WARNINGS AND CAUTIONS:

- T-Bar clip is composed of stamped metal and may have sharp edges. Use caution when handling.
- The mounting magnets generate a magnetic field. Keep away from objects that respond to magnetic fields.
- Most logging sessions are over 2 weeks, fresh batteries are recommended with each new job.

Features

- Photocell for measuring light in room
- Passive Infrared sensing technology
- Increased data logging capacity
- Excel compatible
- Windows explorer data transfer (mass storage device)
- 3 week data collection capacity on a single set of "AAA" alkaline batteries
- Energy Savings calculations tool

- USB connectivity
- Dependable PIR technology
- Non volatile memory
- Firmware upgradable
- Quick and easy mounting, set-up and data collection
- Works with Leviton Award winning Dollars & Sensors program

Specifications

Temperature – 0 to 70 degrees Celsius
Humidity – 20% to 90% (non-condensing)
Batteries – 3 "AAA" alkaline (not supplied)
Battery Life – minimum of 504 hours
USB cable need for connection to computer (not supplied)
Memory Size – 30,240 entries (504 hours operation @ 1 entry per minute) (3 Weeks logging time)
Nonvolatile Memory which can be reprogrammed again and again
Field of View (FOV) – 360 degree, 24 foot diameter, 450 sq. ft.

How your Leviton Light Logger works

The Leviton Light Logger is a battery-powered device that monitors an area and logs the lighting and occupancy of a space or a room. Whenever the status of the lighting or occupancy changes, a new log entry is entered in to its non volatile memory. The device can monitor up to eight rooms each of which can have an independent data log. The collected data is downloaded over USB cable to a windows based PC for display, analysis and reporting.

The Logger observes the lighting level and automatically adjusts to ambient light levels. Only sudden changes in lighting, such as those caused by unnatural light (ie turning ON a light fixture), would result in a light sensor response. The Logger decides that an area is vacant if it detects no motion for a period of approximately 10 minutes. Although the logger detects each change in either lighting or occupancy, it will store only one log entry for any particular minute to conserve memory. The entry stored represents the last state seen during that minute.

The Logger memory can hold up to 30,000 log entries. Each log entry details the date, time and status. All of this information is kept in the Logger's memory until you retrieve it using a PC.

NOTE: See Light Logger Operation for a flowchart representing the basic operating modes of the Leviton Light Logger.

Installation

The following illustrates the four simple steps involved in using your Leviton Light Logger like a pro!

Step 1 – Install the Dollar & Sensors Support Software
Install the most advanced and powerful occupancy sensor software available.

Step 2 – Configure the Leviton Light Logger for operation
See how simple an automated Logger setup can be.

Step 3 – Mount the Logger and begin Logging
Learn the ins and outs of using your Logger to get accurate results every time.

Step 4 – Retrieving the Logged data and resetting the Logger
Retrieve the data and learn how simple it is to apply to a Dollar & Sensors payback analysis.

Software Installation – Dollars & Sensors

1. Download the most recent version of the Leviton Dollars and Sensors program at this location www.leviton.com/dollarsandsensors and follow the on screen instructions.
2. Once the program is installed click Start in the lower left corner of your screen. Go to Programs – DollarsSensors and select DollarsSensors to open the program.
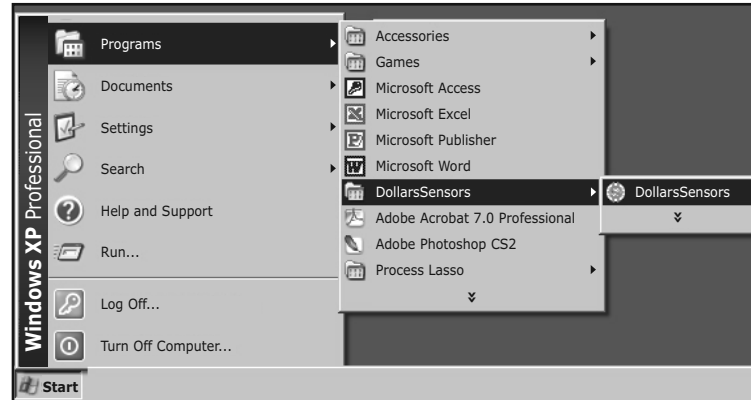
Logger Setup

Always verify your Logger settings are correct before Logging.

