

# EL-GFX-DTC



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

- Compatible with K, J and T-type thermocouples with miniature thermocouple plug connections
- Stores over 250,000 readings
- EasyLog software available as a free download
- Logging rates between 2 seconds and 1 hour
- Supplied with a pair of 1.5m K-type thermocouples with 0 to 200°C (32 to 392°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 two K, J or T-type thermocouple probes at a resolution of 0.1°C (0.2°F). It comes supplied with two K-type thermocouples capable of measuring from 0 to 200°C (32 to 392°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. Please call Lascar for vendor recommendations.

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 EasyLog 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

<b>Probe measurement range</b>	
K-type (supplied)	0 to 200°C (32 to 392°F)
K-type	-200 to 1350°C (-328 to 2462°F)
J-type	-200 to 1190°C (-328 to 2174°F)
T-type	-200 to 390°C (-328 to 734°F)
<b>Accuracy (logger error)</b>	±1.5°C (±2.7°F)
<b>Internal resolution</b>	0.1°C (0.2°F)
<b>Logging rate</b>	User selectable between 2 seconds & 1 hour
<b>Operating temperature range</b>	-10 to +40°C (+14 to +104°F) (data logger only)
<b>Battery Life</b>	1 year (at 25°C, 1 minute logging rate, LCD off)
<b>Readings</b>	252,928
<b>Dimensions</b>	102 x 48.5 x 30.5mm (4.01" x 1.90" x 1.20")

### ACCESSORIES

<b>BAT 3V6 1/2AA</b>	Replacement battery (2 required)
<b>EL-P-TC-K</b>	Replacement K-type thermocouple probe

### INCLUDED IN THE BOX

<b>x2 BAT 3V6 1/2AA</b>	Battery
<b>CABLE USB A-MICRO B</b>	USB cable
<b>x2 EL-P-TC-K</b>	K-type thermocouple probe
<b>EL-GFX WALL BRACKET</b>	Magnetic mounting bracket



### CALIBRATION CERTIFICATES NOW AVAILABLE

Lascar now offers a Traceable Calibration Certificate Service on Temperature Data Loggers. Using reference equipment which has been calibrated by a UKAS/NIST accredited laboratory and using apparatus traceable to national or international standards. For more information please see [www.lascarelectronics.com](http://www.lascarelectronics.com).



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### EL-WIN-USB

Lascar's EasyLog control software is available as a free download from [www.easylogusb.com](http://www.easylogusb.com). Easy to install and use, the control software is compatible with 32-bit and 64-bit versions of Windows 7, 8 and 10. 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 (selectable 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.easylogusb.com](http://www.easylogusb.com)

### MENU BUTTON FUNCTIONS AND LCD SCREEN INDICATION

<p><b>ARMED!</b> Press button to start logging</p> <p><b>DELAYED START</b> Starts logging at 10:30:00 04/03/12</p> <p><b>DELAYED START</b> Starts logging when temperature above 36.2°C</p>	<p><b>START LOGGER</b></p> <ul style="list-style-type: none"> <li>Loggers can be started immediately on a button press, delayed to a specific time or delayed to specific temperature reading</li> </ul>	<p><b>DISPLAY DATA</b></p> <ul style="list-style-type: none"> <li>Data can be displayed on screen in tabular or graphical format</li> <li>You can switch between these views by pressing the <b>gfx</b> / <b>txt</b> buttons at the bottom-left of your screen</li> </ul>
<p><b>ON-SCREEN ICONS</b></p> <ul style="list-style-type: none"> <li>When the EasyLog cube is shown in the top-left corner your logger is logging</li> <li>High/Low Alarm indicators are displayed at the top of your screen</li> <li>This icon indicates that your battery is low and will need to be replaced soon</li> </ul>		<p><b>STOP/START LOGGING &amp; MUTE ALARM</b></p> <ul style="list-style-type: none"> <li>By pressing the <b>stop</b> 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</li> </ul>
<p><b>Temperature</b> Max 34.8°C Min 22.8°C Since 10:30 24/09/2012</p> <p><b>Mem Used</b> 32% Readings 6336</p>	<p><b>SUMMARY DATA</b></p> <ul style="list-style-type: none"> <li>Summary screen displays max/min log and last log. Reset function clears summary if required</li> <li>These screens can be reached by pressing the <b>i</b> button</li> </ul>	<p><b>LOCKED MODE</b></p> <ul style="list-style-type: none"> <li>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</li> </ul>
<p><input type="radio"/> Start Logging <input checked="" type="radio"/> <b>Logger Settings</b></p> <p>EasyLog USB Sample Rate 10s Low Alm 10°C High Alm 40°C S/N 000000001</p>	<p><b>LOGGER SETTINGS</b></p> <ul style="list-style-type: none"> <li>To view a summary of the logger's settings press the <b>stop</b> button, then click 'Logger Settings'</li> </ul>	<p><b>POP-UP MESSAGES</b></p> <ul style="list-style-type: none"> <li>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</li> </ul>

Please note that screens may vary slightly depending on model.

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### PROBE ISOLATION

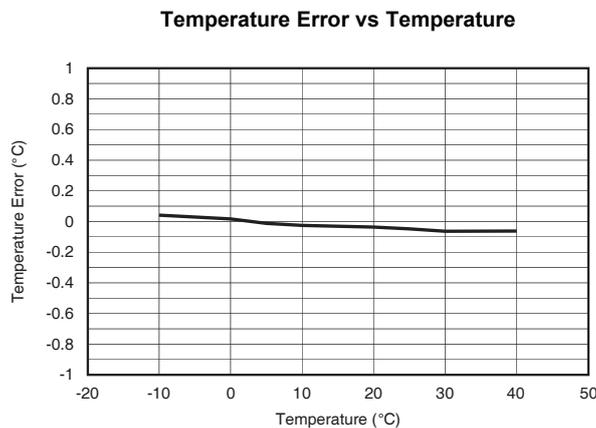
The K-Type thermocouple probes supplied with the EL-GFX-DTC are not electrically isolated from the thermocouple junction, to give a faster response.

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

Where doubt exists Lascar recommends that electrically isolated probes are used.

### INTERNAL TEMPERATURE ACCURACY

The EL-GFX-DTC has the option to log temperature using an internal sensor. This is selectable using the EasyLog 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).



### BATTERY INFORMATION

#### Replacement

We recommend that you replace the battery every year, or prior to logging critical data. Only use 3.6V ½AA 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 EL-WIN-USB.

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 lithium batteries, including those used in the EasyLog 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.