EL-CC-2 Series
Cold Chain Data Loggers for
Temperature and Relative Humidity
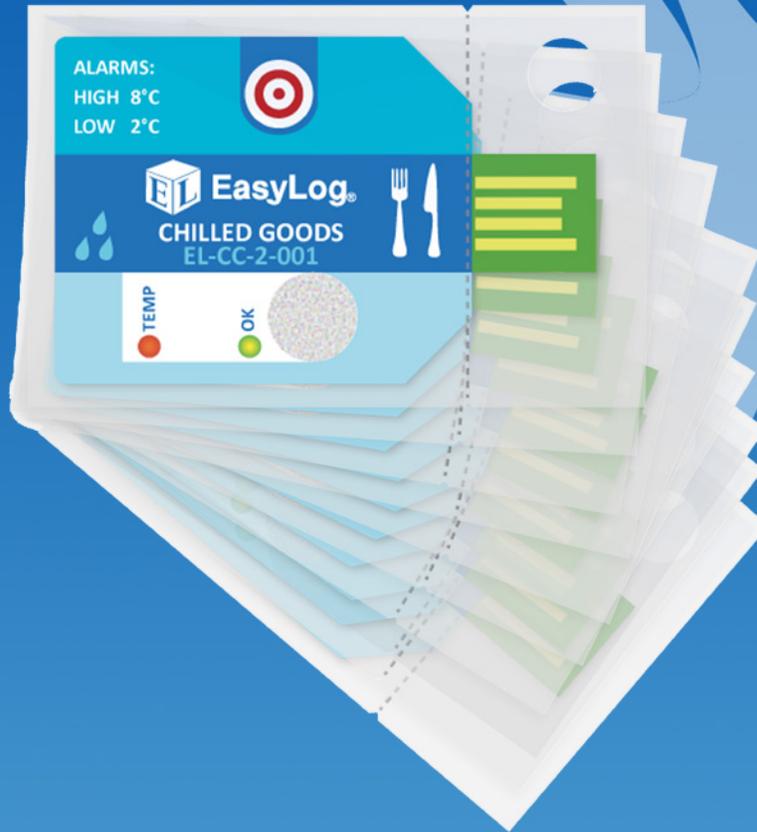
- ✓ Single-use Temperature and RH data loggers for Food and Agriculture Market

- ✓ Sold in 10-packs for one of three food- and agricultural-related environments:

    - ✓ Chilled Goods (2 to 8 °C)

    - ✓ Frozen Foods (-20 to -16 °C)

    - ✓ Ripening Goods (12 to 14 °C)

    - ✓ All also measure RH (0 to 100%)

- ✓ Encapsulated packaging seals out dust and water up to 1 meter of immersion (IP67)

- ✓ Samples and records temperature and RH with a time and date stamp once every 10 minutes

- ✓ Maximum record time is over 220 days

- ✓ Built-in alarm LED set to trigger at pre-configured temperature limits

- ✓ Data export options include PDF, Excel, JPEG image

- ✓ All software is included

DATAQ
INSTRUMENTS

EL-CC-2 Description

Simplicity, accuracy, and confidence define the EL-CC Data Logger approach to ensure that food stuffs of any type were not exposed to dangerous temperature extremes during transit and handling. Packaged in their own hermetically sealed bag, EL-CC data loggers are offered as three individual models each configured to alarm at a specific temperature range: one model each for frozen, chilled, and ripening food stuffs.

The data loggers can be initiated on-the-spot and placed into service without the need for configuration software. A preprogrammed 30-minute delay prevents alarms from triggering until the logger is fully saturated in the ambient temperature it's monitoring. The logger samples at a fixed rate of one sample every 10 minutes, and contains enough memory to provide over 220 days of total record time. At any time during the recording process the logger's control button can be pressed to activate built-in LEDs. That action saves a marker in the recorded data stream to indicate the event. At the same time the LEDs illuminate to indicate device status and alarm states.

If pre-programmed temperature extremes were breached, the LEDs provides an instant visual indication of the problem without the need to download and review recorded data. After deployment the logger may be connected to the USB port of a PC to upload all recorded temperature, humidity, and event data, each correlated with a specific date and time of acquisition. Data can be sent to a PDF, Excel, or JPEG image file. Software is downloadable and provided at no extra charge. The life of the EL-CC-2's built-in battery exceeds the instrument's >220-day total record time.

