



# LightSaver® LS-102 Switching Photosensor



|               |
|---------------|
| PROJECT       |
| LOCATION/TYPE |

## Product Overview

### Description

The LS-102 Daylighting Controller is a single zone, on/off switching device designed to be installed in a closed loop application. A self-contained 24 VDC device with an extended range of 1-1400 footcandles, the LS-102 requires a low voltage power pack to operate. The controller consists of an advanced digital multi-band photosensor, an on-board microcontroller, and an LCD display. This photosensor is positioned behind a 100° cone that cuts off unwanted light, preventing false triggers.

### Operation

Setpoints can be selected either automatically or manually. When ambient light levels exceed the off setpoint, the controller turns lighting off. It will turn lighting systems back on when the on setpoint is triggered. Because of its automatic calibration feature, many applications require little or no adjustment of the settings. The LS-102 can be paired with a low voltage wall switch to enable manual override, or with an occupancy sensor to enable its 'Hold On While Occupied' feature.

## Features

- Easy-to-read LCD display prompts installer through set-up
- Four user-adjustable parameters: on setpoint, off setpoint, off setpoint time delay, and 'Hold On While Occupied' Mode (if wired with an occupancy sensor)
- Test mode overrides programmed time delay, enabling installer to verify accuracy of settings
- Control load status verification allows testing and confirmation that wiring is correct
- Form factor designed to eliminate misalignment

### Automatic Startup/Calibration

The LS-102 features automatic setpoint calculations. The device initiates a procedure to select an appropriate value for the on setpoint. As part of the process, the controlled load is first turned on for a brief interval to warm up the lamps, and then switched off. This process is repeated several times. At the completion of the calibration, a new value for the on setpoint will have been selected. Other adjustable settings include deadband and time delay settings. If desired, the deadband can be adjusted to a value of 25, 50, 75, or 100 percent above the setpoint. The time delay can be adjusted to 3, 10, 20 or 30 minutes.

### Applications

The LS-102 Daylighting Controller can be used to control any type of lighting: incandescent, fluorescent, compact fluorescent (CFL), HID, and LEDs. The devices work in peripheral offices, skylit areas, cafeterias, warehouses and any other indoor area with natural light contribution.

- LED status indicator identifies when device is in override or test mode, or if device has switched lights on or off
- Mounting options for top- or side-lit applications
- One-hour manual override capability (when wired with low voltage, pushbutton wall switch)
- Programmable in most daylight conditions
- Qualifies for use on ARRA-funded public works projects

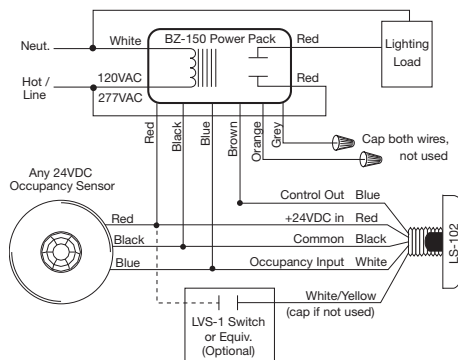


# Specifications

- Automatic setpoint calculation
- Digital Multi-Band Photosensor Range: 1-1400 footcandles
- ON Setpoint Range: 1-850 footcandles
- Status Indicator: Multi-function green LED
- Power Requirements: 12/24 VDC; 7 mA typical
- Output Signal: 24VDC; maximum 120 mA
- Location: Suitable for dry interior locations
- Environment: 32-120°F (0-49°C), less than 90% relative humidity
- Dimensions: 2.4" diameter x 0.7" deep (61mm x 17mm)
- Five year warranty
- UL listed

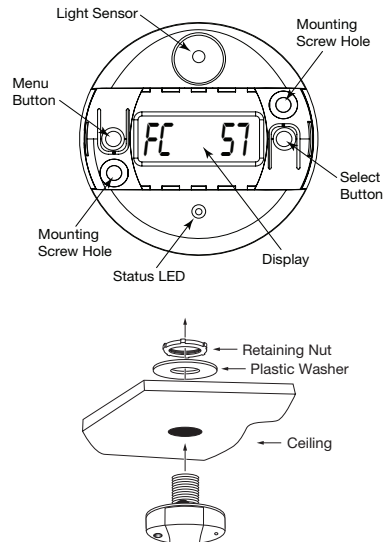
## Wiring, Installation & Location

### Wiring Diagram

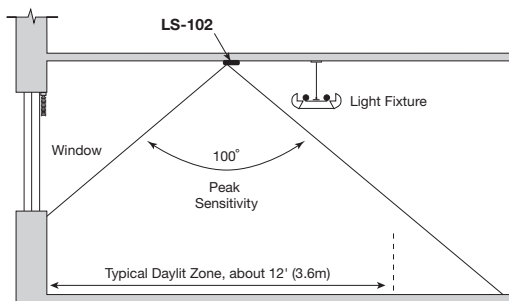


For other wiring diagrams, please visit the CAD Resource Center at [www.wattstopper.com](http://www.wattstopper.com)

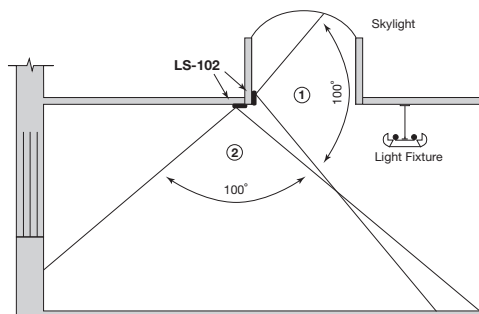
### Mounting and LED Display



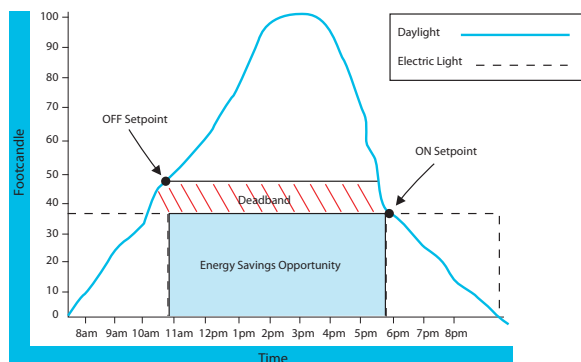
### Side Lighting Application



### Top Lighting Application



## Deadband Level Chart



If the LS-102's photosensor lighting level drops below the on setpoint, the lights will remain on. If the sensor's lighting level rises above the off setpoint, the LS-102 will automatically turn the lights off. If the sensor's lighting level remains in the predetermined deadband range (25%, 50%, 75% or 100%) the lighting will be passive until the sensor's level reaches the high or low setpoints.

## Ordering Information

| Catalog No.                         | Description  | Footcandle Range | Deadband Adjustment Range              |
|-------------------------------------|--|------------------|--|
| <input type="checkbox"/> LS-102     | On/Off Switching Photosensor                                 | 1-1400 fc        | 25%, 50%, 75% & 100% above on setpoint |
| <input type="checkbox"/> LS-102-U   | On/Off Switching Photosensor, ARRA-compliant                 | 1-1400 fc        | 25%, 50%, 75% & 100% above on setpoint |
| <input type="checkbox"/> LS-102-FTA | On/Off Switching Photosensor, ARRA-compliant (FTA exception) | 1-1400 fc        | 25%, 50%, 75% & 100% above on setpoint |