



### EXTENDED 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 10** Series Extended Range 360° occupancy sensor incorporates Passive Infrared (PIR) technology into an attractive and economical sensor to provide maximum viewing from the ceiling. When mounted at 9 ft (2.74 m), this sensor views up to 28 ft (8.53 m) in all directions. Its circular coverage pattern is designed for walking motions; making it ideal for T-shaped intersections in corridors, or other areas where wall mounting a sensor is not practical. A long hallway, for example, may require a **HW13** Series Hallway sensor at each end, with **CM 10**'s mounted in the center to fill in the distance. Low ceiling heights are also best covered by the **CM 10**. For example, when mounted at only 7 ft (2.13 m), the height of pick aisles in many distribution centers, the **CM 10** provides a 32 ft (9.75 m) diameter pattern of coverage. In applications where detection of minor motion is also required, use the **CM PDT 10** Series Dual Technology sensor.

##### 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 10 [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

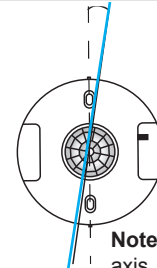
##### TEMP/HUMIDITY

- Blank = Standard
- LT = Low Temp

## COVERAGE PATTERN

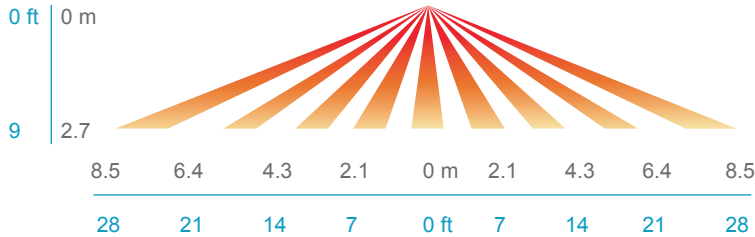
### 10 EXTENDED RANGE LENS

- Best choice for large motion (e.g. walking) detection
- Viewing angle of 67° in a 360° conical shaped pattern
- Provides 28 ft (8.53 m) radial coverage when mounted to standard 9 ft (2.74 m) ceiling
- 7 to 15 ft (2.13 to 4.57 m) mounting heights provide 16 to 36 ft (4.88 to 10.97 m) radial coverage

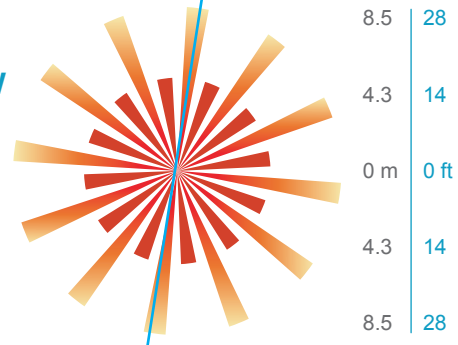


**Note:** Sensor's screw axis is offset 7.5° from a long detection segment

#### SIDE VIEW



#### TOP VIEW



## WIRING (DO NOT WIRE HOT)

### STANDARD WIRING

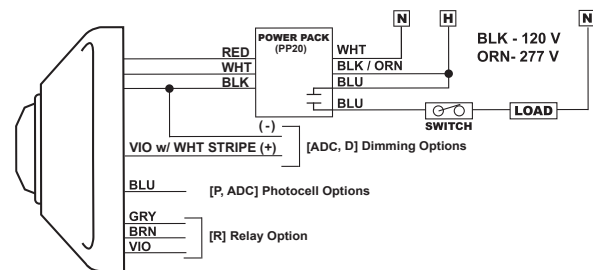
- RED** - Power Input (12-24 VAC/VDC)
- BLACK** - Common
- WHITE** - Output (high VDC for occupancy)

### 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

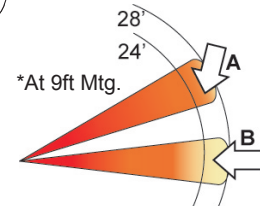
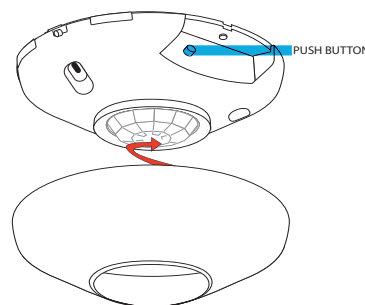


### PHOTOCELL OPTIONS (P, ADC)

**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.



- A:** When walking across beam, detection will occur at approximately 28 feet. (8.53 m)
- B:** When walking into beam, detection will occur at approximately 24 feet. (7.32 m)

### PROGRAMMING

Refer to included instruction card 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.

**T003-004-P**