

LIGHTSAVER® SWITCHING PHOTOSENSOR

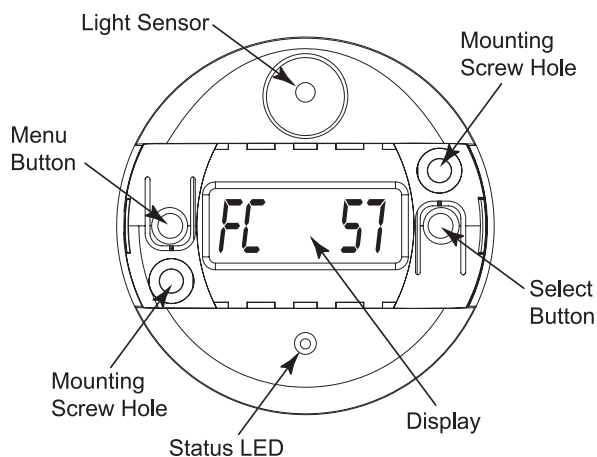
LS-102



PRODUCT OVERVIEW

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 micro-controller, and an LCD display. This photosensor is positioned behind a 100° cone that cuts off unwanted light, preventing false triggers



MODELS

LS-102

SPECIFICATIONS & FEATURES

Operating voltage: 12/24 VDC

Power consumption: 7mA @ 24VDC

Output signal: 24VDC; maximum 120 mA

Dimensions: 2.4" diameter x 0.7" deep (61mm x 17mm)

Operating temperature: 32° to 120°F (0° to 49°C)

Operating humidity: 5% to 95% RH, non-condensing

Automatic setpoint calculation

On Setpoint Range: 1 to 850 footcandles

Status indicator: Multi-function green LED

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

LED status indicator identifies when device is in override or test mode, or if device has switched lights on or off

One-hour manual override capability (when wired with low voltage, push button wall switch)

