

Ultrasonic Ceiling Mount Sensor

The LOS-CUS Series ultrasonic ceiling-mount sensors can integrate into Lutron® systems or function as stand-alone controls using a Lutron® power pack. Any movement within the range of the sensor causes a shift in the original emitted frequency. The receiver on the sensor identifies any change in frequency as motion and either turns the lights on or keeps the lights on.

Features

- Intelligent, continually adapting ultrasonic sensor
- Snap-locks to ceiling-mounted cover plate
- Excellent minor motion sensitivity
- Non-Volatile Memory: settings saved in protected memory are not lost during power outages
- 500 ft² to 2000 ft² (46 m² to 186 m²) coverage when mounted on an 8 ft to 12 ft (2.4 m to 3.7 m) ceiling
- Affords choice of turning lights off or dimming to a preset level in the unoccupied state when integrated with a Lutron® system.



Models Available

Model	Color	Coverage	Field of View
LOS-CUS-500-WH	White	500 ft ² (46 m ²)	180°
LOS-CUS-1000-WH	White	1000 ft ² (93 m ²)	180°
LOS-CUS-2000-WH	White	2000 ft ² (186 m ²)	360°

NOTE: BAA-compliant model numbers available. Add a "U" prefix to the model number.

Self-Adaptive Feature

Designed to meet the challenges found in a wide variety of spaces, the LOS-CUS Series sensors provide reliable detection with high minor motion detection. The intelligent, continually adapting sensor technology eliminates manual sensitivity and timer adjustments during installation and over the life of the product. The internal microprocessor analyzes the information from the ultrasonic technology and determines the optimum setting to use in order to properly cover the space. Should the room be reconfigured (e.g. new furniture), the software will adapt to continue to provide correct time out for the lights.

Job Name:	Model Numbers:
Job Number:	

Specifications

Regulatory Approvals

- UL[®] and cUL[®] listed

Power

- Operating voltage: 20 – 24 V_{DC}, IEC PELV/NEC[®] Class 2
- Operating current: 33 mA nominal
- Control output: 20 – 24 V_{DC} active high logic control signal with short-circuit protection, open collector when unoccupied

Environment

- Temperature: 32 °F to 104 °F (0 °C to 40 °C)
- Relative humidity: less than 95%, non-condensing
- For indoor use only

Timer Adjustment

- Automatic mode: Continually adapting sensor automatically adjusts settings to the space
- Manual mode: 8 to 30 minutes
- Test mode: 8 seconds

LED Lamp

- Green: ultrasonic motion detected

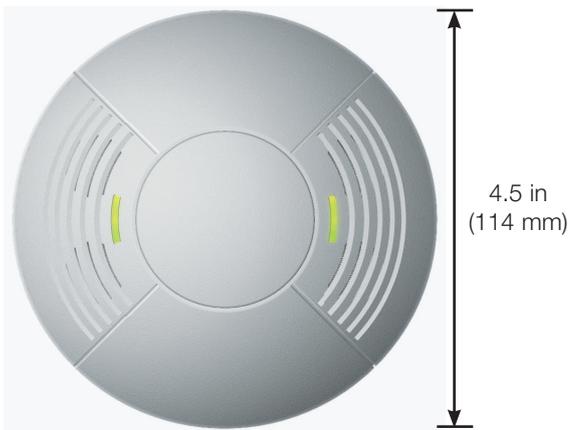
Housing

- Rugged, high-impact, injection-molded plastic
- Color-coded leads 6 in (15 cm)

Adaptive Functions

- Installation: 60 minutes
- Learning: 4 weeks for response to error conditions, air current adaptation, and timer optimization
- Post-learning occupancy periods
 - 24 hour circadian occupancy periods learned
 - Weekly occupancy periods learned
- Adjustments in post-learning period
 - Generally occupied periods (threshold = high-sensitivity mode)
 - Generally unoccupied periods (threshold = miser mode)

Dimensions



Front View



Side View

Job Name:

Model Numbers:

Job Number:

Wiring: System Control

Power packs may be required when interfaced to Lutron® lighting control systems. If more than 1 occupancy sensor is connected to the same input, a power pack is required. A maximum of 3 occupancy sensors can be connected to the same input. If more than 3 sensors are required per input, use one of the following models: LOS-CDT-500R-WH, LOS-CDT-1000R-WH, or LOS-CDT-2000R-WH.

