

# User's Guide



**Instruction Sheet**

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## **OM-EL-USB-4**

### **4-20mA CURRENT LOOP USB DATA LOGGER**



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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

**WARNING:** These products are not designed for use in, and should not be used for, human applications.

# OM-EL-USB-4

## 4-20mA CURRENT LOOP USB DATA LOGGER

### INSTRUCTION SHEET

This data logger measures and stores up to 32,000 current loop readings over a 4-20mA measurement 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 or XP. The data can be graphed, printed and exported to other applications. The data logger is supplied complete with a long-life lithium battery. Correct functioning of the unit is indicated by a flashing red and green LED. The data logger features a pair of screw terminals and is supplied complete with a set of measurement leads terminating in crocodile clips.

- 4-20mA Current Loop Measurement Range
- Logging Rates between 1s and 12hr
- Stores 32,000 readings
- Connection via two screw terminals
- USB Interface for Set-up and Data Download
- User-Programmable Alarm Thresholds
- Red and Green LED Status Indication
- Replaceable Internal Lithium Battery

### Windows™ Control Software

#### Model No - OM-EL-USB-4

Easy to install and use, the control software runs under Windows 98, 2000 and XP (Home Professional Editions). It allows the user to set up and download any OM-EL-USB-4. The latest version of the control software may be downloaded free of charge from [www.omega.com](http://www.omega.com).



### Data Logger Set-ups

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

### ORDERING INFORMATION

Standard Data Logger (Data Logger, Measurement Leads, Software on CD and Battery)	Stock Number OM-EL-USB-4
Replacement Battery	OM-EL-BATT

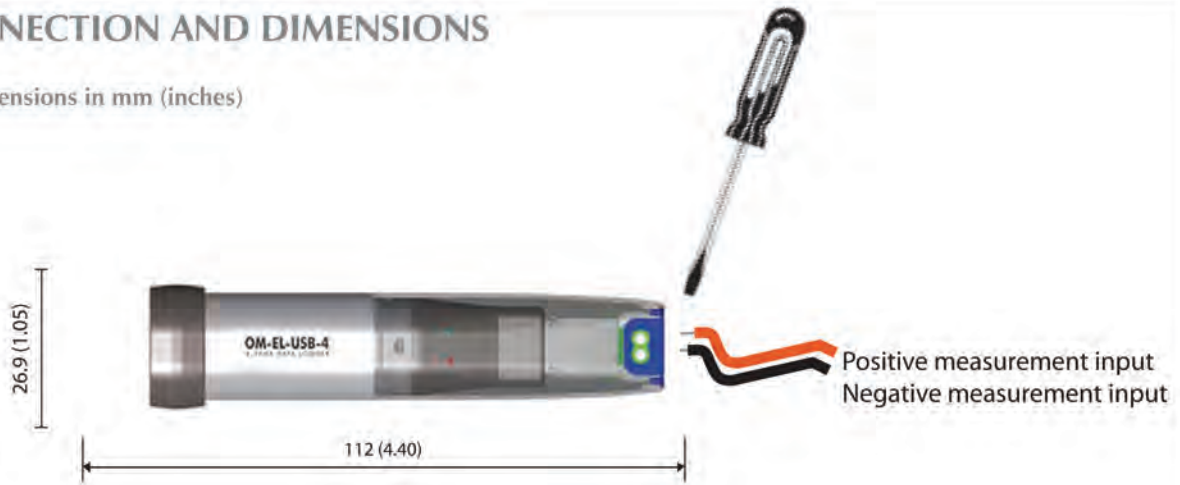
### SPECIFICATIONS

Specification	Min.	Typ.	Max.	Unit
4-20mA d.c measurement range		4-20		mA d.c.
Internal resolution		±0.05		mA d.c.
Accuracy (overall error)		±1		% ±1 count
Logging rate	every 1s		every 12hr	-
Operating temperature range	-35 (-31)		+80 (176)	°C (°F)
1/2AA 3.6V Lithium Battery Life*	1			Year

\* depending on ambient temperature, logging rate and use of alarm LEDs.

