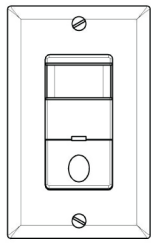


# INSTALLATION INSTRUCTIONS



DOS180

**DOS180  
OCCUPANCY / VACANCY  
(2-IN-1)  
SENSOR SWITCH**

## SPECIFICATIONS

Voltage .....	120VAC,60Hz
Incandescent .....	800W
Fluorescent.....	800VA
Motor .....	1/4Hp
Time Delay.....	15Sec to 30Mins
Light Level.....	30 Lux--Daylight
Operation Temperature.....	32° F--131° F

## DESCRIPTION

The passive infrared sensors work by detecting the difference between heat emitted from the human body in motion and the background space. The sensor switch can turn a load on and hold it as long as the sensor detects occupancy. After no motion is detected for the set time delay, the load turns off automatically. The sensor switch has one relay (equal to single pole switch), and also includes a Ambient Light Level Sensor.

### Coverage Area

The coverage range of the sensor switch is specified and illustrated in Figure 1. Large objects and some transparent barriers like glass windows will obstruct the sensors' view and prevent detection, causing the light to turn off even though someone is still in the detection area.

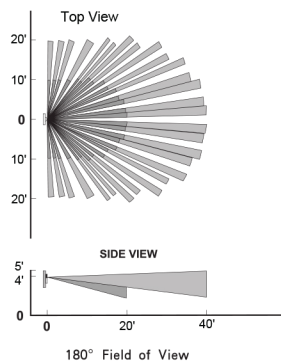


Figure 1

**WARNING:** Turn off the circuit breaker before installation;  
In door use only;  
Do not exceed electrical ratings.



## INSTALLATION

1. Connect lead wires as WIRING DIAGRAM (see Figure 2): Black lead to Line(Hot), Red lead to Load wire, White lead to Neutral wire, Green lead to Ground.

Wiring Diagram:

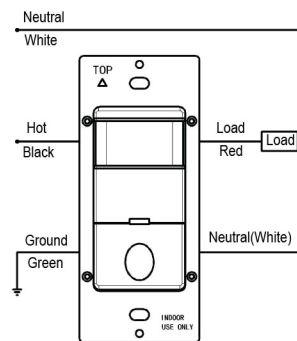


Figure 2

2. Gently position wires in wall box, attach sensor switch to the box.
3. Mount device "TOP" up.
4. Restore power at circuit breaker or fuse, wait *one* minute.
5. Remove the small cover plate (illustrated in Figure 3).
6. Locate the adjustment knobs on the control panel to perform test and adjustment (illustrated Figure 3).
7. Replace the small cover plate after testing and adjustment.
8. Attach the wallplate.

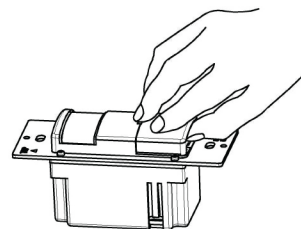


Figure 3

## ADJUSTMENT

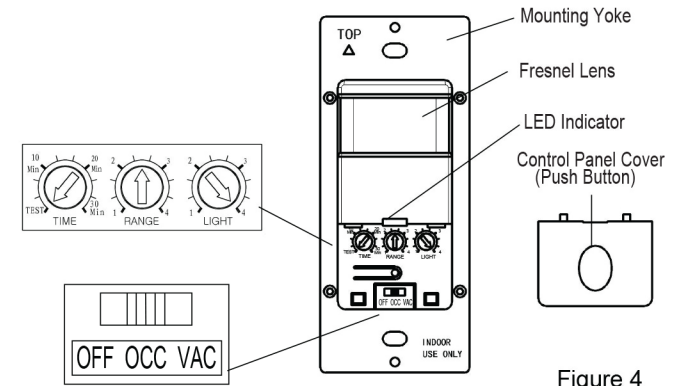


Figure 4

Band switch prescription.

