

# GO USB Loggers

## User Manual



Cargo Monitoring Solutions



# Table of Contents

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	Page
Introduction	3
Understanding the Device	3-4
Display Information	5
Battery Installation	6
Operating Instructions	6-7
GO USB Probe (TP1XD Model) Custom Instructions	8
File Names and Extensions	9
Understanding the PDF Data File	9-12
Configuration Software	13
Using the Software	13-15
Troubleshooting and FAQ's	16-17
Technical Support	18



# Introduction

The family of GO USB Loggers are configurable temperature and humidity devices for your cold chain needs.

An accompanying configuration software allows users to customize the logger to meet specific customer requirements. Data gathered and stored is easily accessible via a secure PDF file and available to share with key stakeholders. Time stamp recordings at the end of the PDF document create an audit trail of logger events.

Loggers come pre-configured from the factory with the following settings:

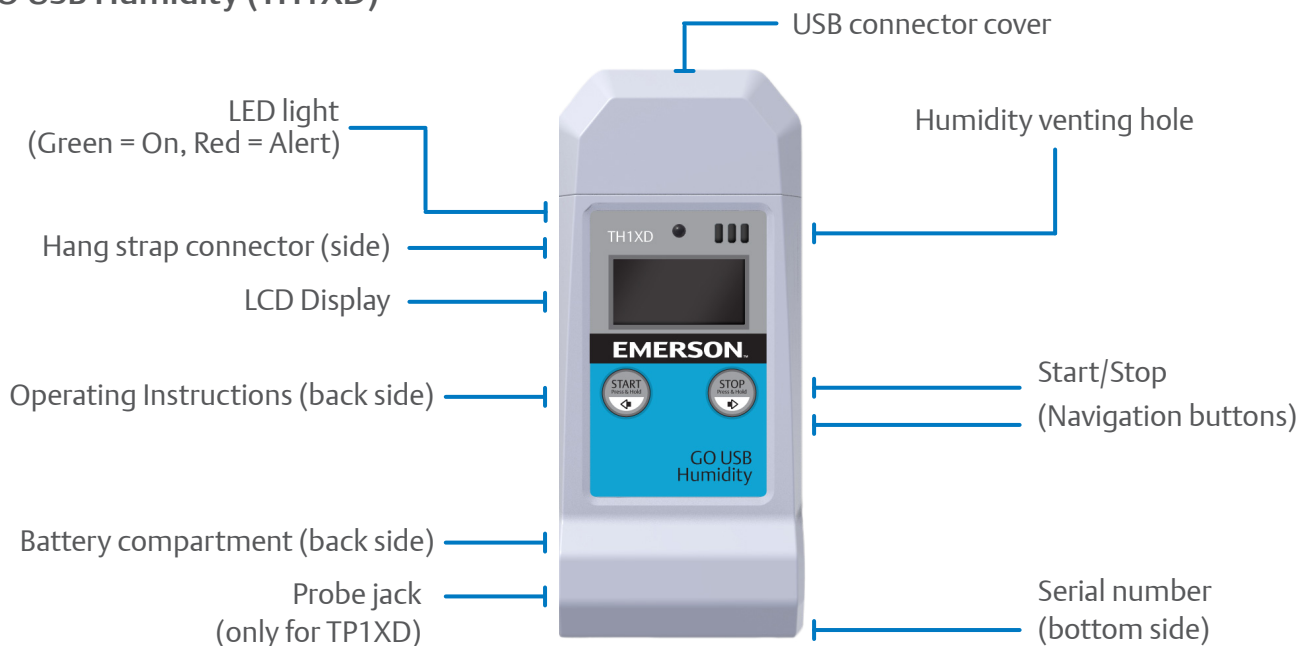
- Alerts: None
- Recording interval: 5-minutes
- Memory mode: Stop when full

What's in the box

- Five GO USB Loggers
- Five ER14250 (1/2 AA) Lithium batteries
- Five hang straps
- Only TP1XD model: Five dry ice probes
- Only TP1XD model: One calibration certificate