Important: The Logger Date/Time settings are critical and must be set any time batteries are removed from the Logger. Before using your Logger, always install new batteries and then set the Date/Time.

Connect your Logger to your computer by plugging it into the USB port with a user supplied USB Cable. The Logger will be recognized by the PC as a removable disk drive.

Any data stored on the Logger can be found on the removable disk drive, and copied to the PC.

From the *Dollars & Sensors Program*:

- Select Manage Logger from the main menu and click on the **"Logger Settings"** button.
- Click on the **"Set Logger Date & Time"** button and the logger will be set to your computers date and time setting. **NOTE:** If the logger has existing data you have already downloaded and no longer need, click **"Clear Log Data File on Logger"**.
- Click **"Close"**.

Install the Logger and Collect Data

NOTE: Placement of the Light Logger is very important. Correct placement of the Logger is essential for recording accurate lighting and occupancy loggings. The Logger is equipped with strong magnets on the back inset in the raised surface for adhering to ceiling support t-bar or any metallic surface, an additional metal mounting clip is provided for mounting to aluminum ceiling tile supports. Additional mounting methods may be used by the installer as long as care is taken to assure the sensor dome is clear of obstruction. Ceiling mounting at heights from 8-10 feet is recommended for best results.

The Logger uses a Passive Infrared (PIR) sensor with a 360 degree field-of-view (FOV) capable of monitoring an area up to 450 square feet. The sensor will detect Major Motion up to 12 feet from the sensor (24ft diameter) and Minor Motion up to 6.5 feet (13ft diameter). Be sure to place the Logger in a position where it can register occupancy when a person enters the test area, but avoid positioning it to detect hallway traffic. Since PIR monitors heat signatures, temperature changes can cause false triggers, be sure to mount the logger 6 feet from HVAC ventilation vents or as far as possible from HVAC.

The Logger photocell records rapid changes in ambient light level. For obtaining the most accurate readings, mounting the Logger close to a fixture is advisable, as this will be the best sensing location.
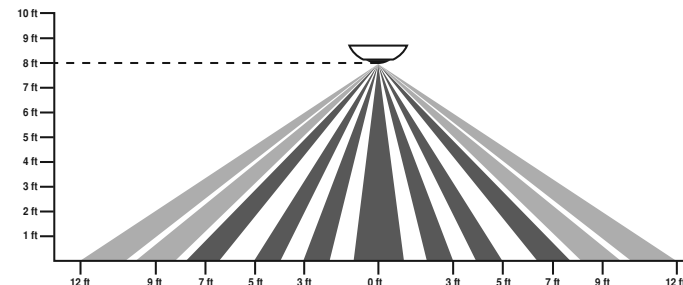
Mounting Location & TEST Mode

1. Pressing the START button for 3 seconds turns the device ON in the TEST mode.
   a) The Green LED will indicate lights being ON or OFF while the Red LED will indicate motion or occupancy levels. This period should be used to verify coverage of the Logger by walking around the room and turning the light's ON and OFF, ensuring that the LEDs track the lighting and occupancy correctly.
2. The Test Mode will be active for 60 seconds after which the device will turn OFF.
3. While in test mode, pressing START for 3 seconds will put you into LOGGING mode.
4. While in TEST mode, pressing STOP for 3 seconds will turn device OFF.
5. If Logger does not function or sense as desired, reposition and TEST again
6. When both LEDs are dark (OFF), the device is either OFF or in LOGGING Mode. To tell the difference, tap either the Start or Stop button.
   a) If the Red LED flashes, the device is logging and the number of flashes indicates the session being logged. The device will continue to log.
   b) If the Green LED flashes, the device was OFF and the number of flashes indicates the next session available for logging. The device will turn back OFF immediately following the flashing.
7. During test mode the LEDs on the device will flash RED when motion is sensed and GREEN when Light change is sensed.

