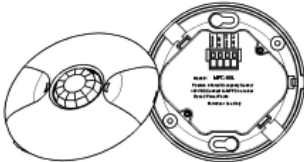


## Specifications and Installation: RNET-OCC-LV-P-CM 360°Passive Infrared Low Voltage Occupancy Sensor

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### SPECIFICATIONS

|                              |  |
|------------------------------|--|
| Voltage.....                 | 24VDC  |
| Current Consumption .....    | 9mA  |
| Power Supply.....            | MPP-24 Power Packs                               |
| Operating Temperature .....  | 32°to 131°F (0 °to 55°C)                         |
| Adjustable Light Level ..... | 10FC-150FC                                       |
| Adjustable Time Delay.....   | 5 sec.-30min (DIP switch)                        |
| Walk-Through Mode.....       | 3 minutes if no activity after 30 sec.           |
| Test Mode.....               | 5 sec. upon initial power-up or DIP switch reset |
| PIR Coverage:                |  |
| Sensitivity Adjustment ..... | 50% or 100% (DIP switch)                         |
| Coverage.....                | Up to 1200 ft <sup>2</sup>                       |

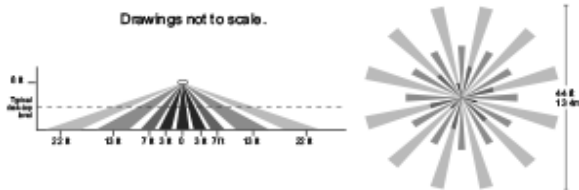
### DESCRIPTION

The RNET-OCC-LV-P-CM 360°passive infrared (PIR) occupancy sensors turn lighting systems on and off based on occupancy and ambient light levels. The light level feature keeps lights from turning on if the ambient light level is sufficient.

The sensors can be configured to turn lighting on, and hold it on as long as the sensor detects occupancy. After no movement is detected for a user specified or Autoset time (5s to 30 minutes) the lights are switched off. A “walk-through” mode can turn lights off after only 3 minutes, if no activity is detected after 30 seconds of an occupancy detection. The RNET-OCC-LV-P-CM operates on 24V supplied by MPP-24 Power Packs.

## COVERAGE PATTERN

The RNET-OCC-LV-P-CM provides a 360 °coverage pattern, up to 1200 square feet. The coverage shown represents walking motion at a mounting height of 8 feet. For building spaces with lower levels of activity or with obstacles and barriers, coverage size may decrease.

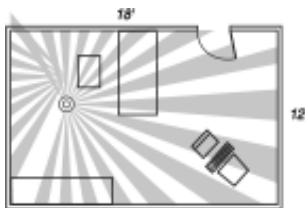


## PLACEMENT GUIDELINES

Depending upon obstacles such as furniture or partitions, the area of coverage may be less or more than the sensing distances shown in the coverage pattern. This must be considered when planning the number of sensors and their placement. It is also recommended to place the sensor 4 to 6 feet away from air supply ducts as rapid air currents or the differences in temperatures may cause false activations.

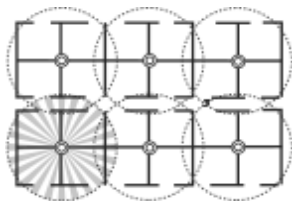
Mount the sensor to the ceiling. The RNET-OCC-LV-P-CM is designed for a ceiling height of about 8-10 feet. Mounting above or below this range will significantly affect the coverage patterns. Be aware that as you decrease the mounting height, you decrease the range and increase the sensitivity to smaller motions. Conversely, when you increase the height, you increase the range and decrease the sensitivity to smaller motions. At heights of more than 12-14 feet, you may start to significantly reduce sensitivity. As a general rule, each occupant should be able to clearly view the sensor.

Often the best location to install a RNET-OCC-LV-P-CM in a closed office is off-center. Avoid placing a sensor directly in line with an open door through which it has a clear view out, as the sensor may detect people walking by.



### Open Office Area Coverage:

To get complete coverage in an open office area, install multiple sensors so that there is an overlap with each adjacent sensor's coverage area.