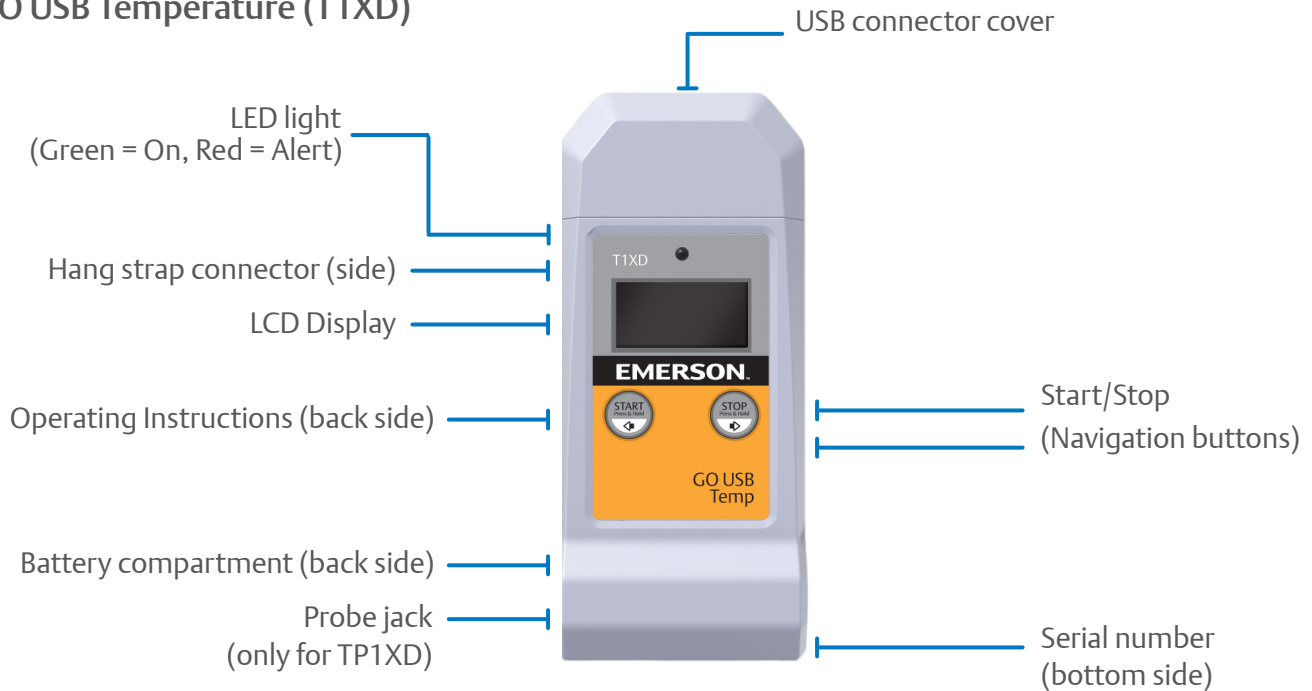
## Understanding the Device

### GO USB Humidity (TH1XD)

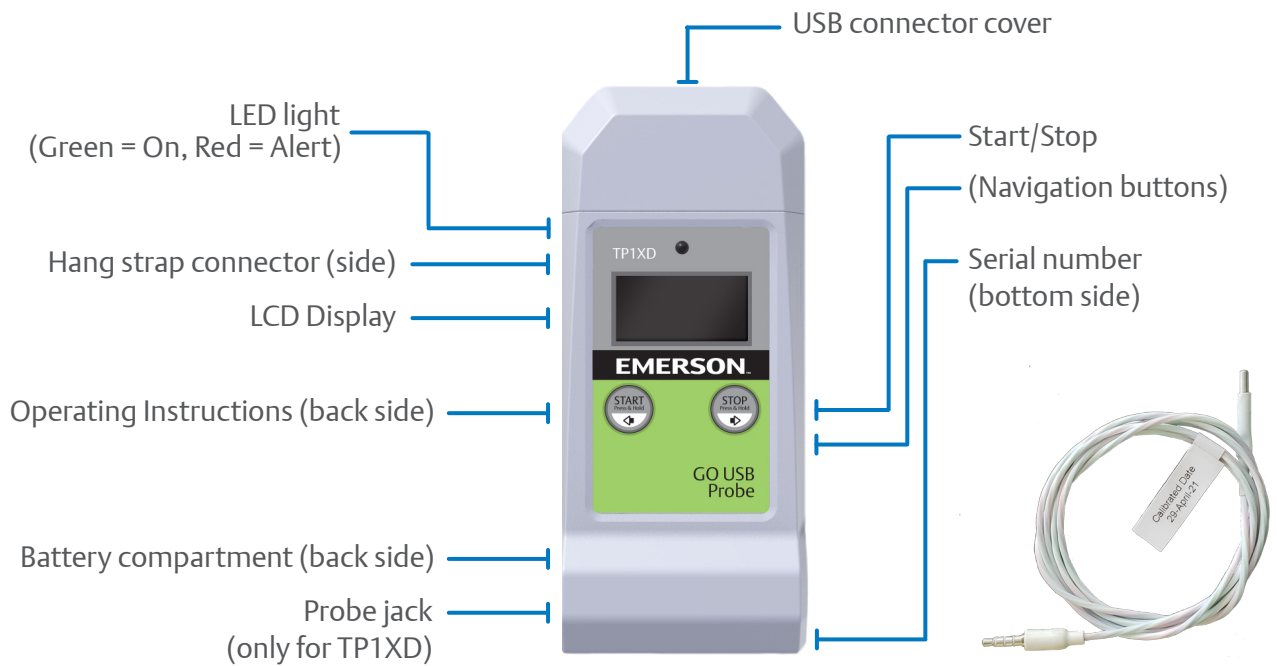


# Understanding the Device

## GO USB Temperature (T1XD)



## GO USB Probe (TP1XD)



# Display Information

The following icons are available and can be navigated by clicking the Start or Stop buttons.