Programmable in most daylight conditions

UL listed

Indoor use only

Five year warranty

MATERIALS

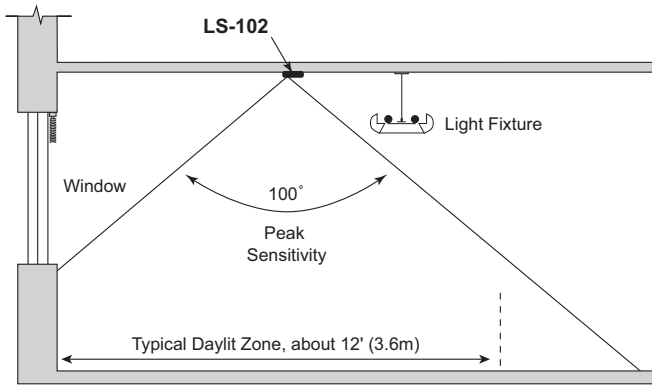
ABS, flame retardant

Meets materials restrictions of RoHS

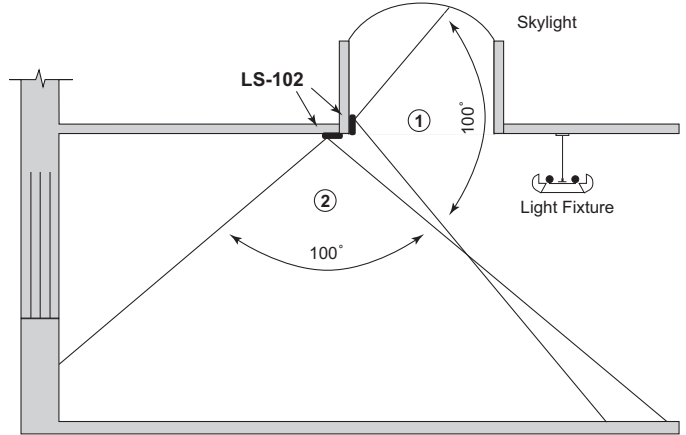
FACTORY DEFAULTS

Requires configuration

PLACEMENT AND DETECTION AREA



LS-102 side light application

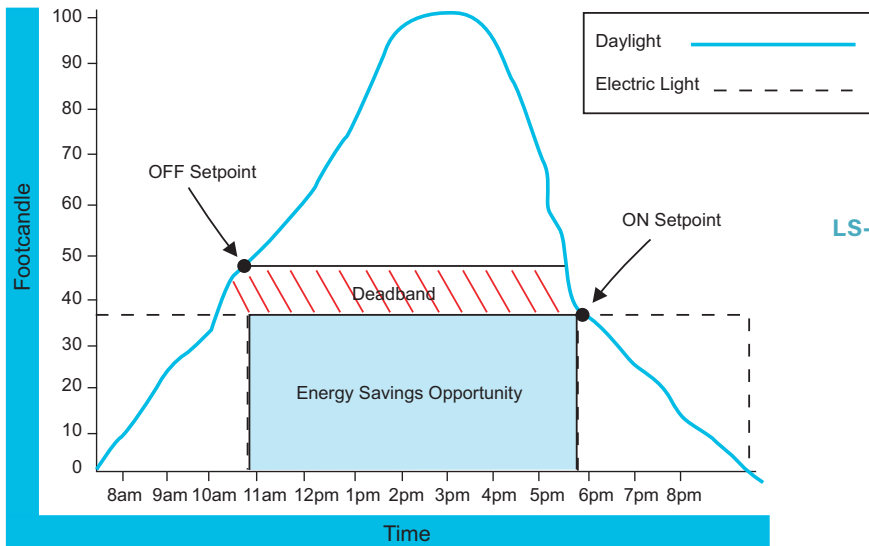


LS-102 top lighting application

The LS-102 Daylighting Controller can be used for top- or side-lit applications 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.

DEADBAND



LS-102 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% above the on setpoint) the lighting will be passive until the sensor's level reaches the high or low setpoints.

INSTALLING THE LS-102 SENSOR

1. The LS-102 is designed to be mounted in either of two ways. For suspended ceiling tile, a threaded nipple with a retaining nut is attached to the LS-102 (see Figure 1). For sheet rock or other solid surfaces, first remove the threaded nipple by squeezing it near the base of the LS-102 (see Figure 2). Then use the two screw holes located under the cover. Screws are not provided. Select #6 pan head screws appropriate for the mounting surface, typically about 7/8" long.

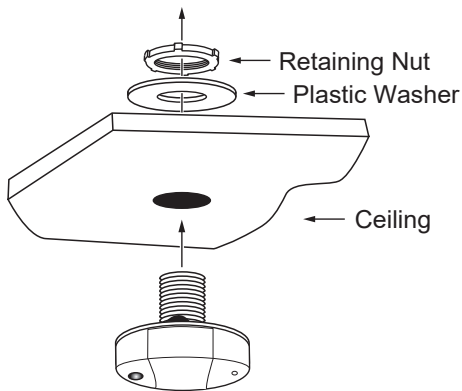


Figure 1. Ceiling tile mounting

2. For measuring light, the rotation of the light sensor is not critical, but it may simplify setup and adjustment. Rotate the LS-102 so you can approach it from the side with the status LED. In a typical ceiling application, rotate the LS-102 so that the light sensor is nearest the window. In a wall mount application, it should be rotated so that the light sensor is near the top.

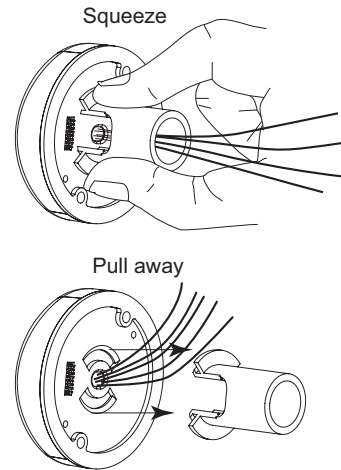


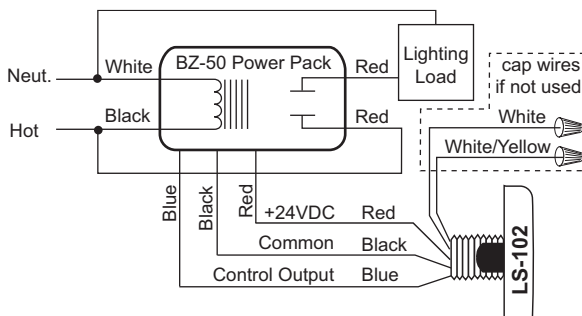
Figure 2. Removing the nipple from the back side of the LS-102

