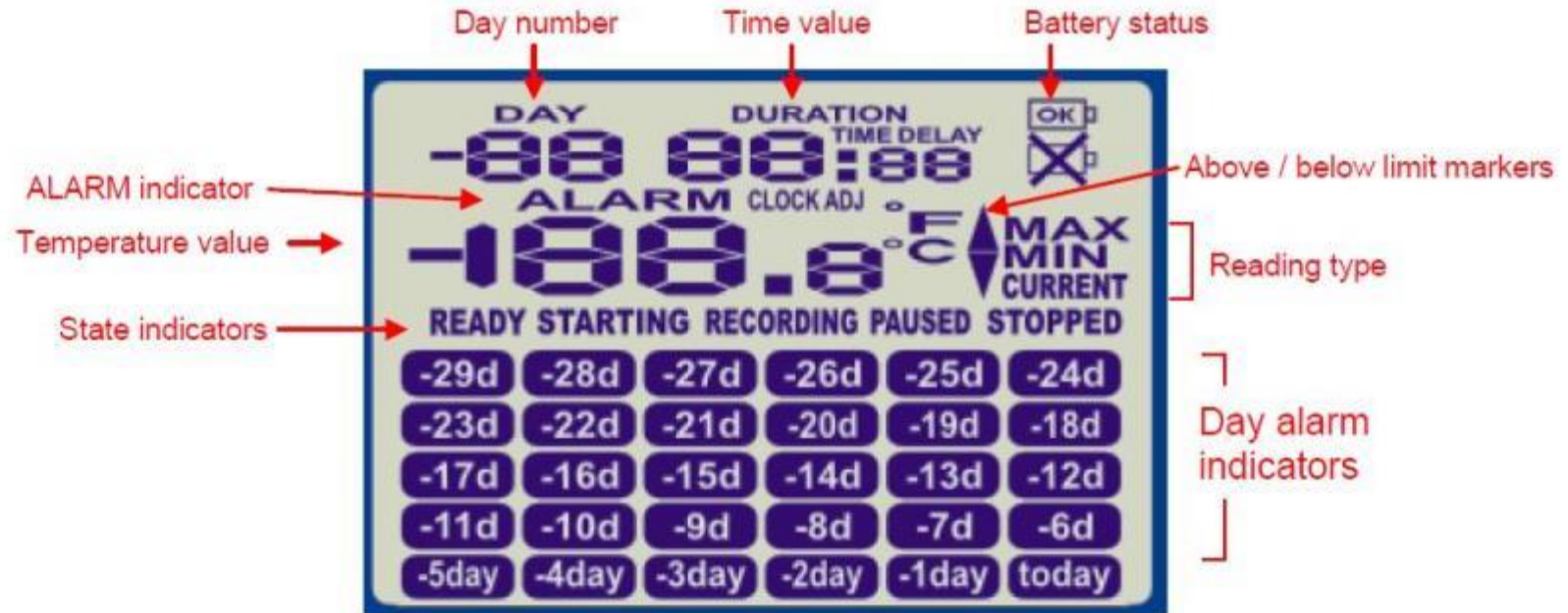
Day Alarm Indicators – The display is organized with a table of "day alarm indicator" segments named "Today" to "-29d" which are switched on when a given day has an alarm trigger
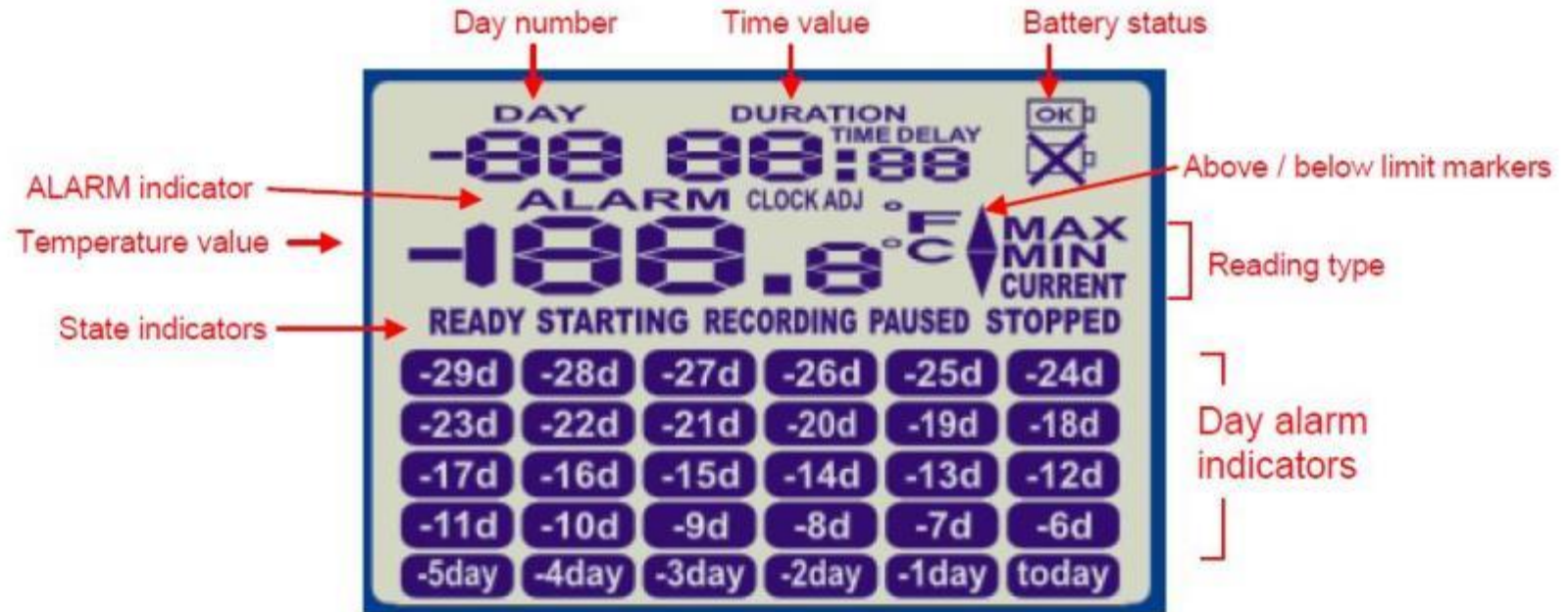
Day Number – Default is the day number of the current selected day statistic is displayed when in review mode. TODAY is DAY "0", yesterday is DAY "-1"

