Ultrasonic Ceiling Mount Sensor

The LOS-CUS Series ceiling-mount ultrasonic sensors can integrate into Lutron systems or function as stand-alone controls using a Lutron power pack. Any movement within the sensor's range causes a shift in the original emitted frequency. The sensor's receiver identifies any change in frequency as motion and either turns the lights on or maintains 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 to 2000 sq.ft. (46 to 186 m^2) coverage when mounted on an 8 - 12 ft. (2.4 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

Cat. No.	Color	Coverage	Field of View
LOS-CUS-500-WH	White	500 sq.ft. (46 m^2)	180°
LOS-CUS-1000-WH	White	1000 sq.ft. (93 m^2)	180°
LOS-CUS-2000-WH	White	2000 sq.ft. (186 m^2)	360°

Self-Adaptive Feature

Designed to meet the challenges found in a wide variety of spaces, the LOS-CUS Series provides 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

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)

Power

- Operating voltage: 20 - 24 V⎓, PELV (Class 2: USA) low-voltage
- Operating current: 33 mA nominal
- Control output: 20 - 24 V⎓ active high logic control signal with short-circuit protection, open collector when unoccupied
- UL and CUL listed

Operating Environment

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

Dimensions

1.4 in. (38 mm)

4.5 in. (114 mm)
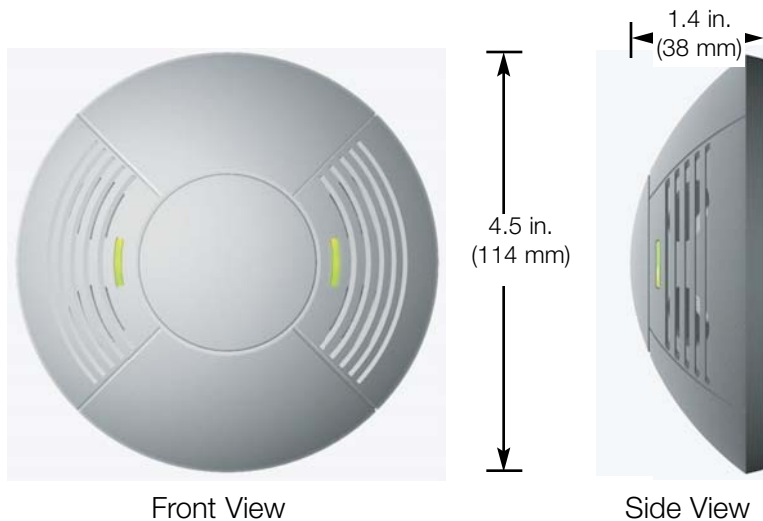
Front View   Side View
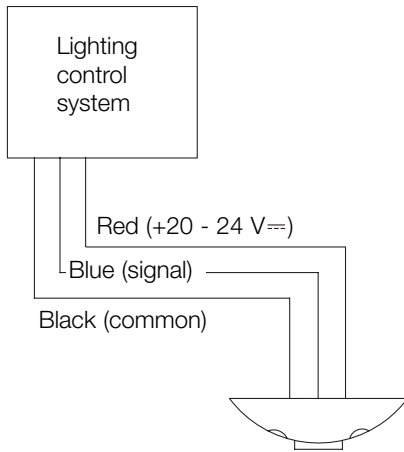
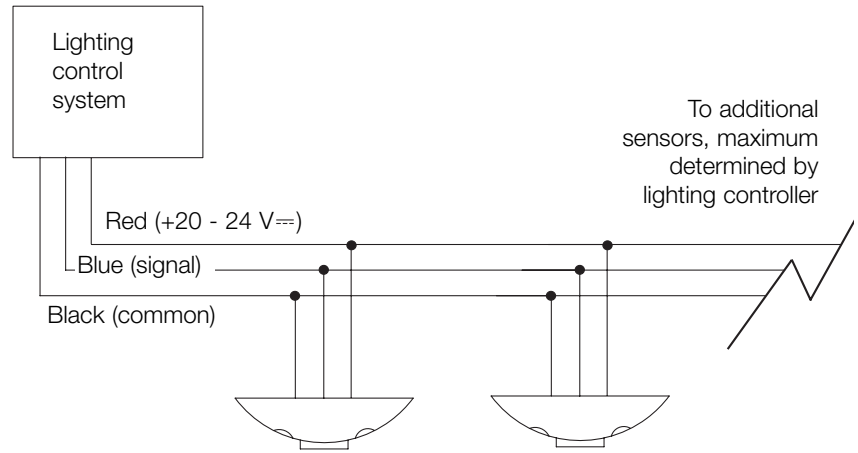| Job Name:	Model Numbers:
Job Number:	

Wiring

Note: Power pack may be required when interfaced to lighting control system; see below.

