

User's Guide

Instruction Sheet

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OM-EL-USB-TC-LCD

**THERMOCOUPLE DATA LOGGER WITH
LCD DISPLAY AND USB INTERFACE**



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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, human applications.

OM-EL-USB-TC-LCD

Thermocouple Data Logger with LCD

ORDERING INFORMATION

Standard Data Logger (Data Logger, Measurement Leads, Software on CD and Battery)	OM-EL-USB-TC-LCD
Replacement Battery	OM-EL-BATT

FEATURES

- -200 to +1350°C (-328 to +2462°F) K-type measurement range
- -200 to +1190°C (-328 to +2174°F) J-type measurement range
- -200 to +390°C (-328 to +734°F) T-type measurement range
- High contrast LCD, with four digit temperature display
- USB Interface for set-up and data download
- User-programmable alarm thresholds
- Status indication via red and green LEDs
- Immediate, delayed and push-to-start logging
- Supplied complete with replaceable internal lithium battery and Windows control software



This standalone data logger measures and stores up to 32,510 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 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 or 7. Data can then be graphed, printed and exported to other applications.

The high contrast LCD can show several different temperature variables. The user can cycle between these using the push button. The data logger is supplied complete with a long-life lithium battery, which can typically allow logging for up to 6 months.

Specifications	Minimum	Typical	Maximum	Unit
Probe Measurement range (K-type)	-200 (-328)		+1350 (+2462)	°C (°F)
Probe Measurement range (J-type)	-200 (-328)		+1190 (+2174)	°C (°F)
Probe Measurement range (T-type)	-200 (-328)		+390 (+734)	°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 1 s		every 12 hr	-
1/2AA 3.6V Lithium Battery Life		6***		Months

* Operating temperature applies to the data logger module only. Please consult the probe manufacturer for operating temperature of thermocouple.

** Quoted accuracy is for the data logger only and excludes the thermocouple probe. Thermocouple error should also be taken into consideration.

*** Depending on sample rate, ambient temperature and use of LCD.

OM-EL-USB-TC-LCD

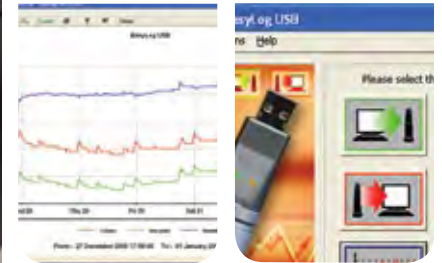
Thermocouple Data Logger with LCD

WINDOWS CONTROL SOFTWARE

Omega'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 (Home and Professional Editions), 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 (1s, 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)



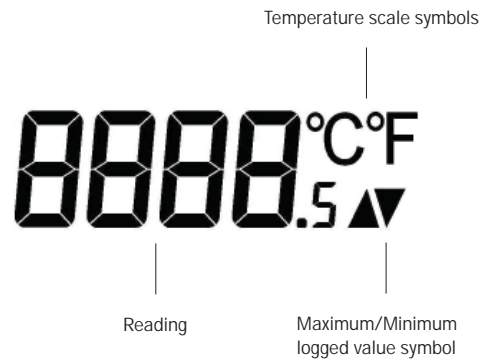
The latest version of the control software may be downloaded free of charge from www.omega.com

OM-EL-USB-TC-LCD

Thermocouple Data Logger with LCD

DISPLAY AND STATUS FUNCTIONS

The OM-EL-USB-TC-LCD features a high contrast LCD and two LEDs. The LCD shows logged temperature values using seven segment numbers, along with symbols. The LCD can also show information regarding the logging status.



Three different functions are available on the display – most recent logged temperature, maximum logged temperature and minimum logged temperature. The push button is used to cycle through the functions. In addition, logging and alarm status are shown using two high intensity LEDs.

LCD INDICATION

Display	Logger Status	Explanation
d5	Delayed Start	This is shown when the logger is set to start at a specific data and time*
P5	Push to Start	This is shown when the logger is setup for "Push to start" logging
109	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.

OM-EL-USB-TC-LCD

Thermocouple Data Logger with LCD

LED FLASHING MODES












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

- The first LED flashes red (R) to indicate that the OM-EL-USB-TC-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 OM-EL-USB-TC-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 while the logger is in an alarm condition. When the temperature returns to normal, the green LED will flash.

Additional LED modes are explained below:

 <p>Green LED Red LED</p>		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.

OM-EL-USB-TC-LCD

Thermocouple Data Logger with LCD

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 OM-EL-USB-TC-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.

The battery is 'press fit' and is not fitted with solder tags. Before replacing the battery, remove the OM-EL-USB-TC-LCD from the PC.

Note:

Leaving the OM-EL-USB-TC-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.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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