

### TYPICAL APPLICATIONS

- Warehouse
- Gymnasiums
- Racquetball Courts

### FEATURES

- PIR Occupancy Detection
- Communicates with Other Sensors
- Up to 45 Foot Mounting
- Push-Button Programmable
- Time Delay: 30 sec. to 20 minutes
- Green LED Activity Indicator
- 100 Hr. Lamp Burn-in Timer Mode

### AVAILABLE OPTIONS

- Isolated Low Voltage Relay (-R)
- On/Off Photocell (-P)
- Low Temp/Hi Humidity (-LT)

### SPECIFICATIONS

- Size: Circular, 4.55" Dia., 1.55" Deep  
(11.56 cm Dia., 3.94 cm Deep)
- Sensor Weight: 5 Ounces
- Sensor Color: White
- Mounting: Ceiling Tile Surface,  
Round Fixture or Junction 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)
- 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)

## CM-6 SERIES

### Programmable Edition!



The CM-6 sensor was specifically designed for High Mounting applications (15 - 45 feet). Above 15 feet, the CM-6 provides Passive Infrared (PIR) detection in a 30 to 40 foot diameter area, making it perfect for warehouses or gymnasiums where the sensors are mounted on a 30 to 40 foot grid pattern. Multiple sensors may be used together to provide coverage as needed. If any one sensor detects occupants, all the lights will turn "On". In Raquetball Courts, it is preferred to locate the sensor near the entrance (furthest from the wall). For freezer applications, use the CM-6-LT for cold temperature and corrosion resistant characteristics. For lower mounting applications, refer to CM-9 or CM-10 Technical Data Sheets.

### 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, a DC output goes high and can drive up to 200 mA of connected load. The sensor is powered with 12 to 24 VAC/VDC and typically operates with a PP-20 or MP-20 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 no activity. This timer is selectable at 2.5 minute increments from 30 seconds to 20 minutes, and is reset every time occupancy is re-detected. This state-of-the-art design requires no manual field adjustments.

### CONTROLLING HID BI-LEVEL LIGHTING

In Gymnasiums or Warehouses where control of HID Bi-Level Lighting is desired, the CM-6 is used with a PP-20-SH Power Pack. This Power Pack provides for a Start-to-High Timer, which brings the lamps to full "On" for up to 20 minutes upon initial power up. The Power Pack must be on the same power circuit as the fixtures to sense the initial power on condition. Some Electronic HID fixtures have this Start-to-High feature built in. In this case, the standard PP-20 or MP-20 Power Pack may be used to switch fixtures from Hi to Low. Consult fixture manufacturer in these cases.

### DAYLIGHTING CONTROL OPTIONS (-P)

For spaces with abundant natural light from windows or skylights, this series offers an **On/Off Switching Photocell (-P)** option. In a CM-6 sensor this option is most applicable when used in areas where daylight is coming in through High Bay garage doors or windows below the level of the sensor. As the daylight levels change in the room, the sensor insures that an adequate light level is maintained according to a programmable set-point value. The -P option provides two modes of operation; one simply inhibits the lights from turning on, while the other has full On/Off control of the lights. For more detailed information on the daylighting control features, see the CM-PC Technical Data Sheet.

### ORDERING INFORMATION

MODEL #	DESCRIPTION	TEMPERATURE	OP. VOLTAGE	CURRENT
CM-6	High Bay 360° Sensor, Low Voltage	14° to 160° F	12 to 24 VAC/VDC	4 mA
Add suffix				
-R	SPDT Relay, 1 Amp			16 mA
-P	On/Off Photocell			4 mA
-RP	Relay & On/Off Photocell			16 mA
-LT	Low Temp/High Humidity	-40° to 160° F		

**WIRING INSTRUCTIONS**

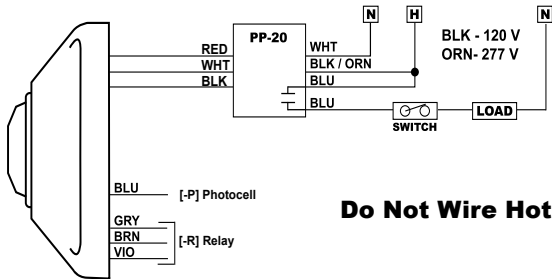
Wire lead connections are Class II, 18 to 22 AWG.

