

Project		Catalog #		Type	
Prepared by		Notes		Date	



# Greengate

## OAC-DT-MicroSet Dual Tech

Low Voltage Ceiling Sensor

### Typical Applications

Classrooms • Conference Rooms • Office Spaces • Common Areas • Computer Rooms • Break Rooms • Hallways • Other Indoor Office Spaces

### Interactive Menu

- Order Information page 2
- Additional Resources page 2
- Wiring Diagrams page 3
- Connected Systems page 4
- Product Warranty

### Product Certification



### Product Features

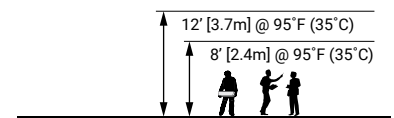
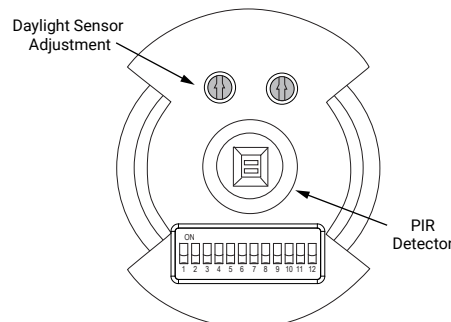
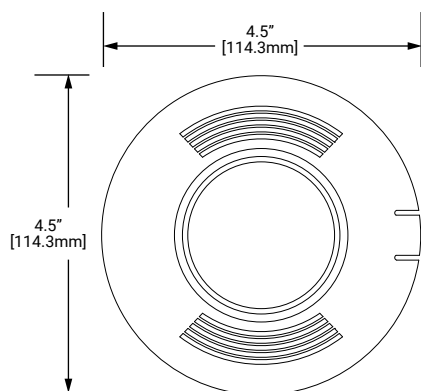


### Top Product Features

- 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

### Dimensional and Mounting Details

### Scale or Mounting Height



additional product diagrams

## Order Information

SAMPLE ORDER NUMBER: **OAC-DT-2000-R, OAC-DT-2000, OAC-DT-1000-R, OAC-DT-1000, OAC-DT0501-R, OAC-DT-0501**

One single gang wallplate included

Catalog Number	Maximum Room Size	Field of View	Frequency	Features
<b>OAC-DT-2000-R</b>	2,000 sq. ft.	Two Way (360°)	30 kHz	w/ BAS Relay & Daylight Sensor
<b>OAC-DT-2000</b>	2,000 sq. ft.	Two Way (360°)	32 kHz	
<b>OAC-DT-1000-R</b>	1,000 sq. ft.	Two Way (360°)	32 kHz	w/ BAS Relay & Daylight Sensor
<b>OAC-DT-1000</b>	1,000 sq. ft.	Two Way (360°)	32 kHz	
<b>OAC-DT-0501-R</b>	500 sq. ft.	One Way (180°)	40 kHz	w/ BAS Relay & Daylight Sensor
<b>OAC-DT-0501</b>	500 sq. ft.	One Way (180°)	40 kHz	

## Product Specifications

### Technology

- Passive Infrared (PIR) and Ultrasonic (US)

### Mechanical

**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

### Environment:

- Operating temperature:** 32°F to 104°F (0°C to 40°C)
- Relative humidity operating:** 20% to 90% non-condensing
- For indoor use only

**Housing:** Durable, injection molded housing. Polycarbonate resin complies with UL 94V-0

### Electrical

#### 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

### Hardware Specifications

#### LED Indicators:

- Red LED for PIR detection; Green LED for Ultrasonic detection

### Controls and Performance

#### 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.

#### Light sensing level (-R Models):

- 0 to 300 foot candles

### Standards/Ratings

- cULus Listed - Energy Management Equipment (UL916)
- FCC Compliant
- RoHS Compliant

### Warranty

Five year warranty standard

## Overview

The Dual Technology sensor's combination of Ultrasonic and Passive Infrared technologies offers the most complete sensing equipment available today. MicroSet self-adjusting Dual Technology sensors drastically simplify and reduce a contractor's installation and adjustment time period.

The MicroSet self-adjusting technology continuously monitors multiple sub-frequencies in the event that if a continuous Doppler shift occurs, such as those created by airflow from an air duct, the sensor will identify the noise as continuous and then block it out of view at a select sub-frequency. It will continue to monitor other sub-frequencies for human motion. This avoids false-activation, while still maintaining the high level of sensitivity that is necessary for sensing minor motion in a changing environment. Separate concurrent time delays for both Passive Infrared and Ultrasonic technologies avoid false activations or deactivations. 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. When enabled, the daylighting feature (-R models only) prevents lights from turning ON when the room is adequately illuminated by natural light.

