EL-GFX-2+

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

EasyLog®

- -30 to +80°C (-22 to +176°F) and 0 to 100%RH measurement range
- Stores over 250,000 readings
- Logging rates between 10 seconds and 1 hour
- On screen menu and graphing to start, stop, review and restart the logger in the field
- Triggered logging mode to start recording data once a user defined level is met
- High contrast, greyscale, backlit, graphic LCD screen to denote status and alarm levels
- User-programmable audible alarm thresholds with highly visible confidence/alarm LEDs
- EasyLog software available as a free download
- 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 (0.1°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 available free downloadable EasyLog software. Data can then be graphed, printed and exported to other applications.

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 4 months. The data logger is protected against moisture to IP67 when the battery case if securely fitted.

SPECIFICATIONS

Temperature	**Measurement Range**	35°C to 80°C (-31°F to 176°F)
	Internal Resolution	0.1°C (0.1°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 (-35 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)
2X 1/2 AA 3.6V Lithium Battery Life		4 months
Dimensions		88 x 48.5 x 30.5mm (3.46 x 3.46 x 1.20")

ACCESSORIES

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

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

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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EL-WIN-USB

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, triggered and push-to-start logging
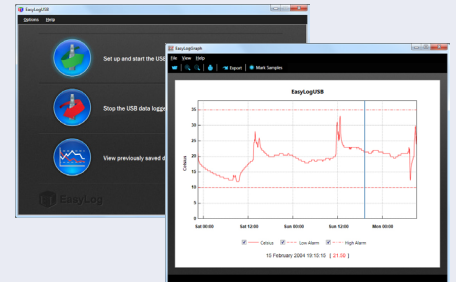
Download the latest version of the software free of charge from www.easylogusb.com

## MENU BUTTON FUNCTIONS AND LED SCREEN INDICATION

START LOGGER

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

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

DISPLAY DATA

26.8 °c   26.8 °C

gfx i ⚙   txt i ⚙

- 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/START LOGGING & MUTE ALARM

○ Stop Logging
○ Logger Settings
↩ ▼ ✓

○ Start Logging
○ Logger Settings
↩ ▼ ✓

↓ ALARM
○ Mute Alarm
○ Stop Logging
○ Logger Settings
↩ ▼ ✓

- 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

SUMMARY DATA

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

Mem Used   32%
Readings   6336
↩

- 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

🔒 Locked Mode
gfx i ⚙

- 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

LOGGER SETTINGS

○ Start Logging
○ Logger Settings
↩ ▼ ✓

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

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

POP-UP MESSAGES

Time & date not set
Start unit logging using PC
gfx i ⚙

Memory is 90% full
Download data to a PC to clear
gfx i ⚙

Memory full, logger stopped
Download data to a PC to clear
gfx i ⚙

- 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

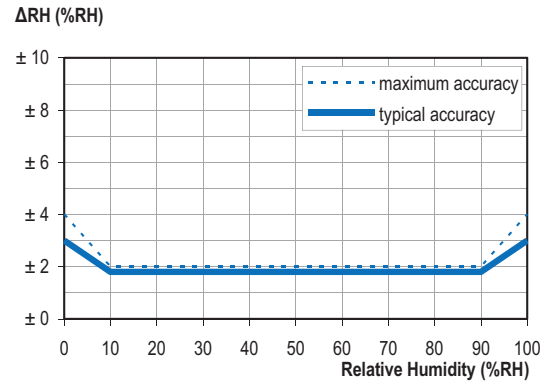*Please note that screens may vary slightly depending on model.*

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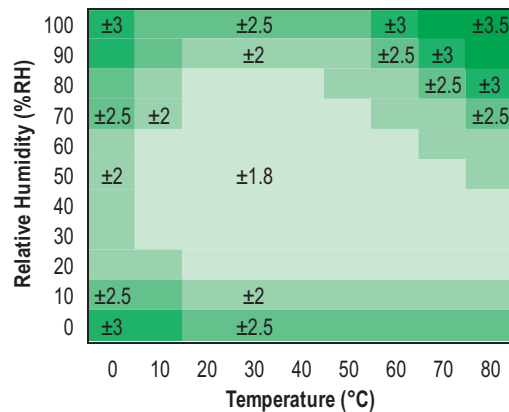
SENSOR ACCURACY & INFORMATION

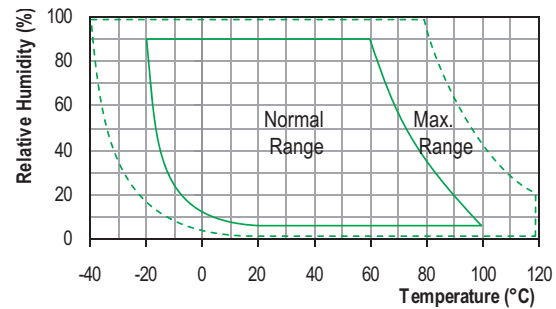Typical and maximal tolerance for temperature sensor in °C.
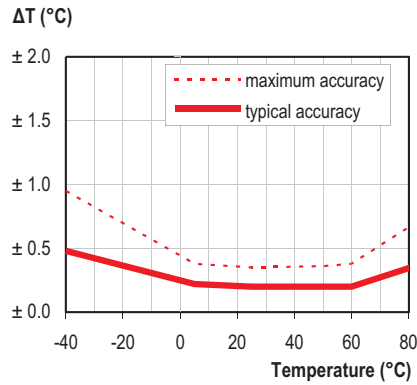
Typical and maximal tolerance at 25°C for relative humidity.

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.

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.