EL-USB-5 Event, State, Count Data Logger

★DATAQ®
INSTRUMENTS

The EL-USB-5 data logger can record events (detecting an input and storing the time and date of occurrence), record state changes (similar to an 'event' but also recording when the input reverts back to normal) and count events (count the number of events that happen in a time period, without any individual event time or date information). Up to 32,510 events or 32,510 state changes can be recorded.

Events and state changes can be triggered by either a rising edge (a voltage going from low to high) or falling edge (a voltage going from high to low). It is also possible to use volt free contacts. Instead of measuring an external voltage, the data logger applies a voltage across the screw terminals and detects when the input closes (i.e. a relay or microswitch).

Fast logging rates allow event capturing at speeds of up to two times per second and state changes at speeds of up to five times per second. Event counting can operate at speeds of up to 100 times per second (when the LEDs are turned off). The user can easily set up the logger, and download the stored data by plugging the data logger into a PC's USB port and running the purpose designed software under Windows 2000, XP, Vista & 7. Data can then be graphed, printed and exported to other applications.

The data logger is supplied complete with software, measurement leads terminated with crocodile clips and a long-life lithium battery which allows logging for up to 1 year. Functionality of the unit is indicated by flashing red and green LEDs, with an option to flash the red LED every time an event occurs.

Programmable Elements

- Logger Name
- Logging Rate (1s, 10s, 1m, 5m, 30m, 1hr, 6hr, 12hr)
- High and Low Alarms
- Start Date and Start Time

Record Times

Sampling Interval	Record Times
1 sample every second	9 hours
1 sample every 10 seconds	90 hours
1 sample every minute	22 days
1 sample every 5 minutes	112 days
1 sample every 30 minutes	22 months
1 sample every hour	> 2 years
1 sample every 6 hours	> 2 years
1 sample every 12 hours	> 2 years

Features

- Functions as an event, state, and counter logger
- Logging rate of up to five times per second for events, two times per second for state changes and 100 times per second when counting
- Stores up to 32,510 readings in event mode
- Stores up to 32,510 readings in state change mode
- Accepts input voltages of up to 24V
- Volt free contacts option (normally open contact only)
- Rising and falling edge triggering
- LED flash on event / state change
- Connection via two screw terminals
- USB Interface for Set-up and Data Download
- Replaceable Internal Lithium Battery

EL-USB-5 features a red and a green LED to indicate the status of the data logger.

|		
		Green single flash (10 seconds) Normal logging
		Green single flash (20 seconds) Low battery
		Green double flash (20 seconds) Data logger memory full
		Red single flash Event / State change / Count recorded
		No LEDs Flash The data logger is stopped, the battery is dead, or there is no battery.

Green LED   Red LED

Edge Triggering

If the user selects 'rising edge' triggering, then an event is recorded at the point a signal goes from low to high. This is the default setting.
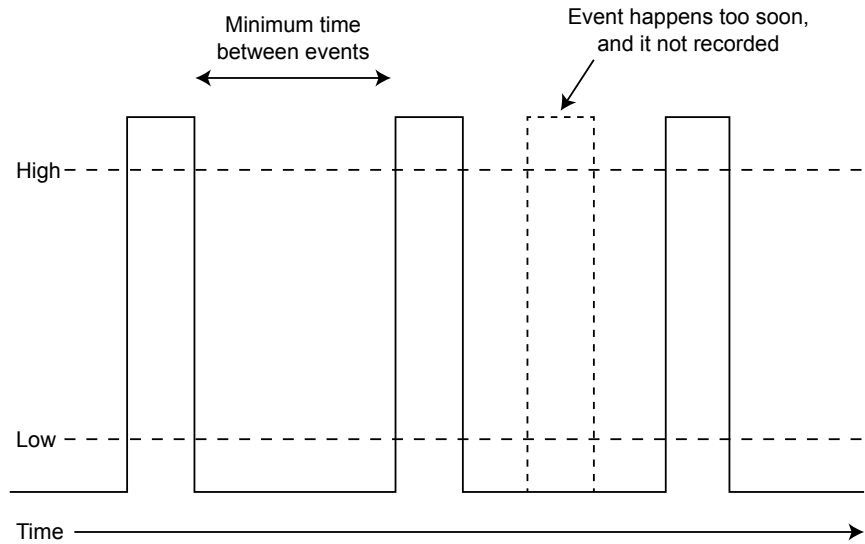
If the user selects 'falling edge' triggering, then an event is recorded at the point a signal goes from high to low.

