EL-USB-2+

High Accuracy Humidity, Temperature and Dew Point USB Data Logger

FEATURES

- Higher accuracy sensor when compared with the EL-USB-2
- 0 to 100%RH measurement range
- -35 to +80°C (-31 to +176°F) measurement range
- Dew point indication via Windows control software
- USB interface for set-up and data download
- User-programmable alarm thresholds for %RH & T
- Status indication via red and green LEDs
- Supplied with replaceable internal lithium battery and Windows control software
- Environmental protection to IP67

This standalone data logger measures and stores up to 16,382 relative humidity and 16,382 temperature readings over 0 to 100%RH and -35 to +80°C (-31 to +176°F) measurement ranges. The user can easily set up the logger and view downloaded data by plugging the data logger into a PC's USB port and running the purpose designed software under XP, Vista & 7. Relative humidity, temperature and dew point (the temperature at which water vapour present in the air begins to condense) data can then be graphed, printed and exported to other applications. The data logger is supplied complete with a long-life lithium battery, which can typically allow logging for 1 year.

Specifications		Minimum	Typical	Maximum	Unit
Relative Humidity	Measurement range	0		100	%RH
	Repeatability (short term)		±0.1		%RH
	Accuracy (overall error)		±2.0*	±4.0	%RH
	Internal resolution		0.5		%RH
	Long term stability		0.5		%RH/yr
Temperature	Measurement range	-35 (-31)		+80 (+176)	°C (°F)
	Repeatability		±0.1 (±0.2)		°C (°F)
	Accuracy (overall error)		±0.3 (±0.6)	±1.5 (±3)	°C (°F)
	Internal resolution		0.5 (1)		°C (°F)
Dew Point	Accuracy (overall error)		±1.1 (±2)**		°C (°F)
Logging rate		every 10s		every 12hr	-
Operating temperature range		-35 (-31)		+80 (+176)	°C (°F)
1/2AA 3.6V Lithium Battery Life			1***		Year

* This specifies the overall error in the logged readings for relative humidity measurements between 10 and 90%RH.

** This specifies the overall error in the calculated dew point for relative humidity measurements between 40 and 100%RH at 25°C.

*** Depending on sample rate and ambient temperature

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EL-USB-2+
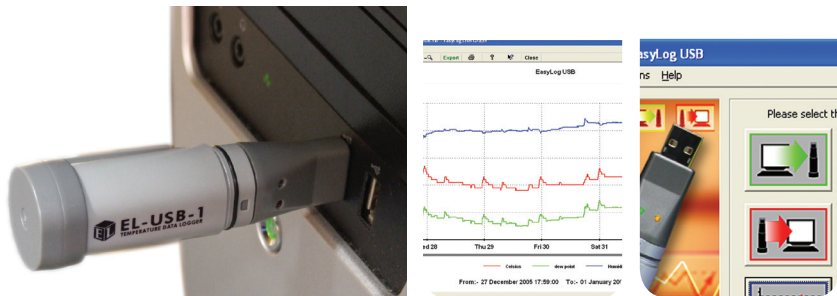## High Accuracy Humidity, Temperature and Dew Point USB Data Logger

WINDOWS CONTROL SOFTWARE

Tiptemp's control software is supplied free of charge with each data logger. Easy to install and use, the control software runs under XP, Vista & 7. The software is used to set-up the data logger as well as download, graph and export data to Excel.

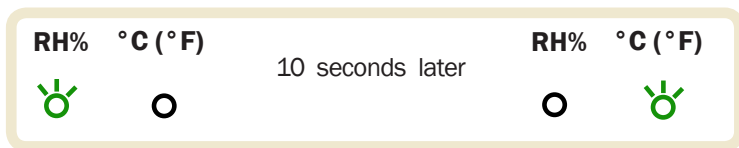The software allows the following parameters to be configured:

• Logger name
• °C, °F
• Logging rate (10s, 1m, 5m, 30m, 1hr, 6hr, 12hr)
• High and low alarms
• Immediate and delayed logging
• Data rollover (allows unlimited logging periods by overwriting the oldest data when the memory is full)

The latest version of the control software may be downloaded free of charge from **www.tiptemp.com**

LED FLASHING MODES

EL-USB-2+ features two bi-colour LEDs; one LED represents temperature measurement (marked by °C / °F) and the other represents relative humidity (marked by %RH). To save power, the status indication alternates between the two channels every 10 seconds i.e. the temperature channel flashes and 10 seconds later the relative humidity channel flashes, repeating for the duration of logging activity.

RH%	°C (°F)	10 seconds later	RH%	°C (°F)

Green double flash
The data logger is not currently logging, but is primed to start at a later date and time (delayed start).

Green single flash
The data logger is currently logging. No alarm on the channel.

Red single flash
The data logger is currently logging. Low alarm on the channel.

Red double flash
The data logger is currently logging. High alarm on the channel.

Green triple flash
The data logger is full and has stopped logging. No alarm on the channel.

Red triple flash
The data logger is full and has stopped logging. Alarm (high, low or both).

No LEDs flash
The data logger is stopped, the battery is empty or there is no battery fitted.

Dual Red flash (every 60 seconds)
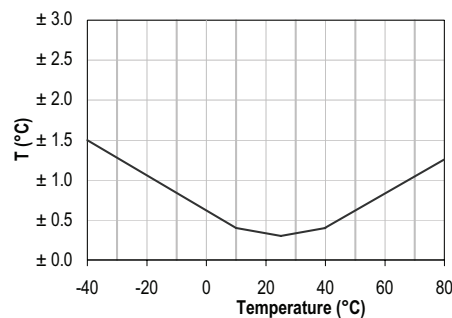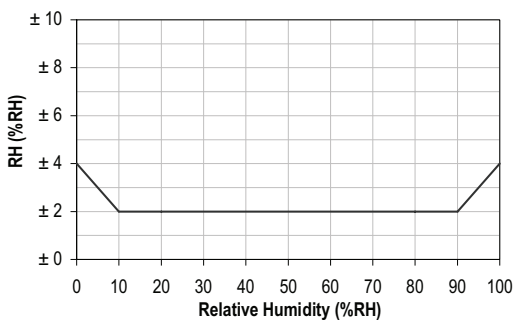The data logger battery is running low as its voltage has dropped below 2.9V

RH%
Red/
Green LED

°C (°F)
Red/
Green LED

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DIMENSIONS

All dimensions in mm (inches)

Internal Relative Humidity and Temperature Sensor Location

26.6 (1.04)

26.4 (1.04)

103 (4.06)

MEASUREMENT ACCURACY

BATTERY REPLACEMENT

We recommend that you replace the battery every 12 months, or prior to logging critical data.

The EL-USB-2+ does not lose its stored readings when the battery is discharged or when the battery is replaced; however, the data logging process will be stopped and cannot be re-started until the battery has been replaced and the logged data has been downloaded to a PC.

Only use 3.6V 1/2AA lithium batteries. Check with your supplier that the battery you are ordering is 'press fit' and is not fitted with solder tags. Before replacing the battery, remove the EL-USB-2+ from the PC.

Note:

Leaving the EL-USB-2+ 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.

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