Single Sensor to System

Lighting control system

Red (+20 - 24 V⎓)

Blue (signal)

Black (common)

2 or More Sensors to System

Lighting control system

To additional sensors, maximum determined by lighting controller

Red (+20 - 24 V⎓)

Blue (signal)

Black (common)

Power Supply Options

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

Job Name:	Model Numbers:
Job Number:	

Wiring: Stand-Alone Control

1 to 3 Sensors with Power Pack

Hot

120 / 277 / 347 V~ 60 Hz;
230 V~ 50 / 60 Hz

Neutral

Black
White
Red
Red

Red (+20 - 24 V⎓)
Blue (signal)
Black (common)

Power Pack

Lighting Load

Manual switch off (optional)

Note: Maximum 3 occupant sensors.
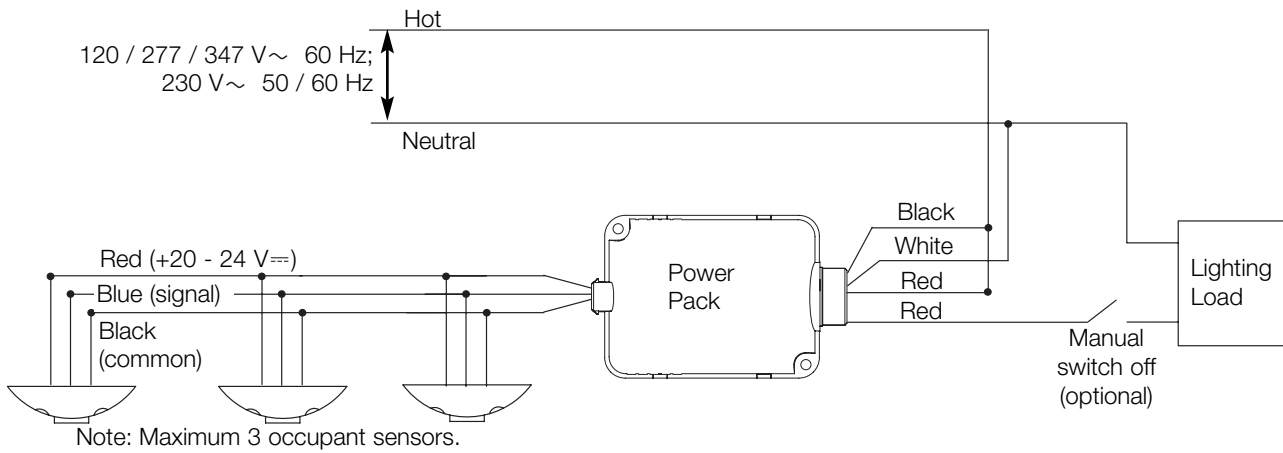
Switching Multiple Loads with Auxiliary Power Packs

Hot   Manual switch off (optional)

120 / 277 / 347 V~ 60 Hz;   230 V~ 50 / 60 Hz

Neutral

Lighting Load

Red
Red

Auxiliary Power Pack

Red (+20 - 24 V⎓)
Blue (signal)
Black (common)

