User's Guide

TC DATA SHEET

OM-EL-USB-TC

THERMOCOUPLE TEMPERATURE DATA LOGGER

omega.com®
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OMEGAnet® Online Service omega.com	Internet e-mail info@omega.com

Servicing North America:

U.S.A.:
ISO 9001 Certified

One Omega Drive, P.O. Box 4047
Stamford, CT 06907-0047
TEL: (203) 359-1660   FAX: (203) 359-7700
e-mail: info@omega.com

Canada:

976 Bergar
Laval (Quebec) H7L 5A1, Canada
TEL: (514) 856-6928   FAX: (514) 856-6886
e-mail: info@omega.ca

For immediate technical or application assistance:

U.S.A. and Canada: Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®
Customer Service: 1-800-622-2378 / 1-800-622-BEST®
Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN®
TELEX: 996404   EASYLINK: 62968934   CABLE: OMEGA

Mexico:

En Español: (001) 203-359-7803   e-mail: espanol@omega.com
FAX: (001) 203-359-7807   info@omega.com.mx

Servicing Europe:

Benelux:

Postbus 8034, 1180 LA Amstelveen, The Netherlands
TEL: +31 (0)20 3472121   FAX: +31 (0)20 6434643
Toll Free in Benelux: 0800 0993344
e-mail: sales@omegaeng.nl

Czech Republic:

Frystatska 184, 733 01 Karviná, Czech Republic
TEL: +420 (0)59 6311899   FAX: +420 (0)59 6311114
Toll Free: 0800-1-66342   e-mail: info@omegashop.cz

France:

11, rue Jacques Cartier, 78280 Guyancourt, France
TEL: +33 (0)1 61 37 2900   FAX: +33 (0)1 30 57 5427
Toll Free in France: 0800 466 342
e-mail: sales@omega.fr

Germany/Austria:

Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
TEL: +49 (0)7056 9398-0   FAX: +49 (0)7056 9398-29
Toll Free in Germany: 0800 639 7678
e-mail: info@omega.de

United Kingdom:
ISO 9002 Certified

One Omega Drive, River Bend Technology Centre
Northbank, Irlam, Manchester
M44 5BD United Kingdom
TEL: +44 (0)161 777 6611   FAX: +44 (0)161 777 6622
Toll Free in United Kingdom: 0800-488-488
e-mail: sales@omega.co.uk

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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

THERMOCOUPLE TEMPERATURE DATA LOGGER WITH USB INTERFACE

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 OM-EL-USB-TC. The latest version of the control software may be downloaded from *www.omega.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

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

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

LED FLASHING MODES

EL-USB-TC features two LEDs , that indicate the logging, battery and alarm status:
-The first LED flashes red (R) to indicate that the EL-USB-TC is in an alarm condition. It will flash when the logged temperature has exceeded a Low or High alarm level.
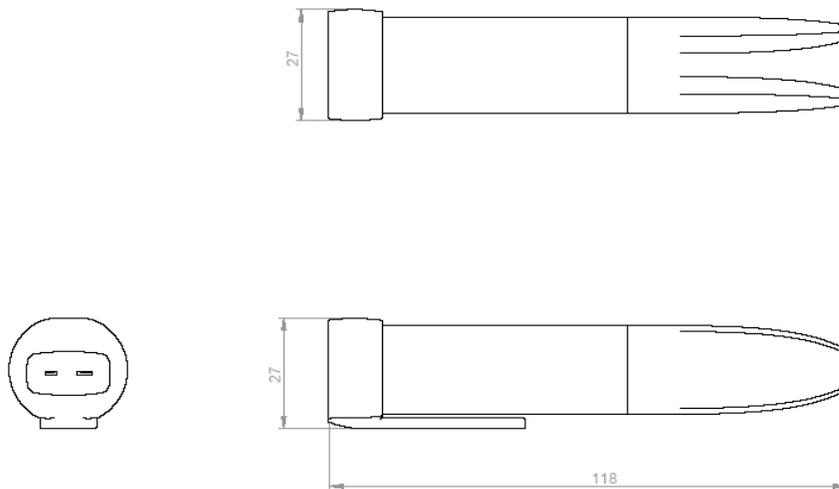-The second LED flashes green (G) to indicate that the EL-USB-TC is not in an alarm condition.

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 leve 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:

R   G

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 control software to find out which condition applies.

DIMENSIONS   All dimensions in mm (inches)

27

27

118

BATTERY REPLACEMENT

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

The OM-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.

Use only Omega model no. OM-EL-BATT replacement battery. The battery is 'press fit' and is not fitted with solder tags.

Note:
Leaving the OM-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. ⚠

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.

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