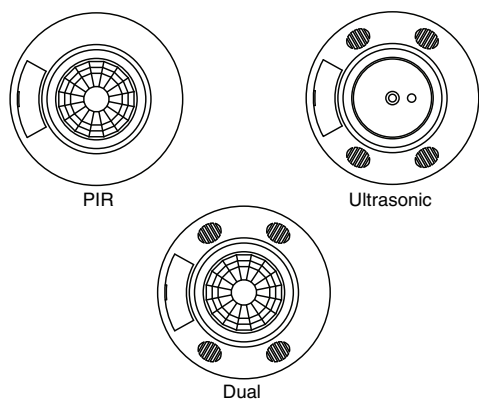# Instruction Bulletin

Square D® Ceiling-Mounted Occupancy Sensors
SLSCPS1000, SLSCUS2000, SLSCDS2000

Retain for future use.

Introduction

PIR

Ultrasonic

Dual

Square D® Ceiling-Mounted Occupancy Sensors are ideal for use in business and office settings to accurately detect occupancy and automatically control lighting. The ceiling-mount design of these low-profile sensors allows the greatest possible motion sensitivity. An adjustment panel is conveniently located on the front of the sensor, providing ready access to setting controls after the sensor is installed.

Square D offers three models of ceiling-mounted sensors:

- Passive Infrared (PIR) sensor (SLSCPS1000)
- Ultrasonic sensor (SLSCUS2000)
- Dual sensor—PIR and Ultrasonic combined (SLSCDS2000)

Contents of the Box

Item	Quantity
Sensor	1
Mounting adapter plate	1
Threaded mounting post	1
Washer	1
Lock nut	1
Mounting screws	2
Masking strips, sheet[1]	1

[1] Supplied with PIR and Dual sensors only.

Features

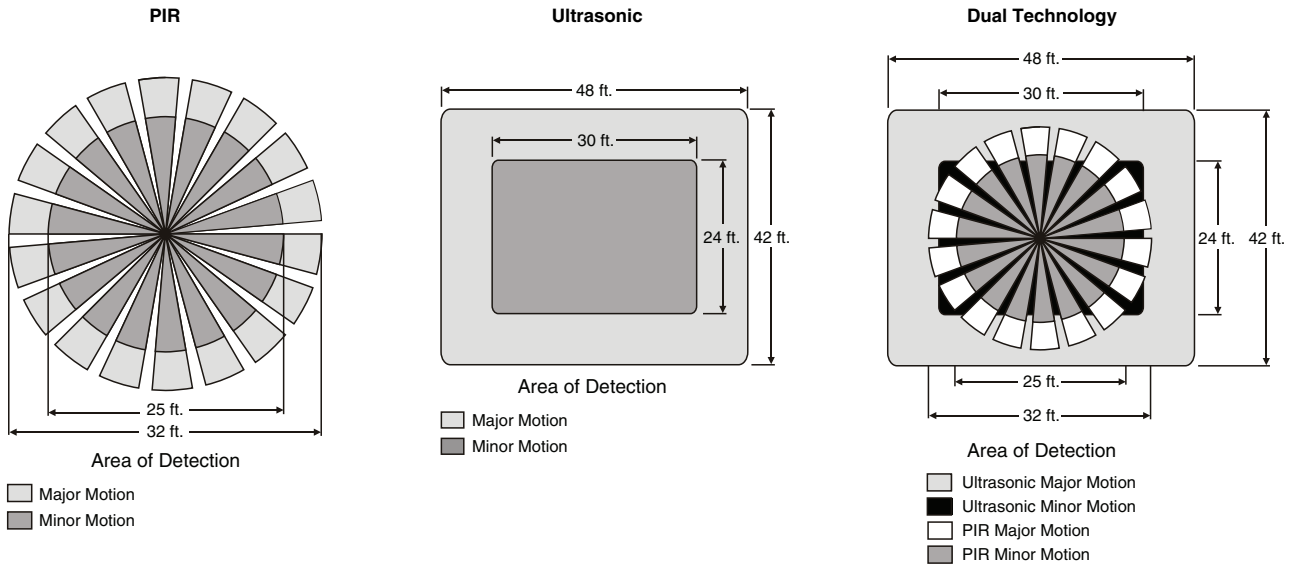| Description	PIR	Ultrasonic	Dual
Coverage area	1000 sq. ft.	2000 sq. ft.	2000 sq. ft.
Field of view	360°		
Ambient light level sensing	0.5 to 250 foot candles		
Adjustable time delay	15 sec. to 30 min.		
Adjustable sensitivity (60 to 100% of max. coverage)	600 to 1000 sq. ft.	1200 to 2000 sq. ft.	
Isolated relay	Form C contacts for Class 2 signalling		
LED motion indicators	1 (red)	1 (red)	2 (red/green)

