



BROAN - OCCUPANCY SENSOR INSTALLATION GUIDE

BROAN NuTone INSTALLATION INSTRUCTIONS

Passive Infrared Occupancy Sensor Wall Switch
LED/CFL 300W, Incandescent 600W, 1/2 HP, 120-277VAC, 60Hz



Model No.:
MS100W (Occupancy Sensor)

UNIT FEATURES AND DESCRIPTION

1. The occupancy sensor wall switch turns lighting or fan loads on and off based on occupancy and ambient light level. They are designed to replace a standard light switch. The switch operates with 120 to 277V AC line voltage.
2. The sensor uses passive infrared technology to sense human motion, and defines it as occupancy. A red LED in the sensor blinks upon occupancy and then resets. It will blink again when it detects motion after the 2-second reset.
3. In Automatic ON & Automatic OFF mode, the sensor turns on the load automatically when it detects occupancy. Once the space is vacant and the time delay elapses, it turns off the load automatically.
4. If adequate ambient light is already present in the area, the sensor will hold off the load it controls. When the light drops below a field selectable level and the sensor detects occupancy, the sensor turns on the load.

WARNINGS AND CAUTIONS

- CAUTION:** To avoid overheating and possible damage to this device and other equipment, **DO NOT** install to control a receptacle.
2. To be installed and/or used in accordance with appropriate electrical codes and regulations.
 3. If you are unsure about any part of these instructions, consult an electrician.
 4. Use this device with copper or copper clad wire only.
 5. Do not use this product to control loads in excess of specified ratings, or it may cause death, injury or property damage.
 6. The sensing switch requires an unobstructed view of room occupants to detect motion.
 7. Hot objects or moving air currents can affect the performance of the sensing switch.
 8. For indoor use only. Operate between 32 to 104 °F (0 to 40 °C).
 9. Clean sensor with a piece of soft damp cloth only. Do not use any chemical cleaners.

MOUNTING LOCATION

The device responds to temperature changes and 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 (e.g., hallway traffic) will be within sensor's field-of-view.

TOOLS NEEDED FOR INSTALLATION

Slotted / Phillips Screwdriver	Pliers	Pencil
Electrical Tape	Cutters	Ruler

PREPARATION BEFORE INSTALLATION

- 1. Turn OFF Power:**
Turn power OFF at circuit breaker (or remove fuse).
- 2. Remove Wallplate and Switch:**
Remove wallplate and switch mounting screws. Carefully remove switch from wall (do not remove wires).
- 3. Identify the Type of Circuit:**

Single-Pole

1. Line (Hot)
2. Neutral
3. Ground
4. Load



Two Location Control

1. Line (Hot)
2. Neutral
3. Ground
4. Traveler (note color)
5. Load



If the wiring in the wall box does not resemble any of these configurations, consult an electrician.

4. Before Wiring the Device:

1. Make sure that the ends of wires from the wall box are straight (cut if necessary).
2. Remove 5/8" (1.6 cm) of insulation from each wire in the wall box.
3. Use wire connectors to join one 12 AWG supply wire with one or two 16 AWG or 18 AWG, or to join one 14 AWG supply wire with one to three 16 AWG or 18 AWG.

NOTE: Three wire connectors provided in the product package are suitable for copper or copper clad wire only.

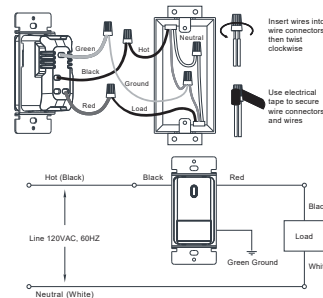
For single-pole applications, go to Step 4A.

For two location control applications, go to Step 4B.

4A - INSTALLATION FOR SINGLE POLE

Connect wires per wiring diagram as follows:

1. Connect green ground or bare copper wire in the wall box to the Green wire of the device.
2. Connect Hot wire in the wall box to the Black wire of the device.
3. Connect Load wire(s) in the wall box to the Red wire of the device.
4. Screw wire connectors on clockwise making sure no bare conductors show below the wire connectors. Secure each connector with electrical tape.
5. Mount device in the wall box with screws and mount wall plate.
6. Restore power at circuit breaker or fuse. Installation is complete.
7. Turn on the power, manually press the switch button to check whether the product is installed correctly, and at the same time ensure that the LED light in the fresnel lens flashes. Wait about 40s for product booting, the product will work properly.



NOTE:

1. A ground connection is required to operate. Use the ground wire in the wall box for ground connection. If no ground is available, consult an electrician. Device will not function if it is not grounded.
2. The hot (black wire) and load (red wire) must be correctly connected as stated above, otherwise the device will not function. If the light never turns on, then try to reverse the hot and load wiring of the sensor.



