EL-USB-1-LCD

Temperature Data Logger with LCD

ORDERING INFORMATION

Standard Data Logger (Data Logger, Software on CD, Battery)	EL-USB-1-LCD
Replacement Battery	BAT 3V6 1/2AA

FEATURES

- -35 to +80 °C (-31 to +176 °F) measurement range
- USB interface for set-up and data download
- User-programmable alarm thresholds
- Status indication via red, green and orange LEDs
- High contrast LCD, with two and a half digit temperature display function
- Immediate, delayed and push-to-start logging
- Supplied with replaceable internal lithium battery and Windows control software

This standalone data logger measures and stores up to 16,378 temperature readings over a -35 to +80 °C (-31 to +176 °F) range. The user can easily set up the logging rate and start-time, and download the stored data by plugging the data logger into a PC's USB port and running the purpose designed software under Windows 2000, XP, Vista, and 7. Data can then be graphed, printed and exported to other applications. The high contrast LCD can show a variety of temperature information. At the touch of a button, the user can cycle between the current, maximum and minimum stored temperatures. The data logger is supplied complete with a long-life lithium battery, which can typically allow logging for up to 1 year. The data logger is protected against moisture to IP67 standard when the protective cap is fitted.

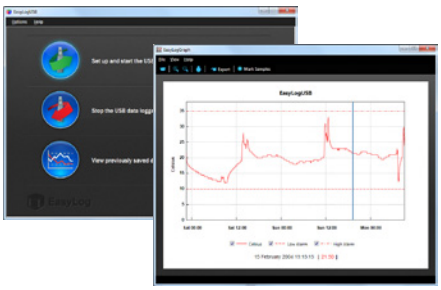
Specifications	Minimum	Typical	Maximum	Unit
Measurement range	-35 (-31)		+80 (+176)	°C (°F)
Internal resolution		0.5 (1)		°C (°F)
Accuracy (overall error)		±0.5 (±1)	±1.5 (±3)	°C (°F)
Logging rate	every 10s		every 12hr	-
Operating temperature range	-35 (-31)		+80 (+176)	°C (°F)
1/2AA 3.6V Lithium Battery life			1*	Year

* At 25 °C and 1 minute logging rate

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
- °C, °F
- Logging rate (10s, 1m, 5m, 30m, 1hr, 6hr, 12hr)
- High and low alarms
- Immediate, delayed and push-to-start logging
- Display off, on for 30 seconds after button press, or permanently on
- Data rollover (allows unlimited logging periods by overwriting 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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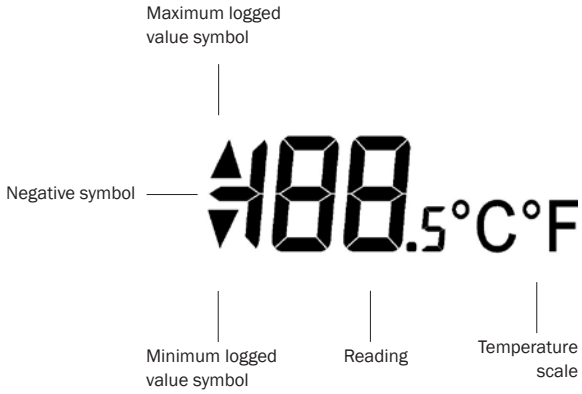
DISPLAY AND STATUS FUNCTIONS

The EL-USB-1-LCD features a high contrast LCD and two LEDs. The LCD shows logged temperature values and can also show information regarding the logging status.



The LCD shows three different recorded readings, which can be cycled through using the built-in push button. The most recent logged temperature, maximum logged temperature and minimum logged temperature can be displayed. In addition, logging and alarm status is shown using two high intensity LEDs.

LCD INDICATION

Display	Logger Status	Explanation
dS	Delayed Start	This is shown when the logger is set to start at a specific data and time*
PS	Push to Start	This is shown when the logger is setup for “Push to start” logging
log	Logging	This is shown when the logger is running in “LCD off” mode, and the button is pressed. The display clears again after three seconds
- - -	Stopped	If the logger has not been set to log and the button is pressed, three dashes are displayed for three seconds

* If the logger is set to “LCD off” or “LCD on for 30 seconds” mode, then this will only be shown after the button is pressed. Otherwise the display will remain blank.

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LED FLASHING MODES

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

- The first LED flashes red (R) to indicate that the EL-USB-1-LCD 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-LCD is not in an alarm condition.

Hold 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.

Hold 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 single flash (10 seconds) The data logger is currently logging. No alarm.	
Green single flash (20 seconds) The data logger is currently logging. No alarm. However, the battery is low and should be replaced before logging important data.	
Green single flash (30 seconds) The data logger is not currently logging, but is primed to start at a later date and time (delayed start).	
Green double flash (20 seconds) The data logger is full and has stopped logging. No alarm.	
Red single flash (10 seconds) The data logger is currently logging. Low alarm.	
Red single flash (20 seconds) The data logger is currently logging. Low alarm. However, the battery is low and should be replaced before logging important data.	
Red double flash (10 seconds) The data logger is currently logging. High alarm.	
Red double flash (20 seconds) The data logger is currently logging. High alarm. However, the battery is low and should be replaced before logging important data.	
Red/Green single flash (20 seconds) The data logger is full and has stopped logging. Alarm (high, low or both).	
No LEDs flash The data logger is stopped, the battery is empty or there is no battery fitted.	

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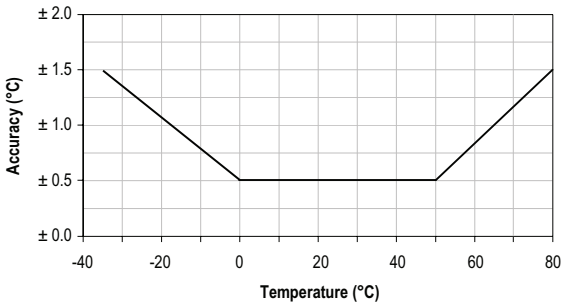
DIMENSIONS

All dimensions in mm (inches)

MEASUREMENT ACCURACY



BATTERY REPLACEMENT

We recommend that you replace the battery every 12 months, or prior to logging critical data.

The EL-USB-1-LCD does not lose its stored readings when the battery is discharged or when the battery is replaced; however, the data logging process will be stopped and cannot be re-started until the battery has been replaced and the logged data has been downloaded to a PC.
Only use 3.6V 1/2AA lithium batteries. Check with your supplier that the battery you are ordering is 'press fit' and is not fitted with solder tags.
Before replacing the battery, remove the EL-USB-1-LCD from the PC.

Note:
Leaving the EL-USB-1-LCD plugged into the USB port for longer than necessary will cause some of the battery capacity to be lost.

WARNING
Handle lithium batteries carefully, observe warnings on battery casing. Dispose of in accordance with local regulations.

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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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