Technical Data

Effective January 20, 2015

Greengate

OAC-U – MicroSet Ultrasonic Low Voltage Ceiling Sensor

Catalog#	Prepared by
Project	Date
Comments	Type

Ultrasonic Activated

MicroSet Self-Adjusting

Overview

The MicroSet Ultrasonic Low Voltage Occupancy Sensing Ceiling Sensor is a motion sensing lighting control that is used for energy savings and convenience.

Features

- MicroSet self-adjusting time delay and sensitivity
- Optional built-in light level sensor
- Optional BAS/HVAC isolated relay
- Products tested to NEMA WD 7 - 2011 Occupancy Motion Sensors Standard
- Selectable Walk-Through Mode
- Dual Relay control

COOPER Lighting Solutions

Specifications

Technology	Ultrasonic (US)
Power Requirements	**Input**
	10-30 VDC from Greengate Switchpack or Greengate system
	Maximum current needed is 25mA per sensor
	Output
	Open collector output to switch up to ten Greengate Switchpacks
	BAS with Isolated Form C Relay in (-R) model
	Isolated Form C Relay Ratings: 1A 30 VDC/VAC
Time Delays	Self-adjustable, 15 seconds/test (10 minutes Auto), or Selectable 5, 15, 30 minutes, or Zero Time Delay
Coverage	500, 1000, and 2000 sq. ft. (56 ft. x 16 ft. corridor)
Light Level Sensing (-R Models)	0 to 300 foot-candles
Operating Environment	Temperature: 32°F - 104°F (0°C - 40°C)
	Relative humidity: 20% to 90%, non-condensing
	For indoor use only
Housing	Durable, injection molded housing. Polycarbonate resin complies with UL 94V-0
Size	1.42"H x 4.5"W (36.068mm x 114.3mm)
Mounting	Mounts directly to ceiling tile, to a 4" square box and round mud ring or to 4" octagon box
LED Indicators	Green LED for Ultrasonic detection
Standards	FCC Compliant cULus Listed RoHS Compliant

Description/Operation

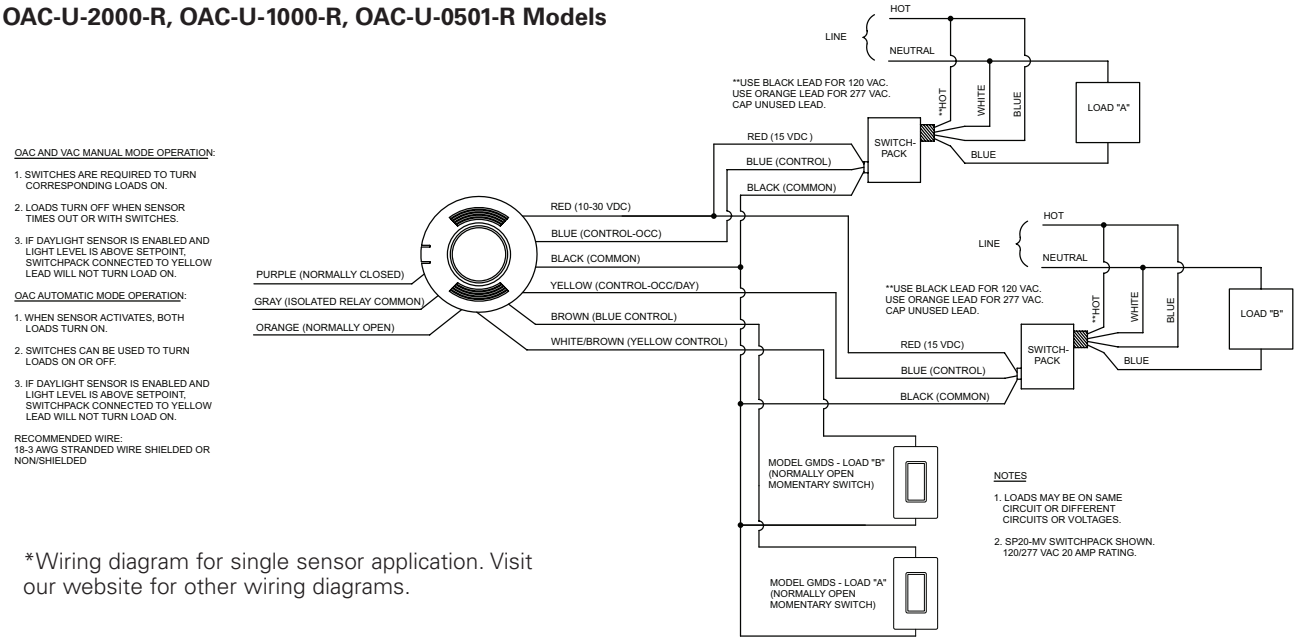
The ultrasonic sensor uses the Doppler principle. It produces a low intensity, inaudible sound and detects changes in sound waves caused by motion, such as walking into the room, reaching for the telephone, or turning in a chair. They are volumetric in nature and therefore not line-of-sight dependant. Since they fill the space with these sound waves, they are excellent in bathrooms with stalls, enclosed hallways, or other oddly shaped rooms. In addition, they are much more sensitive to smaller motions. The sensor includes self-adaptive technology that continuously self-adjusts sensitivity and Time Delay in real-time, maximizing the potential energy savings that are available in the particular application. In Automatic On Mode, the lights turn ON when a person enters the room. In Manual On Mode (-R model only), the lights are turned ON by activating a momentary switch (model # GMDS-*) that is connected to the sensor. The MicroSet Ultrasonic Low Voltage Ceiling Sensor has an ambient light level sensor. When enabled, the daylighting feature (-R models only) prevents lights from turning ON when the room is adequately illuminated by natural light.

