

# Model AKOSW - Installation Instructions

Residential Grade Passive Infrared Occupancy Sensor Wall Switch - AUTO ON / AUTO OFF



## RATINGS

**Incandescent / Tungsten: 800W-120VAC, 50/60Hz**

**Resistive load: 800W-120VAC, 50/60Hz**

**Fluorescent / Ballast: 800VA-120VAC, 50/60Hz**

**Motor: 1/4HP-120VAC**

**Single Pole, PIR Wall Switch**

**INDOOR USE ONLY**

**No Minimum Load Required.**

**Compatible with incandescent lamps, electronic and magnetic low-voltage ballasts, electronic and magnetic ballasts, and fans.**

**Coverage: 180°, 650 sq ft (Figure 1)**

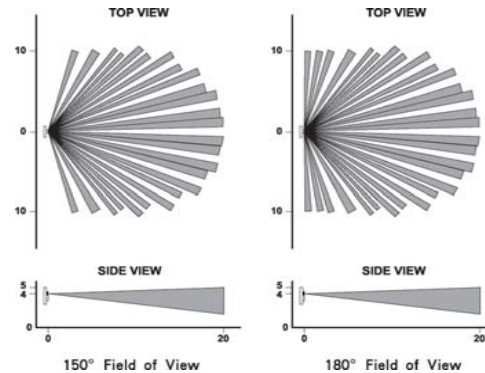
## DESCRIPTION

The Residential Grade Passive Infrared Occupancy Sensor is a motion sensing control which replaces a conventional wall switch for energy savings and convenience. This device is designed to detect motion from a heat-emitting source (such as a person moving with a room) within its field-of-view (Figure 1) and automatically switch the load on if motion is detected. When motion is no longer detected, the load will remain on for a selected time duration and automatically switch off. For indoor use only, it is ideal for any room in your home that would benefit from automatic light or fan control. This device is UL listed.

## SPECIFICATIONS

- Automatic-ON / Automatic-OFF: The load will turn ON when motion is detected. The load will turn OFF automatically after the selected time duration when no motion is detected.
- Adjustable time delay, range, and light level are located on the front of the device. (Figure 2)
- When the sliding switch is set to the OCC position, the LED indicator will flash when motion is detected.
- Installing this device requires experience with residential and commercial wiring practices. Consult local building codes before attempting to install this device.

Figure 1: Coverage Pattern



## GENERAL INFORMATION

- Clean the outer surface gently with damp cloth only. Do not use soaps or cleaning liquids.
- This device contains no serviceable components. Do not attempt to service or repair.

## LOCATION / MOUNTING

Since this device responds to temperature changes, care should be taken when mounting the device. DO NOT mount directly above a heat source, in a location where hot or cold drafts will blow directly on the sensor, or where unintended motion will be within sensor's field-of-view.

## PRECAUTIONS

**WARNING:** TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH APPROPRIATE ELECTRICAL CODES AND REGULATIONS.

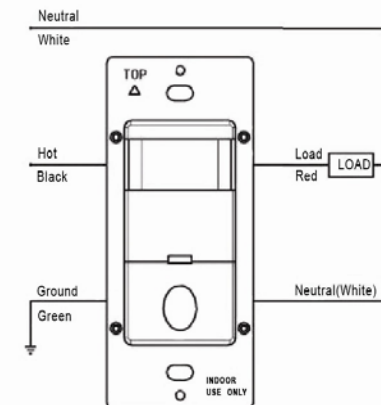
**WARNING:** IF YOU ARE NOT SURE ABOUT ANY PART OF THESE INSTRUCTIONS, CONSULT A QUALIFIED ELECTRICIAN.

**CAUTION:** USE THIS DEVICE ONLY WITH COPPER OR COPPER CLAD WIRE.

## INSTALLATION

1. **WARNING:** TO AVOID FIRE, SHOCK, OR DEATH, TURN THE POWER OFF AT CIRCUIT BREAKER OR FUSE AND TEST THAT THE POWER IS OFF BEFORE WIRING!
2. Remove the existing single-pole switch or dimmer installation, if applicable.
3. Remove 3/4" (1.9cm) of insulation from each circuit conductor. Make sure the ends of the wires are straight.
4. Connect lead wires per WIRING DIAGRAM as follows: Black lead to Line (Hot), Red lead to Load wire, White lead to Neutral wire, Green lead to Ground. Twist strands of each lead tightly, and with circuit conductors, push firmly into appropriate wire connector. Screw connectors on clockwise ensuring that no bare conductor shows below the wire connectors. Secure each connector with electrical tape.
- NOTE:** If a wire nut is provided, use it to join one 14 AWG supply conductor with one 16 AWG device control lead.
5. Gently position the wires to provide room in the wall box for the switch.
6. Position the device "TOP" up in the wall box.
7. Restore the power at the circuit breaker or fuse.
8. Locate the adjustment controls on the front of the switch. Proceed to the "SETTINGS" section before mounting the device in the wall box.
9. Mount the switch to the wall box.
10. Mount the wall plate, INSTALLATION IS COMPLETE.

