

LI-1500 Light Sensor Logger

Installing Batteries



4 AA batteries



Optional: USB, AC to DC power adapter

Note: The AC to DC power adapter will not re-charge batteries.

Powering On

Press power on/off . You will see one of these messages:

- **New Config File:** Start at "Creating a Configuration", step 2.
- **Select Config File:** Scroll up or down to highlight a configuration, then press **OK** to activate that configuration and go to Monitor Mode.

Note: A configuration must be made active in order to get light readings with the LI-1500.

Monitor Mode

Each line can be set to display any one of the available variables including real-time sensor readings and GPS data. The **STATUS** variable indicates the logging status.

```
2014/3/12      13:55:01
Battery:  USB
CONFIG:  CONF2
STATUS:  Not Logging
INPUT2:   9.350
gLAT:    40.856792
gLONG:   -96.657667
gALT:    362.3
```

- Scroll up or down to highlight a line.
- Scroll left or right to change the variable displayed.

Menu Navigation

From Monitor Mode, press **MENU** for the Main Menu.

```
Main Menu
Sensors
Configurations
Data
Console Settings
Firmware
```

- Scroll up or down to highlight a menu item. Press **OK** to select that menu item.
- Press **OK** after entering file names or other data.
- Press **EXIT** to go back to the previous screen.

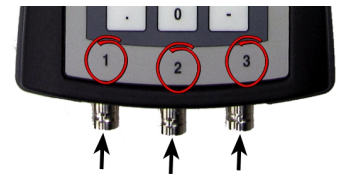
Adding a Sensor

1. Select **MENU > Sensors > Add New Sensor** and select the model number of your LI-COR light sensor.
2. Enter the sensor's serial number (printed on the sensor).
3. Select **Cal Val** (terrestrial sensors) or **Cal A/W** (underwater sensors) and enter the sensor's calibration multiplier (use for backspace). Underwater sensors require both "Air" and "Water" calibration multipliers.
4. Select **Cal Date**, use arrows to set the date of the sensor's last calibration (YYYY/MM/DD), then **EXIT**.

Note: Calibration certificates with multipliers and dates are available at: <http://www.licor.com/env/support/>. Enter the sensor's serial number in the Calibration search box.

Creating a Configuration

1. Select **MENU > Configurations > Add New Config**.
2. Enter a file name > **OK**.
3. Select **Inputs** and choose **1, 2, or 3**. Attach a LI-COR light sensor to the chosen BNC input port.
4. For terrestrial sensors, highlight your sensor's serial number, then **OK > EXIT**. If your sensor is not listed, select **Add New Sensor** (see "Adding a Sensor" above). For underwater sensors, select **Air, Water, or Prompt on Log**, then press **OK**.
5. Select **Active > Yes**. Readings are now visible in Monitor Mode and can be logged (see reverse side).



```
CONFIG:  CONF2
Active:  Yes
Inputs:  1
Samp Rate: 1 Hz
Outputs: 5
Routine: Continual
<Delete>
```

Configuration Screen

Changing the Sampling Rate

Select **MENU > Configurations**. Select a file from the list. Select **Samp Rate** and select a sampling rate from the list.

For faster sampling (up to 500 hz), select **Raw Mode** from the bottom of the list and choose a whole number from 1 through 500 Hz. In Raw Mode, only INPUT1 is sampled. The other two inputs are ignored. The routine is Continual and each sample is logged. Averaging and Math outputs are not available.

Adding an Output

Select **MENU > Configurations**. Select a configuration from the list. Select **Outputs > Add New Output**. Select type:

- **Light:** Enter a name for the output. Select sensor input **1, 2,** or **3**.
- **Math:** Enter a name for the output. Select **Operation**. See "Configuring a Math Output" (below) to configure the operation type.
- **Prompt:** Enter a name for the output. select **Type > Full Alphanumeric** or **Numeric Only**, then press **EXIT**. During manual logging, allows a different data entry into each record. For continuous or automatic routines, allows adding the same entry into each record.
- **Battery:** Logs battery voltage.
- **GPS:** Logs GPS data such as latitude, longitude, and UTC.

