

OAC-DT – MicroSet Dual Tech Low Voltage Ceiling Sensor

Catalog#	Prepared by
Project	Date
Comments	Type

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.

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


 PIR
Activated

 Ultrasonic
Activated

 MicroSet
Self-Adjusting

Specifications

Technology	Passive Infrared (PIR) and 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 30VDC/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.
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	Red LED for PIR detection; Green LED for Ultrasonic detection
Standards	FCC Compliant cULus Listed RoHS Compliant



Description/Operation

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.

Applications

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

Wiring Diagrams

OAC-DT-2000-R Model

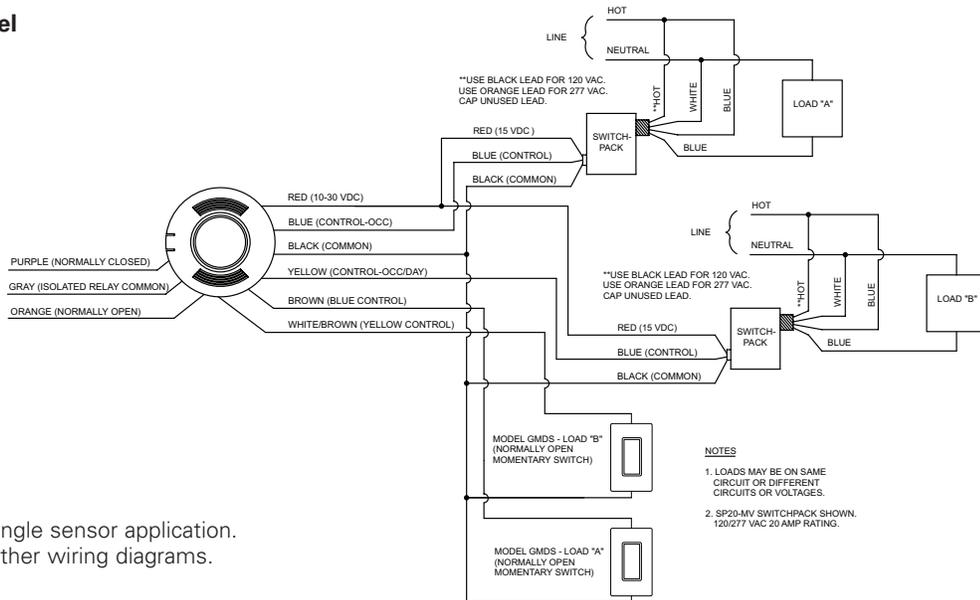
OAC AND VAC MANUAL MODE OPERATION:

- SWITCHES ARE REQUIRED TO TURN CORRESPONDING LOADS ON.
- LOADS TURN OFF WHEN SENSOR TIMES OUT OR WITH SWITCHES.
- 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:

- WHEN SENSOR ACTIVATES, BOTH LOADS TURN ON.
- SWITCHES CAN BE USED TO TURN LOADS ON OR OFF.
- 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 NONSHIELDED

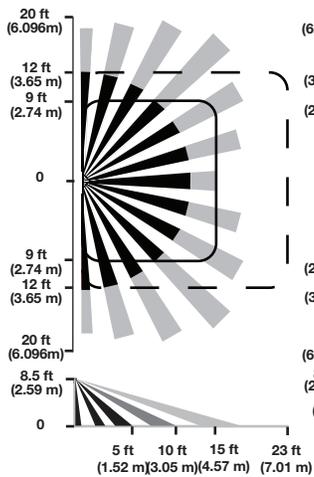


*Wiring diagram for single sensor application. Visit our website for other wiring diagrams.

Coverage

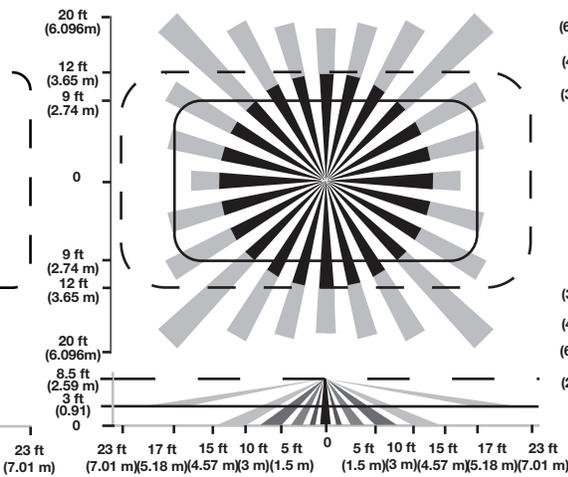
OAC-DT-0501-R

500 sq. ft.



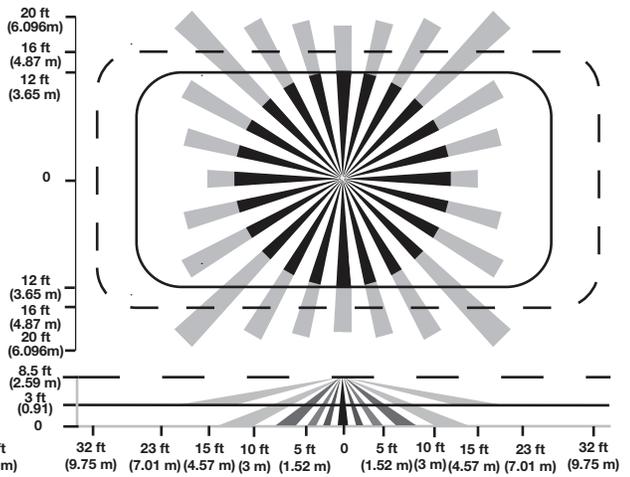
OAC-DT-1000-R

1,000 sq. ft.



OAC-DT-2000-R

2,000 sq. ft.



Recommended Mounting Height: 8 to 12 ft

Minor Motion, IR		<i>Maximum coverage area may vary somewhat according to room shape and the presence of obstacles.</i>
Major Motion, IR		
Minor Motion, Ultrasonic		
Major Motion, Ultrasonic		

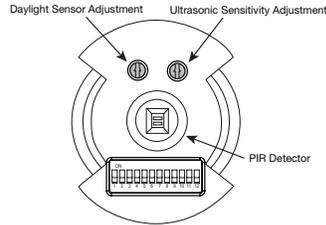
Controls

DIP Switch Legend

DIP Switch	Time Delay		Activation		PIR Sensitivity	Walk-Through Mode	LEDs	Override	Sweep	Full/Half Logic	HVAC/Tracking	Zero Time Delay
	1	2	Relay 1	Relay 2								
Auto*	▼	▼	Auto ▼	Auto ▼	Full ▼	Disable ▼	Enable ▼	Disable ▼	Disable ▼	Normal ▼	Disable ▼	Disable ▼
5 Minutes	▼	▲	Manual ▲	Manual ▲	50% ▲	Enable ▲	Disable ▲	Enable ▲	Enable ▲	Swap ▲	Enable ▲	Enable ▲
15 Minutes	▲	▼	(-R model only)							(-R model only)		
30 Minutes	▲	▲	(-R model only)							(-R model only)		

*Self-Adjusts to 10 min. user mode

Default =



Ordering

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

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