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11-CMS-YM2301

CEILING MOUNTED PIR OCCUPANCY SENSOR

APPLICATIONS

The YM2301 Ceiling Mounted PIR Occupancy Sensor is designed to replace a standard light or fan switch. It is ideal for applications including private offices, conference rooms, break rooms, lounges and storage areas.

FEATURES

- 120/277VAC, 60Hz Voltage
- Load requirement:
 - 120V 800W incandescent lamp
 - 800VA fluorescent lamp
 - 277V 1200VA fluorescent lamp
- No Minimum load requirements
- 1/6HP Load Horsepower
- Fixed 15 seconds to 30 minutes time Delay Adjustment
- 32° to 131°F (0° to 55°C) operating temperature
- 95%RH, non-condensing operation humidity range
- Up to 15 ft mounting / 360 degrees coverage range
- Black-Hot, White-Neutral, Red-Load terminal line

OPERATION MODE

The YM2301 Ceiling Mounted PIR Occupancy Sensor (Auto ON/OFF) detects changes in the infrared energy given off by occupants as they move within the field-of-view. When occupancy is detected, a self-contained relay switches the connected lighting load on. The sensor is line powered and can switch line voltage. An internal timer, factory set at 15 seconds, keeps the lights on during brief periods of inactivity. This timer is knob programmable from 15 seconds to 30 minutes, and will reset every time when occupancy is re-detected.

AVOIDING HVAC TURBULENCE

When Heating, Ventilating or Air Conditioning (HVAC) registers turn on, they create turbulence which can cause the sensor to activate. It is important that the sensor and HVAC register be separated by at least 6 ft. In addition, it is also recommended NOT to mount the YM2301 directly under a large light source. Large wattage bulbs (greater than 100w incandescent) give off a lot of heat and switching the bulbs causes a temperature change that can be detected by the device. Mount the YM2301 at least 6 ft. away from large bulbs.



DIMENSIONS

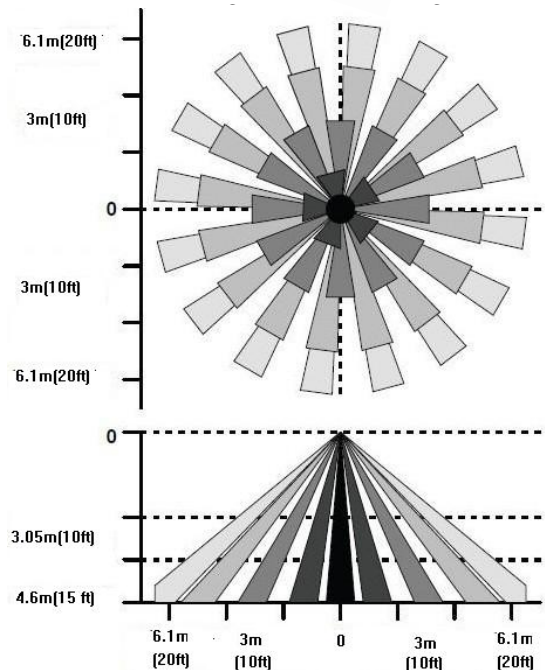
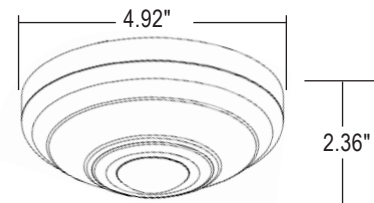




Fig1: Sensor Coverage Area

Windows, glass doors, and other transparent barriers will obstruct the sensor's view and prevent detection.



WARNING

Disconnect power to sensor by turning OFF the circuit breaker or removing the fuse for the circuit before installing the YM2301, replacing Lamps, or doing any electrical work.



CAUTION – FOR YOUR SAFETY: IF YOU ARE NOT SURE ABOUT ANY PART OF THESE INSTRUCTIONS, CONSULT A QUALIFIED ELECTRICIAN.

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INSTALLATION

1. Determine the best location for the sensor. Install the sensor at least 3 ft. away from fluorescent ballasts and HVAC ducts, and at least 4 ft. away from incandescent fixtures and HVAC diffusers. Install in a standard NEMA single-gang box.
2. Cut a 1-1/2" diameter hole in the ceiling beneath the single-gang box installed.
3. Remove approximately 3/4" (1.9 cm) of insulation from circuit wires.
4. Connect wires per appropriate WIRING DIAGRAM as follows: BLACK lead to LINE (HOT); RED lead to LOAD; WHITE lead to NEUTRAL. Twist strands of each lead tightly and, with circuit conditions, push firmly into the appropriate wire connector, screw connector on clockwise making sure that no bare wire shows below the connector. Secure each wire connector with electrical tape. (refer to Fig2)
5. Find the back of sensor (refer to Fig 4). Set Time-delay, Light and Sensor as detailed in the SENSOR ADJUSTMENT & PROGRAMMING section.
6. Restore power at circuit breaker or fuse.

