# EL-GFX-2+

## High Accuracy Temperature, Humidity & Dew Point Data Logger with Graphic Screen




- -30 to +80°C (-22 to +176°F) and 0 to 100%RH measurement range
- Stores over 250,000 readings
- EasyLog software available as a free download
- Logging rates between 10 seconds and 1 hour
- On-screen graphing, and menu options to start, stop, review and restart the logger in the field
- Immediate, delayed, push-button or level (temperature or humidity) triggered start mode
- User-programmable audible alarm thresholds with highly visible confidence/alarm LEDs
- Environmental protection to IP67
- Higher accuracy sensor when compared with the EL-GFX-2

This stand-alone data logger measures and stores over 250,000 temperature and humidity readings over a -30 to +80°C (-22 to +176°F) and 0 to 100%RH range at a resolution of 0.1°C (0.2°F) and 0.1%RH.

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 and is protected against moisture to IP67 when the battery case is securely fitted. Can be powered from USB.

## SPECIFICATIONS

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|---|---|---|
| **Temperature** | **Measurement Range** | -30°C to 80°C (-22°F to 176°F) |
| | **Internal Resolution** | 0.1°C (0.2°F) |
| | **Accuracy (overall error)*** | ± 0.25°C (0.41°F) typical (5 to 60°C) |
| | **Long Term Stability** | <0.02°C (0.04°F) / year |
| **Relative Humidity** | **Measurement Range** | 0 to 100%RH |
| | **Internal Resolution** | 0.1%RH |
| | **Accuracy (overall error)*** | ± 1.85%RH typical (10 to 90%RH) |
| | **Long Term Stability** | <0.25%RH / year |
| **Dew Point** | **Accuracy (overall error)*** | ± 1.2°C typical (-30 to 80°C, 40 to 100%RH) |
| **Logging Rate** | | Every 10 seconds to 1 hour |
| **Operating temperature Range** | | -30 to 80°C (-22 to 176°F) |
| **Battery Life** | | 1 year (at 25°C, 1 minute logging rate, LCD off) |
| **Dimensions** | | 88 x 48.5 x 30.5mm (3.46 x 3.46 x 1.20") |
| **Readings** | | 252,928 |

* The overall error takes in to account the sensor accuracy (as shown on page 3) and the resolution of the data logger.

## ACCESSORIES

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|---|---|
| **BAT 3V6 1/2AA** | Replacement battery (2 required) |

## INCLUDED IN THE BOX

| | |
|---|---|
| **x2 BAT 3V6 1/2AA** | Battery |
| **CABLE USB A-MICRO B** | USB cable |
| **EL-GFX WALL BRACKET** | 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**.

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### EASYLOG SOFTWARE

Lascar's EasyLog control software is available as a free download from 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.

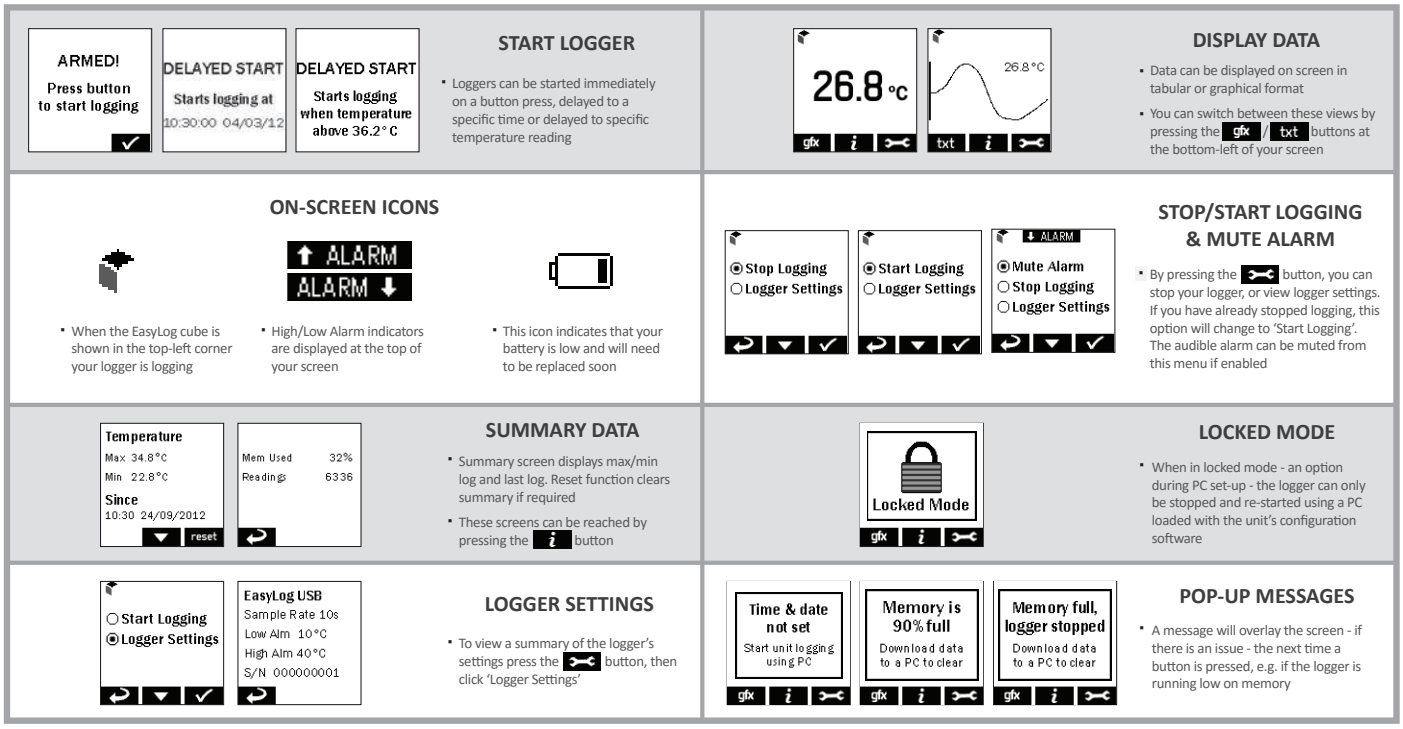
The software allows the following parameters to be configured:

