



The EL-USB-1-RCG rechargeable temperature data logger measures and stores up to 16,382 temperature readings over a -20 to +60°C (-4 to +140°F) measurement range. The glass window and stainless steel 316 assembly provide protection from corrosion, impact and water ingress to IP67 / NEMA 4X. The unit is powered by a lithium-ion rechargeable battery which allows logging for up to 1 month. Setup and downloading is completed by connecting the data logger to a PC's USB port using the supplied cable and running the purpose-designed software under Windows 2000, XP, Vista and Windows 7. Correct functioning of the unit is indicated by flashing red and green LEDs. Downloaded data can then be graphed, printed and exported to other applications.

## Features

- -20 to +60°C (-4 to +140°F) Measurement Range
- Stainless Steel (316 grade) case
- Environmental protection to IP67
- Rechargeable lithium-ion battery
- Bi-color status LEDs behind protective glass window
- Mini-USB interface for set-up and data download
- User programmable alarm thresholds
- Immediate and delayed start logging
- Supplied with Windows control software and USB cable

## Programmable Elements

- Logger Name
- °C, °F
- Logging Rate (1s, 10s, 1m, 5m, 30m, 1hr, 6hr, 12hr)
- High and Low Alarms
- Start Date and Start Time
- Data Rollover

## Record Times

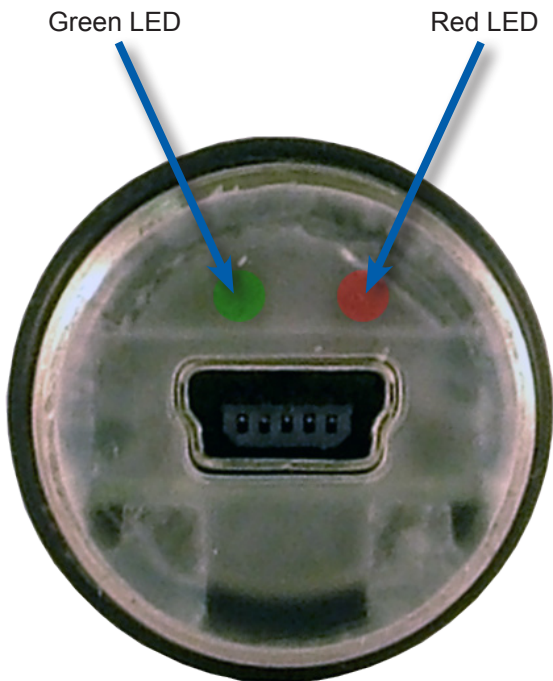
Sampling Interval	Record Times
1 sample every second	4.5 hours
1 sample every 10 seconds	45 hours
1 sample every minute	11 days
1 sample every 5 minutes	56 days
1 sample every 30 minutes	11 months
1 sample every hour	1.8 years
1 sample every 6 hours	> 2 years
1 sample every 12 hours	> 2 years









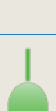
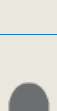
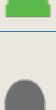
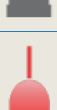
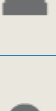

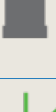
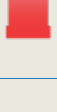




## LED Flashing Modes

EL-USB-1-RCG features two LEDs that indicate the logging, battery and alarm status:

The first LED flashes red (R) to indicate that the EL-USB-1-RCG is in an alarm condition. It will flash when the logged temperature has exceeded a Low or High alarm level.

The second LED flashes green (G) to indicate that the EL-USB-1-RCG is not in an alarm condition. Latching is enabled by default, which forces the logger to continue flashing the red LED after an alarm, even when the temperature has returned to normal. This feature ensures that the user is notified that an alarm level has been exceeded, without the need to download the data from the logger. Latching can be turned off via the control software. The red LED will then only flash while the logger is in an alarm condition. When the temperature returns to normal, the green LED will flash.



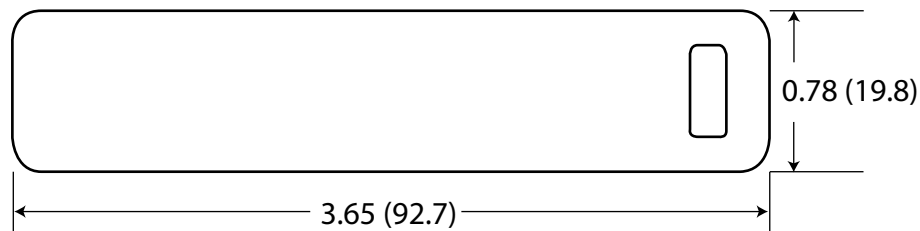
		<b>Green LED flashes once every 30 seconds</b> The data logger is not currently logging, but is primed to start at a later date and time.
		<b>Green LED flashes once every 10 seconds</b> The most recently logged temperature is between the low alarm and high alarm levels.
		<b>Red LED flashes once every 10 seconds</b> The most recently logged temperature is equal to or lower than the low alarm level. Note: If latching is enabled, then the alarm condition may have been triggered by a previous event.
		<b>Red LED flashes twice every 10 seconds</b> The most recently logged temperature is equal to or higher than the high alarm level. Note: If latching is enabled, then the alarm condition may have been triggered by a previous event.
		<b>Green LED flashes once every 20 seconds</b> The battery is low and the most recently logged temperature is between the Low alarm and high alarm levels.
		<b>Red LED flashes once every 20 seconds</b> The battery is low and the most recently logged temperature is equal to or lower than the low alarm level. Note: If latching is enabled, then the alarm condition may have been triggered by a previous event.
		<b>Red LED flashes twice every 20 seconds</b> The battery is low and the most recently logged temperature is equal to or higher than the high alarm level. Note: If latching is enabled, then the alarm condition may have been triggered by a previous event
		<b>Green LED flashes twice every 20 seconds</b> The logger is full and the most recently logged temperature is between the Low alarm and high alarm levels.
		<b>Red and Green LEDs flash alternately every 20 seconds</b> The logger is full and a stored value is equal to or exceeds the low or high alarm level. Note: This state is only possible if latching is enabled.
		<b>No LEDs Flash</b> The data logger is stopped, the battery is dead, or there is no battery.

