TC DATA SHEET

OM-EL-USB-TC
THERMOCOUPLE TEMPERATURE DATA LOGGER
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omega.com

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OM-EL-USB-TC
THERMOCOUPLE TEMPERATURE DATA LOGGER WITH USB INTERFACE

INSTRUCTION SHEET

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

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probe Measurement range (K-type)</td>
<td>-200</td>
<td>-328</td>
<td>+1300</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Probe Measurement range (J-type)</td>
<td>-130</td>
<td>-202</td>
<td>+900</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Probe Measurement range (T-type)</td>
<td>-200</td>
<td>-328</td>
<td>+350</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Operating temperature range*</td>
<td>-10</td>
<td>141</td>
<td>+40</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Resolution (internal and displayed)</td>
<td>0.5</td>
<td>1</td>
<td>-</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Accuracy (logger error)</td>
<td>+/-</td>
<td>1/2</td>
<td>-</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Logging rate</td>
<td>every 1s</td>
<td>every 12hr</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>1/2AA 3.6V Lithium Battery Life***</td>
<td>6</td>
<td></td>
<td>Month</td>
<td></td>
</tr>
</tbody>
</table>

* 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.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Stock Number</th>
<th>Standard Data Logger</th>
<th>Replacement Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM-EL-USB-TC</td>
<td>(Data Logger, Software on CD, Battery, 1.5m basic K-type Thermocouple)</td>
<td>OM-EL-BATT</td>
</tr>
</tbody>
</table>
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.

Latch 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.
Latch 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 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.
**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.
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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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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