



## STANDARD RANGE 360° SENSOR CEILING MOUNT • LINE VOLTAGE • DUAL TECHNOLOGY (PDT)

### SPECIFICATIONS

#### FEATURES

- 100% Digital PIR Detection, Excellent RF Immunity
- 360° Coverage Pattern
- Patented Dual Technology with PIR / Microphonics Detection
- Self-Contained Relay, No Power Pack Needed
- No Minimum Load Requirements
- Interchangeable Hot & Load Wires, Impossible to Wire Backwards
- Push-Button Programmable
- Adjustable Time Delays
- No Field Calibration or Sensitivity Adjustments Required
- Convenient Test Mode
- 100 hr Lamp Burn-in Timer
- Green LED Indicator

#### LAMPMAXIMIZER® TECHNOLOGY

- Protects Lamp Life while Maximizing Energy Savings
- Minimum On Timer (15 min default)
- Occ. Time Delay (10 min default)
- LampMaximizer+ Mode - Optimizes Lamp Life & Energy Savings (disabled by default)
- Switch Counter (in 1000's)
- Total Lamp On Time (in hrs)

#### PHYSICAL / MATERIAL SPECS

- SIZE 4.55" Dia. (11.56 cm)
- 1.55" Deep (3.94 cm)
- WEIGHT 6 oz
- MOUNTING 3.5" Octagon Box
- Single Gang Handy Box
- COLOR White
- OPERATING TEMP 14° to 160° F (-10° to 71° C)
- STORAGE TEMP -14° to 160° F (-26° to 71° C)
- RELATIVE HUMIDITY 20 to 90% non-condensing
- SILICONE FREE
- ROHS COMPLIANT

#### ELECTRICAL SPECS

- MAXIMUM LOAD 800 W @ 120 VAC  
1200 W @ 277 VAC  
1500 W @ 347 VAC
- MINIMUM LOAD None
- MOTOR LOAD 1/4 HP
- FREQUENCY 50/60 Hz
- DIMMING LOAD Sinks < 20mA;  
~40 Ballasts @ .5mA each

#### OVERVIEW

The **CMR PDT 9** Series occupancy sensors combine the industry's leading Passive Infrared (PIR) technology with Microphonics™ for excellent detection in areas with or without obstructions. With an integrated line switching relay, the **CMR PDT 9** is ideal for applications where locating a power pack is difficult. These attractive sensors are perfect for classrooms, private offices, or large restrooms.

#### SENSOR OPERATION

Sensors with Passive Dual Technology (PDT) first see motion using 100% digital Passive Infrared (PIR) detection and then engage Microphonics™ to hear sounds that indicate continued occupancy. This patented technology uses Automatic Gain Control (AGC) to dynamically self adapt a sensor to its environment by filtering out constant background noise and registering only noises typical of human activity. When occupancy is detected, a self-contained relay switches the lighting on. If needed, a 10 second grace period also allows the lights to be voice reactivated after shutting off. This sensor is line powered, switches line voltage, and requires no field calibration or sensitivity adjustments.

#### LAMPMAXIMIZER®

This sensor also contains patent pending LampMaximizer technology that allows users to aggressively target energy savings while still protecting lamp life. A minimum on timer, factory set at 15 minutes, helps preserve lamp life by eliminating all lamp cycles shorter than lamp warranties specify.

A standard occupancy time delay is also present that ensures lights turn off (assuming minimum on timer has elapsed) if no occupancy is detected. This timer is factory set at 10 minutes to promote energy savings, but is adjustable between 30 seconds and 20 minutes. These adjustments can be done manually, through the units push-button, or automatically every two weeks through an advanced mode, called LampMaximizer+, that determines the optimum time delay in order to maximize both lamp life and energy savings. Additionally, this sensor maintains statistics on total lamp on time and number of cycles.

### OPTIONS

#### OCCUPANCY CONTROLLED DIMMING (D)

- Provides dimming output to control 0-10 VDC dimmable ballasts
- Provides a second occupancy time-out period that enables the lights to go to a dim setting before turning off
- Adjustable max/min dim setting

#### PHOTOCELL (P)

- Auto set-point calibration
- Two selectable modes of operation
- On/Off mode: Photocell has full control during periods of occupancy
- Inhibit mode: Photocell can prevent lights from turning on if adequate daylight is available, but cannot turn lights off

#### PHOTOCELL w/ DIMMING (ADC)

- Photocell within sensor maintains total room light level by controlling levels of 0-10 VDC dimmable ballasts
- Photocell also has full on/off control during periods of occupancy
- Provides a second occupancy time-out period that enables the lights to go to a dim setting before turning off

Note: LampMaximizer+ features not available with ADC option

#### 347 VAC (347)

- Allows sensor to be powered from and switch 347 VAC

#### LOW TEMP/HIGH HUMIDITY (LT)

- Sensor is corrosion resistant to moisture
- Operates down to -4° F (-20° C)



### ORDERING INFO CMR PDT 9 [DIMMING/PHOTOCELL] [VOLTAGE] [TEMP/HUMIDITY]

#### DIMMING / PHOTOCELL CHOOSE ONE ONLY

- Blank = None
- D = Occupancy Controlled Dimming
- P = Photocell
- ADC = Photocell w/ Dimming