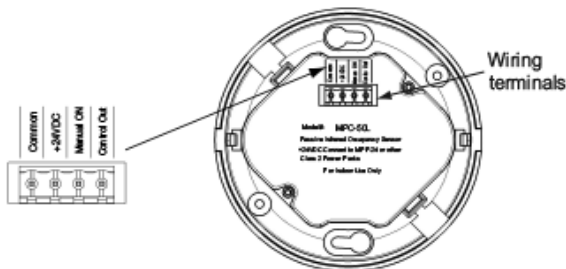


For large areas of coverage use multiple sensors.

## WIRING DIRECTIONS

**CAUTION!**  
TURN POWER OFF AT THE CIRCUIT BREAKER BEFORE INSTALLING POWER PACKS OR SENSORS.

Each MPP-24 power pack can supply power for 6 RNET-OCC-LV-P-CM sensors. When using more sensors than this, multiple power packs are required



### Connect the low voltage:

RED wire (+24VDC) from power pack to the +24V terminal on the sensor.  
BLACK wire (Common) from power pack to Common terminal on the sensor.

Wiring a SINGLE LIGHTING LOAD CONTROLLED BY OCCUPANCY - Connect:  
BLUE wire from power pack to Control Out terminal on sensor.

Wiring multiple LIGHTING LOADs CONTROLLED BY OCCUPANCY, DEPENDENT ON LIGHT LEVEL (AMBIENT LIGHT) - Connect:  
BLUE wire from power pack to Control Out terminal on sensors.

To add a MANUAL SWITCH such as the Momentary Toggle Switch, to the above applications - connect:

1. Wire from one side of switch to Common terminal on sensor.
2. Wire from other side of switch to Man Switch terminal on sensor.

## LIGHT LEVEL FEATURE

Turn the potentiometer on the sensor to the "-" if adequate ambient light exists, the output of sensor will be inhibited, and the load cannot be on; only when the ambient light is down to a certain level the sensor will automatically turn on. Therefore, potentiometers require customers to adjust in accordance with the location and the ambient light level.

Turn the potentiometer on the sensor to the "+", regardless of the ambient light level. The load will be on as long as there are signals from occupancy.

1. Avoid mounting the sensor close to lighting fixtures.
2. Adjust during daylight hours when ambient light in the area is at desired level. Open the Front Cover and locate the Light Level. See Sensor Adjustment.

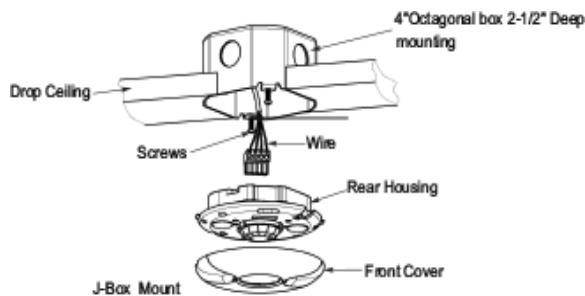


NOTE: The light level is adjustable only when the time delay is or beyond 30 seconds.

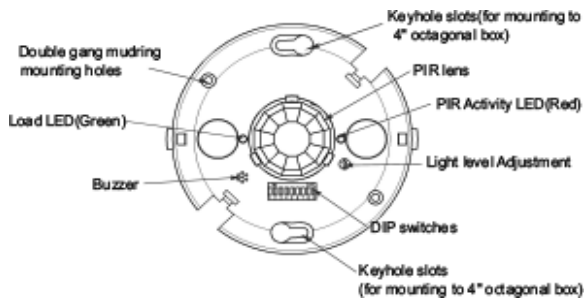
## MOUNTING THE SENSOR

### Using an Octagonal J-Box:

1. Pull the low voltage wires from the power pack into the J-Box through the conduit knockout.
2. Connect the low voltage wires to the appropriate terminals on the sensor.
3. Loosen the appliance mounting screws attached to the J-Box.
4. Align the sensor in the J-Box so that the mounting screws on the box match the key holes on the sensor's rear housing.
5. Push the sensor up into the J-Box and twist it so that the mounting screws are seated in the keyhole slots.
6. Tighten the two screws to secure the sensor to the J-Box.
7. Snap the front cover onto the sensor.



## SENSOR ADJUSTMENT



The sensors are factory preset to allow for quick installation in most applications. Verification of proper wiring or coverage, or customizing the sensor's settings can be done using the following procedures. To make adjustments, open the Front Cover with a small screwdriver. There is a 40-second warm-up period when power is first applied.

Before making adjustments, make sure the office furniture is installed, lighting circuits are turned on, and the HVAC systems are in the overridden/on position. VAV systems should be set to their highest airflow. Set the DIP switches to the desired settings. See "DIP Switch Setting".