Standards and Specifications

Standards	PIR	Ultrasonic	Dual
	UL/cUL Listed; FCC Part 15, Home and Office Use (Class B); California Title 24 Certified		

Specifications			
Current Consumption @ 24 Vdc[1]:	21mA Nominal	34mA Nominal	37mA Nominal
Isolated Relay:	Contact rating: 1A @ 24 Vdc Resistive		
Temperature:	32–122 °F (0–50 °C)		
Humidity:	Max. 90% RH non-condensing		

[1] Control power must be provided by Square D Power Pack SLSPP1277 or an approved equivalent.

SQUARE D

Coverage Patterns for 9 ft. Ceiling Height

PIR

Ultrasonic

Dual Technology

Area of Detection

☐ Major Motion
▨ Minor Motion

Area of Detection

☐ Major Motion
▨ Minor Motion

Area of Detection

☐ Ultrasonic Major Motion
■ Ultrasonic Minor Motion
☐ PIR Major Motion
▨ PIR Minor Motion

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- The sensor must be installed and serviced only by qualified electrical personnel.
- Turn off the circuit breaker supplying power to the sensor's power pack.
- Always use a properly rated voltage sensing device to confirm power is off.

Failure to follow these instructions will result in death or serious injury.

Installation

Installation and configuration is simple. The sensor mounts directly to ceilings or ceiling junction boxes. The sensor can be mounted to a variety of ceiling surfaces, such as acoustical tile, drywall, plywood, etc. Three possible mounting methods are described in the following paragraphs.

NOTE: Install the sensor at least five feet away from sources of air flow, such as HVAC vents, ceiling fans, etc.

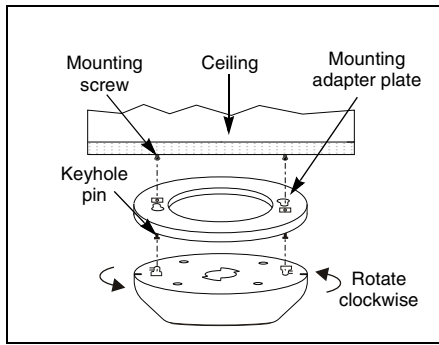### Mounting with Supplied Mounting Post
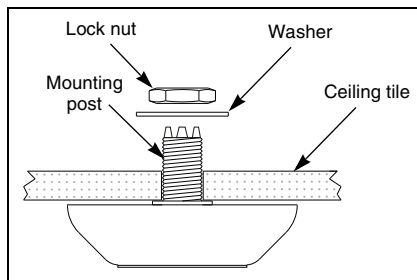
1. Ensure that the circuit breaker supplying power to the sensor's power pack is turned off.
2. Drill a $^7/_8$-in. dia. hole at the mounting location.
   NOTE: For acoustical tile, you can use the threaded mounting post to drill a mounting hole. Press the cutter end of the mounting post firmly against the tile, and twist the post back and forth.
3. Feed sensor wiring through the mounting post, then twist and lock the mounting post to the back of the sensor.
4. Insert the mounting post into the hole drilled in step 2. Secure the sensor assembly from the top of the ceiling tile using the supplied washer and lock nut.
5. Wire the sensor according to the wiring diagram on page 3; follow all applicable national and local electrical codes.


