EL-USB-1-RCG

Rechargable Temperature Data Logger with USB Interface

ORDERING INFORMATION

Standard Data Logger (Data Logger, Software on CD and Type A to Mini B USB cable)	EL-USB-1-RCG

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-colour 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 Type A to Mini B USB cable

This standalone data logger measures and stores up to 32,510 temperature readings over a -20 to +60°C (-4 to +140°F) measurement range. The polycarbonate 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 connection 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.

Specifications	Minimum	Typical	Maximum	Unit
Measurement range	-20 (-4)		+60 (+140)	°C (°F)
Accuracy (overall error)		±1 (2)		°C (°F)
Internal resolution		0.1 (0.2)		°C (°F)
Logging rate	every 1 s		every 12hr	-
Recharging time			5	Hours
Operating temperature range	-20 (-4)		+60 (+140)	°C (°F)
Charging temperature range	+10 (+50)	+20 (+68)	+30 (+86)	°C (°F)
Lithium-ion Battery Life	1*		4**	Weeks

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

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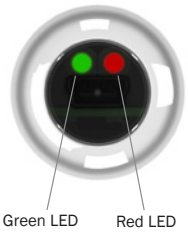
LED STATUS INDICATION

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 whilst the logger is in an alarm condition. When the temperature returns to normal, the green LED will flash.

Additional LED modes are explained below:



Green LED flashes once every 30 seconds	The data logger is not currently logging, but is primed to start at a later date and time.
Green LED flashes once every 10 seconds	The most recently logged temperature is between the low alarm and high alarm levels.
Red LED flashes once every 10 seconds	The most recently logged temperature is equal to or lower than the low alarm level. NB: If latching is enabled, then the alarm condition may have been triggered by a previous event.
Red LED flashes twice every 10 seconds	The most recently logged temperature is equal to or higher than the high alarm level. NB: If latching is enabled, then the alarm condition may have been triggered by a previous event.
Green LED flashes once every 20 seconds	The battery is low and the most recently logged temperature is between the Low alarm and high alarm levels.
Red LED flashes once every 20 seconds	The battery is low and the most recently logged temperature is equal to or lower than the low alarm level. NB: If latching is enabled, then the alarm condition may have been triggered by a previous event.
Red LED flashes twice every 20 seconds	The battery is low and the most recently logged temperature is equal to or higher than the high alarm level. NB: If latching is enabled, then the alarm condition may have been triggered by a previous event
Green LED flashes twice every 20 seconds	The logger is full and the most recently logged temperature is between the Low alarm and high alarm levels.
Red and Green LEDs flash alternately every 20 seconds	The logger is full and a stored value is equal to or exceeds the low or high alarm level. NB: This state is only possible if latching is enabled.
No LEDs flash	The logger is not being used. or The logger was logging, but has now shut down due to a flat battery (voltage has dropped below 2.8V). Plug the data logger into the PC and run the software to find out which condition applies.

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DIMENSIONS

All dimensions in mm (inches)

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.

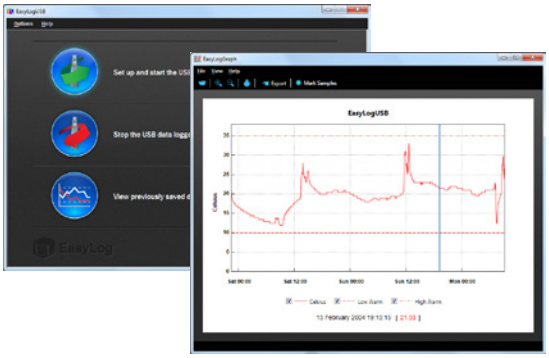
Like all rechargeable batteries, the fully charged capacity reduces over time. The battery operates best at temperatures of 10°C to 30°C (50°F to 86°F). Recharging should only be performed within this temperature range.

EL-WIN-USB (CONTROL SOFTWARE)

Lascar's EasyLog USB control software is supplied free of charge with each data logger. Easy to install and use, the control software runs under Windows 2000, XP, Vista & 7. The software is used to set-up the data logger as well as download, graph and export data to Excel.