**C:** Temperature, Humidity (TH1XD) and Probe (TP1XD).

**Hourglass:** When logger is in “start delay mode” or synchronizing with PC

**Max:** Maximum ambient temperature and humidity (TH1XD), ambient temperature (T1XD), or ambient temperature and probe temperature (TP1XD) during the recording period.

**Min:** Minimum ambient temperature and humidity (TH1XD), ambient temperature (T1XD), or ambient temperature and probe temperature (TP1XD) during the recording period.

**AVG:** Average ambient temperature and humidity (TH1XD), ambient temperature (T1XD), or ambient temperature and probe temperature (TP1XD) during the recording period.

**MKT:** Mean Kinetic ambient temperature the logger and probe (TP1XD), has experienced during the recording period.

**I:** Current interval setting.

**P:** Current probe temperature value (TP1XD only).

**°C:** If logger is configured to display Celsius.

**°F:** If logger is configured to display Fahrenheit.

**%:** Relative humidity percentage (TH1XD only).

**Battery Status:** Estimated battery life remaining.

**REC:** Indicates logger is actively recording data.

**Clock:** Current or running time as configured by the software.

**Bell:** Alert for temperature and/or humidity excursion (only applicable model).

**Q:** Quantity of measurements captured.



# Battery Installation

The GO USB Loggers come with pre-installed, non-rechargeable ER14250 ½ AA batteries. Ensure battery compartment is securely in place prior to use.

Note: Once battery is depleted, it cannot be recharged and should be properly discarded according to local recycling guidelines. It is recommended that replacement batteries be the same make and model. Should you replace<sup>1</sup> the battery with a different ER14250 battery model, please review the manufacturer's safety documentation and certifications such as:

- Material Safety Datasheet
- UN 38.3 report
- Other certifications as applicable

<sup>1</sup>Screwdriver not included

# Operating Instructions

To start recording, press and hold Start for ~3 seconds and then release. A green LED will flash and a REC symbol will appear on the LCD to indicate successful activation. The LED light will flash intermittently to indicate active recording. In the event of an alert, the LED will flash a red color. The unit can be configured to alert with sound. You may disable the sound by pressing and holding the STOP button for ~0.5 seconds. To stop recording, press and hold Stop for ~3 seconds and release. The REC symbol will disappear to indicate successful deactivation. The LED light will no longer blink intermittently.

**Note:** To prevent accidental deactivation, the configuration software has an option to disable the stop button. In the event the logger does not stop recording when pressing the stop button for 3 seconds, it is likely this feature has been enabled. Reconnect the logger to a PC and use the configuration software to stop the logger. See the Configuration Software section for more detail.



# Operating Instructions (cont'd)

To cycle through the LCD information, click (short press) either the Start or Stop button. Navigation arrows indicates direction of information.

You may wish to create “Marked events” on your PDF and CSV report to indicate an event or occurrence. To create a marked event, simultaneously press and hold the Start+Stop button for ~2 seconds. The green LED will blink rapidly to indicate successful marking.

The GO USB Loggers are designed to continue recording data until manually stopped or until memory is full unless the FIFO (first-in, first-out) mode is enabled. When connected to a PC, the logger will continue recording temperature information. If the logger has not been manually stopped (either via button or software) an INTERIM.pdf and INTERIM.csv file will be available in the directory. This file name indicates recording is ongoing. You may transfer the file(s) to your PC and rename manually. Once stopped, the logger will rename the PDF and CSV file with the serial number of the logger. You may connect to PC to download the generated reports (PDF and/or CSV) at any time. To ensure data integrity, the PDF report cannot be manually deleted from the logger root directory. If an attempt to delete the PDF or CSV file is made, reports will auto generate next time the logger is connected to a PC.

If you wish to clear the memory of the device and to start a new recording, you can either utilize the configuration software (see configuration software section) or to stop the logger and manually start it again. This action will clear memory and start a new data set.

The hang strap which accompanies the logger can be used to hang the logger at a location within the shipment. If this strap is not needed, it may be removed.



# GO USB Probe (TP1XD Model) Custom Instructions

The TP1XD logger has been shipped with a pre-calibrated probe. Prior to using the probe, ensure that the probe serial number matches the serial number of the logger. The serial number is found on the flag sticker of the probe. The serial number of the USB logger is found at the bottom of the logger.

*Please note: Failing to match the probe to the correct logger will not prevent use of probe but may have an adverse effect on calibration accuracy.*





# File Names and Extensions


The USB Loggers generate two (2) file types after connecting to the PC.

