EL-USB-ULT-LCD

Ultra Low Temperature Cryogenic Vaccine Data Logger with LCD screen

EasyLog

Your data, anytime, anywhere



- Measurement range -100 to +100°C (-148 to +212°F)
- T-Type probe on 1m cable
- Stores over 32,000 readings
- High contrast LCD, with four digit temperature display function
- Logging rates between 1 second and 12 hours
- Immediate, delayed and push-to-start logging
- User-programmable alarm thresholds
- Status indication via red and green LEDs
- EasyLog software available as a free download

The EL-USB-ULT-LCD is designed to monitor vaccines in cryogenic dry ice storage.

This standalone data logger measures and stores more than 32,000 temperature readings from its high accuracy thermocouple temperature probe.

The user can easily set up the logger and view downloaded data by plugging the data logger into a PC's USB port and using the free EasyLog software. Data can then be graphed, printed and exported to other applications for detailed analysis.

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 values for temperature.

The data logger is supplied with a lithium metal battery which typically gives 2 years' logging life.

SPECIFICATIONS

Temperature measurement range	-100 to +100°C (-148 to +212°F)
Internal resolution	0.5°C (1°F)
Accuracy (overall error)	±2.5°C (±4.5°F) typical
Logging rate	User selectable between 1 second & 12 hours
Operating temperature range	-10 to +40°C (+14 to +104°F) (data logger only)
Battery Life	2 years (at 25°C and 1 minute logging rate)
Readings	32,510
Dimensions	135 x 24 x 21mm (5.31 x 0.94 x 0.82")
Probe dimensions	300 x Φ 1.5mm, 1m cable (11.8 x Φ 0.05, 39.3" cable)

ACCESSORIES

BAT 3V6 1/2AA	Replacement battery
EL-P-TC-T-ULT	Replacement T-type thermocouple probe
EL-DataPad	Handheld datalogger programmer & collector

INCLUDED IN THE BOX

BAT 3V6 1/2AA	Battery
EL-P-TC-T-ULT	Thermocouple probe
EL-LCD WALL BRACKET	Mounting Bracket

CALIBRATION CERTIFICATES NOW AVAILABLE

Lascar now offers a Traceable Calibration Certificate Service on Temperature Data Loggers. Using reference equipment which has been calibrated by a UKAS/NIST accredited laboratory and using apparatus traceable to national or international standards. For more information, please see **www.lascarelectronics.com**.

EL-USB-ULT-LCD

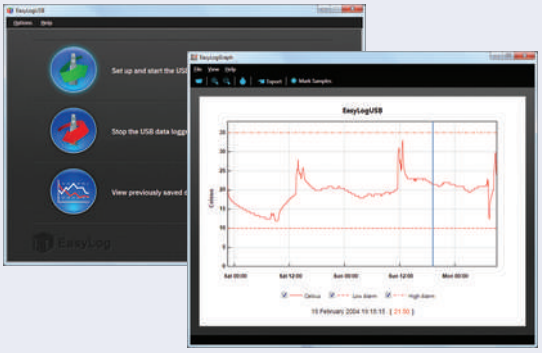
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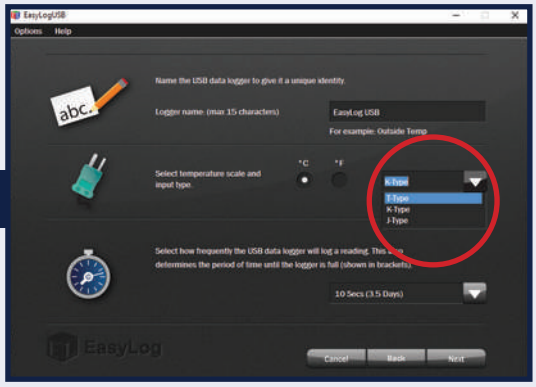
EasyLog Software

Lascar's EasyLog control software is available as a free download from www.easylogusb.com. Easy to install and use, the control software is compatible with 32-bit and 64-bit versions of Windows 7, 8 & 10. The software is used to set up the logger, download, graph and annotate data or export in Excel, PDF and jpeg formats.



