

VAC-DT – MicroSet Dual Tech Low Voltage Vacancy Ceiling Sensor

Catalog#	Prepared by
Project	Date
Comments	Type

Overview

The MicroSet Dual Technology Low Voltage Vacancy Ceiling Sensor increases energy savings by requiring a Manual On input to turn ON the lighting.

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
- Requires Manual On for activation


 PIR
Activated

 Ultrasonic
Activated

 MicroSet
Self-Adjusting

EATON

Powering Business Worldwide

Specifications

Technology	Passive Infrared (PIR) and Ultrasonic (US)
Power Requirements	120 to 347 VAC, 50/60 Hz - Neutral Required
Input	10-30 VDC from Greengate Switchpack or Greengate system
Output	Maximum current needed is 25mA per sensor
Time Delays	Open collector output to switch up to ten Greengate Switchpacks
Coverage	BAS with Isolated Form C Relay in (-R) model
Light Level Sensing (-R Models)	Isolated Form C Relay Ratings: 1A 30VDC/VAC
Operating Environment	Self-adjustable, 15 seconds/test (10 min. Auto), or Selectable 5, 15, 30 minutes, or Zero Time Delay
Housing	500, 1000 and 2000 sq. ft.
Size	0 to 300 foot-candles
Mounting	Temperature: 32°F - 104°F (0°C - 40°C)
LED Indicators	Relative humidity: 20% to 90%, non-condensing
Standards	For indoor use only
	Durable, injection molded housing. Polycarbonate resin complies with UL 94V-0
	1.42"H x 4.5"W (36.068mm x 114.3mm)
	Mounts directly to a 4" square box with a round mud ring or a 4" octagon box
	Red LED for PIR detection; Green LED for Ultrasonic detection
	FCC Compliant cULus Listed RoHS Compliant



Description/Operation

The Dual Technology sensor's combination of Ultrasonic and Passive Infrared technologies offers the most complete sensing equipment available today. This pairing helps eliminate false deactivations for additional energy savings. 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. The lights are turned ON by activating a momentary switch (model # GMDS-*) that is connected to the sensor. When enabled, the Daylighting feature 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
- Other Indoor
- Office Spaces

Wiring Diagrams

VAC-DT-2000-R Model

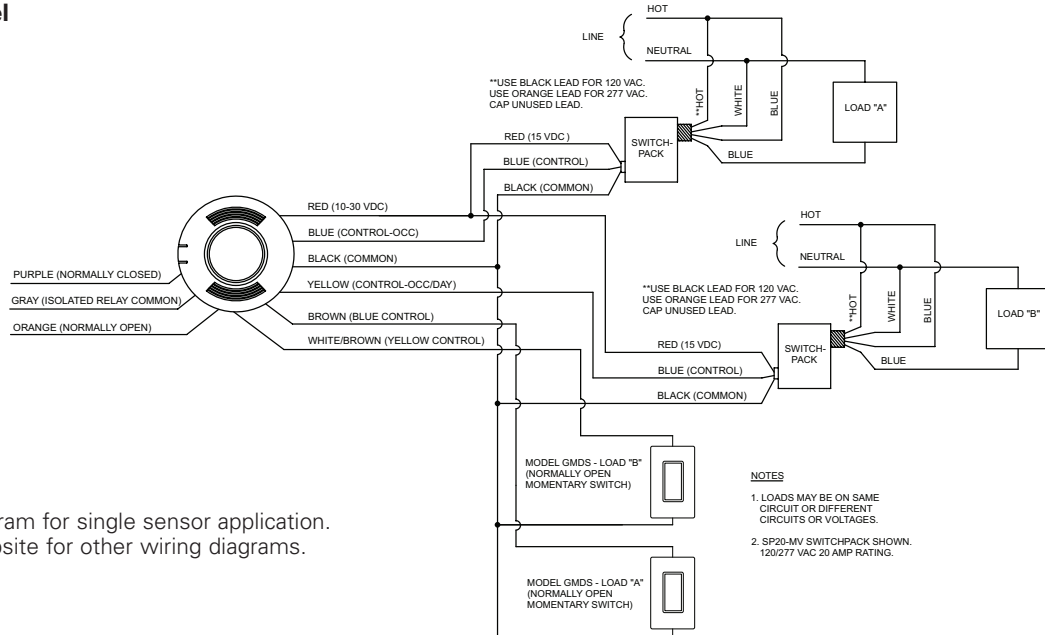
OAC AND VAC MANUAL MODE OPERATION:

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:
16-3 AWG STRANDED WIRE SHIELDED OR NONSHIELDED



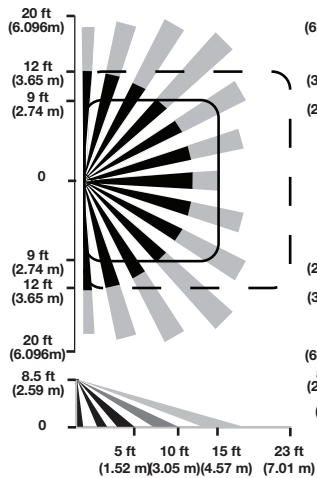
*Wiring diagram for single sensor application.
Visit our website for other wiring diagrams.

- NOTES**
1. LOADS MAY BE ON SAME CIRCUIT OR DIFFERENT CIRCUITS OR VOLTAGES.
 2. SP20-MV SWITCHPACK SHOWN. 120/277 VAC 20 AMP RATING.

Coverage

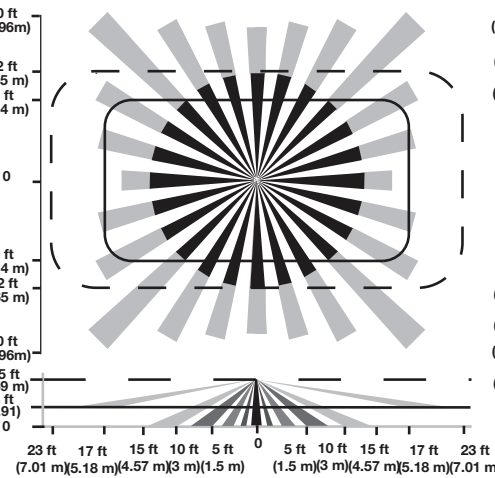
VAC-DT-0501-R

500 sq. ft.



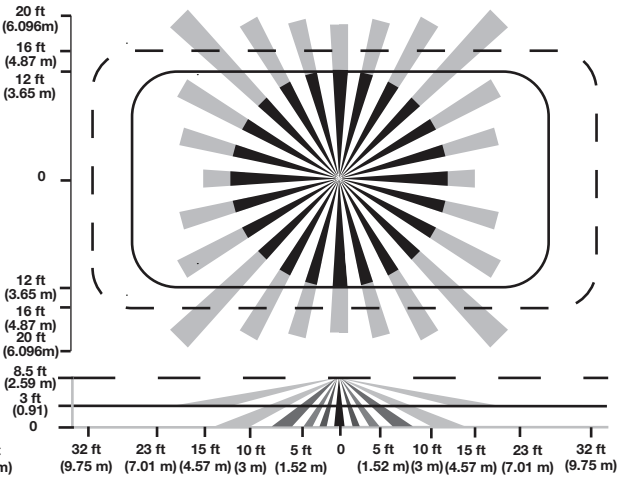
VAC-DT-1000-R

1,000 sq. ft.



VAC-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

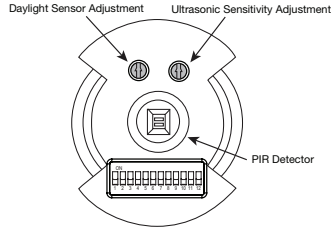
DIP Switch Legend

DIP Switch	Time Delay		Not Used		PIR Sensitivity	Not Used	LEDs	Override	Sweep	Full/Half Logic	HVAC/Tracking	Zero Time Delay
	1	2	3	4	5	6	7	8	9	10	11	12
Auto*	▼	▼			Full		Enable ▼	Disable ▼	Disable ▼	Full ▼	Disable ▼	Disable ▼
5 Minutes	▼	▲			50%		Disable ▲	Enable ▲	Enable ▲	Half ▲	Enable ▲	Enable ▲
15 Minutes	▲	▼										
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
VAC-DT-2000-R	2,000 sq. ft.	Two Way (360°)	32 kHz	w/ BAS Relay & Daylight Sensor
VAC-DT-1000-R	1,000 sq. ft.	Two Way (360°)	32 kHz	w/ BAS Relay & Daylight Sensor
VAC-DT-0501-R	500 sq. ft.	One Way (180°)	40 kHz	w/ BAS Relay & Daylight Sensor

Accessory Components

Suggested Low Voltage Manual ON Switch(es)

GMDS-W

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