## CONNECTION AND DIMENSIONS

All dimensions in mm (inches)



## BATTERY REPLACEMENT

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

The OM-EL-USB-4 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.

Use only Omega model no. OM-EL-BATT replacement battery. The battery is 'press fit' and is not fitted with solder tags.

Note:

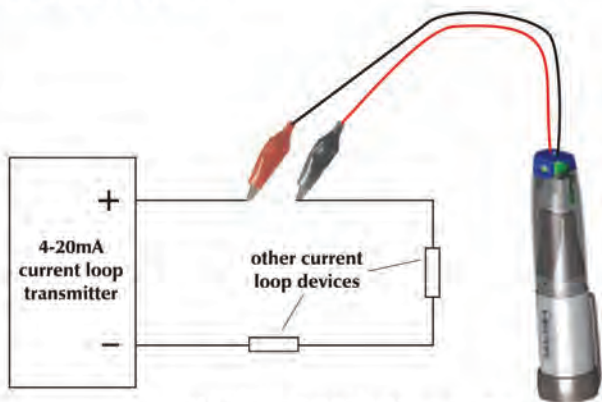
Leaving the OM-EL-USB-4 plugged into the USB port for longer than necessary will cause some of the battery capacity to be lost.



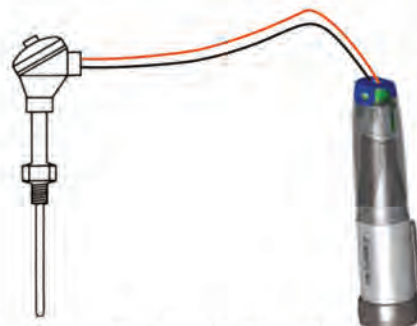
**WARNING:** Handle lithium batteries carefully, observe warnings on battery casing. Dispose of in accordance with local regulations.



## APPLICATIONS



OM-EL-USB-4 fitted to a 4-20mA current loop transmitter



OM-EL-USB-4 fitted to a 4-20mA probe head

## LED FLASHING MODES

OM-EL-USB-4 features a red and a green LED.

The LEDs on an OM-EL-USB-4 will flash in one of the following ways, assuming alarm latching is turned off (exact timings to be confirmed).

- |  |   |
|--|---|
| - Green single flash,<br>every 30 seconds                                  | Logger primed and ready to start.   |
| - Green single flash,<br>every 10 seconds                                  | Logging in progress, last stored value OK   |
| - Red single flash,<br>every 10 seconds                                    | Logging in progress, the last stored reading is equal to or exceeds the low alarm level<br>(If latching is turned on, then a stored value is equal to or exceeds the low alarm level)   |
| - Red double flash<br>every 10 seconds                                     | Logging in progress, the last stored reading is equal to or exceeds the high alarm level<br>(If latching is turned on, then a stored value is equal to or exceeds the high alarm level) |
| - Green single flash,<br>every 20 seconds                                  | Low battery, logging in progress, the last stored value OK  |
| - Red single flash,<br>every 20 seconds                                    | Low battery, logging in progress, the last stored value is equal to or exceeds the low alarm level  |
| - Red double flash,<br>every 20 seconds                                    | Low battery, logging in progress, the last stored value is equal to or exceeds the high alarm level   |
| - Green double flash,<br>every 20 seconds                                  | Logger is full, last stored value OK  |
| - Red/Green single flash,<br>every 20 seconds,<br>alarm latching turned on | Logger is full, last stored value is equal to or exceeds the low or high alarm level  |
| - No LEDs flash  | LEDs disabled during configuration to save battery power and increase logging duration.<br>or<br>Battery dead.  |

By default latching is disabled. This means that the red LED will then no longer continue to flash after the logged voltage has returned to normal. Instead, the green LED will then flash.

Latching can be turned on via the control software. This means that the red LED will continue to flash, even after the logged voltage 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.

## WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

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2. Model and serial number of the product, and
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OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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