

TECHNICAL DATA

TYPICAL APPLICATIONS

- Private Offices
- Storage Closet
- Conference Room
- Restroom w/o obstructions

SENSOR HIGHLIGHTS

- Ceiling Mount PIR Sensor
- Combines with Other Sensors
- Optional Daylight Level Override
- Optional Isolated SPDT Relay

FEATURES

- Time Delay: 30 sec. to 20 minutes
 Selectable in 2.5 min increments
- Green LED Indicator

SPECIFICATIONS

- Size: Circular, 4.55" Dia., 1.55" Deep
- Sensor Weight: 5 Ounces
- Sensor Color: White
- Mounting: Ceiling Tile Surface
- Optional: Round or J-Box
- Relative Humidity: 20 to 90%
 non-condensing
- Operating Temp: 14° to 160° F
- Storage Temp: -14° to 160° F
- UL and CUL Listed
- 5 Year Warranty
- Made in U.S.A.

LOW TEMP/HI HUMIDITY(-LT)

- Conformally Coated PCB
- Operates down to -40° F

CM-9 SERIES
Programmable Edition!



When looking for the basic Passive Infrared Ceiling Sensor, you will be amazed at the high performance and sensitivity to small motions provided by the CM-9 series of sensors. The CM-9 is ideal for smaller rooms with drop ceilings, and areas without obstructions. Installation of the CM-9 is a snap. It's light weight allows surface mounting to drop ceilings or ceiling grid. The CM-9 sensor can cover entire private offices or smaller rooms by itself. It is also the ideal lead sensor for odd shaped rooms, or vestibules into restrooms. The CM-9 communicates with a CM-PDT Dual Tech sensor in the main stall area and entrance halls to classrooms where a WV-PDT controls the main room, with the lights being activated "On" by the CM-9. For mounting above 15 feet, see the CM-6 Technical Data.

SENSOR OPERATIONS

The CM-9 typically operates with a PP-20 or MP-20 Power Pack. However, this unique sensor accepts 12 to 24 volts AC or DC (Red & Black wires), and outputs the DC component (White wire). When occupancy is detected, the output goes high and can drive up to a 200 mA of connected load. When used with the Power Packs, complete 20 amp circuits can be controlled. The CM-9 detects changes in the Infrared energy given off by occupants as they move within the sensors field-of-view. An internal timer in the sensor, typically set at 10 minutes, keeps the lights "On" during periods of no activity. This state-of-the-art design allows the sensor to adapt to it's environment, eliminating the need for manual field adjustments.

PHOTOCELL/DAYLIGHT OVERRIDE OPTION (CM-9-P)

The CM-9 offers a Photocell Override option (-P) for spaces with abundant natural light. Ideal for public spaces with windows like vestibules, corridors, or bathrooms. Not recommended for work spaces where occupants set light levels manually. **Note:** Once the lights turn "On", the photocell function is disabled until the sensor times out and turns "Off". For more specific photocell control or dimming, see the CM-PC-ALC Technical Data information.

INTERNAL LOW VOLTAGE RELAY OPTION (CM-9-R)

Dry Contact Closure (-R) is provided through a SPDT, 1 amp, 40 volt relay. Relay coil is energized changing state when ALL sensors connected register "Unoccupied". Only one sensor per zone (if multiple sensors) needs to have this relay. Sensor must be powered from either a Power Pack, or Class 2 transformer.

CATALOG INFORMATION

MODEL #	DESCRIPTION	TEMPERATURE	OP. VOLTAGE	CURRENT
CM-9	Passive Infrared Ceiling Mount Sensor	14° to 160° F	12 to 24 VAC/VDC	3 mA
Add suffix				
-R	SPDT Relay, 1 amp		12 to 24 VAC/VDC	13 mA
-P	Photocell		12 to 24 VAC/VDC	3 mA
-RP	Relay & Photocell		12 to 24 VAC/VDC	13 mA
-LT	Low Temp/High Humidity	-40° to 160° F		

STANDARD CM-9

RED-12 to 24 VAC/VDC
 BLACK-Common
 WHITE-Output (HI DC for Occupancy)

RELAY OPTION CM-9-R

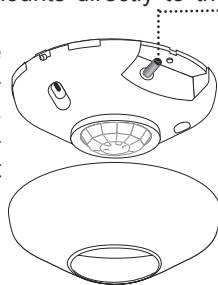
BROWN-Center tap of relay(SPDT)
 GRAY-During Occupancy Contacts Closed
 VIOLET-During Occupancy Contacts Open

PHOTOCELL OPTION CM-9-P

BLUE-Photocell Output (High: Occ/Low Light)
 Use Blue wire from sensor in place of White Wire. For multi-level control, use 2 Power Packs and connect White to primary, and Blue to Daylight Load.