**STANDARD CM-9**

RED - 12 to 24 VAC/VDC

BLACK - Common

WHITE - Output (HI DC for Occupancy)



**RELAY OPTION (-R)**

GRAY / BROWN - Connected during Occupied state

VIOLET / BROWN - Connected during Unoccupied state

Note: Relay is energized during Unoccupied state

**PHOTOCELL OPTION (-P)**

BLUE - Photocell output (High: Occupied & 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 load and Blue to daylight load.

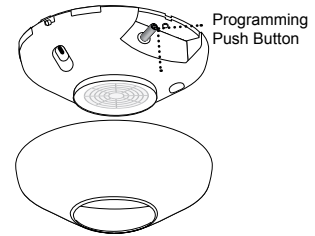
**ISOLATED LOW VOLTAGE RELAY OPTION (CM-6-R)**

To enable a sensor to interface with a building management system, the -R option provides dry contact closure via a SPDT, 1 Amp, 40 Volt relay. The relay coil is energized and changes state when ALL connected sensors register "Unoccupied". When using multiple sensors, only one sensor per zone needs to have a relay.

**Note:** Sensor must have power at all times for the relay to function .

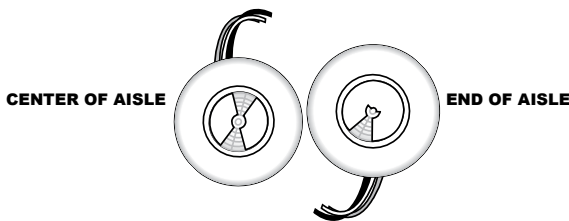
**MOUNTING CONSIDERATIONS**

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).



**MASKING KIT**

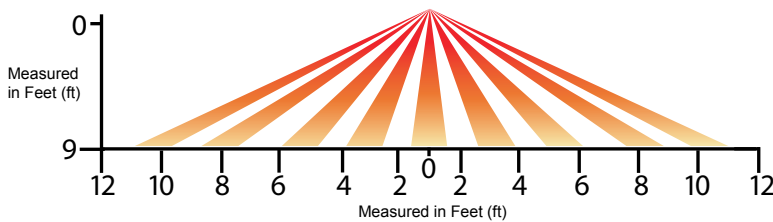
The sensor views a 360° circular pattern. The kit provided may be used to mask off half of the viewing for end of aisle, or trim the side viewing to create a rectangular pattern for center of aisle. Shown below is the masking for the center of aisle and the end of the aisle.



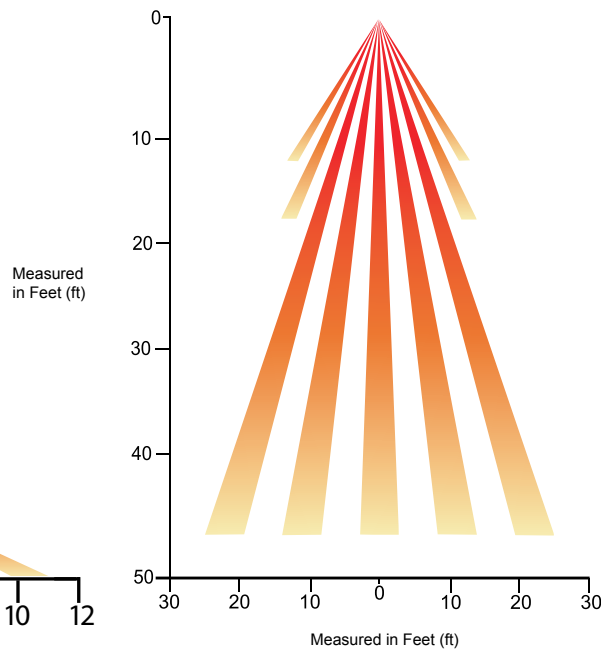
**FIELD OF VIEW**

The CM-6 lens views in 5 separate 360° coneshaped patterns. The outermost (fifth) cone viewing at a 54° angle is only effective up to a 12-15 foot mounting height and is therefore not typically considered in High Bay applications. The fourth cone views at a 45° angle and is effective up to 20 feet. The inner three cones viewing at a maximum 30° angle continually maintain their effectiveness. The geometric effect is that the CM-6 maintains a 15 to 20 foot radius up to a 45 foot mounting height. From 35 to 45 feet, the CM-6 will generally only detect major motions such as a forklift truck. However, in colder environments, the CM-6 may maintain very sensitive detection in all cones up to greater heights.

**LOW VIEW**



**HIGH 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.



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