Wiring Diagram:

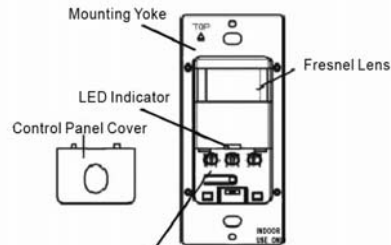


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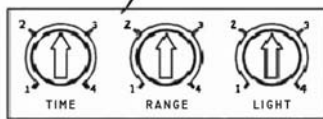
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Figure 2: Front Controls



Control Panel:



### PROGRAMMING FEATURES

**Factory Settings:** The sensor is shipped from the factory to work in almost any situation without any additional adjustments. The factory settings are: time-out 10 minutes, intermediate range, and maximum light sensitivity.

**Time-out:** The value of this time-out is user selected through use of the Time Control Setting.

**Time Control Setting:** To select the time-out value, rotate the time control dial. Turn the dial clockwise (CW) to increase the time-out. Turn the dial counter-clockwise (CCW) to decrease the time-out.

**Range:** To decrease the detection range and sensitivity, turn the dial CCW (refer to figure). The detection range can be adjusted from 100% to 30%.

**NOTE:** Do not set the range at the maximum level; it may cause an error.

**Light Sensitivity:** The Light Sensitivity setting is used to keep lights off if there is already enough natural light in the room. For proper operation, the Light Sensitivity adjustment must be performed when there is enough natural light (refer to the setting selection).

**NOTE:** The ambient light level in the center of the room can be different from the level at the wall where the switch is located.

**Light Sensitivity Dial:** The light level setting is adjusted with the Light Sensitivity Dial (refer to Figure 2). Turning the dial fully CW, the load will turn ON when motion is detected. All other settings will cause the load to turn ON only when the ambient light level is less than the level set in the switch. Always turn fully CW when used for fans.

**NOTE:** When the setting is at the minimum CCW level, the load will stay OFF when the room is dim. At the maximum CW setting, the load will turn ON even when the room is bright.

### SETTINGS

1. With power restored and wall plate removed, use a small screw driver to adjust the time delay, range, and light sensitivity on the switch as follows:

**Time Selection:**

- Adjust the time selector dial to the desired length of time the load is to remain ON. The load will remain ON from 15 seconds to 30 minutes after the room is vacated.
- Turn the control dial fully clockwise (CW) and the load will remain ON up to 30 minutes.
- Turn the control dial fully counter-clockwise (CCW) and the load will remain ON up to 15 seconds.

**Range:**

- To decrease detection range and sensitivity, turn the control dial CCW.
- To increase detection range and sensitivity, turn the control dial CW.

**Light sensitivity:**

- To decrease the light level sensitivity, turn the control dial CCW.
- To increase the light level sensitivity, turn the control dial CW.

**NOTE:** If the light sensitivity dial is rotated to the fully CW position, the load will turn ON whenever motion is detected, even in full daylight. Intermediate settings will cause the load to turn ON only when the ambient light level is below the selected level of the control switch.

2. Test that the time selection and range adjustment are as desired. If not repeat adjustments until satisfied.
3. Return to Step 9 of the "Installation" section if applicable.

### OPERATION

**Sliding switch:** The sliding switch located under the Control Panel Cover as three positions: OFF, OCC, and VAC. Note that

when in the OFF position, the load will not react to the push button. Modes of operation are as follows:

- 1) **OFF** (left position): Load is forced OFF regardless of occupancy state.
- 2) **OCC** (middle position): a) Auto-ON / Auto-OFF (15-sec to 30 min delay to turn the load off) b) Allows Manual-OFF operation. c) If load is turned off manually, switch will go into automatic mode (OCC) until the time-out delay is over.
- 3) **VAC** (right position): Manual-ON / Auto-OFF operation.

### TROUBLESHOOTING

1. Load does not turn ON when motion is detected:
  - Check that the sliding switch is not in the OFF position.
  - Movement is beyond sensor range; move closer to switch.
  - Increase ambient light setting; rotate dial CW.
2. Load is always ON:
  - Reduce the time delay setting; turn the dial CCW.
  - Be sure no motion is occurring in the coverage area until the time delay expires.
  - Check that the switch is not installed near hot air currents and heat radiating devices, or detecting motion from an adjacent area (e.g., hallway traffic). If so, the switch may need to be relocated.
3. Load does not turn ON when the sliding switch is in the OCC or ON position:
  - Be sure the switch is installed correctly.
  - Check that the power is ON.
  - Check that the load is functional.
  - If applicable, be sure the switch on the controlled load is ON.

**NOTE:** If problems continue, consult a qualified electrician.

### FULL TWO YEAR WARRANTY

If within two (2) years from the date of purchase this product fails due to a defect in material or workmanship, we will repair or replace it, at our sole option, free of charge. This warranty does not apply to: (a) damage to units caused by accident, dropping or abuse in handling, acts of God or any negligent use; (b) units which have been subject to unauthorized repair, opened, taken apart or otherwise modified; (c) unit not used in accordance with instructions; (d) damages exceeding the cost of the product; (e) sealed lamps and/or lamp bulbs, LED's and batteries; (f) the finish on any portion of the product, such as surface and/or weathering, as this is considered normal wear and tear; (g) transit damage, initial installation costs, removal costs, or reinstallation costs.

This warranty service is available by returning the product with proof of purchase date and description of the problem to the dealer from whom the unit was purchased.