## Wiring Diagrams

### OAC-DT-2000-R Model

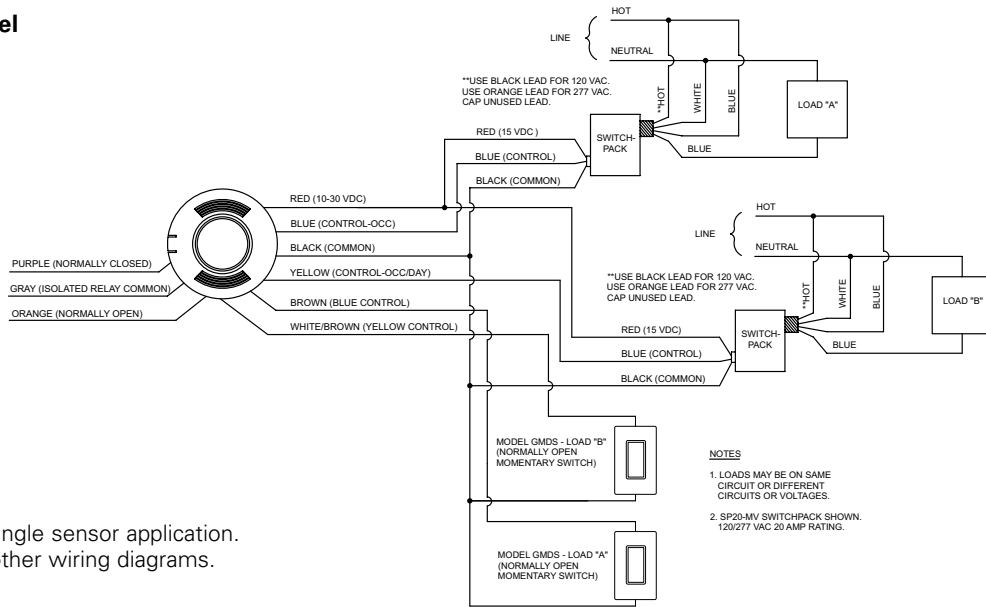
**OAC AND VAC MANUAL MODE OPERATION:**

1. SWITCHES ARE REQUIRED TO TURN CORRESPONDING LOADS ON.
2. LOADS TURN OFF WHEN SENSOR TIMES OUT OR WITH SWITCHES.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, SWITCHPACK CONNECTED TO YELLOW LEAD WILL NOT TURN LOAD ON.

**OAC AUTOMATIC MODE OPERATION:**

1. WHEN SENSOR ACTIVATES, BOTH LOADS TURN ON.
2. SWITCHES CAN BE USED TO TURN LOADS ON OR OFF.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, SWITCHPACK CONNECTED TO YELLOW LEAD WILL NOT TURN LOAD ON.

RECOMMENDED WIRE:  
18-3 AWG STRANDED WIRE SHIELDED OR NON-SHIELDED



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

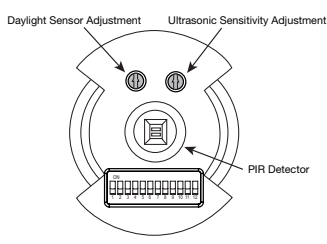
## Controls

**DIP Switch Legend**

DIP Switch	Time Delay		Not Used		PIR Sensitivity	Walk-Through Mode		LEDs		Override	Not Used	Daylighting	Bathroom Mode	Relay Swap	
	1	2	3	4		5	6	7	8						
Auto*	▼	▼			Full	Disable	▼	Enable	▼	Disable	▼	Relay 2	▼	Disable	▼
5 Minutes	▼	▲			50%	Enable	▲	Disable	▲	Enable	▲	Relay 1 & 2	▲	Enable	▲
15 Minutes	▲	▼													
30 Minutes	▲	▲													

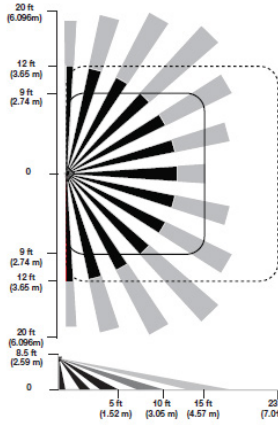
(DMV model only) (DMV model only) (DMV model only)

\*Self-Adjusts to 10 min. user mode  
Default =

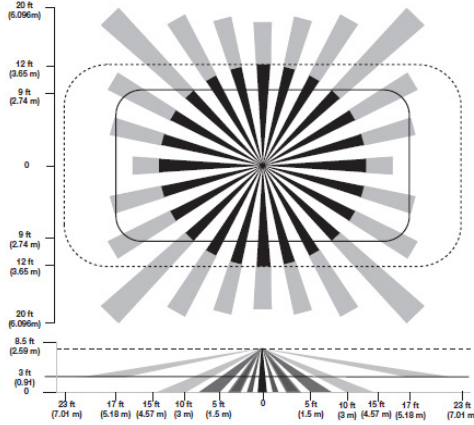


## Field of View

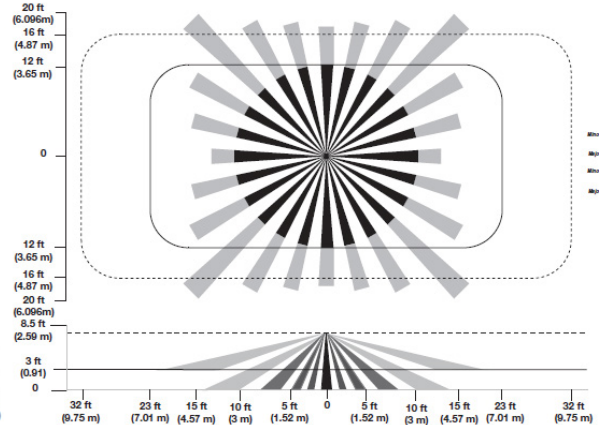
**OAC-DT-0501-R**  
500 sq. ft.



**OAC-DT-1000-R**  
1,000 sq. ft.



**OAC-DT-2000-R**  
2,000 sq. ft.



- Minor Motion, IR
- Major Motion, IR
- Minor Motion, Ultrasonic
- Major Motion, Ultrasonic

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

The NEMA WD 7 Guide and robotic method were utilized to verify coverage patterns.

Ceiling Height = 8.5 ft

### Control Systems

- Greengate