CX1002 InTemp Multi Use Temperature Data Logger User Manual

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Contents

Introduction

The InTemp CX1002 (single use) and CX1003 (multi use) are cellular data loggers that monitor the location and temperature of your critical, sensitive, in-transit shipments in near real time.
The InTemp CX1002 logger is perfect for one-way shipments; the InTemp CX1003 is ideal for return logistics applications where the same logger can be used multiple times. Location, temperature, light, and shock data is transmitted to the InTempConnect cloud platform in near real time to enable maximum shipment visibility and control. Cellular data usage is included with the cost of the logger so there are no additional fees for a data plan.

View near real-time temperature data in the InTempConnect dashboard, as well as logger shipment details, current temperature, any critical alerts, and a near real-time map that shows the route, current location of your assets, and data upload points so you can always check on the status of your shipment and access important data for analysis.

Generate on-demand reports in InTempConnect during or after the conclusion of a shipment so you can make informed decisions that help prevent product waste and increase supply chain efficiency.

Receive SMS and email notifications for temperature excursions, low battery alarms, and light and shock sensor alerts.

A 3-Point 17025 accredited calibration certificate, valid for one year from date of purchase, provides assurance that the data can be trusted when making important product-disposition decisions.

Note: The InTemp CX1002 and CX1003 are not compatible with the InTemp mobile app or the CX5000 gateway. You can manage these loggers only with the InTempConnect cloud platform.

Models:

- CX1002, single-use cellular logger
- CX1003, multi-use cellular logger

Included Items:

- Power cord
- Quick Start Guide
- NIST Certificate of Calibration
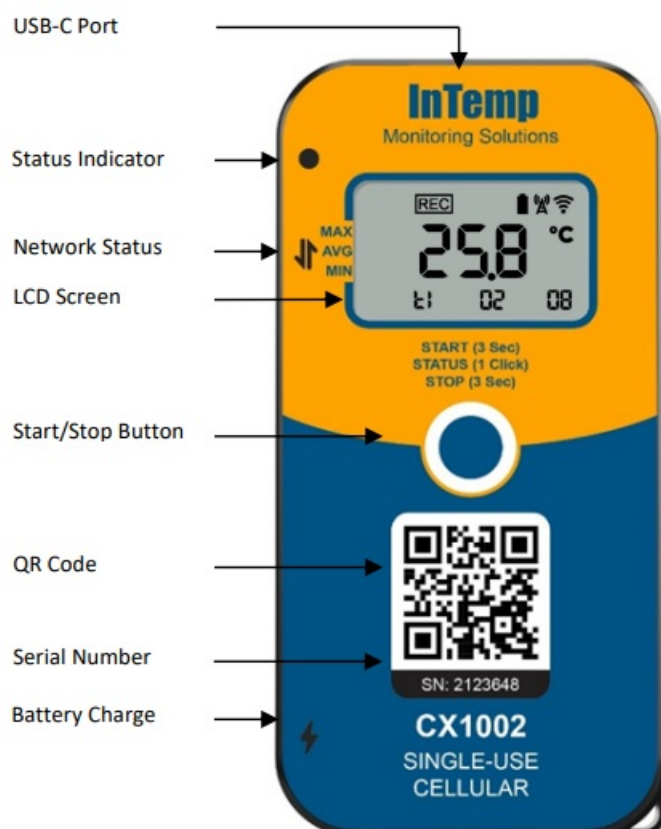
Required Items:

- InTempConnect Cloud platform

Specifications

Recording Options	CX1002: Single use CX1003: Multi use
Temperature Range	-20°C to +60°C
Temperature Accuracy	±0.5°C from -20°C to 60°C; ±0.9°F from -4°F to 140°F
Temperature Resolution	±0.1°C
Memory	CX1002 and CX1003: 31,200 readings with memory wrap
Network Connectivity	CAT M1 (4G) with 2G Global Roaming
Location/Accuracy	WiFi SSID / Cell-ID 100m
Battery Life (Rec Duration)	30 days at room temperature with 60 minute data upload intervals. Note: Off schedule cellular uploads triggered by temp excursions, light, shock, and low battery events may affect total runtime.
Data Recording Interval	Min. 5 Minutes up to max. 8 hours (Configurable)
Sending Interval	Min. 30 Minutes Or More (Configurable)
Record-Delay Interval	30 Minutes Or More (Configurable)
Start-up mode	Press the button for 3 seconds.
Stop mode	Press the button for 3 Seconds
Protection Class	IP64
Weight	111g
Dimensions	101 mm x 50 mm x 18.8 mm (LxWxD)
Certifications	According To EN 12830, CE, BIS, FCC
Report File Output	PDF or CSV file downloadable from InTempConnect

