



# PIR10

## Low Profile Passive Infrared Ceiling Sensor

### Installation and Operation Instructions

#### DESCRIPTION

**PIR10EMS** – Passive infrared ceiling mount sensors with Auxiliary Contacts for connection to Energy Management Systems.

**PIR10S** – Passive infrared ceiling sensor slave unit

Both supplied with mounting ring, screws and masking kit.

#### FEATURES

- Covers area up to 1500 sq ft when mounted a 9 ft.
- Fully adjustable time delay of 30 seconds to 30 minutes including override capability. (EMS model only)
- Fully adjustable ambient light level override (5 foot candles to 200 foot candles/bypass) (EMS model only)
- Fully adjustable sensitivity (20%-100% of maximum coverage)
- A total of 6 PIR-10 sensors may be controlled by a single power/switch pack (1-EMS, 5 Slaves.)

#### PRE-INSTALLATION

1. For installation by a qualified electrician in accordance with national and local codes and the following instruction.
2. For indoor use only
3. **CAUTION: RISK OF ELECTRIC SHOCK.** Disconnect power before installing. Never wire energized electrical components.
4. **CAUTION: USE COPPER CONDUCTORS ONLY.**
5. Check to see that the device type and rating is suitable for the application.
6. When installing the sensor, observe the maximum rated capacity of the associated power pack:
  - 211-1 20A Incandescent (2400w Tungsten) at 120VAC, 60Hz. 20A Ballast (2400W Fluorescent) at 120VAC, 60 Hz.
  - 213-1 20A Ballast (5000W Fluorescent) at 277VAC, 60 Hz.
7. If moisture or condensation is evident, allow the product to dry completely before installation.
8. Do not install if any damage to the product is noticed.

#### INSTALLATION

1. **CAUTION:** Turn power off at the circuit breaker before installing power pack and sensor.
2. PIR-10-EMS and PIR-10-S sensors may be mounted directly to plaster or a drop ceiling using the metallic-mounting ring provided. They may also be mounted using a 3-0” mud/plaster ring attached to a 4” sq. junction box. Verify local and state codes.
3. Wire the PIR-10-EMS and PIR-10-S according to the wiring diagram below. Note: Each slave connection must be individually capped with acceptable wire nuts if not used.
  - RED lead (+24VDC) on PIR-10-EMS connects to RED lead on power/switch pack.
  - BLACK lead (common) on PIR-10-EMS connects to BLACK lead on power/switch pack.
  - WHITE/RED lead (+24 VDC to slave) on PIR-10-EMS connects to WHITE/RED ON PIR-10-S
  - WHITE/BLACK lead (common to slave) on PIR-10-EMS connects to WHITE/BLACK on PIR-10-S
  - WHITE/BLUE lead (signal from slave) on PIR-10-EMS connects to WHITE/BLUE on PIR-10-S
  - The ORANGE, YELLOW AND GREEN leads on the PIR-10-EMS connect to the building energy management system.

#### COVERAGE AND PLACEMENT

Passive infrared sensors are activated by changes in temperature within the sensor field of view. PIR series sensors feature a 360-degree field of view with a radius of 22 feet mounted a t 8 feet. It is necessary that the unit be installed within the line of sight of the occupants. If obstructions such as partitions, furniture or plants are present, the sensor will not see past them. The sensor should NOT be installed if:

- In view of direct sunlight or strong reflected light sources
- In direct view of open doorways where hallway traffic may accidentally activate the lights.
- Near a shower or steam source, or where exposed to rain.
- Outside (PIR-10 sensors are for indoor use only)

#### UNIT CONTROLS AND ADJUSTMENT

For all controls, maximum adjustment is clockwise (CW); minimum adjustment is counter-clockwise (CCW). Adjustment should be made after a three-minute stabilization period. Make sure all fixtures and furniture is in place before adjusting any sensor. To access controls, remove the sensor cover by turning clockwise. Restore power to the lighting circuits and turn the lights on.

Sensitivity (PIR-10-EMS and PIR-10-S)

1. Set the time delay (TIME) to minimum (Fully CCW)
2. Set the sensitivity (SENS) to maximum (Fully CW)
3. Replace the sensor cover.
4. Turn the ambient setting to maximum (Fully CW) by inserting the screwdriver through the hole in the sensor cover.

5. Move away from the sensor and stand still. The lights should switch OFF after 30 seconds. If the lights remain on, move further away from the sensor or out of sight of the unit. If the lights still remain ON, decrease the sensitivity (SENS) by rotating it CCW. Repeat step 5.
6. Adjust as necessary. Cover must be in place for accurate reading.

**Photocell Adjustment (PIR-10-EMS only)**

The photocell is used to detect if other light sources such as sunlight, are enough to illuminate the space without turning on the lights. If use of the photocell is not desired, turn the photocell adjustment (located on the right below the “SENS” setting) fully clockwise to the maximum setting. This will allow the sensor to turn the lights on and off regardless of ambient light conditions.

1. Adjust light level in the room to a level, which you want the sensor to turn on by using the shades, blinds, etc.
2. Set the time delay to the minimum setting by turning the adjustment fully counter clockwise.
3. Turn the Ambient Control setting fully counter clockwise. The LED will now flash Green upon detection of motion. Leave the room and allow the lights to turn off.
4. Re-enter the room and slowly turn the ambient control clockwise until the lights switch on. NOTE: Avoid blocking lens and sensor while making this adjustment. The Green LED will turn Red and the lights will switch on at the light level present in the room.

**Time Delay (PIR-10-EMS only)**

1. Remove the sensor cover.
2. Set the time delay (TIME) according to the room requirements. Minimum setting is fully CCW; fully CW overrides the lights to “on”.
3. Replace the sensor cover.