## TO TEST OCCUPANCY SENSORS

1. Ensure the PIR Activity is enabled, red LED flashes, Hold ON mode are OFF (DIP 9 switch OFF) and PIR Sensitivity is set to MAX (DIP switch 1 ON).
2. Ensure the Time Delay is set for Test Mode\* using the “5 seconds/Autoset” setting. (DIP switches 2, 3 & 4 are OFF).
3. Ensure that the Light Level is at default (maximum). See the Light Level Feature section of this document for instructions.
4. Remain still. The red LED should not flash. The green LED and load are ON, and the lights should turn off after 5 seconds. (If not, see “Troubleshooting.”)
5. Move about the coverage area. The lights should come on.
6. When testing and adjustment is complete, reset DIP Switches and Light Level to the desired settings, and replace the cover on the sensor.

\* If you need to invoke the Test Mode and the DIP switches are already set for 5 seconds/Autoset, toggle DIP switch #3 ON then back to the OFF position. This provides a 5 minute test period. During the test period, the Time Delay is only 5 seconds.





**Audible Alert: Switch 7**

When this feature is turned on, 1 minute, 30 seconds, or 10 seconds before the time delay expires you can hear "tick" from the buzzer, indicate that time delay is over.

**Visible Alert: Switch 8**

When this feature is turned on, 1 minute delay before the time delay expires the load will flash once to remind.

**Hold ON: Switch 9**

To override all sensor functions, set DIP switch 9 to the ON position. The green LED, red LED will come on and stay on for the duration of the override.

This bypasses the light level, occupancy detection, and the manual ON functions will be invalid, only to hold the load ON.



## TROUBLESHOOTING

### CAUTION!

TURN POWER OFF AT THE CIRCUIT BREAKER BEFORE WORKING WITH OR NEAR HIGH VOLTAGE.

### Lights do not turn on with occupancy, and the following condition exists: PIR Activity LED does not flash:

NOTE: When power is initially applied to the sensor, there is a warm-up period of up to 40 seconds before the LED is active.

1. Check that the circuit breaker has been turned back on.
2. Make sure that the PIR Sensitivity is set for Max/Autoset (DIP switch 1 ON).
3. Check all sensor and power pack wire connections.
4. Check for 24V input to the sensor.
  - If 24V is present, replace the sensor.
  - If 24V is not present, check that high voltage is present to power pack. If it is, replace power pack.

### PIR Activity LED flashes:

1. If the sensor's Light Level has been turned to "+", the lights connected to the Light Level Output might be held off because of the level of ambient light in the controlled area. To test whether the Light Level adjustment is the problem, cover the PIR lens and PIR Activity LED (see diagram) with your hand to see if the lights turn on. If the lights turn on, the Light Level setting was keeping the lights off (see, "Sensor Adjustment" for readjustment).
2. Check all sensor and power pack wire connections.
3. Check for 24VDC at the power pack's red and black wire connection to sensor while sensor is activated. If there is no voltage, replace the power pack. If there is voltage, replace the sensor.

### Lights do not turn off automatically:

1. The sensor may be experiencing activations from outside the controlled area or from some type of interference (See "Unwanted Sensor Activations" below).
2. Check all sensor and power pack wire connections.
3. Disconnect power pack's blue wire:
  - a. If the lights do not turn off, replace power pack. Reconnect blue wire.
  - b. If the lights turn off, the problem may be in the sensor-to check:
    - Reconnect the blue wire.
    - Turn sensitivity and time delay to minimum and allow the sensor to time out.
    - If the lights turn off, the sensor is working properly (see "Sensor Adjustment" for readjustment of sensor).

### Unwanted Sensor Activations (LED flashes):

#### Possible causes

1. The PIR sensitivity may be set too high.
2. Sensor located too close to HVAC or VAV vents with heavy air flow.

#### Possible solutions

1. Set DIP switch 1 to OFF and ordering information see if the excess activations stop.
2. Relocate the sensor.



## WARRANTY INFORMATION

Our company warrants this product to be free of defects in materials and workmanship for a period of two (2) years. There are no obligations or liabilities on the part of our company for consequential damages arising out of, or in connection with, the use or performance of this product or other indirect damages with respect to loss of property, revenue or profit, or cost of removal, installation or reinstallation.