Power Pack

Black
White
Red
Red

Lighting Load

Note: Maximum of 3 devices total
(occupant sensors and auxiliary power packs)
can be connected to a power pack.
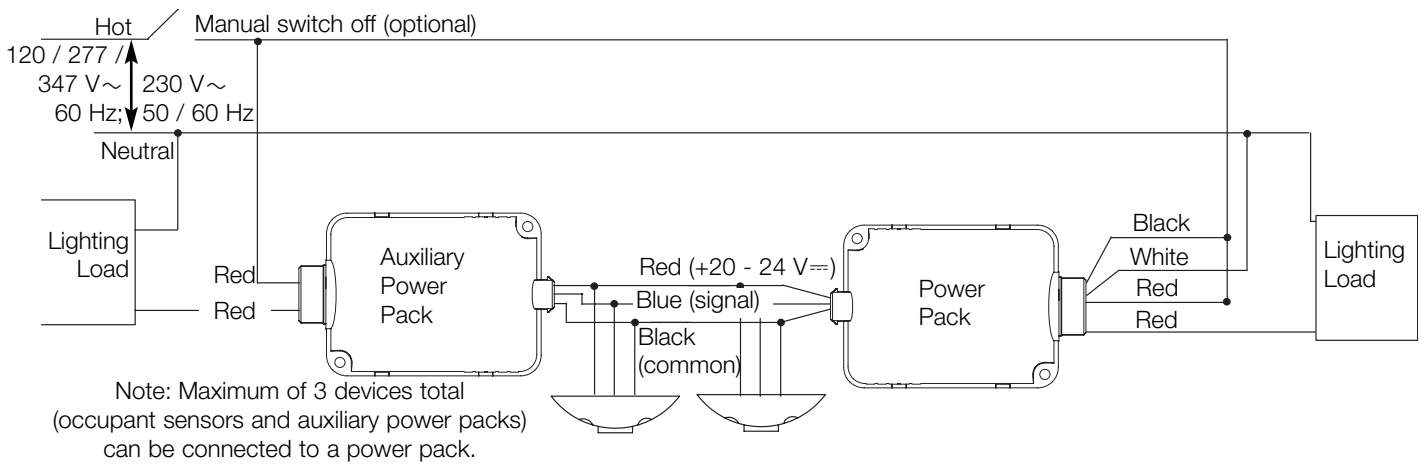
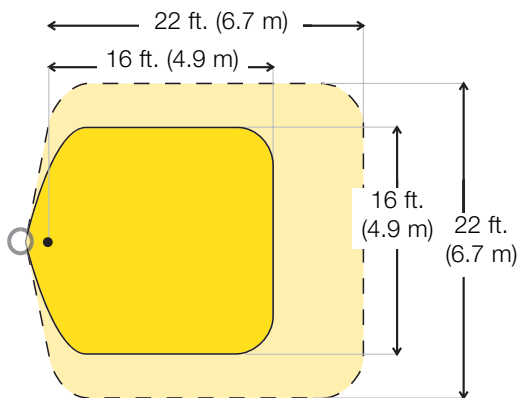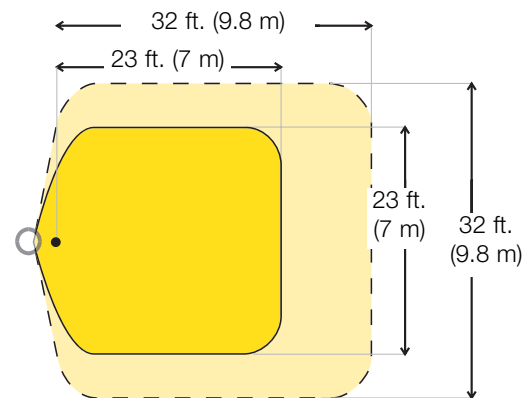| Job Name:	Model Numbers:
Job Number:	

Installation

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.
- Keep the occupant sensor away from air flow from ventilation outlets, windows, fans, etc.
- If installing a 180° occupant 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 (such as a person taking a half-step) at a greater distance than it can detect minor motion (such as writing or typing at a desk).
- Decrease total coverage area by 15% for "soft" rooms (for example, heavy draperies or heavy carpeting).
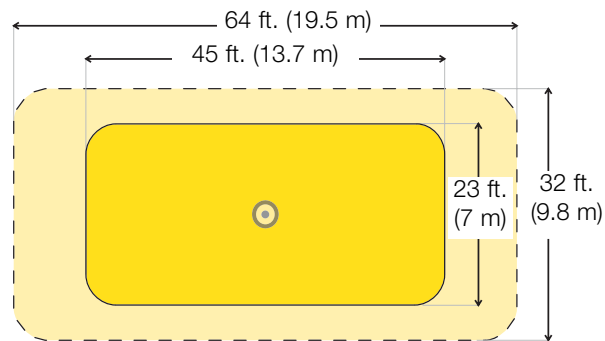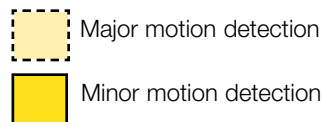
Range Diagrams