The software allows the following parameters to be configured:

- Logger name
- Measurement parameter (°C or °F)
- Logging rate (user selectable between 1 second and 12 hours)
- High and low alarms
- Immediate and delayed logging start

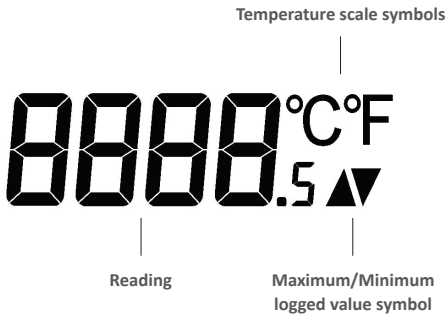


When setting up your logger, make sure you select the T-Type probe.

Download the latest version of the software free of charge from www.easylogusb.com

DISPLAY STATUS INDICATION

The EL-USB-ULT-LCD features a high contrast LCD which shows logged temperature values using seven segment numbers, along with annunciators. The LCD 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.

To increase battery life it is possible, via the software, to turn off the display or have it active only after pressing the button.

Display	Logger Status	Explanation
dS	Delayed Start	This is shown when the button is pressed and the logger is set to start at a specific date and time
PS	Push to Start	This will flash 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 a short period
- - -	Stopped	If the logger has not been set to log and the button is pressed, three dashes are displayed for a short period

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LED STATUS INDICATION

EL-USB-ULT-LCD features two LEDs:

- The first LED flashes **red** to indicate that the EL-USB-ULT-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** to indicate that the EL-USB-ULT-LCD is not in an alarm condition.

Using the EasyLog software it is possible to set the alarm to remain active even if the reading has returned to normal, in which case the alarm LED will continue to flash red. This 'Hold' feature in the software ensures the user is notified that at some point an alarm level has been exceeded, without needing to download the data.

Using the control software it is possible to set a delayed alarm. In this mode the logger has to see multiple consecutive alarms before being activated.

Hold is enabled by default, and 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.

	**Green single flash (every 10 seconds)** The data logger is currently logging. No alarm
	**Green single flash (every 20 seconds)** The data logger is currently logging, however the battery is running low. No alarm
	**Green single flash (every 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 (every 20 seconds)** The data logger is full and has stopped logging. No alarm
	**Red single flash (every 10 seconds)** The data logger is currently logging. Low alarm
	**Red single flash (every 20 seconds)** The data logger is currently logging, however the battery is running low. Low alarm
	**Red double flash (every 10 seconds)** The data logger is currently logging High alarm
	**Red double flash (every 20 seconds)** The data logger is currently logging, however the battery is running low. High alarm
	**Red & Green single flash alternately (every 20 seconds)** The data logger is full and has stopped logging. High or low alarm
	**No LEDs flash** The data logger is stopped, the battery is empty or there is no battery

BATTERY INFORMATION

Replacement

We recommend that you replace the battery annually, or prior to logging critical data. Only use 3.6V ½AA lithium metal batteries. The data logger does not lose its stored readings when the battery is discharged or replaced; however, the data logging process will stop and will not resume until the battery is replaced and the logger restarted by the EasyLog software or an EL-DataPad.

Before replacing the battery, remove the data logger from the PC. Please note that leaving the data logger plugged into the USB port for extended periods will cause some of the battery capacity to be lost.

Passivation

If left unused for extended periods of time lithium metal batteries, including those used in the EasyLog range of data loggers, naturally form a non-conductive internal layer preventing them from self-discharge and effectively increasing their shelf life. When first installed in the data logger, this may cause a momentary drop in the battery voltage (the Transient Minimum Voltage) as the internal layer is broken down, resulting in the data logger resetting. Inserting the batteries in the data logger and leaving it connected to a PC for about 30 seconds will remove this layer. After this, remove and re-install the batteries to reset the data logger. Overall battery life will not be affected.

WARNING

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