

### KEY SPECS

Lens Standard Range 360°  
Enclosure Recessed Mount  
Power Type Low Voltage  
Detection Passive Infrared (PIR)

### TYPICAL APPLICATIONS

Private Offices  
Storage Closet  
Conference Room  
Restroom w/o Stalls

### FEATURES

30 sec. to 20 min Time Delay  
Sensor to Sensor Communication  
Push-Button Programmable  
100 hr. Lamp Burn-in Timer  
Green LED Indicator

### PHYSICAL SPECS

Size 4.40" (11.18 cm) square  
Weight 6 oz.  
Mounting Recessed into a 4" x 4" square junction box  
Color White

### ELECTRICAL SPECS

Operating Voltage 12-24 VAC/VDC  
Current Draw  
Standard, 4 mA  
w/ -R option, 16 mA

### 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  
-LT Option  
Circuit board is coated to be corrosion resistant to moisture and operate down to -40°F/C

### OTHER

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

## RM-9 SERIES



The *RM-9 Series* occupancy sensor offers amazing performance and sensitivity to small motions for a standard range Passive Infrared (PIR) sensor. Ideal for small rooms and other areas without obstructions, the *RM-9* recess mounts into a 4" x 4" junction box. The *RM-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 *RM-9* in a restroom vestibule can communicate with a *RM-PDT* Dual Technology sensor in a main stall area. Another application is a *RM-9* controlling an entrance hall to a classroom and communicating with a *WV-PDT* controlling the main room. In both cases the lights would be activated "On" by the *RM-9*. For mounting above 15 feet, see the *RM-6* Technical Data Sheet.

### 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 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 manual field adjustments.

### DAYLIGHTING CONTROL OPTIONS (-P & -ADC)

For spaces with abundant natural light from windows or skylights, this series offers an On/Off Photocell (-P) option and an Automatic Dimming Control (-ADC) Photocell option. The -P option is ideal for public areas like vestibules, corridors, or restrooms; while the -ADC option is perfect for classrooms and private offices. As the daylight levels change in the room, both options insure 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. The -ADC option allows the sensor to control a dimmable ballast. It also provides a secondary dim time-out that enables the lights to go to a dim setting after one time-out and then turn fully off after a second time-out. Note: If both the -P and the -ADC options are selected the "Inhibit" mode of the -P option is not available.

### ISOLATED LOW VOLTAGE RELAY OPTION (-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 is energized 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.

## ORDERING BLOCK

### RM-9-[RELAY]-[DAYLIGHTING]-[TEMP/HUMIDITY]

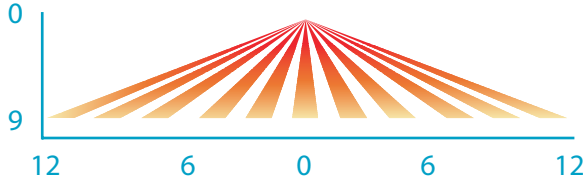
| OPTIONS | RELAY*                              | DAYLIGHTING                         | TEMP/HUMIDITY   |
|---------|-------------------------------------|-------------------------------------|---|
|         |                                     | Blank = None<br>-R = Isolated Relay | Blank = None<br>-P = On/Off Photocell<br>-ADC = Auto Dimming Control Photocell<br>-P-ADC = On/Off & Dimming Photocell |
|         | *use -RP when ordering both -R & -P |                                     | T110-001-P  |

## COVERAGE PATTERN

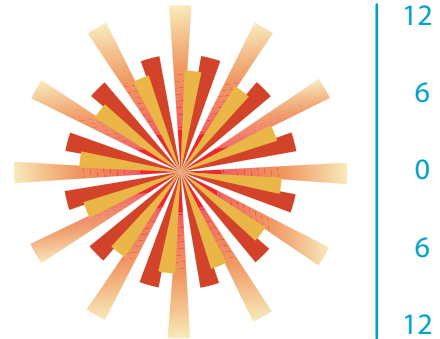
### 9 STANDARD RANGE 360° LENS

- Best choice for small motion (e.g. **hand movements**) detection
- Viewing angle of 56° in a 360° conical shaped pattern
- Provides 12 ft radial coverage when mounted to standard 9 ft ceiling
- 8 to 15 ft mounting heights provide 10 to 20 ft radial coverage

#### SIDE VIEW



#### TOP VIEW



**Note:** Heat producing sources controlled by the sensor must not be in the view pattern of the sensor. If sensor cycles or appears to continually stay "On", move sensor or mask lens segments that view the source.

\* diagrams labeled in feet

## WIRING (DO NOT WIRE HOT)

### STANDARD WIRING

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

### RELAY OPTION (-R)

- GRAY / BROWN - Connected during Occupied state
- VIOLET / BROWN - Connected during Unoccupied state

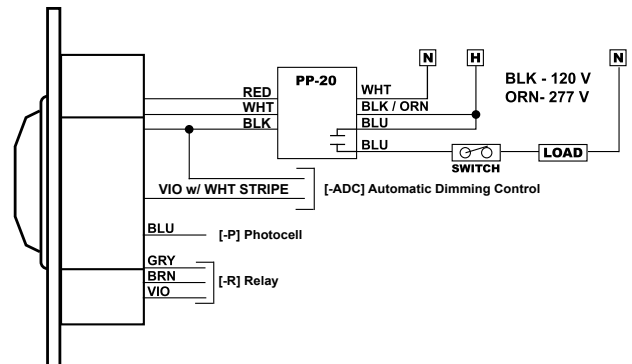
**Note:** Relay is energized during Unoccupied state

### 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.

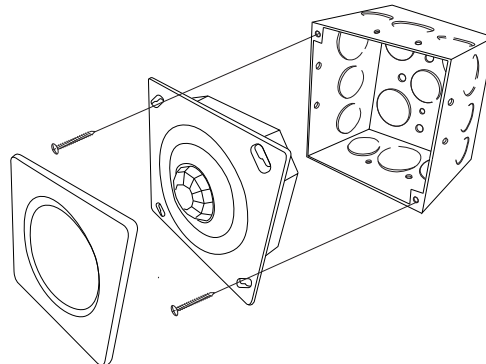
### AUTOMATIC DIMMING CONTROL (-ADC)

- VIOLET/WHITE - Connect to Violet (Control) wire from 0-10 VDC Dimmable Ballast
- GRAY from Ballast - Connect to sensor Black wire



## INSTALLATION

- The Recessed Mount enclosure is designed to fit inside a 4" square junction box (minimum box depth 2.125").
- Place the sensor along the entrance door wall to prevent it from viewing out into the hallway, ensuring the sensor can view the entire room from this position.
- Passive Infrared sensors detect motions crossing the beams much stronger than when entering the beams. The outer beams used for initial detection should be aligned for maximum coverage.



**sensorswitch**

**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.