#### VOLTAGE

- Blank = 120/277 VAC
- 347 = 347 VAC

#### TEMP/HUMIDITY

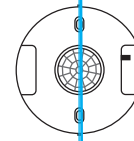
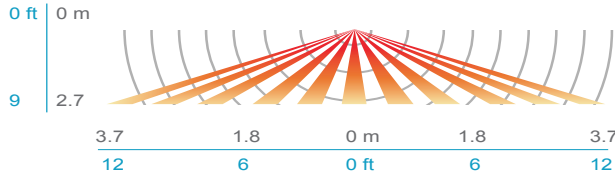
- Blank = Standard
- LT = Low Temp

## COVERAGE PATTERN

### 9 STANDARD RANGE 360° LENS W/ MICROPHONICS™

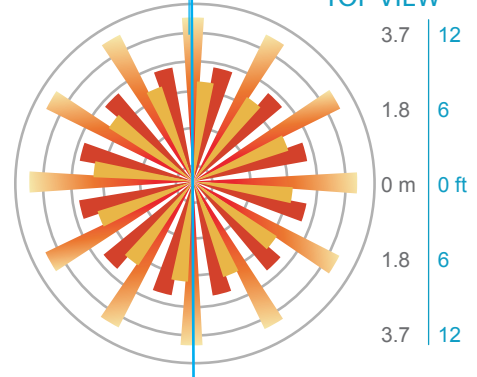
- Best choice for small motion (e.g. hand movements) detection
- Viewing angle of 56° in a 360° conical shaped pattern
- Provides 12 ft (3.66 m) radial coverage when mounted to standard 9 ft (2.74 m) ceiling
- 8 to 15 ft (2.44 to 4.57 m) mounting heights provide 10 to 20 ft (3.05 to 6.10 m) radial coverage
- Microphonics™ provides overlapping detection of human activity over the complete PIR coverage area. Advanced filtering is also utilized to prevent non-occupant noises from keeping the lights on.

#### SIDE VIEW



**Note:** Screw axis is aligned with a long detection segment

#### TOP VIEW



## WIRING (DO NOT WIRE HOT)

### STANDARD WIRING

- BLACK\*** - Line Input
  - BLACK\*** - Load Output
  - WHITE** - Neutral
- \*BLACK wires can be reversed

### 347 VAC OPTION (347)

Black wires are replaced w/ Red wires

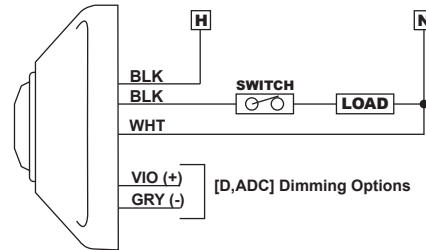
### DIMMING OPTIONS (D, ADC)

- VIOLET** - Connect to Violet control wire from 0-10 VDC dimmable ballast
- GRAY** - Connect to Gray common wire from ballast

### INITIAL POWER UP

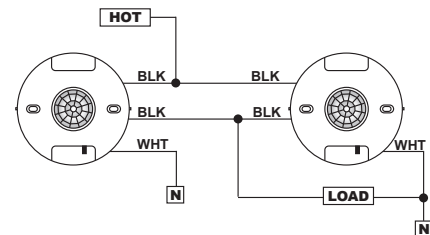
The sensor's relay is shipped in a latched closed position so the lights will come on upon initial power-up. If the lights do not immediately turn on (initial installation only) the latching relay opened during shipment and will close within 30 secs.

**Note:** If the sensor loses power, the internal relay will latch to on.



### SENSORS IN PARALLEL

Sensors may be wired in parallel; however, the maximum load ratings stay the same. Do not wire sensors with P or ADC option in parallel.

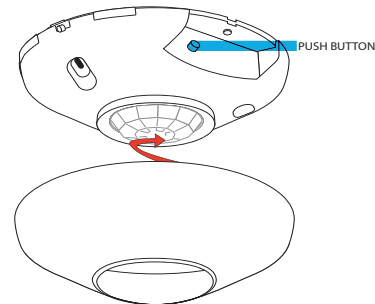


## INSTALLATION

- Sensor's mounting holes align with 3.5" octagon or single gang handy box (screws not provided).
- Sensor will detect motions crossing segments more effectively than motions parallel to beams.
- For optimal detection, position sensor such that segments are crossed upon entrance and unable to view outside the space.
- For maximum Microphonics™ sensitivity avoid locating sensor near HVAC air diffusers.

### PROGRAMMING

Refer to instruction card IC7.001 for default settings and directions on programming the sensor via the push-button.



**sensorswitch**

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**WARRANTY:** Sensor Switch, Inc. warrants these products to be free of defects in manufacture and workmanship for a period of 60 months. Sensor Switch, Inc., upon prompt notice of such defect, will, at its option, provide a Returned Material Authorization number and repair or replace returned 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.

**TS-CMR-011A**