Ceiling Mounted Ultrasonic Occupancy Sensor

## 360° – SLSCUS501, SLSCUS1001, SLSCUS2001, and 180° – SLSCUS801

Retain for Future Use

INTRODUCTION

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.

Figure 1: Ceiling Mounted 360° and 180° Ultrasonic Occupancy Sensors

SLSCUS2001
SLSCUS1001
SLSCUS501

SLSCUS801
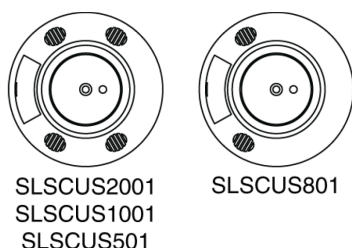
Table 1: Contents of the Box

Item	Quantity
Sensor	1
Mounting adapter plate	1
Threaded mounting post	1
Washer	1
Lock nut	1
Mounting screws	2

SPECIFICATIONS AND FEATURES

Table 2: Specifications and Features

Description	SLSCUS2001	SLSCUS1001	SLSCUS501
Coverage area	2000 sq. ft.	1000 sq. ft.	500 sq. ft.
Field of view	360°		
Ambient light level sensing	0.5-250 foot candles		
Adjustable time delay	15 sec.-30 min.		
Adjustable sensitivity	200-2000 sq. ft. (10-100% of max. coverage)	100-1000 sq. ft. (10-100% of max. coverage)	50-500 sq. ft. (10-100% of max. coverage)
Isolated relay	Form C contacts for Class 2 signaling		
LED motion indicators	1 (red)	1 (red)	1 (red)

Table 3: 180°Sensor Specifications and Features

| Description	SLSCUS801
Coverage area	1000 sq. ft.
Field of view	180°
Ambient light level sensing	0.5-250 foot candles
Adjustable time delay	15 sec.-30 min.
Adjustable sensitivity	600-1000 sq. ft. (10-100% of max. coverage)
Isolated relay	Form C contacts for Class 2 signaling
LED motion indicators	1 (red)

Schneider Electric

Table 4: Standards and Electrical Specifications

Standards	SLSCUS2001 and SLSCUS1001	SLSCUS501 and SLSCUS801
UL · cUL · FC	UL and cUL Listed FCC Part 15, Home and Office Use (Class B) California Title 24 Certified	
Specifications		
Current Consumption @ 24VDC*	Active: 20mA	Active: 20mA
Isolated relay	Contact rating: 1A @24Vdc Resistive	
Operating Temperature	32 to 122°F (0 to 50°C)	
Humidity	0 to 90% RH non-condensing	

*Control power must be provided by the Power Pack ~PP1277 or an approved equivalent.
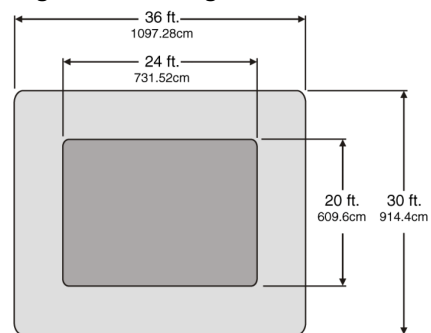
COVERAGE PATTERNS - 9 FT. (274.32CM) CEILING HEIGHT
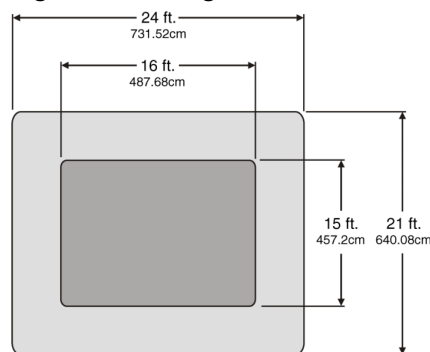
Figure 2: Coverage Pattern - SLSCUS2001 (360°)

48 ft.
1463.04cm

30 ft.
914.4cm

24 ft.
731.52cm

42 ft.
1280.16cm
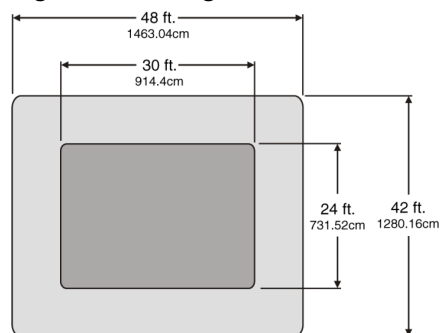
☐ Ultrasonic major motion
☐ Ultrasonic minor motion