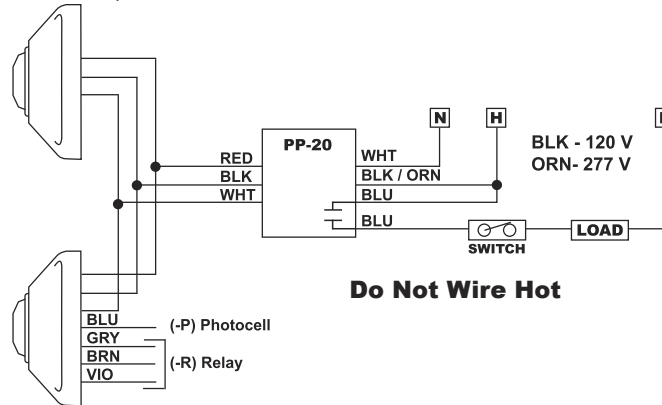
MOUNTING CONSIDERATIONS

The CM-9 is provided with 2 self tapping mounting screws. The sensor typically mounts directly to the ceiling tile, or to the metallic grid. However, if desired, the mounting holes are slotted to line up with a standard round, or rectangular box (screws not provided).



INPUT/OUTPUT

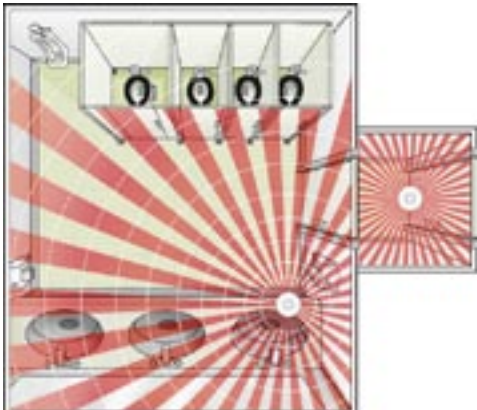
Wire lead connections are Class II, 18 to 22 AWG. The CM-9 uses 3 leads (Red, Black, and White); the Photocell option adds a Blue lead, and the Relay Option adds 3 leads (Brown, Gray, and Violet). The color-coded wires are as follows:



Do Not Wire Hot

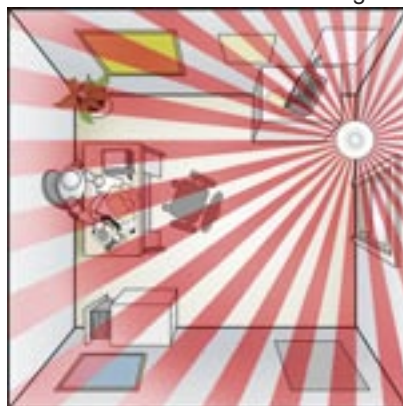
INSTALLATION CONSIDERATION

Passive Infrared sensors detect motions crossing the beams much stronger than when entering the beams. (See field-of-view diagram.) In smaller spaces like 12x12 private offices, it is best to locate the CM-9 along the entrance wall so that the occupant breaks the collector beams upon entrance, while passerby's do not falsely trip the unit. The discrete outer beams used for initial detection can be aligned for maximum coverage.



PIR used with PDT

- CM-9 PIR in vestibule initiating the light "On"
- Microphonics™ in CM-PDT is activated by the CM-9.
- CM-PDT detects occupants in stalls

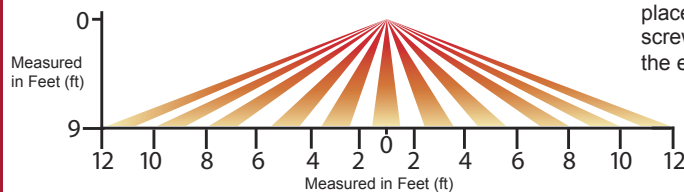


Small Office

- Mount sensor near entrance wall viewing entire room without seeing out doorway
- Low Voltage easier installation in drop Ceilings.

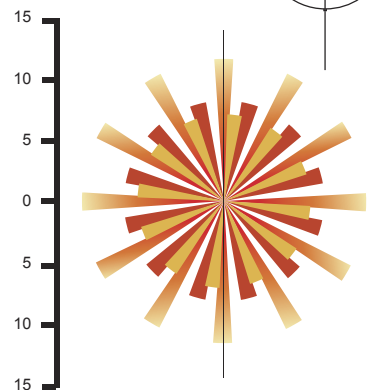
Note: Heat producing sources controlled by the sensor must not be in the view pattern of the sensor. Symptom: Sensor cycles or appears to continually stay "On". Solution: Move sensor or mask lens segments that view the source.

SIDE VIEW



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

TOP VIEW



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.



SENSOR SWITCH, INC.

900 Northrop Rd., Wallingford, CT 06492
 (203) 265-2842 info@sensorswitch.com
 www.sensorswitch.com

revised 3/01/2005
 copyright Sensor Switch, Inc. 2004