Dimensions
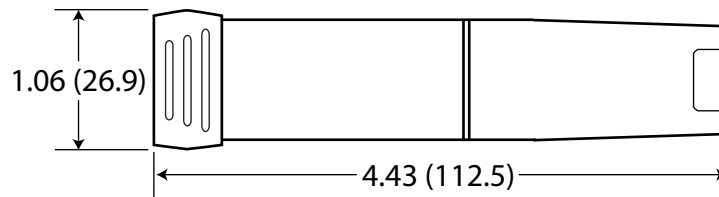
Dimensions shown are inches (mm)

Specifications

Specification	Minimum	Typical	Maximum	Unit
Time between events	200			Milliseconds
Time between state changes	500			Milliseconds
Time between event counts	10			Milliseconds
Input voltage	3		28	V DC
'Volt free contacts' voltage	2.75		3.6	V
'Volt free contacts' current		35		µA
Timing accuracy			±3	seconds per 24 hours
Operating temperature range			+80 (176)	°C (°F)
1/2AA 3.6V Lithium Battery Life	1*			Year

*Depending on ambient temperature, logging rate, and use of alarm LED.
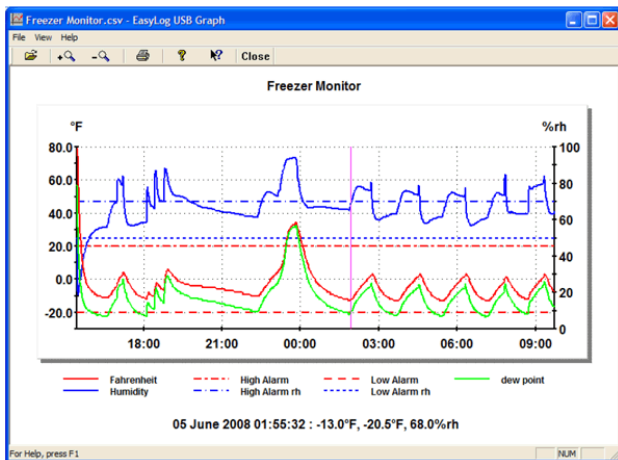
EL-USB-5 Ordering Information
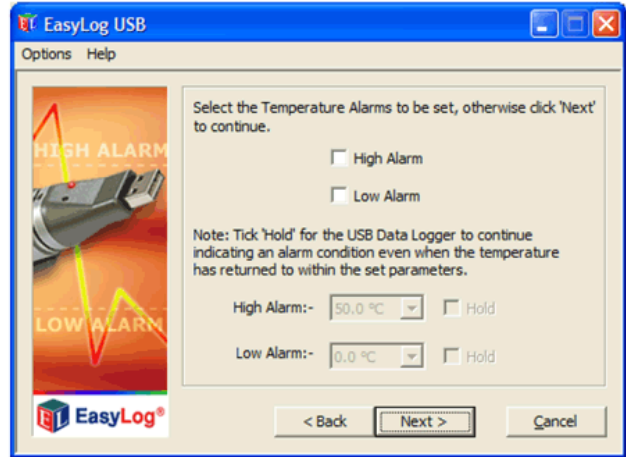
Description	Order Number
Event, State, Count Data Logger Includes EL-USB-5 data logger, measurement leads, software on CD, and battery.	**EL-USB-5**
Battery Replacement battery.	**BAT 3V6**

Easy to Program and Deploy

Getting an EasyLogger product ready to acquire data is simple:

1. Remove the protective USB cover.

2. Plug the instrument into any convenient USB port (image 1).

3. Program the data logger with the provided EasyLog software (image 2):

   • Give the logger a unique name (convenient when deploying multiple units).

   • Select the required sample rate.

   • Select high and/or low alarm thresholds.

   • Select the specific date and time to begin logging.

Now remove the data logger from the USB port, replace the USB cover, and deploy the instrument wherever you need it.

Easy to Upload and Analyze Data

Whether you want to review stored data using the supplied application or using Microsoft Excel, getting meaningful results from recorded data is fast and easy:

1. Remove the protective USB cover.

2. Plug the instrument back into the PC's USB port.

3. Use EasyLog software to stop recording, access the instrument's stored data, and save it to a file that you name on the PC, all in one easy operation. The file format is Excel-compatible.

4. Immediately EasyLog's Graph utility is enabled to display all the stored data in one compressed view.

5. A cursor allows you to determine signal magnitude and time and date of acquisition for any value, and a magnifier utility allows you to zoom in for a closer look over any range – Easy and fast.

6. For more custom analysis and report generation, simply import the stored data file to Microsoft Excel for virtually unlimited flexibility in how you view and interpret your results.

EasyLog Products for Any Application

From temperature and humidity to carbon monoxide trending, there's an EasyLog data logger that's right for you. Click on "Jump" to go to the product's web page.

Measurement		Model EL-USB												
Function	Range	-1	-1-RCG	-1-PRO	-2	-2+	-2-LCD	-2-LCD+	-3	-4	-5	-TC	-TC-LCD	-CO
Temperature	-35 to +80°C (-31 to +176°F)	Jump												
Temperature	-20 to +60°C (-4 to +140°F)		Jump											
High Temperature	-40 to +125°C (-40 to +257°F)			Jump										
Humidity, temperature, dew point	0 to 100% RH -35 to +80°C (-31 to +176°F)				Jump	Jump	Jump	Jump						
Voltage	0 to 30 VDC								Jump					
Process current	4 to 20 mA									Jump				
Event, State, Count	3-28 VDC										Jump			
Thermocouple (no display)	-130 to +900°C (J) -200 to +1300°C (K) -200 to +350°C (T)											Jump		
Thermocouple (with display)	-130 to +900°C (J) -200 to +1300°C (K) -200 to +350°C (T)												Jump	
Carbon monoxide	0 to 1000 ppm													Jump

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