Connection Interface	5V DC – USB Type C
Wi-Fi	2.4 GHz
LCD Display Indications	Current Temperature Reading in Celsius Trip Status – REC/END Temperature Violation Indication (X Icon
Battery	3000 mAh, 3.7 Volts, 0.9g Lithium
Airline	Approved As Per AC91.21-ID, AMC CAT.GEN.MPA.140, IATA Guidance Document – Battery Powered Cargo Tracking Data Logger
Notifications	SMS and Email
CE	The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).
FC ⬡	See last page.

Logger Components and Operation

USB-C Port: Use this port to charge the logger.
Status Indicator: The Status Indicator is off when the logger is in sleep mode. It glows red during data transmission if there is a temperature violation and green if there is no temperature violation. In addition, it glows blue during data collection.
Network Status: The Network Status light is normally off. It blinks green while communicating with the LTE network and then goes off within 30 to 90 seconds.
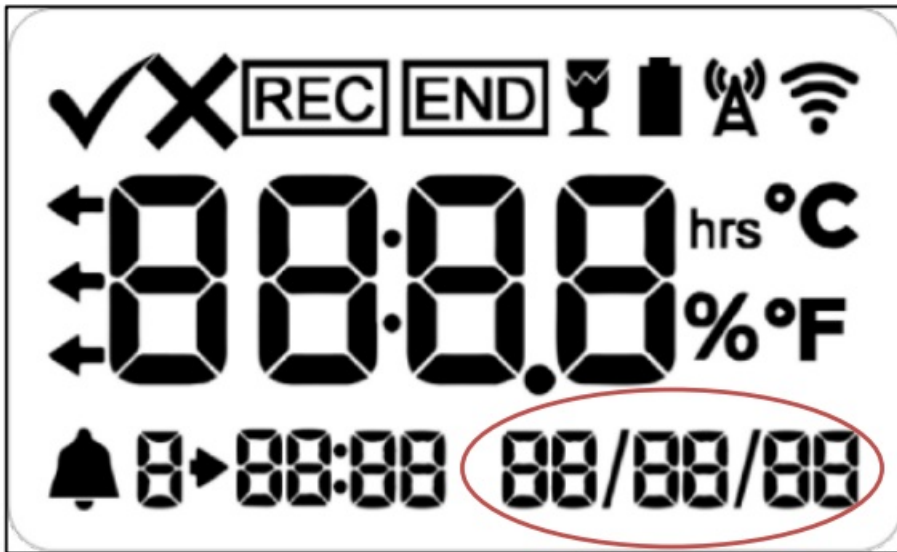
LCD Screen: This screen shows the latest temperature reading and other status information. See the table for detailed information.

Start/Stop Button: Turns the data recording on or off.

QR Code: Scan the QR code to register the logger. Or visit **https://www.intempconnect.com/register**.

Serial Number: The serial number of the logger.

Battery Charge: The Battery Charge light is normally off. When connected to a power source, it glows red while charging and green when fully charged.

LCD Symbol	Description
✔	No temperature violation on the last trip. Displayed during and after a trip, if there has been no temperature violation
✘	Temperature violation on the last trip. Displayed during and after a trip if there has been a temperature violation
REC	Recording started. Blinks in delay mode; solid in trip mode.
END	Recording ended.
🏮	Shock indication. Displayed during and after a trip, if there has been a shock impact.
▮	Battery health. Not advisable to start a trip when this is blinking. Blinks when power is low, below 50%.
(((A)))	Cellular signal. Stable when connected. Does not blink when searching the network.
📶	Wi-Fi signal. Blinks while scanning; stable when connected
25.8 °C	Temperature reading.
dt	Indicates that the main display of the LCD is showing the amount of delay time remaining. While the device is in trip delay mode, the first time you press the button, the LCD displays the remaining delay time where it usually displays the temperature.
tі	Indicates internal temperature sensor reading is displayed in the main area of the LCD.
02 08	Temperature Violation Range. The lower and higher temperature set points, indicated as 02 and 08 on the bottom right of the LCD screen as in this example.

Getting Started

InTempConnect is web-based software that allows you to monitor CX1002/CX1003 loggers and view downloaded data online. See **www.intempconnect.com/help** for details.
Follow these steps to begin using the loggers with InTempConnect.

