

This data logger measures and stores over 32,000 temperature readings from either a K, J or T type thermocouple. A thermocouple is attached via the thermocouple socket at the base of the unit. The user can easily set up the thermocouple type, logging rate, start-time, logging mode, and download the stored data by plugging the module straight into a PC's USB port and running the purpose designed software under Windows 2000, XP or Vista. Data can then be graphed, printed and exported to other applications. The data logger is supplied complete with a long-life lithium battery, which will last for approximately 6 months.

- -200 to +1300°C Measurement Range (K-type)
- -130 to +900°C Measurement Range (J-type)
- -200 to +350°C Measurement Range (T-type)
- USB Interface for Set-up and Data Download
- 2 User-Programmable Alarm Thresholds
- Bright Red and Green LED Indication
- Replaceable Internal Lithium Battery
- Supplied with basic K-type thermocouple rated from 0 to 110°C (32 to 230°F)



### WINDOWS CONTROL SOFTWARE

Easy to install and use, the control software runs under Windows 2000, XP (Home and Professional Editions) and Vista (32-bit). It allows the user to set up and download any EL-USB-TC. The latest version of the control software may be downloaded from [www.lascarelectronics.com](http://www.lascarelectronics.com).

### DATA LOGGER SET-UPS

- Logger Name
- °C, °F
- Logging Rate (1s, 10s, 1m, 5m, 30m, 1hr, 6hr, 12hr)
- High and Low Alarms
- Start Date and Start Time
- Range of logging modes available

### ORDERING INFORMATION

Standard Data Logger (Data Logger, Software on CD, Battery, 1.5m basic K-type Thermocouple)	Stock Number EL-USB-TC
Replacement Battery	BAT 3V6

### SPECIFICATIONS

Specification	Min.	Typ.	Max.	Unit
Probe Measurement range (K-type)	-200 (-328)		+1300 (2372)	°C (°F)
Probe Measurement range (J-type)	-130 (-202)		+900 (1652)	°C (°F)
Probe Measurement range (T-type)	-200 (-328)		+350 (662)	°C (°F)
Operating temperature range *	-10 (14)		+40 (104)	°C (°F)
Resolution (internal and displayed)		0.5 (1)		°C (°F)
Accuracy (logger error)		+/- 1(2)**		°C (°F)
Logging rate	every 1s		every 12hr	-
1/2AA 3.6V Lithium Battery Life ***		6		Month

\* Using thermocouple sensors, the EL-USB-TC can log temperatures as detailed above, but the data logger should not be subjected to temperatures outside the Operating temperature range.

\*\* EL-USB-TC is designed to be used whilst disconnected from USB port.

\*\*\* @ 25°C and 1m logging rate

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Specifications liable to change without prior warning

EL-USB-TC Issue 4 04/2008

S.C. Applies to EL-USB-TC



### LED FLASHING MODES

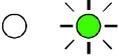
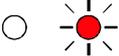
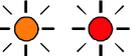
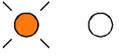
EL-USB-TC features 2 LEDs.

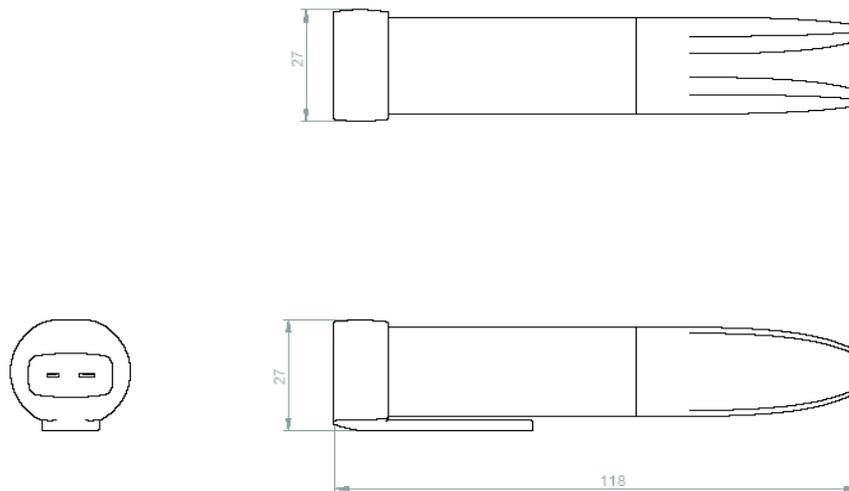
- The first LED flashes orange (O) to indicate a problem condition on the EL-USB-TC.
- The second LED flashes green or red (G/R) to indicate alarm level status.  
It will flash red when the logged temperature has exceeded a Low or High alarm level.

By default latching is enabled, so the red LED will continue to flash even after the logged temperature has returned to normal. The red LED will effectively have latched into its alarm condition. 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 no longer continue to flash after the logged temperature has returned to normal. Instead, the green LED will flash.

The LEDs on the EL-USB-TC will flash in one of the following ways:

- |   |  |
|---|--|
| <p>O    G/R</p>  | <p><b>Green LED flashes twice every 10 seconds</b><br/>- The data logger is not currently logging, but is primed to start at a later date and time.</p>  |
|                  | <p><b>Green LED flashes once every 10 seconds</b><br/>- The most recently logged temperature is between the Low alarm and High alarm levels.</p>   |
|                  | <p><b>Green and Orange LEDs flash once every 10 seconds</b><br/>- The most recently logged temperature is between the Low alarm and High alarm levels, but the data logger's memory is full, so no more readings are stored.<br/>NB: If latching is enabled, then a flashing green LED indicates that no alarm condition has ever been logged.</p> |
|                | <p><b>Red LED flashes once every 10 seconds</b><br/>- The most recently logged temperature is equal to or lower than the Low alarm level.<br/>NB: If latching is enabled, then the alarm condition may have been triggered a while ago.</p>  |
|                | <p><b>Red and Orange LEDs flash once every 10 seconds</b><br/>- The most recently logged temperature is equal to or lower than the Low alarm level, but the data logger's memory is full, so no more readings are stored.<br/>NB: If latching is enabled, then the alarm condition may have been triggered a while ago.</p>                        |
|                | <p><b>Red LED flashes twice every 10 seconds</b><br/>- The most recently logged temperature is equal to or higher than the High alarm level.<br/>NB: If latching is enabled, then the alarm condition may have been triggered a while ago.</p>   |
|                | <p><b>Red and Orange LEDs flash twice every 10 seconds</b><br/>- The most recently logged temperature is equal to or higher than the High alarm level, but the data logger's memory is full, so no more readings are stored.<br/>NB: If latching is enabled, then the alarm condition may have been triggered a while ago.</p>                     |
|                | <p><b>Orange LED flashes once every 60 seconds</b><br/>- The battery is reaching the end of its useful life, as its voltage has dropped below 3.3V.<br/>- Data logging continues until the battery voltage drops below 2.8V.</p>   |
|                | <p><b>No LEDs flash</b><br/>- The logger is not being used.<br/>or<br/>- 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 control software to find out which condition applies.</p>  |

**DIMENSIONS** All dimensions in mm (inches)**BATTERY REPLACEMENT**

We recommend that you replace the battery every 6 months, or prior to logging critical data.

The EL-USB-TC does not lose its stored readings when the battery is flat or when the battery is replaced; the data logging process will however be stopped and cannot be re-started until the battery has been replaced and the logged data has been downloaded to PC.

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-TC from the PC.

**Note:**

Leaving the EL-USB-TC 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.**

