1 YEAR
WARRANTY

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User's Guide

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OM-EL-GFX-TC

THERMOCOUPLE DATA LOGGER WITH GRAPHIC DISPLAY

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OM-EL-GFX-TC

K, J & T-type Thermocouple Data Logger with Graphic Screen

- Compatible with K, J and T-type thermocouples with miniature thermocouple plug connection
- Stores over 250,000 readings
- Control software available as a free download
- Logging rates between 2 seconds and 1 hour
- Supplied with 1.0m K-type thermocouple with -80 to +400°C (-112 to +752°F) measurement range
- On-screen graphing, and menu options to start, stop, review and restart the logger in the field
- Immediate, delayed, push-button or temperature triggered start mode

This standalone data logger measures and stores more than 250,000 temperature readings from a K, J or T-type thermocouple at a resolution of 0.1°C (0.2°F). It comes supplied with a K-type thermocouple capable of measuring from -80 to +400°C (-112 to +752°F).

Your application will determine which probe is most suitable based on temperature range, accuracy, form and price. A wide variety of alternative thermocouples are available from distribution.

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 configuration software. Data can then be graphed, printed and exported to other applications for detailed analysis.

The data logger features a high contrast dot-matrix LCD and three buttons to navigate through an on-screen menu. This menu provides the user with access to real-time trend analysis, data summaries and the ability to start, stop and restart the data logger without the need to connect the data logger to the host PC. Users can reset the maximum / minimum reading using the on-screen menu; this introduces an 'event marker' into the data which can later be viewed in the graphing software ('Mark Events' option) and the data file after download.

The data logger is supplied complete with two lithium metal batteries, which can typically allow logging for up to 1 year.

SPECIFICATIONS

Probe measurement range	
K-type (supplied)	-80 (-112) to +400°C (+752°F)
K-type	-200 (-328) to +1350°C (+2462°F)
J-type	-200 (-328) to +1190°C (+2174°F)
T-type	-200 (-328) to +390°C (+734°F)
Accuracy (logger error)	±0.5°C (±0.9°F)
Internal resolution	0.1°C (0.1°F)
Logging rate	User selectable between 2 seconds & 1 hour
Operating temperature range	-10 to +40°C (-14 to +104°F) (data logger only)
Battery Life	1 year (at 25°C, 1 minute logging rate, LCD off)
Readings	252,928
Dimensions	102 x 48.5 x 30.5mm

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Control Software

Omega's control software is available as a free download from www.omega.com. Easy to install and use, the control software is compatible with 32-bit and 64-bit versions of Windows XP, Vista, 7 & 8. 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 (customizable between 1 second and 12 hours)
- High and low alarms
- Immediate and delayed logging start

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

MENU BUTTON FUNCTIONS AND LED SCREEN INDICATION

ARMED! Press button to start logging ✓

DELAYED START Starts logging at 10:30:00 04/03/12

DELAYED START Starts logging when temperature above 36.2°C

START LOGGER

- Loggers can be started immediately on a button press, delayed to a specific time or delayed to specific temperature reading

26.8°C gfx i

26.8°C txt i

DISPLAY DATA

- Data can be displayed on screen in tabular or graphical format
- You can switch between these views by pressing the gfx / txt buttons at the bottom-left of your screen

ON-SCREEN ICONS

ALARM ALARM

- When the EasyLog cube is shown in the top-left corner your logger is logging
- High/Low Alarm indicators are displayed at the top of your screen
- This icon indicates that your battery is low and will need to be replaced soon

Stop Logging / Logger Settings

Start Logging / Logger Settings

ALARM Mute Alarm / Stop Logging / Logger Settings

STOP/START LOGGING & MUTE ALARM

- By pressing the button, you can stop your logger, or view logger settings. If you have already stopped logging, this option will change to 'Start Logging'. The audible alarm can be muted from this menu if enabled

Temperature Max 34.8°C Min 22.8°C Since 10:30 24/09/2012 reset

Mem Used 32% Readings 6336

SUMMARY DATA

- Summary screen displays max/min log and last log. Reset function clears summary if required
- These screens can be reached by pressing the i button

Locked Mode gfx i

LOCKED MODE

- When in locked mode - an option during PC set-up - the logger can only be stopped and re-started using a PC loaded with the unit's configuration software

Start Logging / Logger Settings

EasyLog USB Sample Rate 10s Low Alm 10°C High Alm 40°C S/N 000000001

LOGGER SETTINGS

- To view a summary of the logger's settings press the button, then click 'Logger Settings'

Time & date not set Start unit logging using PC

Memory is 90% full Download data to a PC to clear

Memory full, logger stopped Download data to a PC to clear

POP-UP MESSAGES

- A message will overlay the screen - if there is an issue - the next time a button is pressed, e.g. if the logger is running low on memory

Please note that screens may vary slightly depending on model.

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PROBE ISOLATION

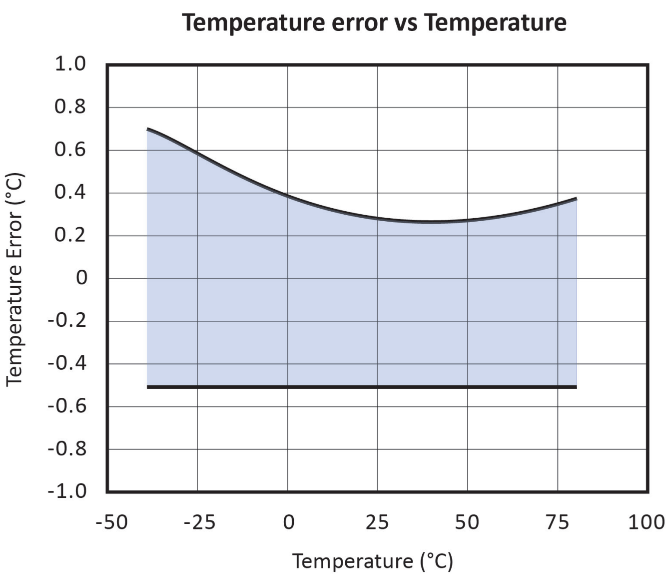
The K-Type thermocouple probe supplied with the OM-EL-GFX-TC is not electrically isolated from the thermocouple junction, to give a faster response.

Depending upon application it may be necessary to use an electrically isolated thermocouple probe to avoid ground loops, and/or situations where the probe may come into contact with conductors that are at different electrical potentials.

Where doubt exists Omega recommends that electrically isolated probes are always used.

INTERNAL TEMPERATURE ACCURACY

The OM-EL-GFX-TC has the option to log temperature using an internal sensor. This is selectable using the control software. The internal sensor can measure temperature readings over a -30 to +80°C (-22 to +176°F) range, at a resolution of 0.1°C (0.2°F).



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BATTERY INFORMATION

Replacement

We recommend that you replace the battery every year, or prior to logging critical data. Only use 2 x OM-EL-BATT lithium 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 control software.

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, the lithium batteries used in the Omega 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 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.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

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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