Guidelines for Accurate Loggings

Once a suitable location has been found you are ready to begin logging. Here are a few simple guidelines to ensure accurate and dependable loggings.

1. All loggings must be performed for a minimum of 48 hours to register in the Dollars & Sensors payback analysis software, a 2 week period is recommended for sufficient usage data collection and analysis. The software will only register complete days consisting of 24 hour of logged time.
2. For the most accurate representation of a room, actual activity logging should be performed for a minimum of 14 consecutive days. This allows the software to calculate each day of the week individually, providing the most precise analysis and reporting of actual room activity. Example: A room is logged for 13 days. The logging was initiated on a Friday at 8:00am and concluded 13 days later on a Wednesday at 3:00pm (time zone does not matter). The software would register 11 complete days of logging. Notice since the first Friday and last Wednesday were not complete days those hours will not be calculated.

Initiation of Logging

1. While in TEST mode, pressing START an additional 3 seconds places the device into LOGGING mode.
2. While in LOGGING mode, the Green and Red LEDs will be dark (OFF).
3. During LOGGING, tapping either the START or STOP buttons will flash the Red LED, indicating the session number being logged.
4. While in LOGGING mode, pressing the STOP button for 3 seconds will turn device OFF.

NOTE: Memory is full on the device when the Red and Green LEDs flash 10 times and the device turns off.

Ending the Session

The Logger will continue to log events until you stop the logging or the Logger memory is full. To stop the logging, press the STOP button for 3 seconds and the device will turn OFF.

Start a New Session

1. First, verify the current Logger mode by tapping either the START or STOP button.
   a) Each logger has the ability to handle up to 8 unique sessions of logging data. By using the Sessions feature, you can reduce the amount of loggers needed for gathering information on a job. (example: 20 loggers can gather data from 20 rooms. Those same 20 loggers can now be used for 20 more rooms by advancing them to Session 2, and so on up to 8 sessions. 20 loggers can do a total of 160 rooms).
   b) To start a new session, you must first end the Session 1 and then Start Session 2 by following the steps outlined in "Initiation of Logging"
   c) Each new session is identified with a red flashing LED. The LED will flash red the same number of times as the session you are working in. (i.e. Session 2 = 2 red flashes; Session 8 = 8 red flashes).

Retrieve Logged Data

You can retrieve data from your Leviton Light Logger using the Dollar & Sensors application or by copying the file directly to your computer. Either way, connecting your Logger to your computer is the first step.

1. Plug one end of a 6 ft USB cable (not supplied) into your Logger and the other end into a USB port on your computer. The computer will automatically recognize your Logger as a removable disk drive.
2. To manually transfer the file:
   a) Using your computers file explorer, open the Logger "drive".
   b) Select the log file and copy the file into the desired location.
   c) The file can now be opened directly by MS Excel.
3. To use Dollars & Sensors, you need to apply it to a project in the Dollars & Sensors program:
   a) From the Main Menu select "Open Existing Project" or "Create a New Project" and select or create your project.
   b) Click on the "Import from Logger" button on the "Project Information" screen.

Import Log File into Project Screen

Import – Select the log or logs you wish to attach to this project by checking the "Import" box.
Session Name – Displays "Log File Room #". Enter a name here for easy identification then click the button to the right.
Assign to Existing Room – Select an existing room in your project to link the log file or select "Room Type".
Room Type – Select a room type to associate with the file, this allows the file to be used in other projects.
Log File Grid – The grid in the lower left corner displays the log file data for review.
Import Log File – Imports your selected log files into the current project.
After completing the logger data click the "Close" button to return to the "Project Information" screen.

