

# HVAC Occupancy Sensor

## OS-550T

## Installation Instructions

### GENERAL

The OS-550T is an occupancy sensor designed for automatic operation control of HVAC system. This occupancy sensor delivers a changeover relay contact output to activate/deactivate the HVAC unit according to the occupancy status of the area. Its high/low temperature setbacks prevent the room temperature going too high or low under unoccupied status. This sensor can be wall or ceiling mounted with the mounting bracket.

### OPERATION DESCRIPTIONS

#### Temperature Limit Setting

This sensor allows user to set the high/low temperature limits. When room temperature goes higher than the high-temp limit or lower than low-temp limit, the relay will be activated automatically. To disable the setback, remove the jumper head from pin.

#### A. Standby mode

After warm-up period expires, the sensor will enter into standby mode. The LED will flash if any delay jumper is not placed on pin.

#### B. ON-delay mode

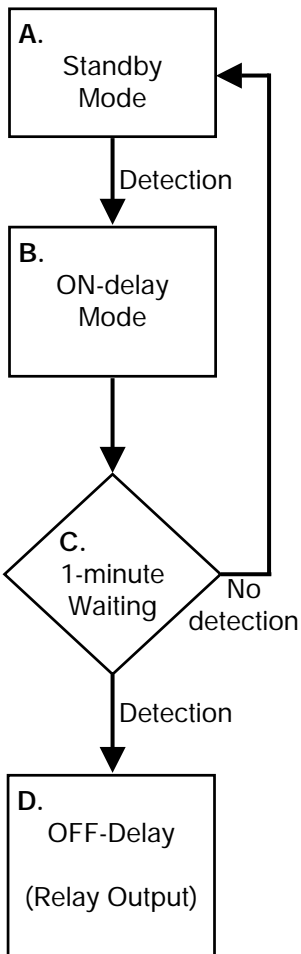
Once sensor detects the motion, it enters into ON-delay mode. This delay allows sensor to verify true occupancy before activating the relay contact. Any further detection during ON-delay mode will NOT reset the timer.

#### C. 1-minute Waiting

When Relay ON delay expires, the sensor enters into an 1-minute waiting time. If no detection within 1 minute, then sensor will return to standby mode. If detection occurs, then relay output will be activated and OFF-delay will be initiated.

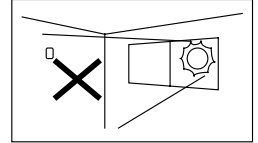
#### D. OFF-Delay Mode

OFF-delay is the time that relay remains activated. Every detection during this period will reset the delay timer.

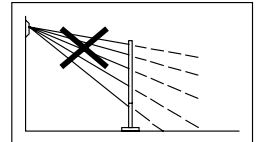


### INSTALLATION HINTS

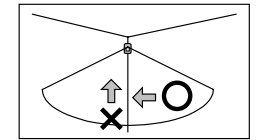
Do not install where the sensor will face to direct sunlight or strong air flow.



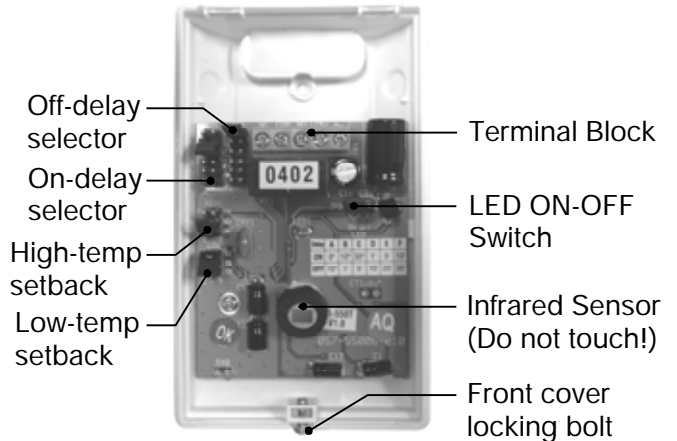
Ensure the detection area does not have any solid obstruction (plants, large pieces of furniture, curtains etc.) which may block the detection.



PIR detector is more sensitive to the motion "across" the detection zones than "toward" the sensor.