SENSOR ADJUSTMENT & PROGRAMMING

TIME: time-delay adjustment. When people leave, the load can still work within the set time period. It can be adjusted from 10 seconds up to 30 minutes. The left is minimum 15 seconds and the right is maximum 30 minutes. The Time should be reduced only in heavy traffic areas such as hallways, kitchens, copier rooms, etc. to achieve maximum energy savings. Keeps the time setting at a maximum in large rooms (over 400sf).

SENSOR: sensitivity adjustment. According to ambiance, you can set a suitable sensitivity to detect persons. The left is the minimum and sensitivity is weakest, in this case it requests a large human action to open the load; the right is the maximum, the load can be opened even by a small action.

LIGHT: light level sensing adjustment. When the sensor is in the automatic state, you can adjust this button to set a brightness value on which the sensor will start work. The left is for darkest environment and the right is for brightest environment.

TROUBLESHOOTING

Lights will not turn ON

- Circuit breaker or fuse is OFF: Turn the breaker ON. Ensure the lights being controlled are in working order (i.e., working bulbs, ballasts, etc.)
- Sensor is wired incorrectly or may be defective: Confirm that the sensor's wiring is done correctly and inspect visually for problems.
- Lens is dirty or obstructed: Inspect the lens visually and clean if necessary, or remove the obstruction.

Lights will not turn OFF

- Sensor is wired incorrectly or may be defective: Confirm that the sensor's wiring is done correctly and inspect visually for problems.
- Sensor may be mounted too closely to an air conditioning or heating vent: Move the sensor or close the vent.
- The line voltage has dropped: Perform the necessary tests to ensure the line voltage has not dropped beneath 100V.

Lights turn OFF and ON too quickly

- Sensor may be mounted too closely to an air conditioning or heating vent: Move the sensor to another location or close the vent.
- Time delay set improperly: Adjust the TIME DELAY

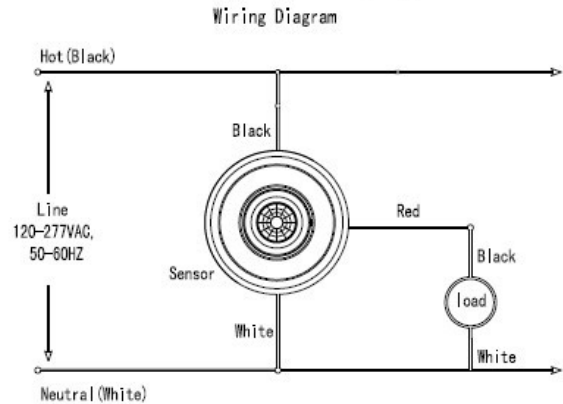


Fig. 2

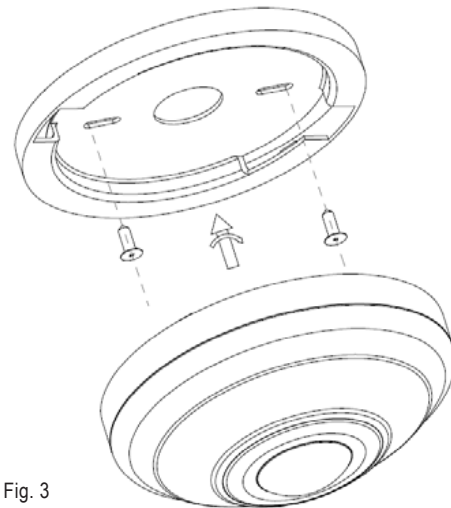


Fig. 3

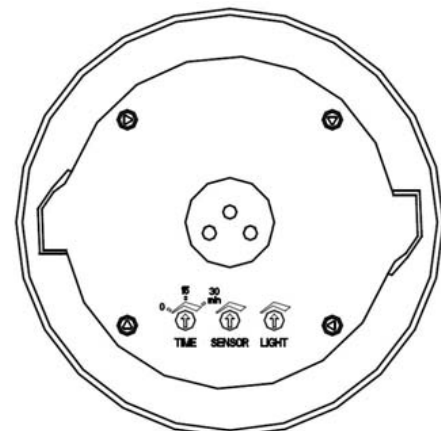


Fig. 4