Mounting to a Junction Box
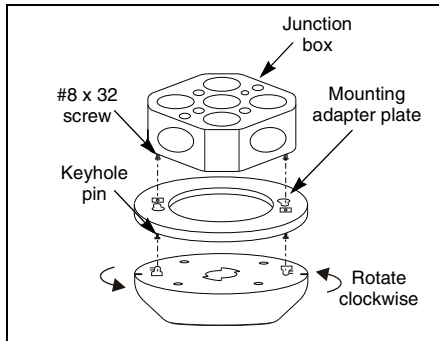
1. Ensure that the circuit breaker supplying power to the sensor's power pack is turned off.
2. Attach the adapter plate to a standard 4-in. ceiling junction box using the two #8 x 32 screws supplied.
3. Wire the sensor according to the wiring diagram below; follow all applicable national and local electrical codes.
4. Attach the sensor to the adapter plate by inserting the pins on the adapter plate into the keyholes on the back of the sensor. Rotate the sensor clockwise until it locks in place.

Flush Mounting

1. Ensure that the circuit breaker supplying power to the sensor's power pack is turned off.
2. Drill a hole large enough to accomodate wiring at the mounting location.
3. Attach the adapter plate to the ceiling using a secure method, such as with screws and wall anchors (not provided).
4. Wire the sensor according to the wiring diagram below; follow all applicable national and local electrical codes.
5. Attach the sensor to the adapter plate by inserting the pins on the adapter plate into the keyholes on the back of the sensor. Rotate the sensor clockwise until it locks in place.
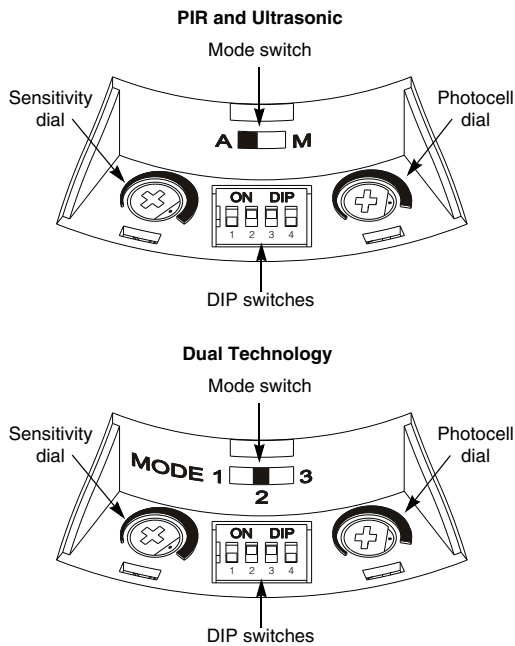
Wiring Diagram
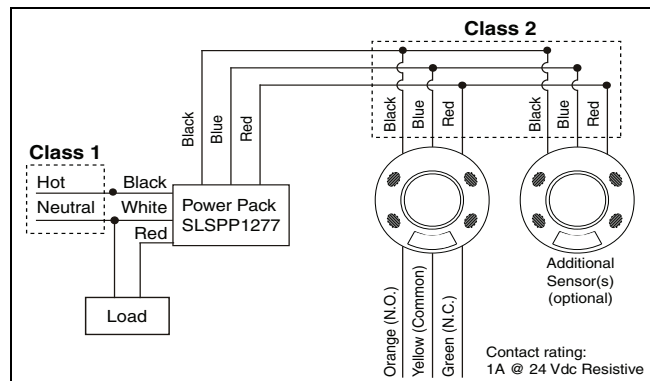
Operation

1. Turn on the circuit breaker and any wall switches that may be supplying power to the sensor's power pack.
2. Whenever motion is detected, the LED(s) on the sensor housing will flash on for approximately 0.5 seconds, and the lights will turn or remain on.
   NOTE: When first installed, the sensor may have to warm up for a few minutes before it is fully operational.
3. Set the Time Delay to the Test setting of 15 seconds. (See Steps 1 and 3 in the Sensor Adjustment section below.)
4. Vacate the room until the lights turn off.
5. Re-enter the room. Lights should turn on immediately. If lights do not turn on immediately, verify correct sensor wiring.
6. Once the sensor is operational, adjust the settings as described on page 4.