Your loggers are configured to display the total number of days collected while recording

Starting the Logger

- **Important** – For the logger to record temperature data it must first be properly started using the "Start/Clear/Stop" button (lower of the two buttons).

- The following slides will go over the procedure for starting the logger.

- Practice these steps until you are confident in your ability to start the logger and confirm it is recording data.

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Starting the Logger

It is recommended that you read through the next few slides before attempting to start your logger. Once done please go through them again while you follow along with your logger.

1. Confirm that "Ready" is displayed on the LCD Screen.
   - If "Stopped" is displayed the logger must be plugged back into the docking station and have the configuration sent over to it.

2. Press and hold the start button and observe that the "STARTING" icon starts flashing – Hold button down and release as soon as "Starting" stops flashing (Typically 4-6 seconds but it can take longer if button is not continually depressed).

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Starting the Logger

- Once released "STARTING" icon stops flashing – If it doesn't or goes back to "Ready" try again.

- The logger will briefly display "Starting" solid on the screen before switching to "Recording."

- At this time the temperature will be displayed on the screen signifying that the logger is on and recording data.

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Starting the Logger

- It is important to release the start button as soon as the "starting" icon stops flashing.

- Holding the button too long or releasing the button too soon will revert the logger back to "ready" status. It can take some practice to get your timing right.

- Failure to start the logger will result in no temperature data being recorded.

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Congratulations!

You're Logging!