	Food Type		
	Frozen	Chilled	Ripening
High temperature alarm	-16 °C	8°C	14°C
Low temperature alarm	-20°C	2 °C	12°C
Relative humidity range	0 to 100% RH		
Logging interval (record time)	10 minutes (220 days)		
Model	EL-CC-2-002 (10-pack)	EL-CC-2-001 (10-pack)	EL-CC-2-003 (10-pack)

EL-CC-2 Series Close-up

1	Start /Status button. Press and hold until the LED lights green to begin recording. Alarms are automatically held off for 30 minutes to allow the logger to settle into the environment. Press again at anytime to see alarm and device status.
2	Status LEDs. Two LEDs indicate device and alarm status (see next section.)
3	USB interface connector for uploading temperature and date and time data to a PC.
4	Hermetically-sealed packaging designed for IP67 exposure. Drop the entire logger into the environment you want to measure without damage. Tear to open.
5	Mounting hole for convenience.
6	Model information including model number, its targeted use (frozen, chilled, or ripening) and its specific alarm limits.
7	Humidity sensor port.

48 mm (1.8")

67 mm (2.6")
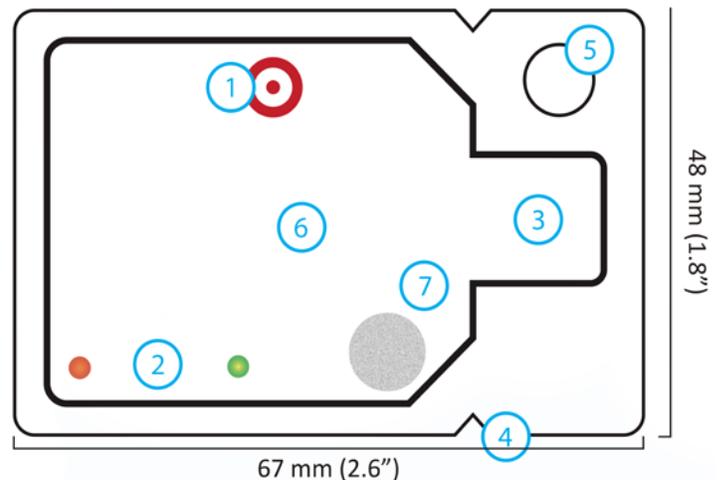
EL-CC-2 Series Alarm and Status LED

After the EL-CC-2 Series logger is deployed and monitoring temperature and humidity, its Start/Status button may be pressed at any time to instantly reveal both the status of the device and the temperature alarm state through two LEDs. This action simultaneously inserts an event marker in the recorded data stream for future reference. The logger is preprogrammed to suppress alarms until 30 minutes after deployment, allowing full exposure to ambient temperature to prevent a false alarm.

|	Description	Comment
🟢	**Green, single flash** The data logger is currently logging data. An alarm HAS NOT been triggered.	No action required.
🔴	**Red, single flash** The data logger is currently logging data. An alarm HAS been triggered.	Check alarm condition in PC software after recording session.
🟢 🟢	**Green, double flash** The data logger has stopped logging data because its memory is full. An alarm HAS NOT been triggered.	Plug the EL-CC-2 data logger into a PC to download data.
🔴 🔴	**Red, double flash** The data logger has stopped logging data because its memory is full. An alarm HAS been triggered.	Plug the EL-CC-2 data logger into a PC to download data, check alarm condition.
⚪	**No LEDs flash** The data logger is not logging, or the battery is dead.	Check logger status using PC software.

Included EL-CC-2 Series EasyLog Software

EasyLog software is free to download and install on multiple computers as necessary. It supplies all the features you need to retrieve data from the EL-CC-2 data logger, and to generate a report. The software is compatible with all Windows versions.

EasyLog software features a point-and-click interface that's intuitively easy-to-use. Even the most tech-challenged user can easily download and interpret recorded data.

Save Data retrieves recorded data from an EL-CC-2 data logger and allows you to store it in an archive on the PC's disk drive.