Sensor Adjustment

PIR and Ultrasonic

Mode switch

Sensitivity dial

Photocell dial

A ■ M

ON DIP
1 2 3 4

DIP switches

Dual Technology

Mode switch

Sensitivity dial

Photocell dial

MODE 1 ■ 3
2

ON DIP
1 2 3 4

DIP switches

Time Delay Settings

DIP Switch Number	1	2	3	4
Time Delay:				
15 seconds (Test setting)	•	•	•	•
2 minutes	•	•	•	−
4 minutes	•	•	−	•
6 minutes	•	•	−	−
8 minutes	•	−	•	•
10 minutes	•	−	•	−
12 minutes	•	−	−	•
14 minutes	•	−	−	−
16 minutes	−	•	•	•
18 minutes (Factory setting)	−	•	•	−
20 minutes	−	•	−	•
22 minutes	−	•	−	−
24 minutes	−	−	•	•
26 minutes	−	−	•	−
28 minutes	−	−	−	•
30 minutes	−	−	−	−

• = On
− = Off

1. The adjustment panel is located on the front of the sensor housing. To access the adjustment controls shown at left, gently pry off the cover with a small, flathead screwdriver.

2. **Mode:** Determines when lights are turned on or will remain on.

Sensor	Mode	Description
PIR and Ultrasonic	A	Automatic mode. Normal, default setting. Lights will turn on or remain on only when the sensor detects motion.
	M	Manual override ON mode. Lights are always on.
Dual Technology	1	Instant ON setting. Either PIR or ultrasonic detection will turn the lights on or cause the lights to remain on.
	2	Normal, default setting. Only PIR detection will turn the lights on. Either PIR or ultrasonic detection will cause the lights to remain on.
	3	Override ON setting. Lights are always on.

3. **Sensitivity:** Determines the amount of movement required to trigger the sensor and the distance from which movement can be detected. The sensitivity can be adjusted from 60% to 100% of maximum coverage. Turn the dial to the desired setting: from 60% (fully counter-clockwise) to 100% (fully clockwise). The default setting is 100%.

   NOTE: Consider the characteristics of the room when adjusting the sensitivity of the Ultrasonic and Dual Technology sensors. Hard surfaces (concrete, tile, glass) are reflective and will create a higher sensitivity for ultrasonic detection.
   Soft surfaces (carpet, drapes, acoustical tile) will absorb some of the ultra-sonic energy and reduce the unit's sensitivity. Building additions, such as cubicles and walls, may also require a higher sensitivity setting.

4. **Photocell:** Sets the level above which ambient light will not trigger the sensor. The ambient light level can be set from 0.5–250 foot-candles. Turn the dial to the desired setting: from 0.5 foot-candles (fully counter-clockwise) to 250 foot-candles (fully clockwise). The default setting is 250 foot-candles. This setting also disables the photocell, *i.e.,* ambient light will not inhibit sensor operation.

5. **Time Delay:** A set of four DIP switches determines how long lights will stay on after motion is no longer detected. Settings range from 15 seconds to 30 minutes. The default setting is 18 minutes. The possible settings are shown in the table at left.

6. Replace the adjustment access cover by gently snapping it in place.
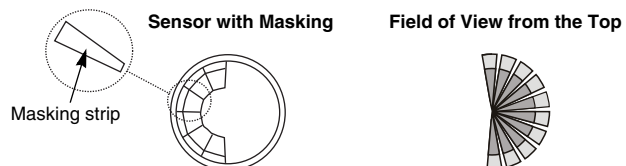
   NOTE: To help prevent unwanted detection, such as people moving in adjacent areas, you can partially mask the lens of the PIR and Dual sensors with the supplied white masking strips.

Sensor Masking Example

Sensor with Masking   **Field of View from the Top**

Masking strip

a brand of
Schneider
Electric

▣ SQUARE D