Power Supply Options

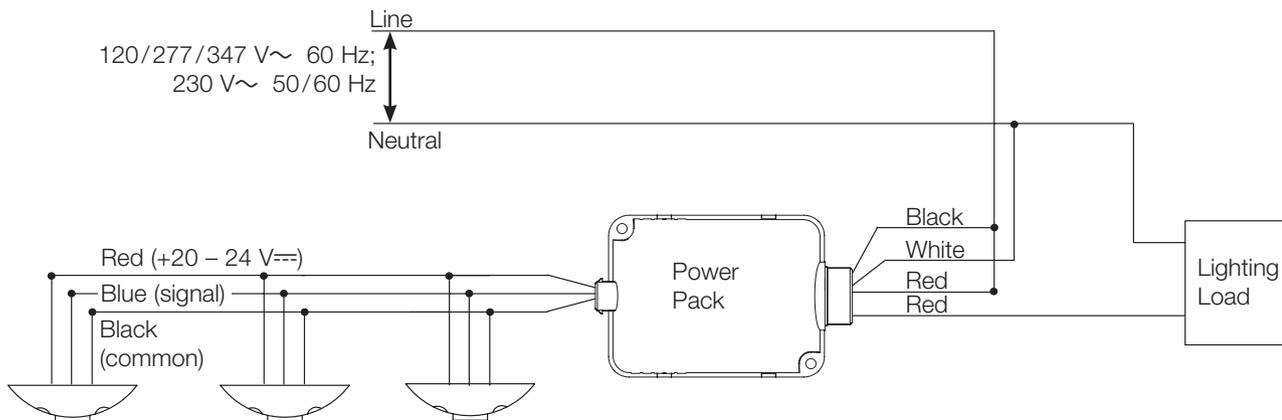
Lutron® Lighting Control System	Power Pack Required?
Digital microWATT™	No
EcoSystem®	No
Energi Savr Node™	No*
GRAFIK 5000™/6000®/7000™	No, when used with seeTouch® wallstations with occupancy sensor connections.
GRAFIK Eye® 3000/4000	Yes
GRAFIK Eye® QS	No*
HomeWorks®	Yes
HomeWorks® QS	No*
LCP128™	No, when used with seeTouch® wallstations with occupancy sensor connections.
microWATT®	No
Quantum®	No*
RadioRA®	Yes
RadioRA® 2	Yes
Softswitch128®	No, when used with seeTouch® wallstations with occupancy sensor connections.

* Some system components do not supply external power for occupancy sensors. Refer to individual product specifications for more information.

Job Name:	Model Numbers:
Job Number:	

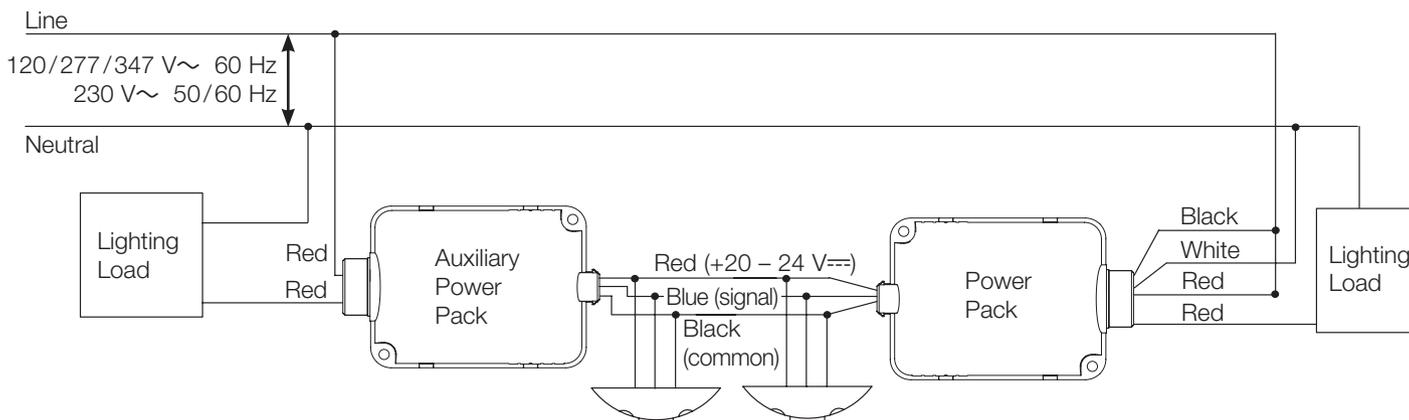
Wiring: Stand-Alone Control

1 to 3 Sensors with Power Pack



NOTE: Maximum 3 occupancy sensors.