- A secure PDF<sup>2</sup> file that can be transferred to the PC and shared at any time.
- A CSV file which can be transferred to the PC and shared at any time.

<sup>2</sup>For data integrity and security reasons, it is recommended to only share PDF files.


## Understanding the PDF Data File

Once connected to your PC via USB, a data report similar to the one below is created:



**File Created Date:** 2021/04/20 07:49:23

# Data Report



**Note:**All times shown are based on UTC and 24-Hour clock [YYYY/MM/DD HH:MM:SS]

Configuration <b>1</b>		Fixed information <b>2</b>	
Start Delay: 0 min	Interval Time: 1 min	Firmware Version:	V1.03
Logger Temperature Limit: 156.2°F #20.2°F		Model:	T1XD-EMR00
Probe Temperature Limit: 140.0°F #112.0°F		Serial Number:	T0000000
Note: None			

Logging Summary <b>3</b>			
Logger Sensor Temperature		Probe Sensor Temperature	
Points:	1424		0
Max:	75.5°F		Undetected
Min:	64.0°F		Undetected
Average:	64.0°F		Undetected
MKT:	67.8°F		Undetected
Memory mode:	Stop Recording	Total Time:	0 day 23 hr 43 min
Start Time:	2021/04/19 08:05:33	Stop Time:	2021/04/20 07:48:33
Alert status:	NONE	Alert mode:	Consecutive 0 min

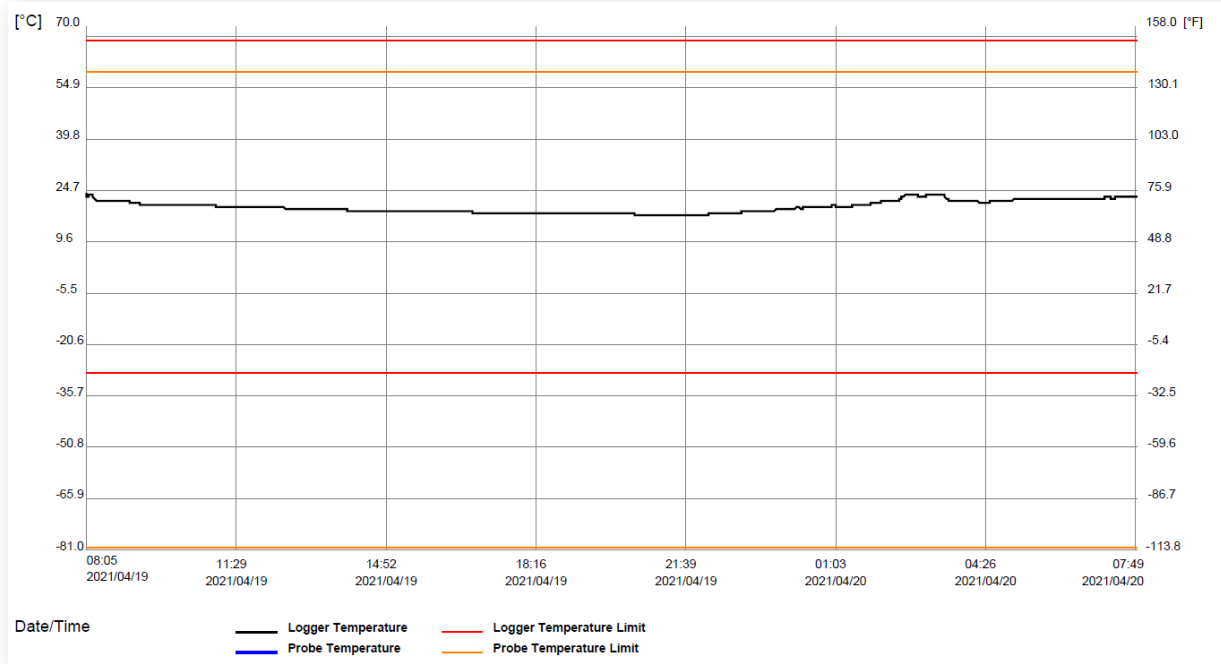
TP1XD summary report example.

1. The configuration section of the PDF report refers to the temperature and humidity limits and recording interval configured via the configuration software.
2. Fixed information refers to firmware version, model, and serial number. This information is fixed and cannot be altered via software.
3. Logging summary refers to data collected up to the point of PDF file being generated. Triggered alerts and alert mode are visible here.



# Understanding the PDF Data File (cont'd)

Every PDF report comes with a historical record in a graph and table form. If alert thresholds have been configured, they are displayed and color coded. A legend can be found below the graph as a reference.



TP1XD graph example.

Each consecutive page following the graph contains the time and measurement point collected.