View Previous Data allows archived data to be viewed using a built-in plotting utility, exported to Excel for analysis and report generation, or converted to a concise PDF report.
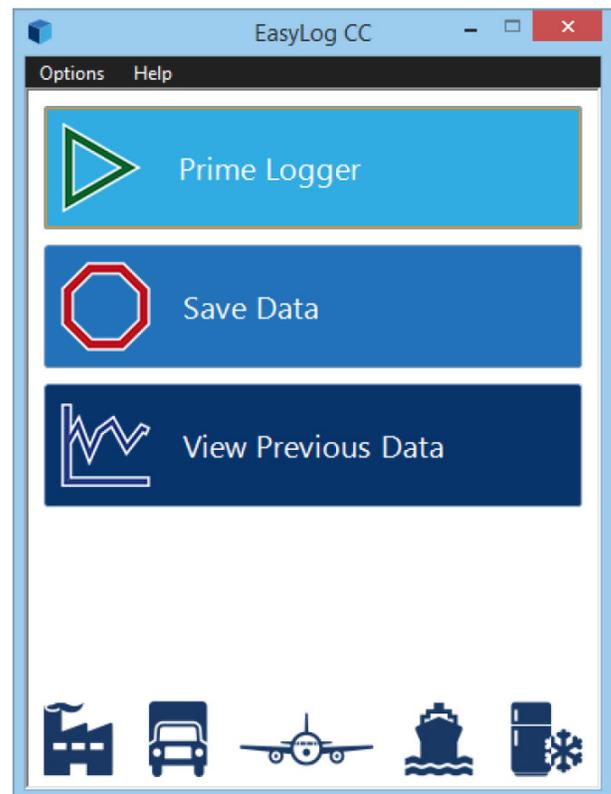
Included EL-CC-2 Series EasyLog Software (continued)

A single click imports temperature, humidity, time and date, and event information from the logger to a built-in graphing module. Once there you can easily report time and alarm conditions. More detailed analysis is also available, such as Mean Kinetic Temperature, as well as minimum, maximum, and average values for both temperature and humidity.


EL-CC-2 Series General Specifications

Temperature	Measurement range	-30 to +70°C (-22 to +158°F)
	Internal resolution	0.1°C (0.1°F)
	Accuracy (overall error)	±0.3°C (±0.7°F) typical[1]
Relative Humidity	Measurement range	0 to 100%RH[1]
	Internal resolution	0.1%RH
	Accuracy (overall error)	±2%RH typical[1]
IP rating		IP67[2]
Battery Life		At least 12 months
Memory (samples)		32,637 each for temp and RH
Sampling Interval		10 minutes, fixed
Maximum Possible Record Time		220 days

[1]See Detailed EL-CC-2 Sensor Accuracy for more information

[2]Protected from dust; Protected against the effects of immersion in water to depth between 15 cm and 1 meter

