

### TYPICAL APPLICATIONS

- Inboard / Outboard Switching
- Controls Lights and Fan
- Office / Conference Room
- Private Bathroom (no stalls)

### FEATURES

- PIR Occupancy Detection
- Two Self-Contained Relays, no Power Pack needed
- 2 Time Delays (1 each pole), 30 sec. to 20 minutes
- No Minimum Load Requirements
- Push-Button Programmable
- Green LED Activity Indicator
- 100 Hr. Lamp Burn-in Timer Mode

### DAYLIGHTING OPTIONS

- Inhibit Photocell (-P)
- Dual Zone Photocell (-DZ)

### SPECIFICATIONS

- Size: Circular, 4.55" Dia., 1.55" Deep (11.56 cm Dia., 3.94 cm Deep)
  - Sensor Weight: 8 Ounces
  - Sensor Color: White
  - Mounting: Round Fixture Box or Single Gang Handy Box
  - Relative Humidity: 20 to 90% non-condensing
  - Operating Temp: 14° to 160° F (-10° to 71° C)
  - Storage Temp: -14° to 160° F (-26° to 71° C)
  - Load Rating: Per Pole (1 Phase only)  
120 VAC @ 800 W  
277 VAC @ 1200 W  
347 VAC @ 1500 W
  - 1/4 HP Motor Load
  - Frequency: 50/60 Hz (Timers are 1.2 times for 50 Hz)
  - UL, CUL, and Title 24 Compliant
  - 5 Year Warranty
  - Made in U.S.A.
- ### LOW TEMP/HI HUMIDITY(-LT)
- Conformally coated Circuit Board is corrosion resistant from moisture
  - Operates down to -40° F (-40° C)

## CMR-9-2P Series

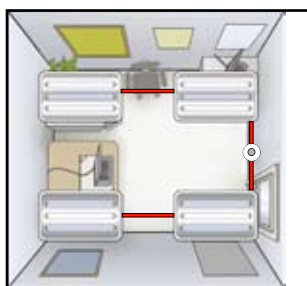
### w/ Enhanced Daylighting Control Options!



With two self-contained relays, the *CMR-9-2P Series* occupancy sensors can control A/B switching in offices, incandescent and fluorescent lights in a conference room, or lights and an exhaust fan in private bathrooms. The *CMR-9-2P Series* uses the industry's leading Passive Infrared (PIR) detection to provide excellent coverage for enclosed rooms without obstructions. It is also an ideal choice for retrofitting rooms with concrete or inaccessible ceilings. Additionally, the *CMR-9-2P* is line powered, therefore it requires no external Power Packs.

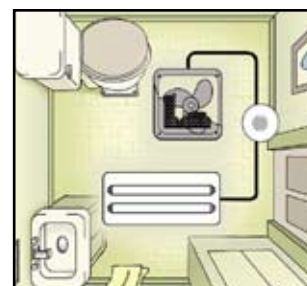
### SENSOR OPERATIONS

The sensor detects changes in the infrared energy given off by occupants as they move within the field-of-view. When occupancy is detected, two separate self-contained relays switch the loads "On". The sensor is line powered and can switch a large range of line voltages. Each pole has an internal timer, factory set at 10 minutes, which keep the lights "On" during brief periods of no activity. These timers are each programmable at 2.5 minute increments from 30 seconds to 20 minutes, and are reset every time occupancy is re-detected. This state-of-the-art design requires no manual field adjustments.



**Office with A/B Switching**

- Sensor wires before or after switches
- Each level controlled separately



**Individual Bathroom**

- Controls Lights and Fan separately
- Time Delay for Each Load

### DAYLIGHTING CONTROL OPTIONS (-P & -DZ)

This series offers an *Inhibit Photocell (-P)* option of both poles separately for spaces with abundant natural light. Ideal for Automatic Bi-Level Lighting Control in public areas with windows like vestibules, corridors, or bathrooms; the -P option can inhibit the lights from turning on if there is sufficient daylight available. Once the lights are needed and turn on, however, they stay on until the occupancy sensor timer expires. In this option the set-point for each pole is independently programmable.

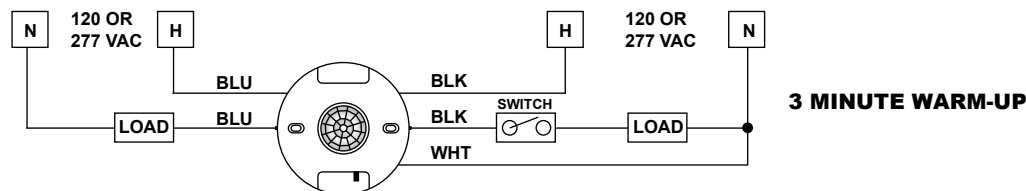
For more advanced daylighting control over both poles this series offers the *Dual Zone Photocell (-DZ)* option. Its default mode, referred to as "Duo" operation, is ideal for A/B (also called inboard/outboard) switching applications as it determines the necessary On/Off combination of the two poles in order to maintain adequate lighting. An alternate mode uses a relative set-point for the second pole that is a percentage of the first pole's set-point. This mode is ideal for classrooms with individually controlled parallel rows of lights. A single shared set-point is used by both modes and is user programmed or can be automatically determined by the sensor itself.