1. Administrators: Set up an InTempConnect account. Follow all steps if you are a new administrator. If you

   already have an account and roles assigned, follow steps c and d.

   a. If you do not have an InTempConnect account, go to **www.intempconnect.com**, click create account, and

   follow the prompts to set up an account. You'll receive an email to activate the account.

   b. Log into **www.intempconnect.com** and add roles for the users you want to add to the account. Select

Roles from the System Setup menu. Click Add Role, enter a description, select the privileges for the role and click Save.

c. Select Users from the System Setup menu to add users to your account. Click Add User and enter the email address and first and last name of the user. Select the roles for the user and click Save.

d. New users will receive an email to activate their user accounts.

2. Set up the logger. Using the enclosed USB-C charging cord, plug in the logger and wait for it to be fully charged. We recommend that the logger have at least a 50% charge before you start deploying it.

3. Acclimate the logger. The logger has a 30 minute countdown period after you press the button to begin the shipment. Use this time to acclimate the logger to the environment it will be kept in during the shipment.

4. Create a Shipment. To configure the logger, create a shipment as follows in InTempConnect:

a. Select Shipments from the Logger Controls menu.

b. Click Create Shipment.

c. Select CX1000.

d. Complete the shipment details.

e. Click Save & Configure.

5. Turn on logger recording. Press the Power button for 3 seconds. The Status Indicator glows yellow and a 30 minute countdown timer is displayed on the screen of the logger.

6. Deploy the logger. Deploy the logger to the location where you want to monitor the temperature.

Once logging begins, the logger displays the current temperature reading.

Privileges

The CX1000 series temperature logger has two specific shipping privileges: Create CX1000 Shipment and Edit/Delete CX1000 Shipment. Both are accessible in the System Setup > Roles area of InTempConnect.

Logger Alarms

There are four conditions that can trip an alarm:

- The temperature reading is outside the range specified on the logger profile it was configured with. The LCD displays an X for the temperature violation and the status LED is red.
- The logger battery drops to 20%. The battery icon on the LCD blinks.
- A significant shock event occurs. The broken glass icon is displayed on the LCD.
- A logger is unexpectedly exposed to a light source. A light event occurs.

You can set temperature alarm thresholds in the logger profiles you create in InTempConnect. You cannot disable or modify battery, shock, and light alarms.

Visit the InTempConnect dashboard to view details about a tripped alarm.

When any of the four alarms occurs, an unscheduled upload occurs regardless of the chosen ping rate. You can receive an email and or text message to alert you of any of the above alarms using the Notifications feature in InTempConnect.

Uploading Data from the Logger

Data is uploaded automatically and continuously over a cellular connection. The frequency is determined by the Ping Interval setting in the InTempConnect Logger Profile.

Using the Dashboard

The Dashboard allows you to search for shipments using a collection of search fields. When you click Search, it filters all shipments by the specified criteria and displays the resulting list at the bottom of the page. With the resulting data, you can see:

- Near-real-time logger location, alarms, and temperature data.
- When you expand the logger table, you can see: how many logger alarms have occurred, including low battery, low temperature, high temperature, shock alarms, and light alarms. If a sensor has been triggered, it is highlighted in red.
- The logger's last upload date and current temperature is displayed as well.
- A map displaying the different events for the logger.

To view the Dashboard, select Dashboards from the Data & Reporting menu.

Logger Events

The logger records the following events to track logger operation and status. These events are listed in reports downloaded from the logger.

Event Name	Definition
Light	This shows whenever light is detected by the device, inside the consignment. (Light is more than the predefined threshold)
Shock	This shows whenever a fall is detected by the device. (Fall impact more than the predefined threshold)
Low Temp.	Whenever the temperature is below the predefined range.
High Temp.	Whenever the temperature is above the predefined range.
Started	The logger started logging.
Stopped	The logger stopped logging.
Downloaded	The logger was downloaded
Low Battery	An alarm has tripped because the battery has dropped to 20% remaining voltage.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed

and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada Statements

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

To comply with FCC and Industry Canada RF radiation exposure limits for general population, the logger must be installed to

provide a separation distance of at least 20cm from
all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Customer Support

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Documents / Resources

 InTemp CX1002 InTemp Multi Use Temperature Data Logger [pdf] User Manual
CX1002, CX1003, CX1002 InTemp Multi Use Temperature Data Logger, Use Temperature Data
Logger, Temperature Data Logger, Data Logger

References

- **InTempConnect**
- **intempconnect.com/help**
- **Onset HOBO and InTemp Data Loggers**
- **InTempConnect**