#2 Chootoo Road, South Aranguez, San Juan, Trinidad



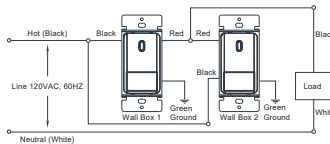
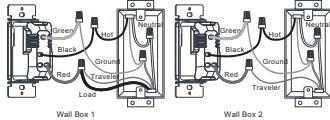


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4B - INSTALLATION FOR TWO LOCATION CONTROL

Connect wires per wiring diagram as follows:

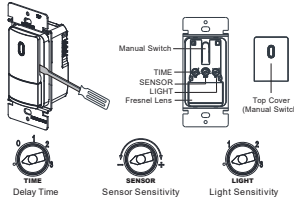
1. Connect green ground or bare copper wire in the wall box to the Green wire of the device.
2. Connect Hot wire in the wall box to the Black wire of the device.
3. Connect Load wire(s) and Traveler wire in the wall box wire to the Red wire of the device.
4. Screw wire connectors on clockwise making sure no bare conductors show below the wire connectors. Secure each connector with electrical tape.
5. Mount device in the wall box with screws and mount wall plate.
6. Repeat step 1-6 for installing another sensor switch to the wires in the wall box. (the load wire may only exists in one wall box)
7. Restore power at circuit breaker or fuse. Installation is complete.
8. Turn on the power, manually press the switch button to check whether the product is installed correctly, and at the same time ensure that the LED light in the fresnel lens flashes. Wait about 40s for product booting, the product will work properly.



- NOTE:**
1. Either sensor can turn the lights ON.
 2. Either sensor must time-out to OFF, or both manual buttons must be pressed for the lights to turn OFF.
 3. A ground connection is required to operate. Use the ground wire in the wall box for ground connection. If no ground is available, consult an electrician. Device will not function if it is not grounded.
 4. The hot (black wire) and load (red wire) must be correctly connected as stated above, otherwise the device will not function. If the light never turns on, then try to reverse the hot and load wiring of either or both sensors.

PREPARATION FOR UNIT SETTING

1. Pry off the top cover with a slotted screwdriver.
2. Set 3 controls of TIME, SENSOR and LIGHT after cover is off.

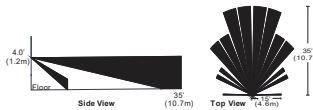


TIME	NOTE
• Disable Automatic OFF function	
0	Automatically turn off the light after 30 seconds
1	Automatically turn off the light after 5 minutes
2	Automatically turn off the light after 15 minutes
3	Automatically turn off the light after 30 minutes

LIGHT	NOTE
• Disable Automatic ON function	
1	Automatically turn on the light in dark environment
2	Automatically turn on the light in brighter environment than LIGHT 1
3	Automatically turn on the light in any light environment, including the bright day

COVERAGE PATTERNS

The sensor detects motion in areas up to 900 sq. ft. and up to 35 feet from the sensor. Ideally, the sensor is designed for small amounts of motion in space up to 300 sq. ft. The fresnel lens on the sensor is a multiple segment viewing lens with a field of view of 180°. The sensor must have a clear view of the people in the space in order to detect occupancy. Obstructions, such as furniture blocking the sensor's lens, may prevent occupancy detection.



SETTING FOR DIFFERENT MODES

A. Automatic ON & Automatic OFF Mode:

1. Set human body SENSOR sensitivity as desired.
2. Set delay TIME to "0" (30 seconds), "1" (5 minutes), "2" (15 minutes) or "3" (30 minutes) as desired.
3. Set LIGHT sensitivity to "1", "2" or "3" as desired.
For LIGHT "1", it will automatically turn on the light only in dark environment, like during the night.
For LIGHT "2", it will automatically turn on the light in any light environment, including the bright day. (Default Setting: 30 seconds delay TIME, maximum SENSOR sensitivity, maximum LIGHT sensitivity)

B. Manual ON & Automatic Off Mode:

1. Set human body SENSOR sensitivity as desired.
2. Set delay TIME to "0" (30 seconds), "1" (5 minutes), "2" (15 minutes) or "3" (30 minutes) as desired.
3. Set LIGHT sensitivity fully counterclockwise to "•" to disable automatic ON function.

C. Manual ON & Manual OFF Mode:

1. Set delay TIME fully counterclockwise to "•" to disable automatic OFF function.
2. Set LIGHT sensitivity fully clockwise to "3".
Human body SENSOR function will be disabled automatically.

QUICK TEST

Set delay TIME to "0" to automatically turn off the light after 30 seconds and set LIGHT to "•" to disable light sensitivity, this allows you to quickly check the sensor coverage area.

For Warranty Statement, Service Parts, Technical Support, or to Register your product, please visit our website or call:
In the United States - Broan.com 800-637-1453 or NuTone.com 888-336-6151. In Canada - Broan.ca or NuTone.ca 877-896-1119

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