Configuring a Math Output

Select **MENU > Configurations**. Select a configuration from the list. Select **Outputs** and select a Math output from the list or see "Adding an Output" (above) to add a new Math output. Select **Operation** and select an operation type:

- **Addition** – Select parameters
- **Subtraction** – Select parameters
- **Multiplication** – Select parameters
- **Division** – Select parameters
- **Integration** – Select a parameter and duration
- **Daily Integral** – Select a parameter. Set start/stop times with a Daily logging routine (see "Changing the Logging Routine").
- **Attenuation** – Select parameters and separation distance
- **Logarithm** – Select a parameter

A parameter is a numeric constant or an output to which the operation will be applied. Press **EXIT** when finished.

*Example: Select the **Addition** operation type and the **Output** parameter type. Choose **INPUT1** and **INPUT2** as parameters. Readings from each one will be added together in the new output.*

Enabling Averaging

Select **MENU > Configurations**. Select a configuration from the list. Select **Outputs** and select an existing "Light" output or add a new one. Select **Averaging** and select an averaging window. Select **Min/Max > Yes** to include minimum and maximum sampled values in the output. Press **EXIT** twice.



LI-COR Biosciences – Global Headquarters

4647 Superior Street • Lincoln, Nebraska 68504
Phone: +1-402-467-3576 • Toll free: 800-447-3576 • Fax: +1-402-467-2819
envsales@licor.com • envsupport@licor.com • www.licor.com/env

Regional Offices

LI-COR GmbH, Germany

Serving Andorra, Albania, Cyprus, Estonia, Germany, Iceland, Latvia, Lithuania, Liechtenstein, Malta, Moldova, Monaco, San Marino, Ukraine, and Vatican City.
LI-COR Biosciences GmbH
Siemensstraße 25A • 61352 Bad Homburg
Germany
Phone: +49 (0) 6172 17 17 771 • Fax: +49 (0) 6172 17 17 799
envsales-gmbh@licor.com • envsupport-gmbh@licor.com

Changing the Logging Routine

Select **MENU > Configurations**. Select a configuration from the list. Select **Routine**. Select a routine type:

- **Manual:** Logs a reading each time **LOG** is pressed.
- **Continual:** Set a logging rate. Logs automatically while the logging file is open. Close the file to stop.
- **Daily:** Set a logging rate, start time, and stop time. Logs automatically during a set time period every day.
- **One Time:** Set a logging rate, start time/date, and stop time/date. Logs automatically during a single set time period.

Press **EXIT** when finished.

Global Positioning System (GPS)

For GPS-equipped units, Select **MENU > Console Settings > GPS > Enabled**. GPS data are now visible in Monitor Mode. Add the **GPS** output to the active configuration to log GPS data with sensor data. This also enables GPS tagging – press a numbered key (1–9) to add GPS data to the file during a logging session.

Logging Data

1. From Monitor Mode, press **START|STOP**.
2. Select **New File** (enter a file name) or **Existing File** (select a file from the list).
3. Enter a session remark or press **OK**. The logging file is now open. *Leave the power on and the logging file open* until any automatic logging routines are complete.
4. In the default **Manual Log** routine, Press **LOG** to record the current data point for all attached sensors.
5. Optional: Press period to enter a remark in the logging file. The remark is time-stamped when you press **OK**. Logging continues uninterrupted.
6. Press **START|STOP** to close the logging file.

The **STATUS** line in Monitor Mode indicates **Logging** when a logging routine is active. A dot (.) flashes at the end of the **STATUS** line while data are being recorded.

Viewing Logged Data on the Display

Select **MENU > Data > Files**, select a logging file, then select **View**. Select a logging session and then **Records**. Select an individual record to view data.

LI-COR Ltd., United Kingdom

Serving Denmark, Finland, Ireland, Norway, Sweden, and UK.

LI-COR Biosciences UK Ltd.

St. John's Innovation Centre • Cowley Road • Cambridge • CB4 0WS
United Kingdom

Phone: +44 (0) 1223 422102 • Fax: +44 (0) 1223 422105

envsales-UK@licor.com • envsupport-UK@licor.com

LI-COR Distributor Network:

www.licor.com/env/distributors