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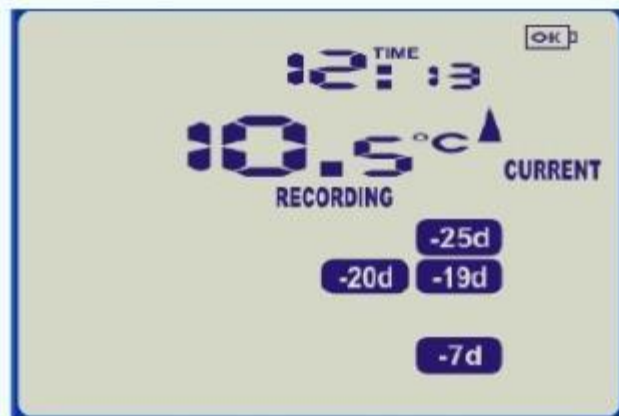
Recording Display

- The normal recording mode display shows the current temperature of the last log taken and is updated at the same rate as the logging interval.

- The current time, battery status, and alarm trigger day summary are also displayed.
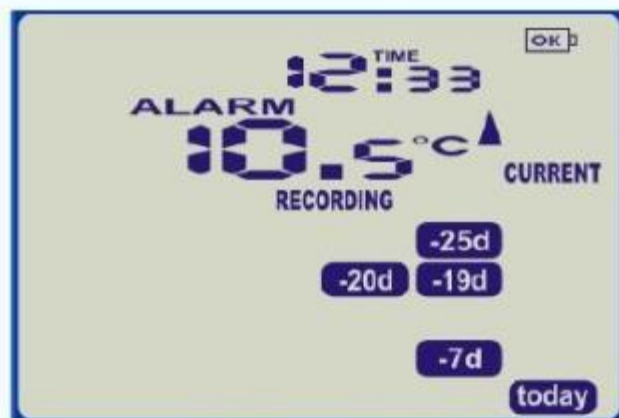
The recorder shows alarm triggers 7, 19, 20 & 25 days ago.

The current temperature is over the upper limit (as indicated by the up arrow) but the duration of this temperature excursion has not yet triggered an alarm.

20 Minutes later

The temperature excursion has triggered an alarm.

The **ALARM** symbol is shown and the **today** marker day alarm indicator is shown.

12 hours later

The temperature has returned to the acceptable range but the alarm remains present.
(i.e has not been inspected and cleared)

The day summary has shifted by 1 day as the display time has gone through midnight (00:00).

Reviewing Daily Statistics

- Press the "Review" button to display the currents day's max temperature
- Document this max temperature on your paper temperature log.
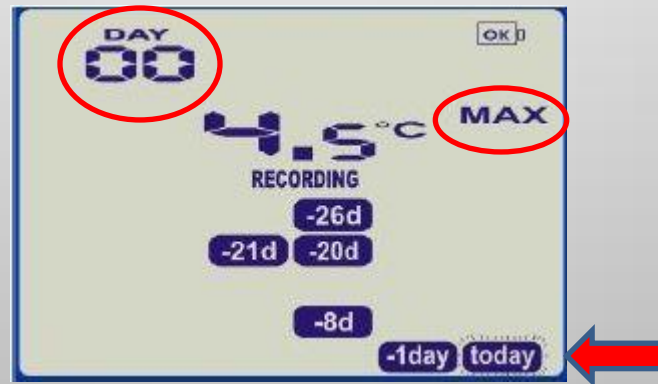
- The "Today" segment flashes and 'Day 00' is shown to indicate the 'Today' selection.

NOTE: With the Power Save feature enabled the display will go blank after 30 seconds. Pressing the "Review" button will wake the logger and bring up the display.

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Reviewing Daily Statistics

- Pressing "Review" again displays the day's minimum temperature.
- Document this min temperature on your paper temperature log.

Reviewing Daily Statistics

- Pressing "Review" again displays the next previous day's max statistic

- In this example the selected day has recorded temperatures that are above the upper limit and the duration value shows the amount of time recorded above the limit.

- The max temperature is above the upper limit so the up arrow is shown and an alarm was triggered by this reading as indicated by the ALARM text shown.