Applications

- Conference Rooms
- Open Office Areas
- Restrooms (With Partitions)
- Restrooms (Non Partitioned)
- Hallways
- Other Indoor Office Spaces

Wiring Diagrams

OAC-U-2000-R, OAC-U-1000-R, OAC-U-0501-R Models

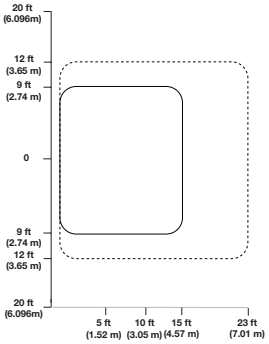


*Wiring diagram for single sensor application. Visit our website for other wiring diagrams.

Coverage

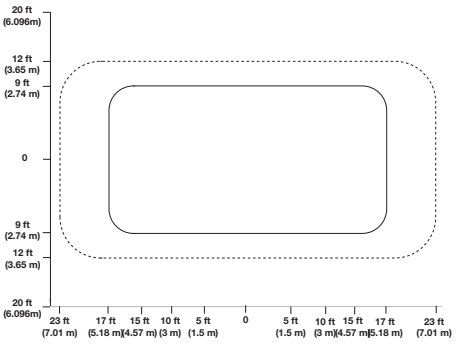
OAC-U-0501-R

500 sq. ft.



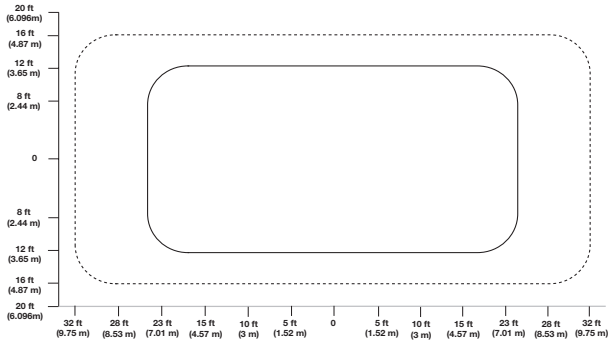
OAC-U-1000-R

1,000 sq. ft.



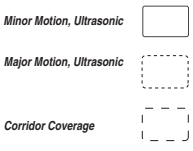
OAC-U-2000-R

2,000 sq. ft.

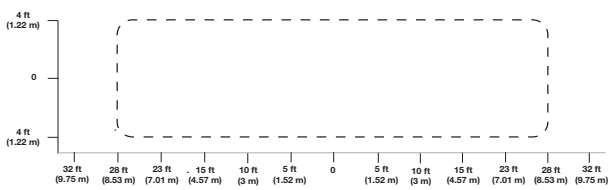


Maximum coverage area may vary somewhat according to room shape and the presence of obstacles.

Recommended Mounting Height 8 to 12 feet



OAC-U-2000-R and OAC-U-1000-R Hallway Coverage



* When creating a sensor coverage layout in a cubicle space, best practice is the use the minor motion coverage pattern as maximum coverage area. Results may vary based on cubicle height and ceiling height. (Cubicle wall height should not exceed 71 inches).

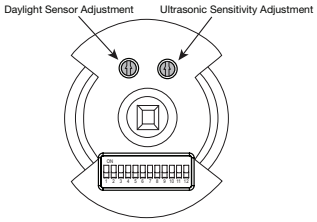
Controls

DIP Switch Legend

	Time Delay		Activation		Not Used	Walk-Through Mode	LEDs	Override	Sweep	Full/Half Logic	HVAC/Tracking	Zero Time Delay
			Relay 1	Relay 2								
DIP Switch	1	2	3	4	5	6	7	8	9	10	11	12
Auto*	▼	▼	Auto ▼	Auto ▼		Disable ▼	Enable ▼	Disable ▼	Disable ▼	Full ▼	Disable ▼	Disable ▼
5 Minutes	▼	▲	Manual ▲	Manual ▲		Enable ▲	Disable ▲	Enable ▲	Enable ▲	Half ▲	Enable ▲	Enable ▲
15 Minutes	▲	▼	(-R model only)	(-R model only)						(-R model only)	(-R model only)	
30 Minutes	▲	▲										

**Self-Adjusts to 10 min. user mode*

Default =



Ordering

Catalog #	Maximum Room Size	Field of View	Frequency	Features
OAC-U-2000-R	2,000 sq. ft. (56 ft x 16 ft corridor)	Two Way (360°)	32 kHz	w/ BAS Relay & Daylight Sensor
OAC-U-2000	2,000 sq. ft. (56 ft x 16 ft corridor)	Two Way (360°)	32 kHz	
OAC-U-1000-R	1,000 sq. ft.	Two Way (360°)	32 kHz	w/ BAS Relay & Daylight Sensor
OAC-U-1000	1,000 sq. ft.	Two Way (360°)	32 kHz	
OAC-U-0501-R	500 sq. ft.	One Way (180°)	40 kHZ	w/ BAS Relay & Daylight Sensor
OAC-U-0501	500 sq. ft.	One Way (180°)	40 kHz	

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