DESCRIPTION

The LightHAWK® LHL Series are passive infrared wall switch occupancy/vacancy sensors that are designed to replace existing wall switches.

SPECIFICATIONS

- 1000 sq. ft. coverage area
- Single circuit 120/277VAC, 50/60Hz operation
- Electrical Ratings:
    - 120VAC – 800W Incandescent / Electronic Ballast / LED Driver; 1000W Magnetic Ballast; 1/6 HP
    - 277 VAC – 1800W Magnetic Ballast / Electronic Ballast / LED Driver; 1/6 HP
- Adjustable Time Delay: 4, 8, 16, 20 minutes
- Light Level Adjustment: 10 to 500FC
- UL, cUL Listed

PRECAUTIONS

- CAUTION: RISK OF ELECTRICAL SHOCK. Turn power off at service panel before beginning installation. Never wire energized electrical components.
- Read and understand all instructions before beginning installation.
- NOTICE: For installation by a licensed electrician in accordance with National and/or local Electrical Codes and the following instructions.
- NOTICE: For indoor use only.
- CAUTION: USE COPPER CONDUCTOR ONLY
- Confirm device ratings are suitable for application prior to installation. Use of device in applications beyond its specified ratings or in applications other than its intended use may cause an unsafe condition and will void manufacturer's warranty.
- NOTICE: Do not install if product appears to be damaged.
- NOTICE: Connect to field wiring rated for 60°C or greater.

INSTALLATION

1. Turn power OFF at the service panel.
2. Remove the old switch(es) if applicable.
3. Wire as shown in the WIRING DIAGRAMS section. (NOTE: A secure ground is required for proper operation).
4. Install sensor in wall box using mounting screws provided.
5. Restore power to the sensor and allow it to initialize (up to 2 minutes).
6. Sensor is factory configured to provide the most energy savings. If additional adjustments are required, see the ADJUSTMENTS section.
7. If daylight harvesting is desired, calibrate the sensor's photocell as described in the PHOTOCELL CONTROL section.
8. Install a decorator style wall plate (not included – sold separately).

TEST MODE

1. Make sure lights are ON.
2. Press and hold the ON/OFF button. Lights will cycle OFF then back ON. Release the ON/OFF button.
3. Sensor is now in Test Mode (NOTE: While in Test Mode the sensor will operate in Automatic ON/Automatic OFF mode). Vacate room; lights should turn OFF after 5 seconds. Wait 5 seconds after turn OFF before re-entering space. Step back into room, lights will turn back ON. Repeat walk test as necessary to confirm sensor is operating and detecting in the area as desired. Sensor will flash red LED while moving to indicate Passive Infrared (PIR) occupancy detection.
4. To exit Test Mode, press any button. NOTE: Sensor will automatically exit Test Mode after sixty (60) minutes.

72-00535 Rev B

WIRING DIAGRAM
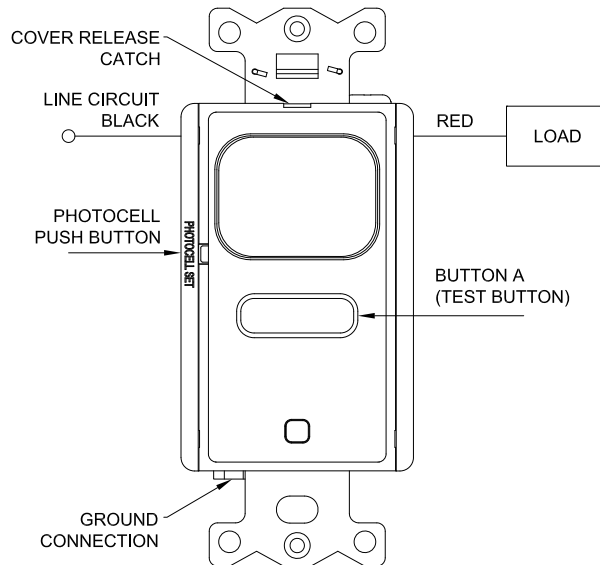
MANUAL OVERRIDE

Press button to toggle lights ON or OFF. Lights will remain in the last state determined by the buttons while occupancy is detected. Sensor will return to the programmed mode of operation when the sensor times out.

