EL-USB-CO

Carbon Monoxide (CO) Data Logger with USB Interface

This data logger measures and stores up to 32,510 Carbon Monoxide (CO) readings over a 0 to 1000 ppm measurement range and -10 to +40°C (14 to +104°F) operating temperature range. The user can easily set up the logging rate and start time, and download the stored data by plugging the module straight into a PC's USB port and running the purpose designed software under Windows 98, 2000, XP and Vista (32-bit). The data can then be graphed, printed and exported to other applications. The data logger is supplied complete with a long-life lithium battery. Data is stored in non-volatile memory and is not lost when the battery is empty. A bright red LED will flash and a buzzer can sound when a preset warning level has been exceeded.

FEATURES

- 0 to 1000 ppm CO measurement range
- Stores up to 32,510 Measurements
- User-Programmable Warning Threshold with Bright Visual and Audible Warning
- USB Interface for Set-up and Data Download
- Expected sensor life: 4 years
- Replaceable Internal Lithium Battery



WINDOWS CONTROL SOFTWARE

Easy to install and use, the control software runs under Windows 98, 2000, XP (Home and Professional Editions) and Vista (32-bit). It allows the user to set up and download any EL-USB-CO. The latest version of the control software may be downloaded from *www.lascarelectronics.com*.

DATA LOGGER SET-UPS

- Logger Name
- Logging Rate (10s, 30s, 1m, 5m)
- Warning Threshold
- Start Date and Start Time

ORDERING INFORMATION

	Stock Number
Standard Data Logger (Data Logger, Software on CD, Battery)	EL-USB-CO
Replacement Battery	BAT 3V6

IMPORTANT SAFETY WARNING:

DO NOT ATTEMPT TO USE THE EL-USB-CO WITHOUT READING AND UNDERSTANDING THE DOCUMENTATION. CARBON MONOXIDE MONITORING IS A COMPLEX PROCEDURE. IF THERE IS ANY DOUBT AS TO THE SAFETY OR APPLICATION - STOP! CONSULT A QUALIFIED EXPERT.

The EL-USB-CO is a professional measuring instrument, designed to record Carbon Monoxide (CO) gas levels for later analysis. It is not an alarm/safety/warning device and should not be used in this capacity for the following reasons:

1. The lights and sound emitted by the EL-USB-CO to indicate a high level of CO do not provide adequate warning to those in the surrounding area that a high level of CO has been recorded.

2. The battery life of the EL-USB-CO during audible and visual indication of a high level of CO will rapidly diminish and will therefore only be active for a short period of time.

3. The EL-USB-CO takes a sample reading at intervals as set by the user for recording/monitoring/analysis purposes. Dangerous levels of CO will not register with the device until a sample reading is taken.

4. Due to the limitations of the device as a professional instrument, it is left to the user to set the light and sound alarms indicating the presence of company Therefore the instrument can be set up to provide NO form of warning.

Carbon Monoxide is poisonous. It is clear, colorless gas that has no smell or taste and can be lethal even in very low concentrations. It can injure or kill people and animals who are not adequately warned of its presence.

In areas where the safety of humans and animals is a concern we insist that a domestic or industrial CO detector/alarm, designed to a nationally approved quality standard, with features such as a high decibel alarm or siren and a clear visual warning, specifically designed to provide adequate warning of dangerous CO levels, be installed, used and maintained.

SPECIFICATIONS

Specification	Min.	Typ.	Max.	Unit
Measurement range	0		1000	ppm CO
Internal resolution		0.5		ppm CO
Accuracy (error)		±6		% of reading
Repeatability		±2		% of reading
Decay of reading over time			5	% of reading / year
Response time (to reach 90%)		1		minute
Logging rate	every 10s		every 5min	-
Operating temperature range (15-90 %RH, non-condensing)	-10 (14)		+40 (104)	°C (°F)
Operating pressure range	900		1100	mbar
1/2AA 3.6V Lithium Battery Life*			3	month

* with battery supplied, 10 minute logging rate, 25°C ambient temperature, audible warning disabled, reading <10 ppm CO

LED FLASHING MODES

EL-USB-CO features a red and a green LED.

The LEDs on an EL-USB-CO will flash in one of the following ways, assuming hold of the warning threshold has been turned off in the EL-WIN-USB control software.

- Green single flash, every 30 seconds — Logger primed and ready to start.
- Green single flash, every 10 seconds — Logging in progress, last stored value OK
- Red single flash, every 10 seconds — Logging in progress, the last stored reading is equal to or exceeds the warning threshold (If hold is turned on, then a stored value is equal to or exceeds the warning threshold) (will flash once every second when audible warning is enabled)
- Green single flash, every 20 seconds — Low battery, logging in progress, the last stored value OK
- Green double flash, every 20 seconds — Logger is full, last stored value OK
- Red/Green single flash, every 20 seconds, alarm hold turned on — Logger is full, last stored value is equal to or exceeds the warning threshold (will flash once every second when audible warning is enabled)
- No LEDs flash — Battery inserted, but no logging exercise started or Battery dead.

By default hold is disabled. In this mode the red LED will no longer continue to flash after the logged temperature has returned to normal from an alarm condition.

Hold can be turned on via the control software. In this mode the red LED that indicates an alarm condition will continue to flash, even after the logged temperature has returned to normal. The red LED will effectively have latched into its alarm condition. This feature ensures that the user is notified that an alarm level has been exceeded, without the need to download the data from the logger.

AUDIBLE WARNING

The audible warning will sound once per second when the warning threshold has been exceeded. To disable the warning, remove the cap from the front of the data logger.

The audible warning will sound once every 60 seconds when there is a low battery condition. This indicates that the battery must be replaced.

BATTERY REPLACEMENT

- We recommend that you replace the battery every 3 months, or prior to logging critical data.
- The EL-USB-CO does not lose its stored readings when the battery is discharged or when the battery is replaced; the data logging process will however be stopped and cannot be re-started until the battery has been replaced and the logged data has been downloaded to 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-CO from the PC.

Note:
Leaving the EL-USB-CO 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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