AUTOMATIC STARTUP/CALIBRATION

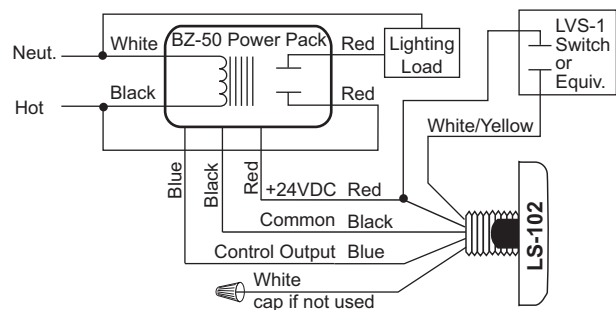
The LS-102 features automatic setpoint calculations. The device initiates a procedure to select an appropriate value for the on setpoint. As part of the process, the controlled load is first turned on for a brief interval to warm up the lamps, and then switched off. This process is repeated several times.

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.

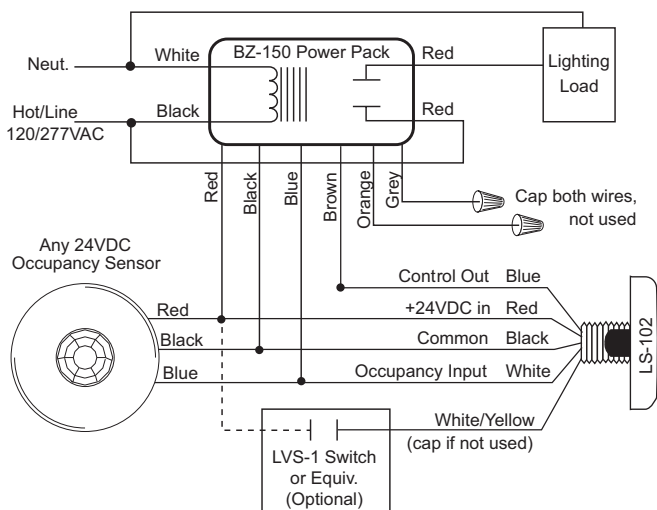
WIRING DIAGRAMS



Basic LS-102 wiring diagram



LS-102 wired to override switch

WIRING DIAGRAMS


LS-102 wired to occupancy sensor for “Hold-Off while occupied functionality” (requires BZ-150 or BZ-250 power pack)

SEQUENCE OF OPERATION

Setpoints can be selected either automatically or manually. When ambient light levels exceed the off setpoint for the specified time delay, the controller turns lighting off. It will turn lighting systems back on when the on setpoint is triggered for the duration of the time delay. 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.

ORDERING INFORMATION

Catalog #	Master Pack Details				
	Master Pack Quantity	Case dimensions (inches)			Weight (pounds)
		Length	Width	Height	
LS-102	40	14.5	14	7.9	11.5
BZ-50	40	16.1	8.7	12.6	16.1
BZ-150	40	16.1	8.7	12.6	17.3
BZ-250	40	16	13.9	10.2	20.9

Inner Pack Details				
Inner Pack Quantity	Case dimensions (inches)			Weight (pounds)
	Length	Width	Height	
10	6.8	13.4	3.5	2.8
10	12.2	4	6.1	3.8
10	12.2	4	6.1	4.1
10	13.5	7.6	4.7	5

Catalog #	Color	Description	Voltage
<input type="checkbox"/> LS-102	White	On/Off Switching Photosensor	12/24 VDC
<input type="checkbox"/> BZ-50	White	Universal Voltage Power Pack	120/277 VAC, 50/60Hz
<input type="checkbox"/> BZ-150	White	Universal Voltage Power Pack	230/240 VAC (Single Phase), 50/60Hz
<input type="checkbox"/> BZ-250	White	Lighting and Plug Load Flex Control Power Pack	120-277VAC, single phase; 50/60Hz

Information supplied above is subject to change.
Harmonization code: 8538908080. Country of origin: China.