Figure 3: Coverage Pattern - SLSCUS1001 (360°)

36 ft.
1097.28cm

24 ft.
731.52cm

20 ft.
609.6cm

30 ft.
914.4cm

☐ Ultrasonic major motion
☐ Ultrasonic minor motion

Figure 4: Coverage Pattern - SLSCUS501 (360°)

24 ft.
731.52cm

16 ft.
487.68cm

15 ft.
457.2cm

21 ft.
640.08cm

☐ Ultrasonic major motion
☐ Ultrasonic minor motion

Figure 5: Coverage Pattern - SLSCUS801 (180°)

32 ft.
975.36cm

25 ft.
762cm

32 ft.
975.36cm

25 ft.
762cm

☐ Ultrasonic major motion
☐ Ultrasonic minor motion

Figure 6: Hallway Orientation and Coverage Pattern - SLSCUS2001
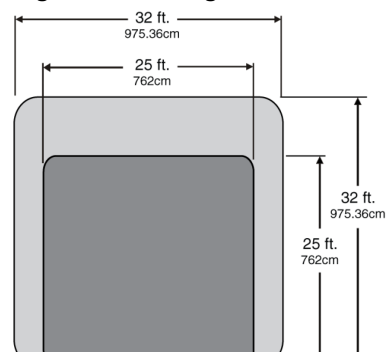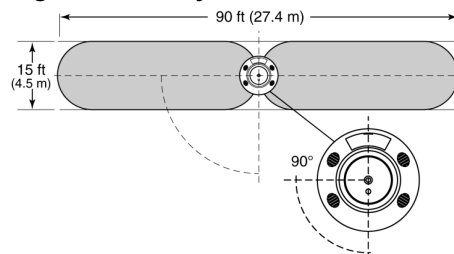

90 ft (27.4 m)

15 ft
(4.5 m)

90°

CLASS B FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

● Reorient or relocate the receiving antenna.

● Increase the separation between the equipment and receiver.

● Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

● Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this device that are not expressly approved by Schneider Electric could void the user's authority to operate this equipment.

SAFETY PRECAUTIONS

This section contains important safety precautions that must be followed before attempting to install or maintain electrical equipment. Carefully read and follow the safety precautions below.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

● Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
● This equipment must be installed and serviced by qualified electrical personnel.
● Turn off all electrical power supplying this equipment before working on or inside the equipment.
● Always use a properly rated voltage sensing device to confirm that power is off.
● Replace all devices, doors, and covers before turning on power to this equipment.

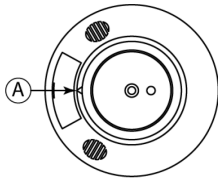**Failure to follow these instructions will result in death or serious injury.**

⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Do not connect line voltage to the wiring leads of the sensor.

Failure to follow this instruction can result in personal injury or equipment or property damage.

INSTALLING THE SENSOR

Figure 7: Orienting the 180° Sensor

A. Directional Arrow

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. There are three options for mounting the sensor are described below. Choose the method for your application and follow the steps for mounting the sensor.

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

The 180° sensor (only) has a small directional arrow (A) to indicate the coverage direction. Determine the direction to mount the sensor and point the arrow in desired coverage direction.

Mounting with Supplied Mounting Post

KEY:
A. Mounting post
B. Lock nut
C. Washer
D. Ceiling tile
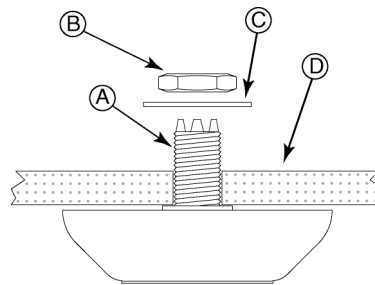
1. Turn off all electrical power supplying this equipment before working on or inside the equipment. Always use a properly rated voltage sensing device to confirm that power is off.

2. Drill a 7/8-in. (22mm) 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; follow all applicable national and local electrical codes.