- Logger name
- Measurement parameter (°C or °F)
- Logging rate (user selectable between 10 seconds and 1 hour)
- Display off, on for 30 seconds after button press, or permanently on
- High and low alarms
- Disable or enable LEDs and sounder with delayed activation
- Immediate, delayed, push-button or level (temperature or humidity) triggered start mode



**Download the latest version of the software free of charge from www.lascarelectronics.com/software/easylog-usb**

### MENU BUTTON FUNCTIONS AND LCD SCREEN INDICATION



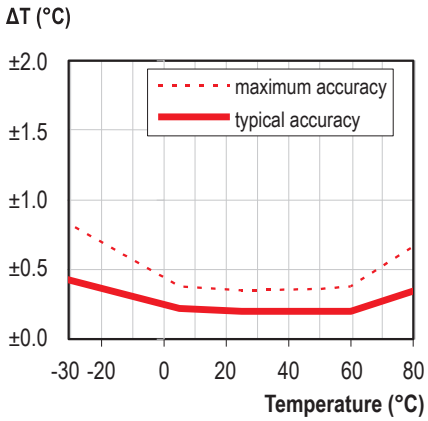

*Please note that screens may vary slightly depending on model.*

# EL-GFX-2+

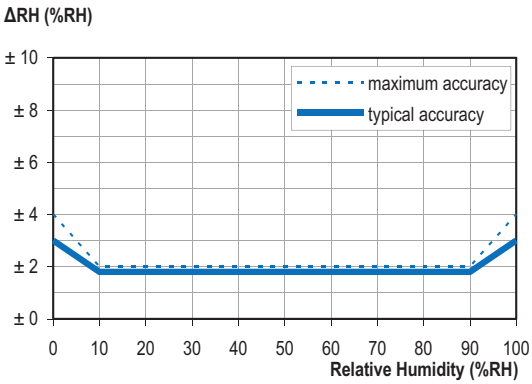
## High Accuracy Temperature, Humidity & Dew Point Data Logger with Graphic Screen

### SENSOR ACCURACY & INFORMATION

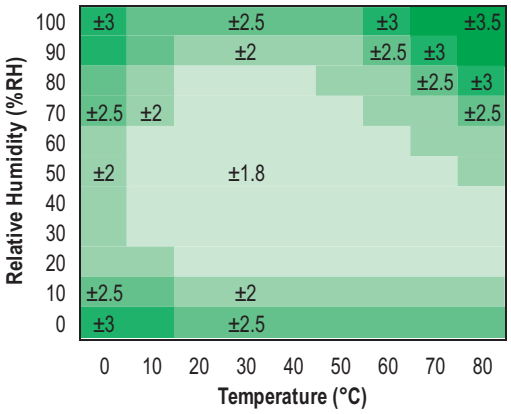
Typical and maximal tolerance for temperature.



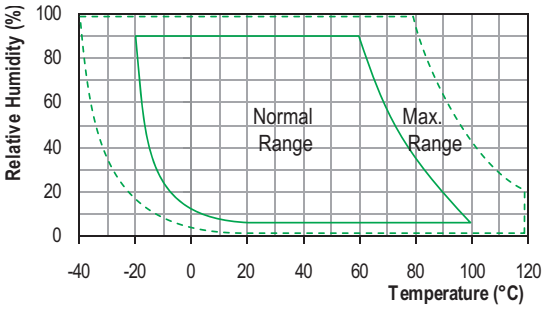

Typical and maximal tolerance at 25°C for relative humidity.




Typical accuracy of relative humidity measurements given in %RH for temperatures 0 to 80°C.




Operating conditions




Long term exposure to humidity levels outside of the 'normal' range may temporarily offset RH measurements (±3%RH after 60 hours). Once returned to less extreme conditions the device will slowly return towards calibration state.

When tracking changes in ambient conditions, the response time of the humidity sensor in your data logger is approximately 20 minutes to reach 90% of the reading. However, if you are measuring step changes in humidity (for example if calibrating the product) it is advised that you leave the unit for up to four hours to ensure that it has enough time to settle at the new level.

It is worth remembering that the value of relative humidity is of course sensitive to temperature variation. As an example, at a relative humidity of ~90%RH at ambient temperature, a variation in temperature of 1°C will result in a change of up to -5%RH. Therefore when comparing multiple devices or calibrating them, any temperature variations must be considered.

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### SENSOR ACCURACY & INFORMATION

The humidity measuring element in the humidity data loggers can be contaminated through exposure to a variety of compounds. These products should not be kept in proximity to volatile chemicals such as solvents and other organic compounds. Generally speaking, if a material or compound emits a strong odour you should not keep your humidity data logger in close proximity to it. If you would like more information, please contact your local Lascar Electronics office.

Exposure to extreme conditions or chemical vapours will require the following reconditioning procedure to bring the internal sensor back to calibration state:

| | |
|---|---|
| ***Baking*** | 80°C (176°F) at < 5%RH for 36 hours. |
| ***Re-hydration*** | 20 to 30°C (70 to 90°F) at > 74%RH for 48 hours. |

High levels of pollutants may cause permanent damage to the internal sensor.

### 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. The logger may need to be restarted by EasyLog software.

Before replacing the battery, remove the data logger from the PC.

**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.