

TECHNICAL DATA

TYPICAL APPLICATIONS

- T-shaped intersections
- Corridors & Hallways
- Pick Aisles in Distribution Centers

FEATURES

- PIR Occupancy Detection
- Interface w/G.E. RR-7 Relays
- Communicates with Other Sensors
- Time Delay: 30 sec. to 20 minutes, selectable in 2.5 min increments
- Green LED Activity Indicator
- 100 Hr. Burn-in Timer Mode

AVAILABLE OPTIONS

- 2nd Relay Control (-2P)
- Isolated Low Voltage Relay (-R)
- 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)
- Operating Voltage: 24 VAC (half wave rectified)
- Max. Pulsing Current: 4 Amps
- Max. # of Remote Sensors: 6
- UL and CUL Listed
- 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(-20° C)

CM-10-RR7 Series

Programmable Edition!



The *CM-10-RR7 Series* Passive Infrared sensor is designed to interface directly with the G.E. RR-7 Relay to provide maximum viewing from the ceiling. When mounted at 9 feet, this sensor views up to 28 feet in all directions. Its circular coverage pattern is 56 feet in diameter and 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 could be covered by multiple *CM-10-RR7s* on 50-60 ft centers. Low ceiling heights are also best covered by the *CM-10-RR7*. For example, when mounted at only 7 feet, the height of pick aisles in many distribution centers, the *CM-10-RR7* provides a 32 foot diameter pattern of coverage. In applications where detection of minor motion is also required, use the *CM-PDT-10-RR7 Series* Passive Dual Technology sensor.

SENSOR OPERATIONS

The sensor detects changes in the infrared energy given off by occupants as they move within the field-of-view. 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. System power is provided by a Class II 24 VAC transformer.

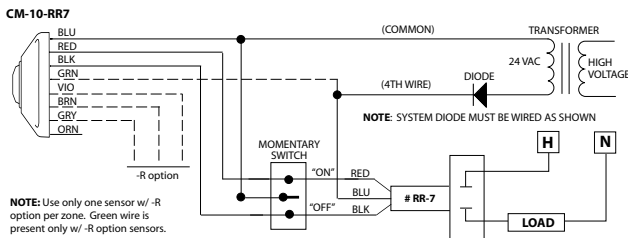
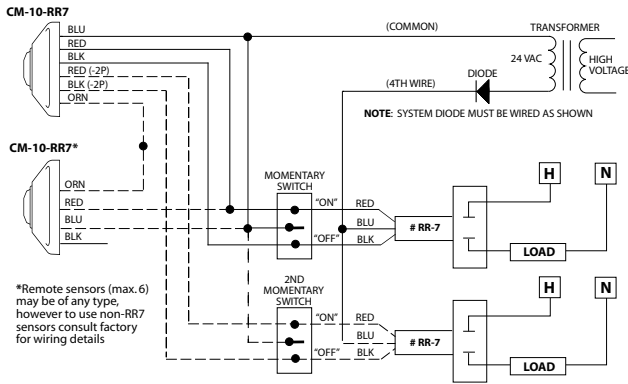
INTERFACE TO G.E. RR-7 RELAY

The G.E. RR-7 relay interfaces to the sensor via a 3-wire parallel connection to the local (SPDT "Momentary" type) switch. No wires from the sensor to the transformer are required; an advantage considering most transformers are typically located in a centralized panel and not easily accessible. Upon occupancy, the sensor pulses the wire to the "On" switch terminal causing the RR-7 relay to turn on the lights. Once the sensor time delay expires, it pulses the wire to the "Off" switch terminal causing the RR-7 relay to turn off the lights. The local switch can also pulse on and off the relay. For example, a room is occupied with the lights on and the occupant leaves and pulses the switch off. The sensor later times out and sends a redundant "Off" pulse. Then, when an occupant enters the sensor pulses lights on. However, if the occupant re-enters prior to the sensor timing out, the lights would remain off until the manual switch was pulsed on.