Switching Multiple Loads with Auxiliary Power Packs



NOTE: Maximum of 3 devices total (occupancy sensors and auxiliary power packs) can be connected to a power pack.

Job Name:	Model Numbers:
Job Number:	

Installation

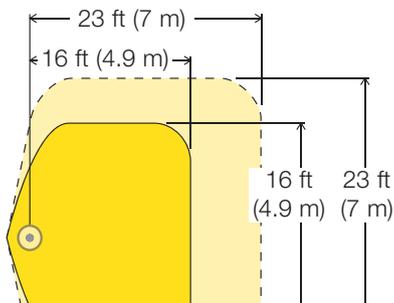
Sensor Setup

- Sensor setup is available as a service by Lutron. For more information see the **Sensor Layout and Tuning** service document (Lutron® P/N 3601235).

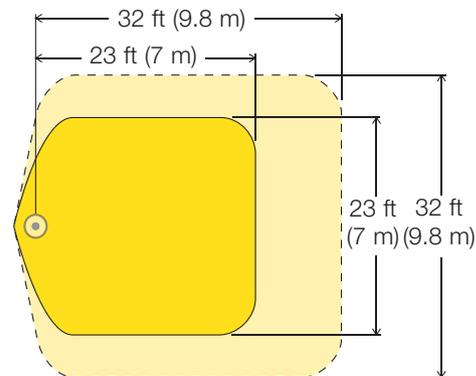
Sensor Placement

- Mount the sensor so the grilles face the open portion of the room and are not facing a nearby wall, window, or other obstructing object.
- Do not place sensor within 6 ft (1.8 m) of air vents, air handlers, windows, fans, etc., as this may cause false triggering.
- If installing a 180° occupancy sensor (500 and 1000 models), place the sensor on the same wall as the doorway so that traffic in a hallway will not affect the sensor; otherwise, place in center of room.
- Closely follow the diagrams shown concerning major and minor motion coverage. The sensor can detect major motion (e.g. person taking a half-step) at a greater distance than it can detect minor motion (e.g. writing at a desk or reading a book).
- Decrease total coverage area by 15% for “soft” rooms (e.g. heavy draperies or thick carpeting).

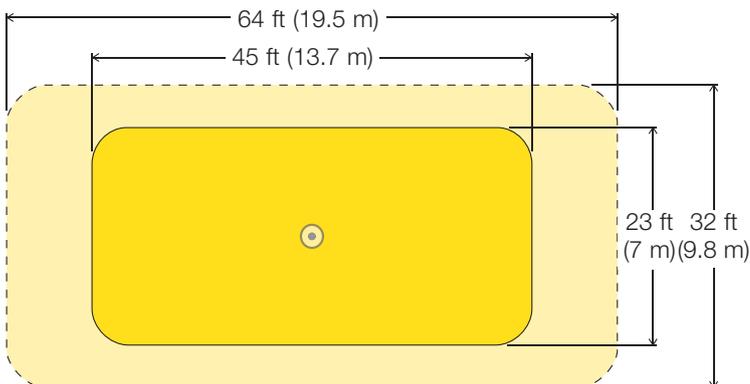
Range Diagrams



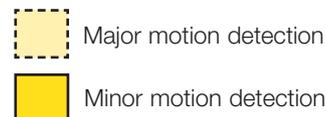
LOS-CUS-500



LOS-CUS-1000



LOS-CUS-2000

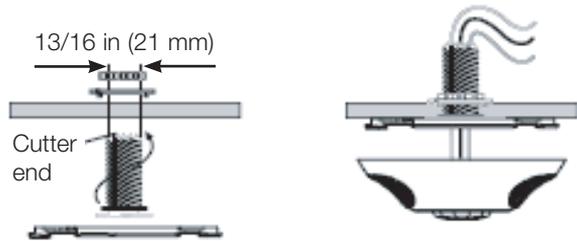


Job Name:	Model Numbers:	
Job Number:		

Mounting

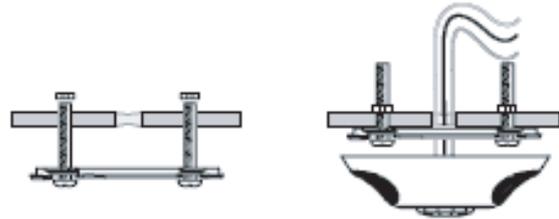
Normal Mounting

Twist and lock threaded mounting post onto cover plate. Drill through ceiling tile with assembly, using cutter end of the threaded mounting post. Secure with washer and nut.