22 ft. (6.7 m)
16 ft. (4.9 m)
16 ft. (4.9 m)
22 ft. (6.7 m)

LOS-CUS-500

32 ft. (9.8 m)
23 ft. (7 m)
23 ft. (7 m)
32 ft. (9.8 m)

LOS-CUS-1000

Major motion detection

Minor motion detection

64 ft. (19.5 m)
45 ft. (13.7 m)
23 ft. (7 m)
32 ft. (9.8 m)

LOS-CUS-2000

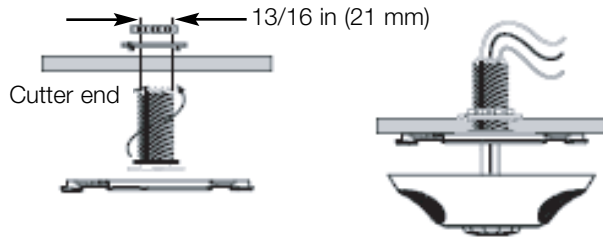| Job Name:	Model Numbers:
Job Number:	

Installation

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.

13/16 in (21 mm)

Cutter end

Mounting Plate Dimensions

.52 in.
(13.3 mm)

2.5 in.
(63 mm)

4.2 in.
(106.6 mm)
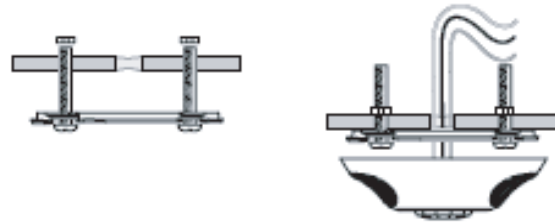
Wire Lengths

# Sensors	1	2	3	1	2	1
# Aux. PP	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.
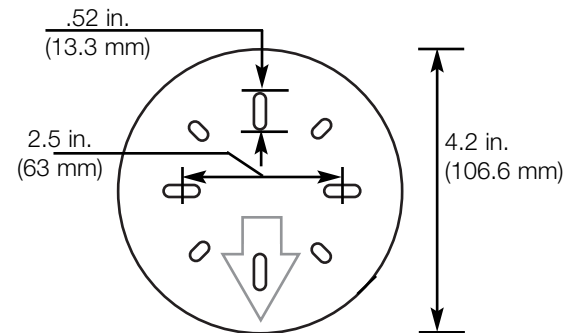
Job Name:	Model Numbers:
Job Number:	

Sensor Adjustments

Override Settings

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

ON ▷

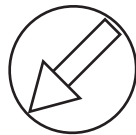| B	Off	On
Strong Airflow Compensation — 1	Disable Compensation (Normal)	Enable Compensation
Over Doorway Installation — 2	No (Normal)	Yes (Use increased turn-on threshold)
Timer Adjust — 3	Adjust Timer Automatically	Use Manual Setting (No adjustment)
Auto Sensitivity — 4	Adjust Sensitivity Automatically	Adjust Sensitivity Manually

ON ▷

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).
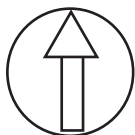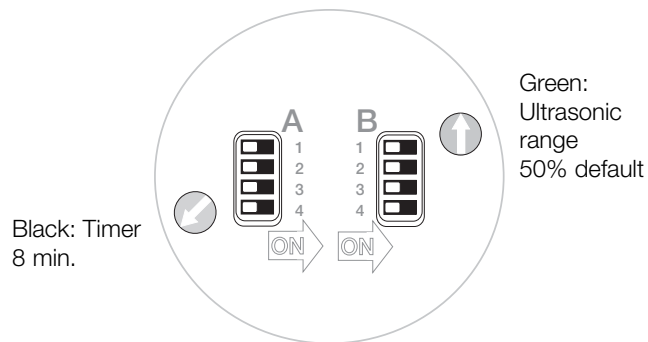
Factory Settings   12 o'clock   Full CCW

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" clockwise to make the setting slightly above minimum (just above the 8-minute setting).

Factory Settings

Black: Timer 8 min.

A   B

Green: Ultrasonic range 50% default

Job Name:	Model Numbers:
Job Number:	