## Battery Charging

The logger is fitted with a 280mAh capacity (nominal) rechargeable Lithium-Ion battery. The logger must be connected to an active USB port to recharge the battery; this may take up to 5 hours, depending on the level of discharge. The battery charge status is indicated by the status LED's. The red LED indicates that charging is ongoing; the green LED indicates that the battery has a full charge.

Like all rechargeable batteries, the fully charged capacity reduces over time. The battery operates best at temperatures of 10°C to 30°C (50°F to 86°F). Recharging should only be performed within this temperature range.

## Dimensions



Dimensions shown are inches (mm)

## Specifications

Specification	Minimum	Typical	Maximum	Unit
Measurement Range	-20 (-4)		+60 (+140)	°C (°F)
Internal Resolution		0.1 (0.2)		°C (°F)
Accuracy (overall error)		±1 (±2)		°C (°F)
Logging Rate	every 1s		every 12hr	-
Memory Capacity		16,382		Samples
Operating Temperature Range	-20 (-4)		+60 (+140)	°C (°F)
Recharging Time			5	Hours
Charging Temperature Range	0(+32)	+20(+68)	+45 (+113)	°C (°F)
Battery Life	1*		4**	Weeks

\* @ -20°C (-4°F), 1 second logging rate; \*\* @ 20°C (68°F), 1 minutes logging rate

## EL-USB-RCG Ordering Information

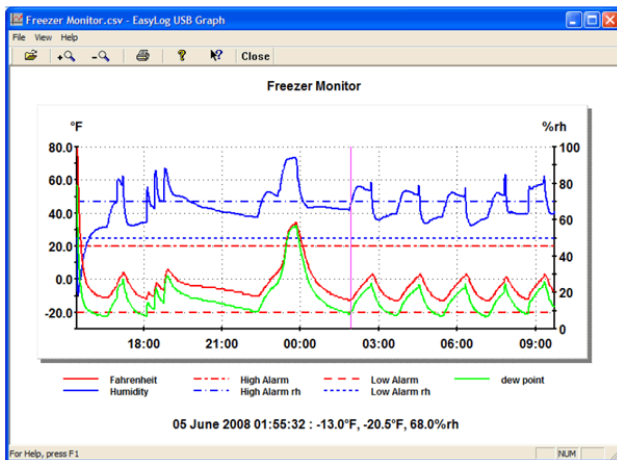
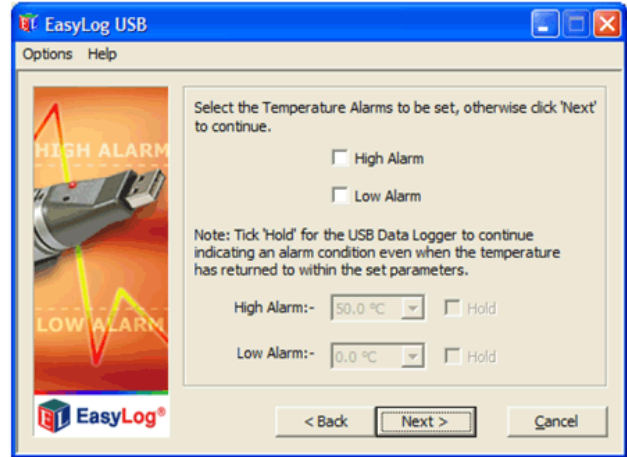
Description	Order Number
<b>Temperature Data Logger</b> Includes EL-USB-1-RCG data logger, software on CD, and battery.	<b>EL-USB-1-RCG</b>

## Easy to Program and Deploy

Getting an EasyLogger product ready to acquire data is simple:

1. Remove the protective USB cover.
2. Plug the instrument into any convenient USB port (image 1).
3. Program the data logger with the provided EasyLog software (image 2):
  - Give the logger a unique name (convenient when deploying multiple units).
  - Select the required sample rate.
  - Select high and/or low alarm thresholds.
  - Select the specific date and time to begin logging.

Now remove the data logger from the USB port, replace the USB cover, and deploy the instrument wherever you need it.