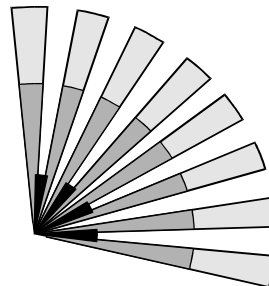


### UNIT DESCRIPTION

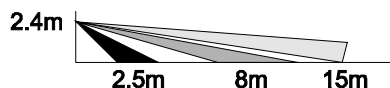


### DETECTION PATTERN

Top View



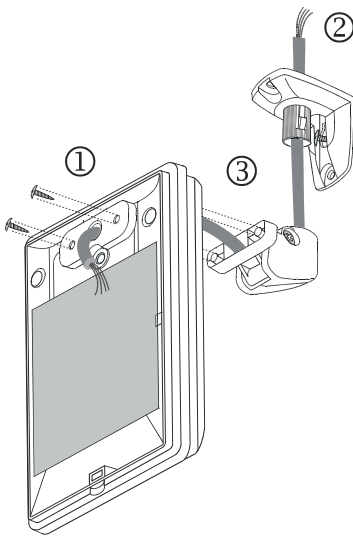
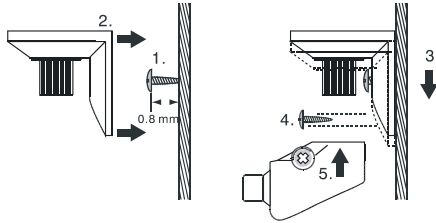
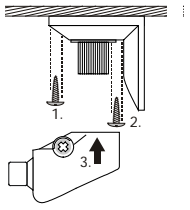
Side View



# INSTALLATION & TEST

## Ceiling Mount

## Wall Mount



1. Mount the base of mounting bracket on the selected position.
2. Lead the cable through the central hole of mounting bracket.
3. Open the front cover by loosening the locking bolt. Lead the cable into the unit and fix the mounting bracket with the screws.

4. Connect the terminal blocks of the sensor with the associated control device in accordance with the following instructions.

- ◆ **NC-COM-NO:** Changeover relay output. Connect to the control signal input of fan coil controller or PP-116 Power Pack. Relay contacts will remain active during OFF-delay.
  - ◆ **24 V:** 24V power input. Connect with the 24V output of PP-116 or other power supply.
5. Replace the front cover and then walk test can be proceeded.

## Walk Test

Apply the power supply to the sensor and wait for about 45 seconds to warm up. The LED will blink (long-short) during warm up period. Ensure the jumper head connectors of ON and OFF delays are placed on "A" position (shortest delay). Walk across the detection zones (invisible) at normal speed. The LED will lit whenever the sensor detects the motion.

Note: If any jumper head is not properly placed, the LED will blink.

# ON-DELAY & OFF-DELAY

The ON and OFF delays are designed to provide smarter energy management of HVAC system. The ON delay is a user changeable timer given to verify true occupancy. During ON-delay period, the relay contacts will not be prohibited. This feature can avoid unwanted HVAC operation caused by unintentional passage or short-time stay. Once the occupancy is verified, the OFF delay will be activated. The OFF delay is the time that relay contacts are activated. Both ON and OFF delays can be easily set by placing the jumper head on the corresponding pins as following table shown.

Delay	A	B	C	D	E	F
ON	0 sec.	10 sec.	30 sec.	1 min.	5 min.	10 min.
OFF	10 sec.	1 min.	5 min.	10 min.	20 min.	30 min.

**Note: If high/low temperature setbacks are set, the relay contacts will be activated automatically when room temperature goes above or below the high/low temperature setback, disregard ON/OFF delay setting.**

# SPECIFICATIONS

Infrared sensor.....Dual element  
 Power supply .....24 ± 2 V AC/DC  
 Detection range .....15 x 15 m at 25°C  
 Relay output.....Form C, 5A/NO, 3A/NC resistive  
 Current drain.....7 mA @24 VAC  
 Temperature limit....H: 30°/28°/26°C, L:15°/13°/11°C  
 Mounting height.....1.8 ~ 3.6m  
 Mounting bracket....MB-99  
 Detectable speed...0.1~ 3 m/sec.(0.3~ 10 ft/sec.)  
 RFI immunity.....Av. 20 V/m (10~1,000 MHz)  
 Temperature .....-20°C~50°C (-4°F ~ 122°F)  
 Humidity.....95% RH max.  
 Dimensions.....112 x 66 x 45 mm (4.4 x 2.6 x 1.8")

2004/5/19 OS-550T V 2.1