Data Log Record Format

Change Event records are stored in a format which can be directly imported into MS Excel. Following is a sample log file:

```
LightLogger,ESLOG-USB,3.0,1.0
Date Time,Light,Occupancy,Session,Light Level
01/20/2001 03:22:00 pm,On,Occupied,1
01/20/2001 03:36:00 pm,On,Vacant,1, 50
01/20/2001 03:37:00 pm,On,Occupied,1
01/20/2001 03:46:00 pm,Off,Occupied,2,255
```

1. First line is: <Product Name>,<Catalog Number>,<Firmware Version>,<LogFile Version>
   LightLogger,ESLOG-USB,3.0,1.0
2. Second line is just to have human readable headers for each column of data.
   Date Time,Light,Occupancy,Session,Light Level
3. Every event line thereafter is:
   <datetime>,<On/Off>,<Occupied/Vacant>,<Session#>,<Optional:Light Level>
   01/20/2001 03:36:00 pm,On,Vacant,1, 50

Applying your Data to a Room in your Project

From Dollars & Sensors:

To use the logged data you need to apply it to the specific room in the Dollars & Sensors program. From the Main Menu select "Open Existing Project" or "Create New Project" and select or create your project. Click on the "Room Data" tab on the "Dollars Sensors-Application Information" screen. In the lower half of the screen under Room Data Tab in the section marked "Choose a method for occupancy calculation" select "Use Light Logger Data" now click "Attach Logs".
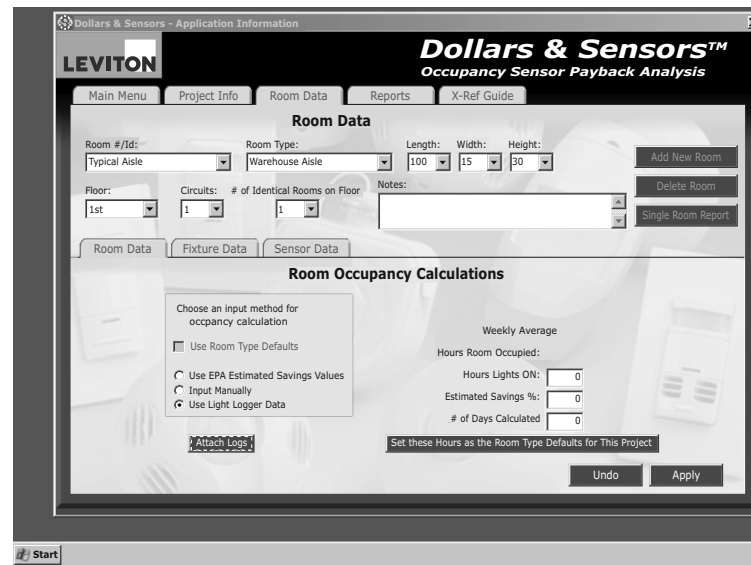
The Attach logs window will open. Select the log file(s) you wish to attach to this room and click "OK" and then "Apply". You have the option to also use log files collected from previous projects if desired. The data from more than one logging can also be used as a combined data log to create data file of averages, the program will only allow use of files of same room type to be combined.

Importing Existing Log Files in Projects

From Dollars & Sensors

Once a log file has been imported into a project it now resides in the logfiles folder of Dollars & Sensors. To access these log files simply go to the Project Information screen of the current project and click "Import Log File". Select the file you wish to use and click Open then follow the screen instructions to Apply it to the project and room type.