The software allows the following parameters to be configured:

- Logger name (up to 16 characters)
- °C or °F
- Logging Rate (1s, 10s, 1m, 5m, 30m, 1hr, 6hr, 12hr)
- High and low alarm levels
- Start date and time
- Data rollover (Allows unlimited logging periods by over writing the oldest data when the memory is full)



The latest version of the control software may be downloaded free of charge from **www.lascarelectronics.com**

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THE EASYLOG USB RANGE

Each EL-USB data logger features the direct-to-USB connection and easy-to-use functionality that the range is known for. The range comprises of the following data loggers:

Part No	Function	Range	Accuracy (overall error)		Readings	Battery	Battery Life*
			Typ.	Max.			
EL-USB-1	Temperature	-35 to +80°C (-31 to +176°F)	±1°C (±2°F)		16,382	3.6V ½AA	1 Year
EL-USB-1-LCD	Temperature with LCD	-35 to +80°C (-31 to +176°F)	±0.5°C (±1°F)	±1.5°C (±3°F)	16,382	3.6V ½AA	1 Year
EL-USB-1-PRO	High Temperature	-40 to +125°C (-40 to +257°F)	±0.2°C (±0.4°F)	±0.5°C (±1°F)	32,510	3.6V ⅔AA	3 years
EL-USB-1-RCG	Temperature with rechargeable battery	-20 to +60°C (-4 to +140°F)	±1°C (±2°F)		32,510	Lithium Ion	1 month (rechargeable)
EL-USB-2	Temperature, humidity & dew point	-35 to +80°C (-31 to +176°F) 0 to 100%RH	±0.5°C (±1°F) ±3%RH	±2°C (±4°F) ±6.0%RH	16,382	3.6V ½AA	1 year
EL-USB-2+	Increased accuracy temperature, humidity & dew point	-35 to +80°C (-31 to +176°F) 0 to 100%RH	±0.3°C (±0.6°F) ±2.0%RH	±1.5°C (±3°F) ±4.0%RH	16,382	3.6V ½AA	1 year
EL-USB-2-LCD	Temperature, humidity & dew point with LCD	-35 to +80°C (-31 to +176°F) 0 to 100%RH	±0.5°C (±1°F) ±3.0%RH	±2°C (±4°F) ±6.0%RH	16,379	3.6V ½AA	1 year
EL-USB-2-LCD+	Increased accuracy temperature, humidity & dew point with LCD	-35 to +80°C (-31 to +176°F) 0 to 100%RH	±0.3°C (±0.6°F) ±2.0%RH	±1.5°C (±3°F) ±4.0%RH	16,379	3.6V ½AA	1 year
EL-USB-3	Voltage	0 to 30V d.c.	±1%		32,510	3.6V ½AA	1 year
EL-USB-4	Current loop	4 to 20mA	±1%		32,510	3.6V ½AA	1 year
EL-USB-5	Counter, Event & State	N/A		±3 secs/24 hrs	32,510	3.6V ½AA	1 year
EL-USB-TC	Thermocouple (J, K and T-type) K-type probe included	-200 to +1350°C (-328 to +2462°F) (K-type) -200 to +1190°C (-328 to +2174°F) (J-type) -200 to +390°C (-328 to +734°F) (T-type)	±1°C (±2°F)		32,510	3.6V ½AA	6 months
EL-USB-TC-LCD	Thermocouple with LCD (J, K and T-type) K-type probe included	-200 to +1350°C (-328 to +2462°F) (K-type) -200 to +1190°C (-328 to +2174°F) (J-type) -200 to +390°C (-328 to +734°F) (T-type)	±1°C (±2°F)		32,510	3.6V ½AA	6 months
EL-USB-CO	Carbon monoxide	0 to 1000ppm **NOT A LIFE SAVING DEVICE**	±6ppm		32,510	3.6V ½AA	3 months
EL-USB-CO300	Carbon monoxide	0 to 300ppm **NOT A LIFE SAVING DEVICE**	±4ppm		32,510	3.6V ½AA	3 months
EL-USB-LITE	Low cost temperature	-10°C to +50°C (+14 to +122°F)	±1°C (±2°F)		4,080	CR1620 Lithium coin cell	1 month
EL-USB-RT	Real-time temperature & humidity monitor	-20 to +70°C (-4 to +158°F)	±1.5°C (±3°F) ±4.5%RH		7 days	N/A	N/A

*Depending on logging rate, ambient temperature, and use of alarm LED

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