1	Freezer Monitor	Time	Fahrenheit(F)	High Alarm	Low Alarm	Humidity(%rh)	High Alarm rh	Low Alarm rh	dew point(°F)
2	1	4/6/2008 15:26	77	20	-20	50	70	50	56.9
3	2	4/6/2008 15:27	79	20	-20	25.5	70	50	40.7
4	3	4/6/2008 15:28	75	20	-20	20.5	70	50	31.9
5	4	4/6/2008 15:29	66	20	-20	19	70	50	22.6
6	5	4/6/2008 15:30	56	20	-20	20	70	50	15.6
7	6	4/6/2008 15:31	48	20	-20	22	70	50	11.1
8	7	4/6/2008 15:32	40	20	-20	24	70	50	6.2
9	8	4/6/2008 15:33	34	20	-20	25.5	70	50	2.4
10	9	4/6/2008 15:34	28	20	-20	27	70	50	-1.6
11	10	4/6/2008 15:35	24	20	-20	28.5	70	50	-3.9
12	11	4/6/2008 15:36	20	20	-20	30.5	70	50	-6
13	12	4/6/2008 15:37	16	20	-20	32.5	70	50	-8.2
14	13	4/6/2008 15:38	13	20	-20	34	70	50	-10
15	14	4/6/2008 15:39	11	20	-20	35	70	50	-11.2
16	15	4/6/2008 15:40	9	20	-20	37	70	50	-11.9
17	16	4/6/2008 15:41	7	20	-20	38.5	70	50	-12.9
18	17	4/6/2008 15:42	5	20	-20	39.5	70	50	-14.2
19	18	4/6/2008 15:43	4	20	-20	41	70	50	-14.4

## Easy to Upload and Analyze Data

Whether you want to review stored data using the supplied application or using Microsoft Excel, getting meaningful results from recorded data is fast and easy:

1. Remove the protective USB cover.
2. Plug the instrument back into the PC's USB port.
3. Use EasyLog software to stop recording, access the instrument's stored data, and save it to a file that you name on the PC, all in one easy operation. The file format is Excel-compatible.
4. Immediately EasyLog's Graph utility is enabled to display all the stored data in one compressed view.
5. A cursor allows you to determine signal magnitude and time and date of acquisition for any value, and a magnifier utility allows you to zoom in for a closer look over any range – Easy and fast.
6. For more custom analysis and report generation, simply import the stored data file to Microsoft Excel for virtually unlimited flexibility in how you view and interpret your results.

# EL-USB Data Logger Series Overview

## EasyLog Products for Any Application

From temperature and humidity to carbon monoxide trending, there's an EasyLog data logger that's right for you. Click on "Go" to go to the product's web page.

Measurement		Model EL-USB (click on page number to jump to page)																	
Function	Range	-LITE	-1	-1-LCD	-1-RCG	-1-PRO	-2	-2+	-2-LCD	-2-LCD+	-3	-4	-5	-ACT	-CO	-TC	-TC-LCD	-TP-LCD	
Temperature	-10 to +50°C (+14 to +122°F)	<a href="#">Go</a>																	
Temperature	-35 to +80°C (-31 to +176°F)		<a href="#">Go</a>	<a href="#">Go</a>															
Temperature	-20 to +60°C (-4 to +140°F)				<a href="#">Go</a>														
High Temperature	-40 to +125°C (-40 to +257°F)					<a href="#">Go</a>													<a href="#">Go</a>
Humidity, temperature, dew point	0 to 100% RH -35 to +80°C (-31 to +176°F)						<a href="#">Go</a>	<a href="#">Go</a>	<a href="#">Go</a>	<a href="#">Go</a>									
Voltage	0 to 30 VDC										<a href="#">Go</a>								
Process current	4 to 20 mA											<a href="#">Go</a>							
Event, State, Count	3-28 VDC												<a href="#">Go</a>						
Current	-1000 to 1000 mV													<a href="#">Go</a>					
Carbon monoxide	0 to 1000 ppm														<a href="#">Go</a>				
Thermocouple	-130 to +900°C -200 to +1300°C -200 to +350°C															<a href="#">Go</a>	<a href="#">Go</a>		

# Lascar Data Logger Product Lines

## EL-USB Data Loggers



Lascar EasyLog model EL-USB series products are a line of low cost, compact, battery-operated data loggers with built-in memory and a USB interface for easy setup and data download. Each product in the line offers a specific measurement function (including temperature, voltage, process current, and more).

## EL-GFX Data Loggers



The EL-GFX line of data loggers is the latest release from Lascar Electronics with similar functionality of the EL-USB series with an added graphic display for data.

## EL-WiFi Data Loggers



Lascar's EL-Wifi Data Logger series products are low cost, compact, battery-operated data loggers with wireless connectivity to any PC over a WiFi router. Each product in the line features a large, easy-to-read display of current measurements, and is purchased for specific measurement functions.



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## **Data Acquisition Product Links**

(click on text to jump to page)

[Data Acquisition](#) | [Data Logger](#) | [Chart Recorder](#)