Logger Sensor Temperature/Probe Sensor Temperature																													
Date	Time	*F	P	*F	Date	Time	*F	P	*F	Date	Time	*F	P	*F	Date	Time	*F	P	*F										
2021/04/19	08:05:33	75.5	-		2021/04/19	09:41:33	69.8	-		2021/04/19	11:17:33	68.7	-		2021/04/19	12:53:33	67.4	-		2021/04/19	14:29:33	66.5	-		2021/04/19	16:05:33	66.2	-	
2021/04/19	08:06:33	74.8	-		2021/04/19	09:42:33	69.8	-		2021/04/19	11:18:33	68.7	-		2021/04/19	12:54:33	67.4	-		2021/04/19	14:30:33	66.5	-		2021/04/19	16:06:33	66.2	-	
2021/04/19	08:07:33	73.9	-		2021/04/19	09:43:33	69.8	-		2021/04/19	11:19:33	68.7	-		2021/04/19	12:55:33	67.4	-		2021/04/19	14:31:33	66.5	-		2021/04/19	16:07:33	66.2	-	
2021/04/19	08:08:33	73.9	-		2021/04/19	09:44:33	69.8	-		2021/04/19	11:20:33	68.7	-		2021/04/19	12:56:33	67.4	-		2021/04/19	14:32:33	66.5	-		2021/04/19	16:08:33	66.2	-	
2021/04/19	08:09:33	74.3	-		2021/04/19	09:45:33	69.8	-		2021/04/19	11:21:33	68.7	-		2021/04/19	12:57:33	67.4	-		2021/04/19	14:33:33	66.5	-		2021/04/19	16:09:33	66.2	-	
2021/04/19	08:10:33	74.4	-		2021/04/19	09:46:33	69.8	-		2021/04/19	11:22:33	68.7	-		2021/04/19	12:58:33	67.4	-		2021/04/19	14:34:33	66.3	-		2021/04/19	16:10:33	66.2	-	
2021/04/19	08:11:33	74.6	-		2021/04/19	09:47:33	69.8	-		2021/04/19	11:23:33	68.7	-		2021/04/19	12:59:33	67.4	-		2021/04/19	14:35:33	66.3	-		2021/04/19	16:11:33	66.2	-	
2021/04/19	08:12:33	74.8	-		2021/04/19	09:48:33	69.8	-		2021/04/19	11:24:33	68.7	-		2021/04/19	13:00:33	67.4	-		2021/04/19	14:36:33	66.3	-		2021/04/19	16:12:33	66.2	-	
2021/04/19	08:13:33	74.6	-		2021/04/19	09:49:33	69.8	-		2021/04/19	11:25:33	68.7	-		2021/04/19	13:01:33	67.4	-		2021/04/19	14:37:33	66.3	-		2021/04/19	16:13:33	66.2	-	
2021/04/19	08:14:33	74.3	-		2021/04/19	09:50:33	69.8	-		2021/04/19	11:26:33	68.7	-		2021/04/19	13:02:33	67.4	-		2021/04/19	14:38:33	66.3	-		2021/04/19	16:14:33	66.2	-	
2021/04/19	08:15:33	73.7	-		2021/04/19	09:51:33	69.8	-		2021/04/19	11:27:33	68.7	-		2021/04/19	13:03:33	67.4	-		2021/04/19	14:39:33	66.3	-		2021/04/19	16:15:33	66.2	-	
2021/04/19	08:16:33	73.2	-		2021/04/19	09:52:33	69.8	-		2021/04/19	11:28:33	68.7	-		2021/04/19	13:04:33	67.4	-		2021/04/19	14:40:33	66.3	-		2021/04/19	16:16:33	66.2	-	
2021/04/19	08:17:33	72.5	-		2021/04/19	09:53:33	69.8	-		2021/04/19	11:29:33	68.7	-		2021/04/19	13:05:33	67.4	-		2021/04/19	14:41:33	66.3	-		2021/04/19	16:17:33	66.2	-	
2021/04/19	08:18:33	72.1	-		2021/04/19	09:54:33	69.8	-		2021/04/19	11:30:33	68.7	-		2021/04/19	13:06:33	67.4	-		2021/04/19	14:42:33	66.3	-		2021/04/19	16:18:33	66.2	-	
2021/04/19	08:19:33	71.7	-		2021/04/19	09:55:33	69.8	-		2021/04/19	11:31:33	68.7	-		2021/04/19	13:07:33	67.4	-		2021/04/19	14:43:33	66.3	-		2021/04/19	16:19:33	66.2	-	
2021/04/19	08:20:33	71.6	-		2021/04/19	09:56:33	69.8	-		2021/04/19	11:32:33	68.7	-		2021/04/19	13:08:33	67.4	-		2021/04/19	14:44:33	66.3	-		2021/04/19	16:20:33	66.2	-	
2021/04/19	08:21:33	71.2	-		2021/04/19	09:57:33	69.8	-		2021/04/19	11:33:33	68.7	-		2021/04/19	13:09:33	67.4	-		2021/04/19	14:45:33	66.3	-		2021/04/19	16:21:33	66.2	-	
2021/04/19	08:22:33	71.2	-		2021/04/19	09:58:33	69.8	-		2021/04/19	11:34:33	68.7	-		2021/04/19	13:10:33	67.4	-		2021/04/19	14:46:33	66.3	-		2021/04/19	16:22:33	66.2	-	
2021/04/19	08:23:33	71.2	-		2021/04/19	09:59:33	69.8	-		2021/04/19	11:35:33	68.7	-		2021/04/19	13:11:33	67.4	-		2021/04/19	14:47:33	66.3	-		2021/04/19	16:23:33	66.2	-	
2021/04/19	08:24:33	71.0	-		2021/04/19	10:00:33	69.8	-		2021/04/19	11:36:33	68.7	-		2021/04/19	13:12:33	67.4	-		2021/04/19	14:48:33	66.2	-		2021/04/19	16:24:33	66.2	-	
2021/04/19	08:25:33	71.0	-		2021/04/19	10:01:33	69.8	-		2021/04/19	11:37:33	68.7	-		2021/04/19	13:13:33	67.4	-		2021/04/19	14:49:33	66.2	-		2021/04/19	16:25:33	66.2	-	
2021/04/19	08:26:33	71.0	-		2021/04/19	10:02:33	69.8	-		2021/04/19	11:38:33	68.7	-		2021/04/19	13:14:33	67.4	-		2021/04/19	14:50:33	66.2	-		2021/04/19	16:26:33	66.2	-	
2021/04/19	08:27:33	71.0	-		2021/04/19	10:03:33	69.8	-		2021/04/19	11:39:33	68.7	-		2021/04/19	13:15:33	67.4	-		2021/04/19	14:51:33	66.2	-		2021/04/19	16:27:33	66.2	-	
2021/04/19	08:28:33	71.0	-		2021/04/19	10:04:33	69.8	-		2021/04/19	11:40:33	68.7	-		2021/04/19	13:16:33	67.4	-		2021/04/19	14:52:33	66.2	-		2021/04/19	16:28:33	66.2	-	
2021/04/19	08:29:33	71.0	-		2021/04/19	10:05:33	69.8	-		2021/04/19	11:41:33	68.7	-		2021/04/19	13:17:33	67.4	-		2021/04/19	14:53:33	66.2	-		2021/04/19	16:29:33	66.2	-	
2021/04/19	08:30:33	71.0	-		2021/04/19	10:06:33	69.8	-		2021/04/19	11:42:33	68.7	-		2021/04/19	13:18:33	67.4	-		2021/04/19	14:54:33	66.2	-		2021/04/19	16:30:33	66.2	-	
2021/04/19	08:31:33	71.0	-		2021/04/19	10:07:33	69.8	-		2021/04/19	11:43:33	68.7	-		2021/04/19	13:19:33	67.4	-		2021/04/19	14:55:33	66.2	-		2021/04/19	16:31:33	66.2	-	
2021/04/19	08:32:33	71.0	-		2021/04/19	10:08:33	69.8	-		2021/04/19	11:44:33	68.7	-		2021/04/19	13:20:33	67.4	-		2021/04/19	14:56:33	66.2	-		2021/04/19	16:32:33	66.2	-	