Reviewing Daily Statistics

- Pressing "Review" again displays the next previous day's minimum temperature.
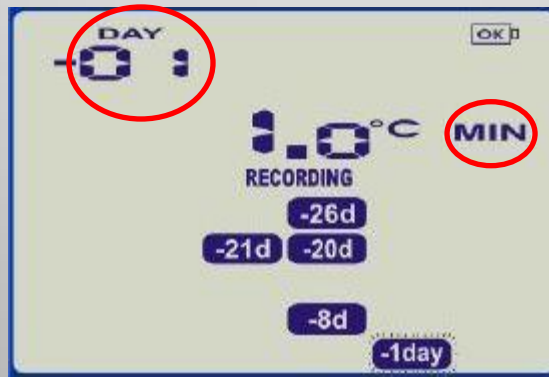

- With each press of the "Review" button the next previous day's max and min temperatures will be displayed (up to DAY -29).

- Pressing the "START" button at any time will revert the display back to normal mode.

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View/Save Logger Data

- Slide logger out of mount.

- Stop the recording process by pressing and holding the "Start/clear/stop" button.

- When "STOPPED" is no longer flashing release the button.

- You should see "STOPPED" on screen.

- ***It is important to confirm that the logger is stopped before continuing to the next step of unplugging the probe.***

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View/Save Logger Data

- Unplug probe from Logger – Important: Do not pull on the probe cable to unplug the probe from the logger as this can permanently damage the probe.

- To remove the probe grasp with fingers on probe end (blue band) and pull straight back from the Logger.
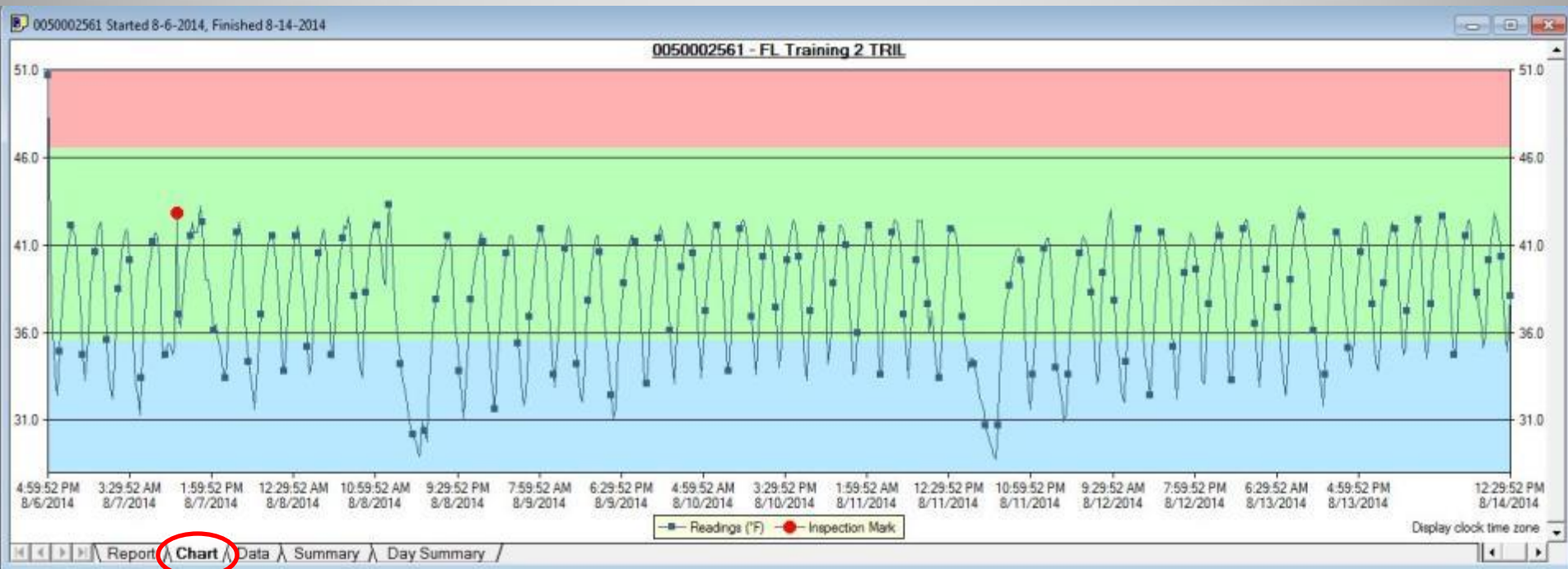