CATALOG INFORMATION

MODEL #	DESCRIPTION	TEMPERATURE	OP. VOLTAGE	CURRENT
CM-10-RR7	RR-7 Compatible Low Voltage PIR Ceiling Mount Sensor	14° to 160° F	24 VAC (half wave rectified)	12 mA (rms)
Add suffix:				
-2P	2nd Relay Control			
-R	SPDT Relay, 1 Amp			31 mA (rms)
-LT	Low Temp/High Humidity	-40° to 160° F		



WIRING INSTRUCTIONS

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

STANDARD CM-10-RR7

- BLUE – Common (non Diode leg of transformer)
- RED – Pulse On (two present for -2P units)
- BLACK – Pulse Off (two present for -2P units)
- ORANGE – Signal to/from Remote Sensors (cap off if not used)

LOW VOLTAGE RELAY OPTION (CM-10-RR7-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.

LOW VOLTAGE RELAY OPTION WIRING

- GRAY / BROWN – Connected during Occupied state
 - VIOLET / BROWN – Connected during Unoccupied state
 - GREEN – Wire to transformer
- Note:** Relay is energized during Unoccupied state and must have power at all times for the relay to function. Sensor must be powered from both legs of the transformer therefore a "4th wire" is required.

CONTROL OF TWO RELAYS SEPARATELY (CM-10-RR7-2P)

The "-2P" option provides additional "Pulse On" and "Pulse Off" wires to connect to a 2nd relay for A/B switching applications. This allows for two local momentary switches to override each relay independently. For example, when a room is first occupied, both relays will pulse On. If the occupant desires one level Off, they can pulse the respective switch Off. If a single pole (non -2P) sensor's "On" or "Off" wires were connected to multiple switches, then all switches would work both relays together and lose the independent control.

INSTALLATION CONSIDERATION

Passive Infrared sensors detect motions crossing the beams much stronger than when entering the beams. (See field-of-view diagram.) The discrete outer beams used for initial detection can be aligned for maximum coverage. **Note:** Heat producing sources controlled by the sensor must not be in the view pattern of the sensor. *Symptom:* Sensor cycles and appears to continually stay on. *Solution:* Move sensor or mask lens segments that view the source.

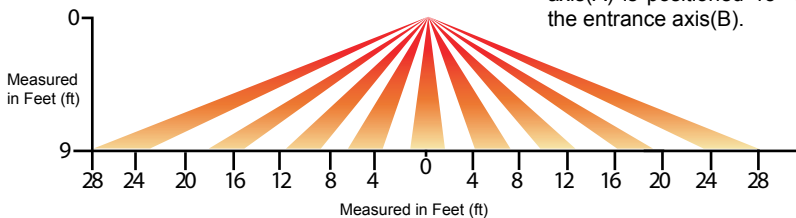


- A:** When walking across beam, detection will occur at approximately 28 feet.
- B:** When walking into beam, detection will occur at approximately 24 feet.

FIELD OF VIEW

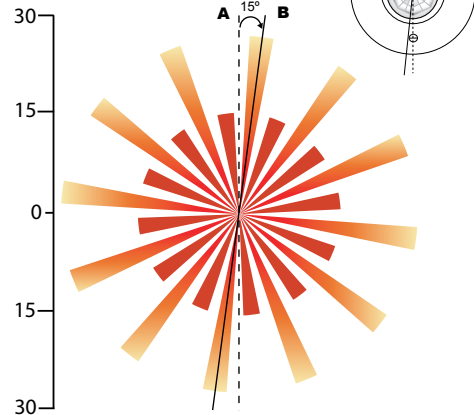
The CM-10-RR7's dome lens provides a maximum viewing angle of 67° in a complete 360° conical pattern.

SIDE VIEW



Note: For maximum distance rotate the sensor clockwise so that the screw axis(A) is positioned 15° off the entrance axis(B).

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.



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