TP1XD data table example.



**EMERSON**

# Understanding the PDF Data File (cont'd)

The final page of the PDF report is the Audit Trail.

This page shows all interactions with the logger such as:

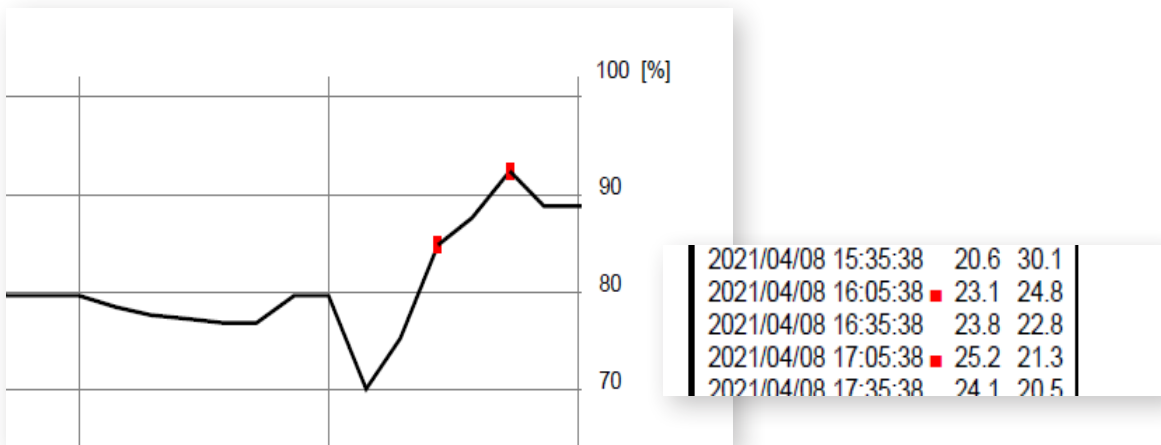
- Original configuration date
- Activation time
- Deactivation time
- File generation times
- PC connect and disconnect times
- Marked event times