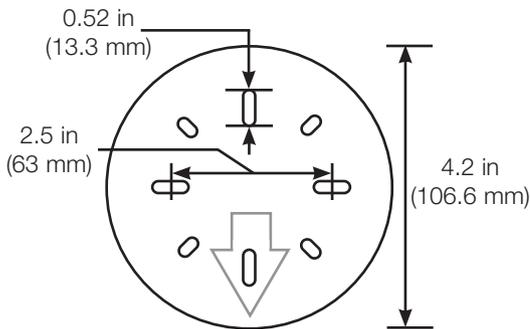


Mounting to Non-Standard Ceiling or Fixture

Mount twist-lock cover plate using mounting screws, nuts, and washers (included). Drill/punch wire routing hole through ceiling tile at center of cover plate.



Mounting Plate Dimensions



Wire Lengths

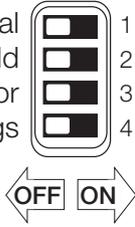
Number of Sensors	1	2	3	1	2	1
Number of Auxiliary Power Packs	0	0	0	1	1	2
22 AWG	750 ft	375 ft	250 ft	375 ft	250 ft	250 ft
0.5 mm ²	365 m	180 m	120 m	90 m	120 m	120 m
20 AWG	1200 ft	600 ft	400 ft	600 ft	400 ft	400 ft
0.75 mm ²	730 m	365 m	240 m	365 m	240 m	365 m
18 AWG	2400 ft	1200 ft	800 ft	1200 ft	800 ft	800 ft

Job Name:	Model Numbers:
Job Number:	

Sensor Adjustments

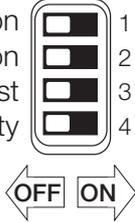
Override Settings

- Auto/Manual
- Threshold
- LED Motion Indicator
- Reset Learned Settings



A		Off (Default)	On
1	Automatic (Normal)	Manual on/off (Override)	
2	Auto Threshold Adjustment	High Sensitivity (Low turn-on threshold)	
3	Lights indicate motion	Disable LED Indicator	
4	Retain Settings (Normal)	Erase all learned settings; Restart Learning (Toggle On)	

- Strong Airflow Compensation Over Doorway Installation
- Timer Adjust
- Auto Sensitivity



B		Off (Default)	On
1	Disable Compensation (Normal)	Enable Compensation	
2	No (Normal)	Yes (Use increased turn-on threshold)	
3	Adjust Timer Automatically	Use Manual Setting (No adjustment)	
4	Adjust Sensitivity Automatically	Adjust Sensitivity Manually	

Timer Test Mode

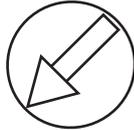
1. Remove the retainer cover.
2. Rotate the black timer adjustment knob to about midway (12 o'clock).
3. Return setting to minimum setting (full CCW).



Factory Settings



12 o'clock

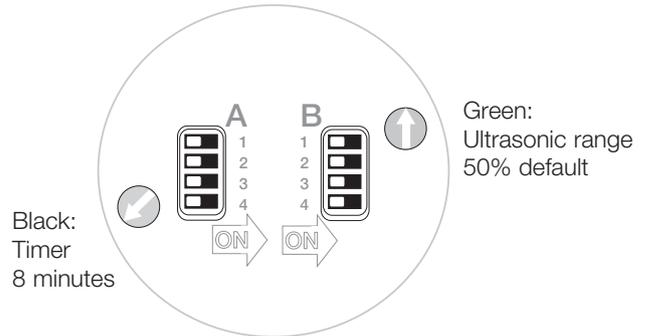


Full CCW

NOTE: The timer will remain in the 8 second test mode for 1 hour, then automatically reset to 8 minutes.

4. To manually take the timer out of the 8 second test mode, turn the timer adjustment approximately 1/16 in (1.5 mm) clockwise to make the setting slightly above minimum (just above the 8 minute setting).

Factory Settings



Job Name:	Model Numbers:
Job Number:	