Mode	Position	Description	React to the push-button
OFF	Left	Circuit is permanently opened. (switched off)	None
OCC	Center	Occupancy Mode: Automatic On, automatic Off after set time delay.	Manually toggles the load On/Off
VAC	Right	Vacancy Mode: Manual On only, automatic Off after set time delay.	Manually toggles the load On/Off

### Time Delay knob

Default position: 15 Seconds (Test mode)

Adjustable: from 15 Seconds to 30 Minutes (clockwise)

### Sensor Sensitivity Range Knob

Default position: Center at 65%

Adjustable: 30% (Position 1) to 100% (Position 4)

*Note: Turn toward right for greater room space.*

*Turn toward left to avoid false alert in smaller room and near the door way or heat source.*

### Ambient Light Level Control

Default position: Daylight (100% at position 4)

Adjustable: Daylight to 30Lux (Counter clockwise)

*Note: Use ambient light feature when daylight source is available.*

# INSTALLATION INSTRUCTIONS

## ◆ OPERATION

The Sensor Switch can be used to select either Occupancy Mode or Vacancy Mode as set by the Band Switch position under the control panel cover. Some might call the Vacancy mode, "Manual On Occupancy Mode".

### Manual On/Off Button

By Pushing the Control Panel Cover, the Load can be turned On/Off under either OCC or VAC mode (illustrated in Figure 5).

### Occupancy Mode - Auto on, Auto Off

Load will be Automatically On once occupancy is detected.

### Vacancy Mode - Manual On, Auto Off

On/Off Button must be pushed to turn On the Load.

### Automatic Off

Under either mode, the Sensor keeps the Load On until no motion is detected plus the set time delay, turns Off automatically.

Under VAC Mode, the Load can turn On automatically if motion is detected within the 1<sup>st</sup> 30 seconds.

### Manual Off

With Manual On/Off Button, the Load can be turned Off under either OCC or VAC mode. Under OCC Mode, if you press manual On/Off button first, the sensor switch returns to normal until set-time finishes.

**NOTE :** For DOS180NL, there is night light behind the Fresnel Lens as follows:

**OFF** ---- The Night Light keeps on constantly;

**OCC** ---- The Night Light will not work;

**VAC** ---- the Night light will turn on under occupancy when load is off.  
Conversely, the NIGHT LIGHT will turn off when load is on.

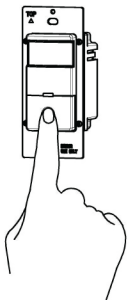


Figure 5

## ◆ TROUBLESHOOTING

For proper operation, the Sensor Switch has to consume power from hot and neutral, therefore, **Secured Neutral Wiring is required.**

### Initialization

The Sensor Switch needs to initialize for one minute. During initialization the load might be turned On and Off several times.

The Time Delay knob is set to 15 seconds by default, do not adjust it until initialization is completed and proper operation confirmed.

### The Load is out of control (frequently flashing)

1. It can take up to one minute for initialization.
2. Check the wiring connections, especially the **Neutral Wiring.**

### The Load does not turn On without LED flashing or LED flashes regardless of motion

1. Push Manual On/Off Button. If the load turns On, verify that Sensitivity Range is on high. If the Load does not turn On go to Step 2.
2. Check the wiring connections, especially Hot line and Neutral wiring.

### The Load does not turn On while LED flashes with motion detected

1. Check to see if Ambient Light Level is enable by covering the lens by hand.
2. Push Manual On/Off Button. If the load turns On, verify that Sensitivity Range is on high. If the Load does not turn On go to Step 3
3. Check the wiring connections, especially Hot Line and Neutral wiring.

### The Load does not turn Off

1. There can be up to a 30 minutes time delay after the last motion is detected. To verify proper operation, turn the Time Delay Knob to 15s (Test Mode), and make sure there is no motion (no LED flashing).

The Load should turn Off in 15 seconds.

2. Check if there is any significant heat source mounted within six feet (two meters) that may cause false detection such as a high wattage light bulb, portable heater, or HAVC device.

3. Check the wiring connections, especially the Neutral wiring to the sensor switch.

### The Load turns On when not desired

1. Switch from OCC to VAC mode.
2. Mask the Sensor Switch lens to eliminate unwanted coverage area.
3. Turn the Sensitivity Level knob toward the left to avoid false alert in a smaller room and near the door way.

NICOR, Inc.