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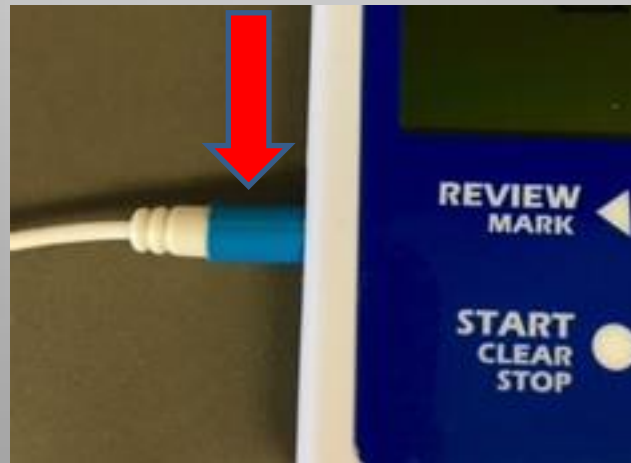
View/Save Logger Data

- **IMPORTANT** – Loggers must be plugged back into the proper serial number matched probe.

- Open LogTag Analyzer Software (LTA).

- Drop Logger into docking station.
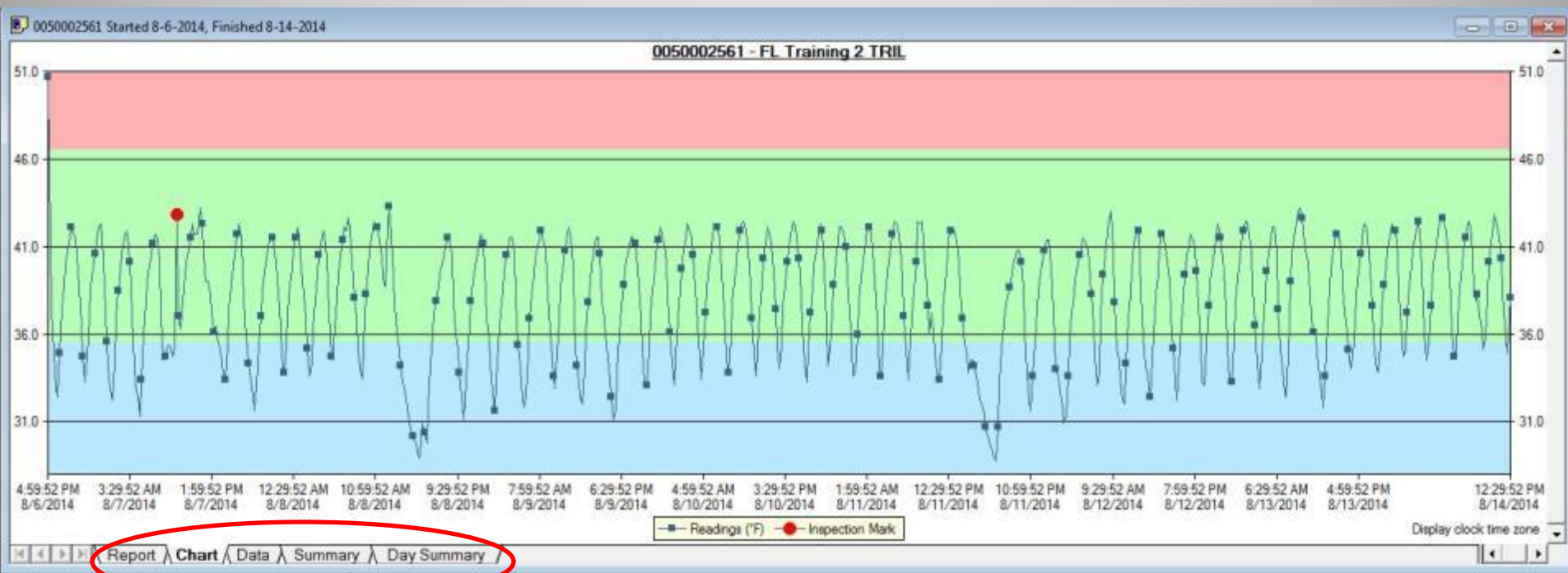
View/Save Logger Data