Clearing the Leviton Light Logger
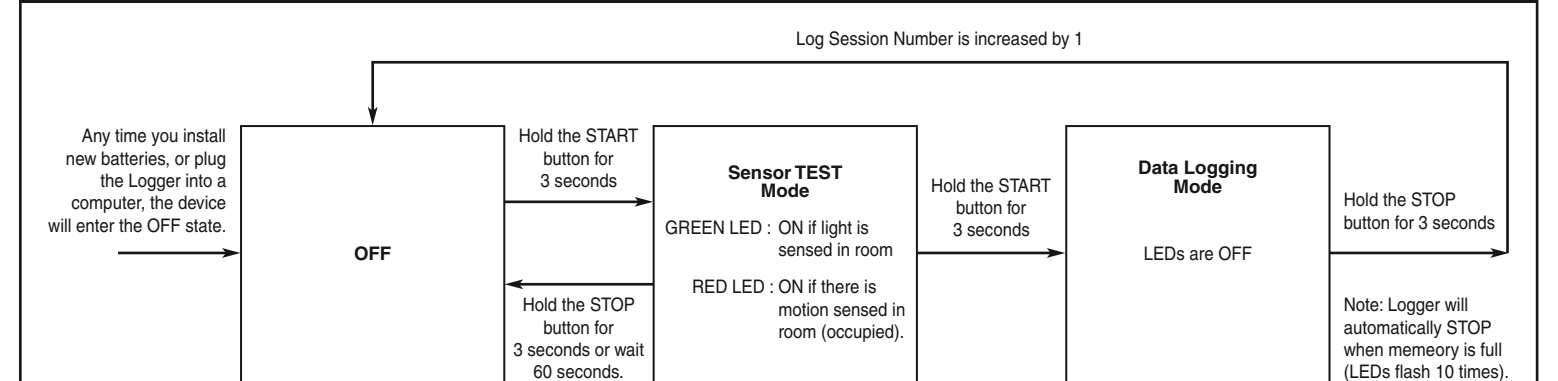
From Dollars & Sensors

Select "Manage Logger" from the Main Menu and click on the "Logger Settings" button. If you have attached all logs to projects and are ready to clear your Logger and begin logging new rooms, click on the "Clear Log Data for ALL Rooms" button. Your Leviton Light Logger is now ready to begin new loggings.

Using the Leviton Light Logger with Dollars & Sensors software is the most accurate way to forecast the vast energy savings potential of your facility.

This device complies with part 15 of the FCC Rules:

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

LIGHT LOGGER OPERATION MODES

Log Session Number is increased by 1

OFF — Any time you install new batteries, or plug the Logger into a computer, the device will enter the OFF state.

Hold the START button for 3 seconds →

Sensor TEST Mode
GREEN LED : ON if light is sensed in room.
RED LED : ON if there is motion sensed in room (occupied).

Hold the START button for 3 seconds →

Data Logging Mode
LEDs are OFF

Hold the STOP button for 3 seconds

Hold the STOP button for 3 seconds or wait 60 seconds.

Note: Logger will automatically STOP when memeory is full (LEDs flash 10 times).

Optional: Tap the START or STOP button and the GREEN LED will flash to indicate the Log Session Number of the Next Log Session.

You now have 60 seconds to test the light and motion sensors. The LEDs will mirror the room's light and occupancy status.

This period should be used to verify coverage of the Logger by walking around the room and turning the lights ON and OFF, ensuring that the LEDs track the light and occupancy correctly.

Optional: Tap the START or STOP button and the RED LED will flash to indicate the Log Session Number of the Current Log Session.

HELPFUL TIPS:

- It is important to maintain a written list of which Log Sessions Number corresponds to which Room of the Facility you are monitoring.

  Example: "Log Session #1 = Room 302"
  The Light Logger can log up to 8 total sesasions (#1 - #8).

- If you are ever unsure whether the device is OFF, or in Data Logging Mode, feel free to tap either the START or STOP button:

  If the RED LED flashes, that means the Logger is in Data Logging Mode (the number of flashes indicates the current Log Session Number).
  If the GREEN LED flashes, that means the Logger is OFF (the number of flashes indicates the next Log Session Number).

- If no LEDs turn ON when you tap the START or STOP button, then your batteries are dead, or you might be in Sensor TEST Mode.