PHOTOCELL CONTROL

The photocell is used to detect if other light sources, such as sunlight, are sufficient to illuminate the space without turning on the controlled lights. The sensor is shipped from the factory with the photocell control disabled. If use of the photocell is desired, calibrate the photocell set point as follows:

1. With the light level at the desired level where the controlled lights should be off, PRESS and RELEASE the photocell set button using the end of a paper clip or small bladed screwdriver.

2. Step back from the sensor to avoid changing ambient light levels in the room. During calibration the sensor will turn the lights OFF then back ON.

3. After the calibration process, the sensor will return to its programmed mode of operation. During occupancy, the sensor will turn lighting OFF sixty (60) seconds after reaching or exceeding the set point level. When the lighting level drops below the set point level, the sensor will turn the lights ON.

ADJUSTMENTS

The following switch adjustments require that the sensor's cover be removed. Remove the cover by inserting a small blade screwdriver into the catch at the top of the sensor and gently pry the cover off. Set the adjustment switches as desired (see **CONFIGURATION SWITCH SETTINGS** section). Factory default is all switches OFF. To re-install cover, place cover directly over the sensor and align the cover's four (4) catches with the recesses in the sensor housing. Snap cover onto housing making sure that all catches are securely in place.

CONFIGURATION SWITCH SETTINGS – BANK A

Switch 1 – Sensor Operation

Programs the sensor for either Manual ON/Automatic OFF operation or Automatic ON/Automatic OFF operation. When set to Manual ON/Automatic OFF mode, lights are turned ON by manually pressing the ON/OFF button. If the sensor times out and turns the lights OFF in the Manual ON/ Automatic OFF mode while the space is still occupied, any motion detected within the thirty (30) second grace period will automatically turn the lights back ON, without requiring the user to press the ON button. NOTE: Switch 1 has no function on vacancy only models (Cat. No. Suffix "-M")

Switch 2 – Reserved for Future Use

Switch 3 – Reserved for Future Use

Switch 4 – Reserved for Future Use

72-00535 Rev B

Switch 5 – Relay Bypass

If it is necessary to service the controlled circuit without de-energizing them at the breaker panel (NOTE: this is not recommended as a standard procedure), perform the following steps:

1. With the lights ON, set the relay bypass switch to the ON position.
2. Push the button(s) to turn the lights OFF.
3. Push the button(s) again to verify override (lights should not come back on).

The relay bypass switch will now interrupt sensor operation, preventing output(s) from turning ON again, regardless of occupancy or pushbutton conditions. To return the sensor to normal operation, flip the relay bypass switch to the OFF position. To confirm sensor is operating normally, lights should now turn ON and OFF when the button is pressed.

CONFIGURATION SWITCH SETTINGS – BANK B

Switches 1 and 2 – Timer Settings

Sets the length of time lights will remain ON after last motion is detected. The timeout value can be set to 4, 8, 16 or 20 minutes.

Switches 3 – Reserved for Future Use

Switch 4 – Reserved for Future Use

Switch 5 – Sensitivity

Sets the sensor's initial Passive Infrared (PIR) sensitivity level. Sensitivity can be set to either High or Low.

Switch Bank A	Function	OFF ←		ON →	
1	Sensor Operation*	Manual ON / Automatic OFF		Automatic ON / Automatic OFF	
2	Reserved	N/A		N/A	
3	Reserved	N/A		N/A	
4	Reserved	N/A		N/A	
5	Relay Bypass	Normal Operation		Relay Override	
Switch Bank B	**Function**	**OFF ←**		**ON →**	
1	Timer Select 0	→	←	←	→
2	Timer Select 1	←	←	→	→
Time		4 min	8 min	16 min	20 min
3	Reserved	N/A		N/A	
4	Reserved	N/A		N/A	
5	Sensitivity	High		Low	

*Bank A – Switch 1 has no function on vacancy only models (Cat. No. Suffix "-M")

72-00535 Rev B