



STANDARD RANGE 360° SENSOR CEILING MOUNT • LOW VOLTAGE • PASSIVE INFRARED (PIR)

SPECIFICATIONS

FEATURES

- PIR Occupancy Detection
- 360° Coverage
- Push-Button Programmable
- Adjustable Time Delay
- 100 Hr Lamp Burn-in Timer
- Green LED Indicator

PHYSICAL SPECS

- SIZE 4.55" Dia. (11.56 cm)
- 1.55" Deep (3.94 cm)
- WEIGHT 6 oz
- MOUNTING
 - Ceiling Tile Surface
 - 3.5" Octagon Box
 - Single Gang Handy Box
- COLOR White

ELECTRICAL SPECS

- OPERATING VOLTAGE
 - 12-24 VAC/VDC
- CURRENT DRAW
 - Standard, 4 mA
 - w/ R option, 16 mA
- DIMMING LOAD
 - Sinks / Sources < 20mA;
 - ~40 Ballasts @ .5mA each
- RECOMMENDED POWER PACK
 - PP20

ENVIRONMENTAL SPECS

- 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

OTHER

- UL and CUL Listed
- Title 24 Compliant
- 5 Year Warranty
- Made in the U.S.A.

The **CM 9** Series occupancy sensor offers amazing performance and sensitivity to small motions for a standard range Passive Infrared (PIR) sensor. Ideal for small rooms with drop ceilings and areas without obstructions, the **CM 9** is a snap to install. Its light weight allows surface mounting to drop ceilings or a ceiling grid. The **CM 9** sensor can cover entire private offices or smaller rooms by itself, however it is also the ideal lead sensor for odd shaped rooms. For example, a **CM 9** in a restroom vestibule can communicate with a **CM PDT 9** Dual Technology sensor in a main stall area. Another application is a **CM 9** covering an entrance hall to a classroom and communicating with a **WV PDT 16** sensor covering the main room. In both cases the lights would be activated on by the **CM 9**. For mounting above 15 ft (4.57 m), see the **CM 6** Technical Data Sheet.

SENSOR OPERATION

The sensor detects changes in the infrared energy given off by occupants as they move within the field-of-view. When occupancy is detected, a DC output goes high and can drive up to 200 mA of connected load. The sensor is powered with 12-24 VAC/VDC and typically operates with a **PP20** or **MP20** power pack, enabling complete 20 Amp circuits to be controlled. An internal timer, factory set at 10 minutes, keeps the lights on during brief periods of inactivity. This timer is push-button programmable from 30 seconds to 20 minutes, and is reset every time occupancy is re-detected. This state-of-the-art design requires no field calibration or sensitivity adjustments.

OPTIONS

LOW VOLTAGE RELAY (R)

- Enables sensors to interface with other systems (e.g., BMS, lighting panels)
- Provides dry contact closure via a SPDT, 1 Amp, 40 Volt relay
- Only one relay needed per zone
- Changes state when all connected sensors register unoccupied
- Relay requires sensor power to function

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

LOW TEMP/HIGH HUMIDITY (LT)

- Sensor is corrosion resistant to moisture
- Operates down to -40° F/C

ORDERING INFO CM 9 [RELAY] [DIMMING/PHOTOCELL] [TEMP/HUMIDITY]

RELAY

- Blank = None
- R = Low Voltage Relay

DIMMING / PHOTOCELL CHOOSE ONE ONLY

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

TEMP/HUMIDITY

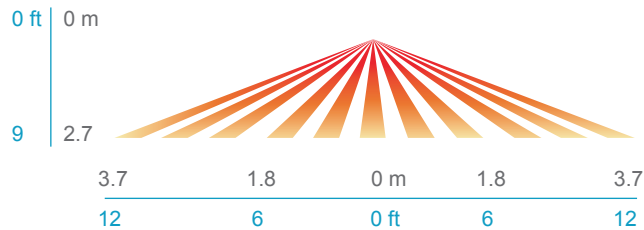
- Blank = Standard
- LT = Low Temp

COVERAGE PATTERN

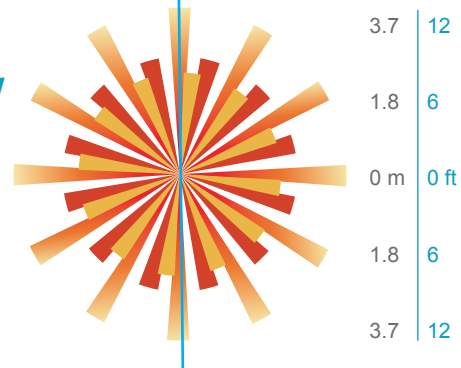
9 STANDARD RANGE 360° LENS

- 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

SIDE VIEW



TOP VIEW



Note: Screw axis is aligned with a long detection segment

WIRING (DO NOT WIRE HOT)

STANDARD WIRING

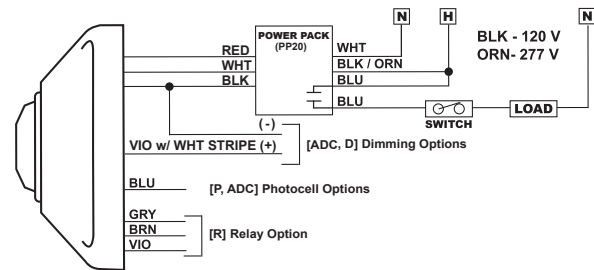
- RED** - Power Input (12-24 VAC/VDC)
- BLACK** - Common
- WHITE** - Output (high VDC for occupancy)

RELAY OPTION (R)

- GRAY / BROWN** - Connected during occupied state
 - VIOLET / BROWN** - Connected during unoccupied state
- Note:** Relay is energized during unoccupied state

DIMMING OPTIONS (D, ADC)

- VIOLET w/ WHITE STRIPE** - Connect to Violet control wire from 0-10 VDC dimmable ballast
- GRAY from Ballast** - Connect to sensor Black wire

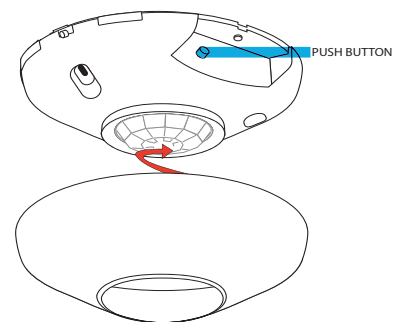


PHOTOCELL OPTIONS (P, ADC)

BLUE - Use in place of White output wire. Photocell output is high VDC with occupancy & low light. For multi-level control, use two power packs and connect White to primary load and Blue to daylight load.

INSTALLATION

- Mount sensor directly to a ceiling tile or a metallic grid (two self-tapping screws provided).
- Sensor's mounting holes also 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.



PROGRAMMING

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

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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.

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