Mounting to a Junction Box

KEY:
A. Keyhole pin
B. #8 x 32 screw
C. Junction box
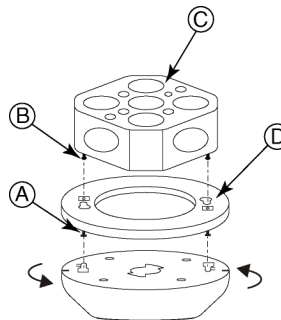D. Mounting adapter plate
Note: Rotate Clockwise

1. Turn off all electrical power supplying this equipment before working on or inside the equipment. Always use a properly rated voltage sensing device to confirm that power is off.

2. Attach the adapter plate to a standard 3.5 in. (8.9cm). ceiling junction box using the two #8 x 32 screws supplied.

3. Wire the sensor according to the wiring diagram; 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

KEY:
A. Keyhole pin
B. Mounting screw
C. Ceiling
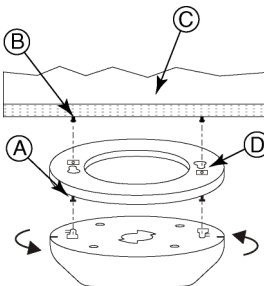D. Mounting adapter plate
Note: Rotate clockwise.

1. Turn off all electrical power supplying this equipment before working on or inside the equipment. Always use a properly rated voltage sensing device to confirm that power is off.

2. Drill a hole large enough to accommodate 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; 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.

⚠ WARNING
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH
Do not connect line voltage to the wiring leads of the sensor.
Failure to follow this instruction can result in personal injury or equipment or property damage.

Figure 8: Wiring Diagram
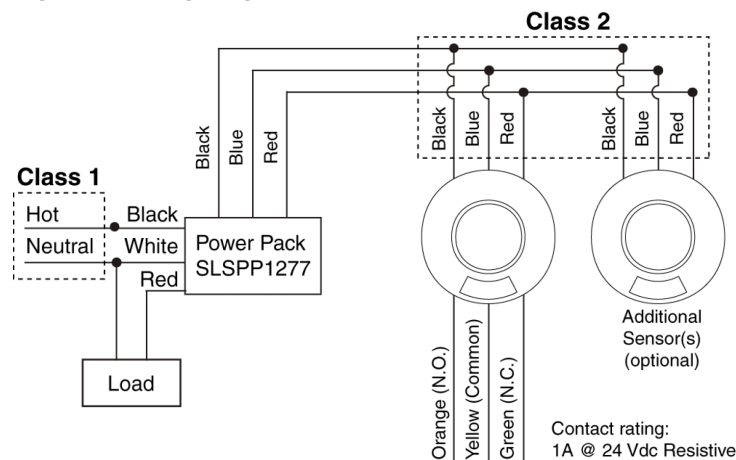
OPERATING THE SENSOR

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.

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.


ADJUSTING THE SENSOR

Follow the guidelines and refer to the diagrams below to properly adjust the sensor or switches lenses for proper operation.

Accessing the Sensitivity Adjustment Compartment

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

Figure 9: Adjustment Panel

KEY:
A. Sensitivity Adjustment
B. Mode Switch
C. Photocell Adjustment
D. DIP switches
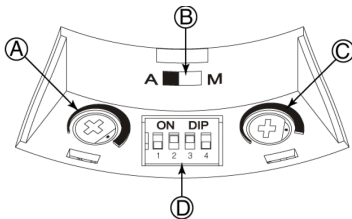
Modes and Sensitivity

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

Table 5: Sensitivity Modes

Mode	Description
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.

*A=Automatic/M=Manual

Sensitivity: Determines the amount of movement required to trigger the sensor and the distance from which movement can be detected.

Rotate the sensitivity dial to enter a value (Clockwise = increase, Counterclockwise = decrease). The default sensitivity setting is approximately 50%.

Sensitivity is adjustable, from 10% to 100% of maximum sensitivity to increase or decrease the distance and movement required to trigger the sensor.

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.

NOTE: 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.

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 counterclockwise) 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.

TIME DELAY SETTINGS

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 "Time Delay Settings" table.

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	–	–	–	–

NOTE: The sensor employs self adjustment technology which senses occupancy patterns and continually adjusts the time delay to an optimal setting.

• = On
– = Off

Replace the adjustment access cover by gently snapping it in place.

CUSTOMER SUPPORT AND SERVICE

Contact the Customer Information Center for technical support by phone at 1-888-778-2733 or e-mail at lightingcontrol.support@us.schneider-electric.com.

Contact your local Schneider Electric service representative for repairs or service to your network.

You may also find helpful information on our web site at www.Schneider-Electric.us.

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