- Data is automatically saved to computer and LTA launches data window and displays the "Chart" tab.
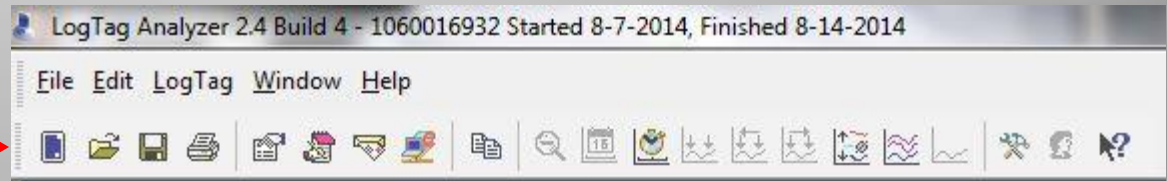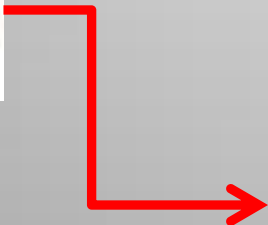
View/Save Logger Data

- Additional views and report options can be chosen from the tabs at the bottom of the window.

View/Save Logger Data

- Once graph is visible the data has been saved and the logger can be re-launched.

- To re-launch the logger click on the LogTag Analyzer Wizard button.

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View/Save Logger Data

- The logger can now be re-launched by following the same procedure described in the "Configuring the Logger" section.

- LTA will retain the configuration settings, however we recommend double checking that they are correct before sending the configuration to the logger and re-launching the logger – see "Configuring the Logger" section.

- Once configuration is complete and sent to the logger you can remove the logger from the docking station and return it to its proper location.

- Be sure that the logger is started using the "Start/Clear/Stop" button to ensure that your temperature data is recorded.

- **Important**- Loggers must be plugged into serial number matched probe.

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Troubleshooting

- Issue: Display shows -199.9 or recorded data shows -40.0

  Cause: Probe is/was not plugged into logger or not properly attached

  – Solution: Reattach probe to logger

- Issue: Software/PC doesn't recognize that Logger is plugged into dock

  – Solution 1: Ensure cardboard insert is removed from logger slot on docking station.

  – Solution 2: Ensure logger is firmly seated in docking station.

  – Solution 3: See "Resolving USB Installation Issues" document found on the website – www.MicroDAQ.com/California

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Troubleshooting

- Issue: Logger doesn't start after pressing "Start" button.

  – Solution: Review section on Starting the Logger

- Issue: Logger showing alarms and/or temperature excursions that my digital thermometer doesn't show

  – Cause: The LogTag data logger has been calibrated and tested by our ISO 17025:2005 accredited lab and was found to be accurate prior to shipping. In some cases the LogTag logger will be more sensitive to temperature changes than other thermometers and/or recorders and as such will show excursions that other devices do not pick up. While there is always the chance that the logger could be defective we have found that in the majority of these cases the logger was performing as it should. These temperature excursions are most common in "consumer grade" refrigeration units and are caused by the cycling of the compressor. If you see that the excursions happened at regular intervals the compressor cycling is most likely the cause.

Additional Support

- Detailed instructions on using the logger and LTA Software can be found in the LogTag Analyzer manual.

- The software manual can be downloaded from the website or by clicking on the "help" option from inside the LTA software.

- Technical support is available from MicroDAQ.com, Ltd. Monday – Friday from 9:30 – 4:30 EST by calling **603-746-5524** or email at **support@microdaq.com**

- Including "CA Support" in the subject line of your email will ensure the quickest response time.

Email Questions to Support@Microdaq.com
Include "CA Support" in the subject line of your email.

Thank you!