Audit Trail			
No.	Date/Time On Device	Initiator	Event Name
0	2021/04/19 08:05:23	Software	Set Configuration
1	2021/04/19 08:05:33	Device Button	Start Recording
2	2021/04/19 08:07:28	Device Auto	USB Connect
3	2021/04/19 08:07:28	Device Auto	File Generation
4	2021/04/19 08:12:58	Device Auto	USB Disconnect
5	2021/04/20 02:27:53	Device Auto	USB Connect
6	2021/04/20 02:27:53	Device Auto	File Generation
7	2021/04/20 03:26:03	Device Auto	USB Disconnect
8	2021/04/20 07:49:23	Device Auto	USB Connect

The current recording is not stopped...

TP1XD audit trail page example.

Marked events appear on the PDF report as red dots on the graph and in the running table.



Two marked events.

# Understanding the PDF Data File (cont'd)

A CSV file is generated along with the PDF report. This file is generated for your convenience and can be used to create additional graphs or import data to a repository of choice.<sup>3</sup>

	A	B	C	D	E	F	G	H	I	J	K	L
1	USB Logger	CONFIGURATION										
2	Serial number-TH123456											
3	Part number-TH1XD-EMR00											
4	Start Delay	0 min	Interval Ti	30 min 0 sec								
5	Start Time	#####	Stop Time	#####	Total Time	1 day 0 hr 30 min						
6												
7	Logger Sensor Temperature											
8	Max	26.5(C)	Min	19.3(C)	Average	23.1(C)	MKT	22.9(C)				
9	Logger Sensor Humidity											
10	Max	36.4%RH	Min	20.4%RH	Average	28.7%RH						
11	Date Time	Logger Te	Logger Te	Logger Humidity(%RH)								
12												
13	4/7/2021 17:35				Activated							
14	4/7/2021 17:35	26.5	79.7	28.6	START							
15	4/7/2021 18:05	24	75.2	27.7								
16	4/7/2021 18:35	23.9	75	27.8								
17	4/7/2021 19:05	23.8	74.8	25.7								
18	4/7/2021 19:35	23.8	74.8	27.3								
19	4/7/2021 20:05	23.8	74.8	28.6								
20	4/7/2021 20:35	23.8	74.8	28.7								

TH1XD CSV file example.

<sup>3</sup>Due to their editable nature, CSV files are not recommended to be used as a primary source of information when sharing amongst organization or parties within your organization.



# Configuration Software

While the all the loggers come pre-configured and ready to use with default settings, the GO USB loggers are configurable to meet your cold chain needs. If you wish to configure a logger, please ensure that the product has been stopped and you have transferred reports to your computer. Once the logger is reconfigured the previous PDF and CSV files will no longer be available.

If you wish to use the logger out of the box, the default factory programming is as follows:

- Recording interval: 5 min
- Alerts setting: Disabled
- Sound alarm: Disabled
- Memory mode: Stop when full

To install the software, visit [Emerson.com/GOUSBLogger](https://Emerson.com/GOUSBLogger) or use the available QR code. Once downloaded, simply extract the .zip file to a desired location and run the executable file<sup>4</sup>. Follow the steps of the installer. Once the installer has finished, navigate to the installed directory, or program shortcut to launch the application.

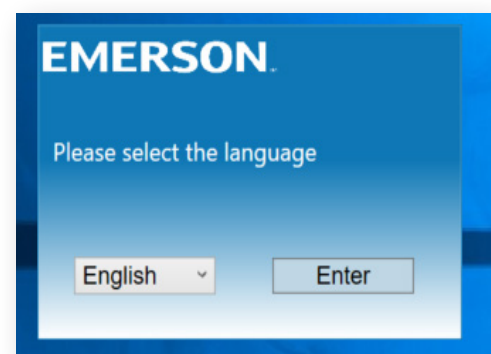
<sup>4</sup>Administrative privileges may be required to install the software. Consult your IT department for assistance.

Download GO USB  
Logger Software



## Using the Software

Connect the logger to a PC. After launching the software, you will be asked to select a preferred language. Select the preferred language and click Enter. The software will now launch.