Temperature sensor typical and maximum tolerance (°C)
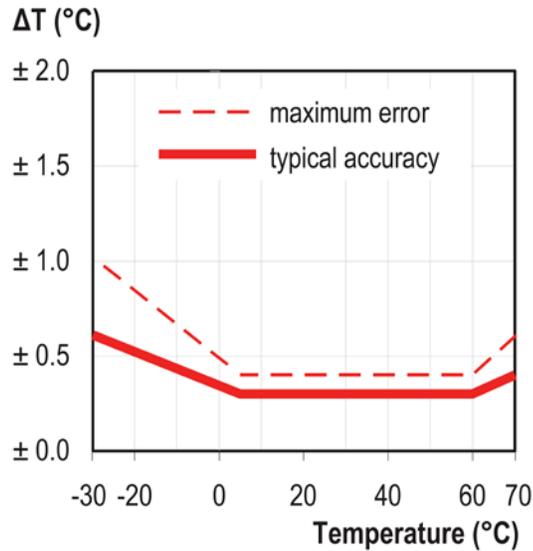
Relative humidity sensor typical and maximum tolerance at 25°
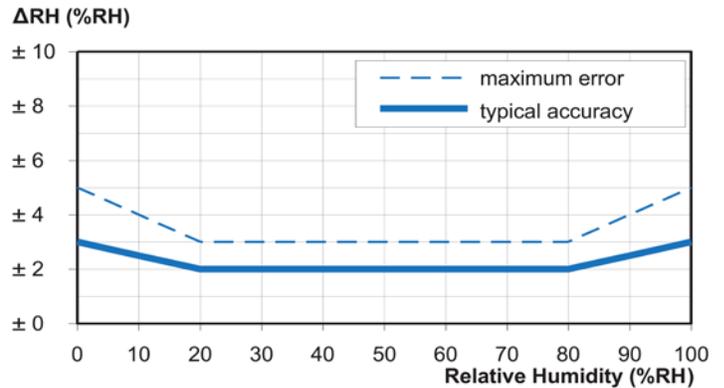
Relative humidity sensor typical accuracy in %RH (0 to 80°C)
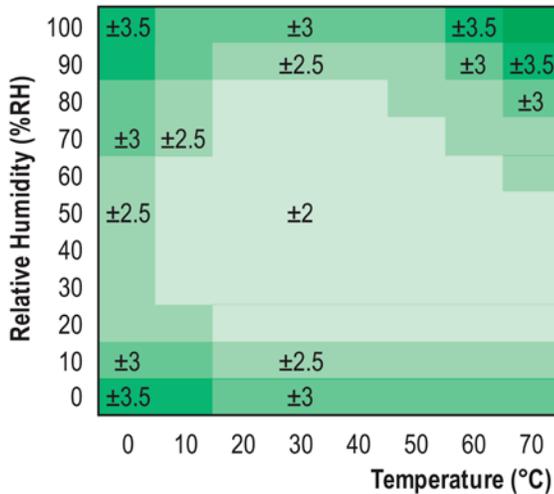
Operating conditions
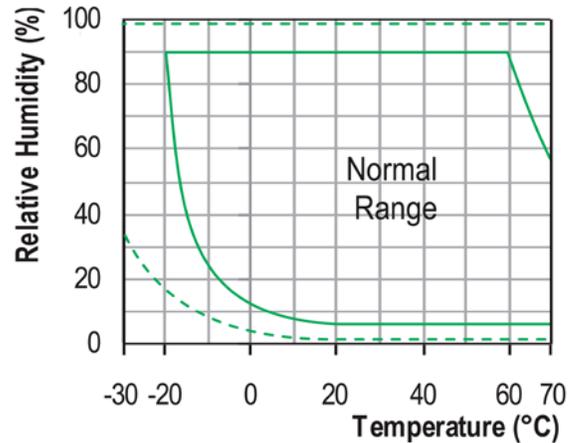
Long term exposure to humidity levels outside of the 'normal' range may temporarily offset RH measurements (±3%RH after 60 hours). Once returned to less extreme conditions the device will slowly return to a calibrated state.

When tracking changes in ambient conditions, data logger humidity response time is approximately 20 minutes to reach 90% of the reading. However, if you measure step changes in humidity you should leave the unit for up to four hours to ensure that it has enough time to settle at the new level.

It is worth remembering that the value of relative humidity is sensitive to temperature variation. For example, at a relative humidity of ~90%RH at ambient temperature, a variation in temperature of 1°C will result in a change of up to -5%RH. Therefore when comparing multiple devices or calibrating them, any temperature variations must be considered.

Ordering Guide

Description	Preset Temperature Alarm Set Points		Order No.
	Low	High	
EL-CC-2-001 (sold as a package of 10) Cold Chain temperature and RH data logger for CHILLED foods.	2°C (35.6°F)	8°C (46.4°F)	EL-CC-2-001*
EL-CC-2-002 (sold as a package of 10) Cold Chain temperature and RH data logger for FROZEN foods.	-20°C (-4°F)	-16°C (3.2°F)	EL-CC-2-002*
EL-CC-2-003 (sold as a package of 10) Cold Chain temperature and RH data logger for RIPENING foods.	12°C (53.6°F)	14°C (57.2°F)	EL-CC-2-003*
Optional Accessories			
EL-CC-BAG Pack of 5 spare bags for logger re-use. IP67 rating.			EL-CC-BAG

Included

EL-CC-2 Logger
(choose from 3 options)
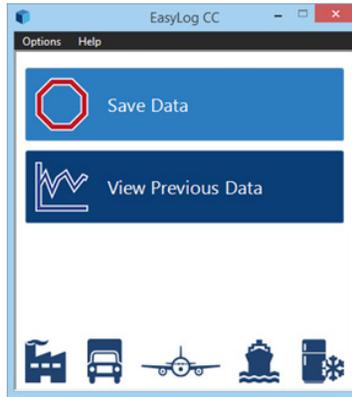
Software via download

Optional Accessories

EL-CC-BAG
Spare Bags (5)

241 Springside Drive
Akron, Ohio 44333
Phone: 330-668-1444
Fax: 330-666-5434

Data Acquisition Product Links
(click on text to jump to page)
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