### Model Numbering System: CMR-9-2P-[DAYLIGHTING CONTROL]-[VOLTAGE]-[TEMP/HUMIDITY]

MODEL#	DAYLIGHTING CONTROL	VOLTAGE	TEMP/HUMIDITY
CMR-9-2P	Blank = No Photocell -P = Inhibit Photocell -DZ = Dual Zone Photocell	Blank = 120-277 VAC -3 = 347 VAC	Blank = 14° to 160° F LT = -40° to 160° F

# TYPICAL WIRING DIAGRAM (DO NOT WIRE HOT)

The sensor uses Sensor Switch's patented "either/or wiring"; Black to Hot and Black to Load for the first feed, and Blue to Hot and Blue to Load for the second feed. The White wire connects to neutral. The sensor may be wired before or after local toggle switches. If only one feed, connect one of the Black and one of the Blue wires to the feed, and the respective Black and Blue wires to the loads. **Note:** Black wires are replaced with Red wires for 347 VAC (One Phase Only).



## INITIAL POWER UP

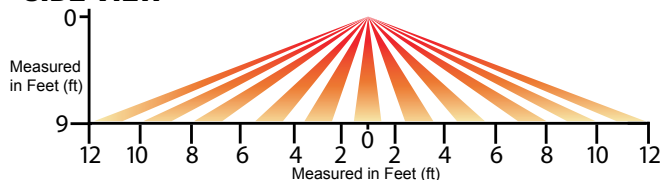
When power is applied to the sensor, the relay is designed to be in a latched closed position, and the lights should come on. After a 1-3 minute warm-up period, the sensor becomes functional and begins to "time out". **If the Lights Do Not Immediately Turn On (Initial Installation Only)** the latching relay is in the open position. When the 1-3 minute warm-up is over the sensor will correct itself and close the relay.

## FIELD OF VIEW

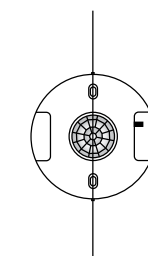
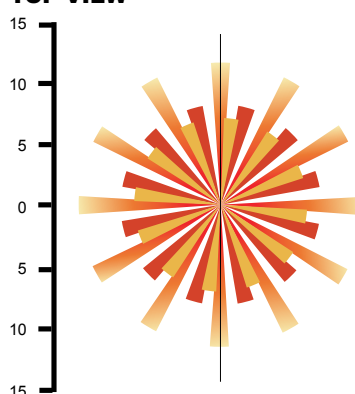
The CMR-9-2P's dome lens provides a maximum viewing angle of 56° in a complete 360° conical pattern. It is ideal for occupancy detection in unobstructed areas. Place the sensor along the entrance door wall to prevent it from viewing out into the hallway, while still ensuring the sensor can view the entire room from this position.

**Note:** Heat producing sources controlled by the sensor must not be in the view pattern of the sensor. Symptom: Sensor cycles or appears to continually stay "On". Solution: Move sensor or mask lens segments that view the source.

## SIDE VIEW



## TOP VIEW

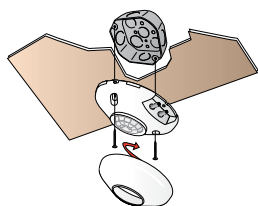


**Note:** For maximum distance place the sensor so that the screw axis is positioned with the entrance axis.

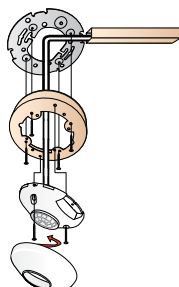
## INSTALLATION

The ceiling sensor enclosure accommodates mounting to a single gang "Mud Ring" at a 3.28" spacing, up to a Round Fixture Box spacing of 3.5". Refer to "Field of View" section to determine orientation of box for maximum coverage. Note that most fixture boxes orientate the sensor 45° differently than a single gang handy box or mud ring on a 1900 box.

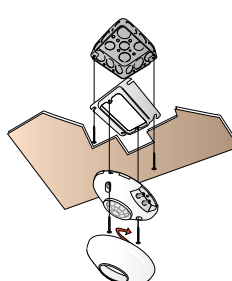
### ROUND FIXTURE BOX



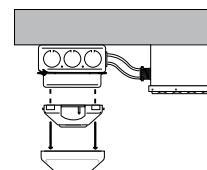
### WIREMOULD V5738 FIXTURE BOX



### MUD RING WITH 1900 BOX



### OFFSET NIPPLE



**WARRANTY:** Sensor Switch, Inc. warrants these products to be free of defects in manufacture and workmanship for a period of sixty months. Sensor Switch, Inc., upon prompt notice of such defect will, at its option, provide a Returned Material Authorization number and a replacement product.

**LIMITATIONS AND EXCLUSIONS:** This Warranty is in full lieu of all other representation and expressed and implied warranties (including the implied warranties of merchantability and fitness for use) and under no circumstances shall Sensor Switch, Inc. be liable for any incidental or consequential property damages or losses.

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