# Using the Software (cont'd)

The configuration software consists of the following areas:

The screenshot shows the TH1XD software interface with the following numbered callouts:

- 1**: Degree Setting (Celsius/Fahrenheit)
- 2**: Recording Mode (Stop\_Recording)
- 3**: LCD Time Display (Current/Duration)
- 4**: Interval Settings (Interval, Start Delay)
- 5**: Alert Settings (Enable Alerts, Sound Alert, Temperature/Humidity Limits, Alert Type, Alert Period)
- 6**: Alert Type (Consecutive)
- 7**: Button Functionality (Start + Stop for Marked Events, Disable Stop Functionality)
- 8**: Device Date/Time Settings (UTC+00:00, Date and Tin)
- 9**: Note (None)
- 10**: Device Information (Device Model, Serial Number, Firmware Version, Manufacturing Date)
- 11**: Current Configuration (Set Date/Time, Start Delay, Start + Stop for Marked Events, Disable Stop Functionality, Interval, Time Zone, Note, Enable Alerts, Alert Period, Upper/Lower Temperature/Humidity Limits (Logger))
- 12**: Device Status Information (Recording Status, Battery Status, Device Date/Time, Alerts, Start Time, Stop/PC connect time, Temperature/Humidity Statistics (Logger))
- 13**: Action Buttons (Synchronize, Clear Memory, Stop, Configure, Exit)

Screenshot of TH1XD software interface

1. Celsius or Fahrenheit preference selection
2. Recording mode selection
  - Stop\_Recording: Logger will stop when memory is full
  - Continuous\_FIFO (first-in, first-out): Logger will replace first recorded data points with last recorded data points
3. LCD Time Display
  - Current: Logger LCD will display current time as configured in the software
  - Duration: Logger LCD will display total running time from activation



# Using the Software (cont'd)

4. Interval settings: Change recording interval and start delay
5. Alert Settings: Change alert parameters
  - Enable Alerts: Enables alerts on Logger
  - Sound Alert: Enable buzzer on device
6. Alert Type: Change alert type
  - Consecutive alert mode
  - Cumulative alert mode
7. Button functionality:
  - Start + Stop for marked events: Enables marked events to be created
  - Disable Stop Functionality: Disables ability to stop logger manually with the Stop button
8. Device Date/Time Settings: Change UTC time to reflect time zone. Software automatically syncs date to local date
9. Note: Leave a note within the PDF/CSV file which is generated upon connecting to PC
10. Device Information: Static information about logger such as serial number, manufacturing date, model, and firmware
11. Current Configuration: Displays current configuration of connected logger
12. Device Status Information: Displays summary statistics
13. Buttons
  - Synchronize button: Synchronizes current logger configuration to software
  - Clear Memory Button: Clears logger memory. Before any new settings can be Configured to logger, you must first click the “Clear Memory” button
  - Stop button: Stops logging (if STOP button is disabled, this is the only way to stop the logger)
  - Configure Button: Configures logger based on current selections
  - Exit Button: Close software



# Troubleshooting and FAQ's

**Q:** When connecting the Logger to my PC, it generates a file name called “INTERIM.”

What is wrong?

**A:** The logger has not been manually stopped and is continuously recording temperature data (even during connection to PC.). You may transfer the file to your PC at any time. You can manually rename the file (Serial number can be found inside the PDF report).

**Q:** My logger does not alert when a temperature excursion has occurred.

**A:** Loggers come pre-configured from factory and do not have alerts configured. Please download the configuration software to set up your logger to meet your monitoring requirements.

**Q:** I am trying to manually delete the PDF and CSV file from the logger memory to start a new dataset. After connecting the logger, the original file is still there. What is wrong?

**A:** The GO USB Loggers are designed to prevent tampering of data during shipments. Any attempt to delete files manually from the directory is disabled. To start a new dataset, use the configuration software to clear memory first. Note that once cleared, you cannot retrieve the old data. Make sure to transfer a copy first.

**Q:** My logger is beeping. Why and how do I turn it off?

**A:** If the logger is emitting a beeping noise, it is because it was configured to have an audible alert. This is to assist in the identification of an alert. To turn off the sound, press and hold the STOP button for 0.5 seconds. Take care not to press and hold too long (3 seconds) or you may accidentally stop the logger.

**Q:** (TP1XD) I have the probe connected to the Logger but it's not showing up in the report when I connect the logger to the PC?

**A:** It's possible that your configuration software is not set up correctly, please connect the logger to the PC and run the configuration software. Ensure that the “Enable Probe” option is checked.





## Troubleshooting and FAQ's (cont'd)

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**Q:** My logger has red markings on both the Graph and Running data tables.  
What does this mean?

**A:** Someone has created marked events. Refer to the operating instructions of this manual for more information.

**Q:** After being connected to my PC, the temperature and humidity reading of the logger seem higher than usual. Is there something wrong with my product?

**A:** When connecting a unit to the PC, the circuit board will draw power from your computer and subsequently cause a thermal increase and may cause false positive alerts. Connection times can be found in the Audit Trail for your reference and can be used to see if there is any correlation.



# Technical Support

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Technical Support is available 24 hours a day, 7 days a week.  
We're with you every step of the way.



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