VAC-P – MicroSet PIR Low Voltage Vacancy Ceiling Sensor

Catalog#	Prepared by
Project	Date
Comments	Type

Overview

The MicroSet Passive Infrared 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

MicroSet
Self-Adjusting

AUTO

E·T·N

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Specifications

Technology	Passive Infrared (PIR)	
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 an Isolated Form C Relay in (-R) model	
	Isolated Form C Relay Ratings: 1A 30 VDC/VAC	
Time Delays	Self-adjustable, 15 seconds/test (10 min. Auto), or Selectable 5, 15, 30 minutes, or Zero Time Delay	
Coverage	500 and 1500 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 a ceiling tile, to a 4" square box and round mud ring or to a 4" octagon box	
LED Indicators	Red LED for PIR detection	
Standards	FCC Compliant cULus Listed RoHS Compliant	c(UL)us RoHS

Description/Operation

The Passive Infrared (PIR) sensor monitors space occupancy to deliver maximum energy savings. 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. The lights are turned ON by activating a momentary switch (model # GMDS-*) that is connected to the sensor. The MicroSet Passive Infrared Low Voltage Ceiling Sensor has an ambient light level sensor. When enabled, the Daylighting feature prevents lights from turning ON when the room is adequately illuminated by natural light. PIR sensors are considered line-of sight sensors, meaning that the sensor must be able to have a direct line-of-sight to the person making the motion.

Applications

- Conference Rooms
- Open Office Areas
- Small Private Offices
- Common Areas
- Break Rooms
- Restrooms (Non-Partitioned)
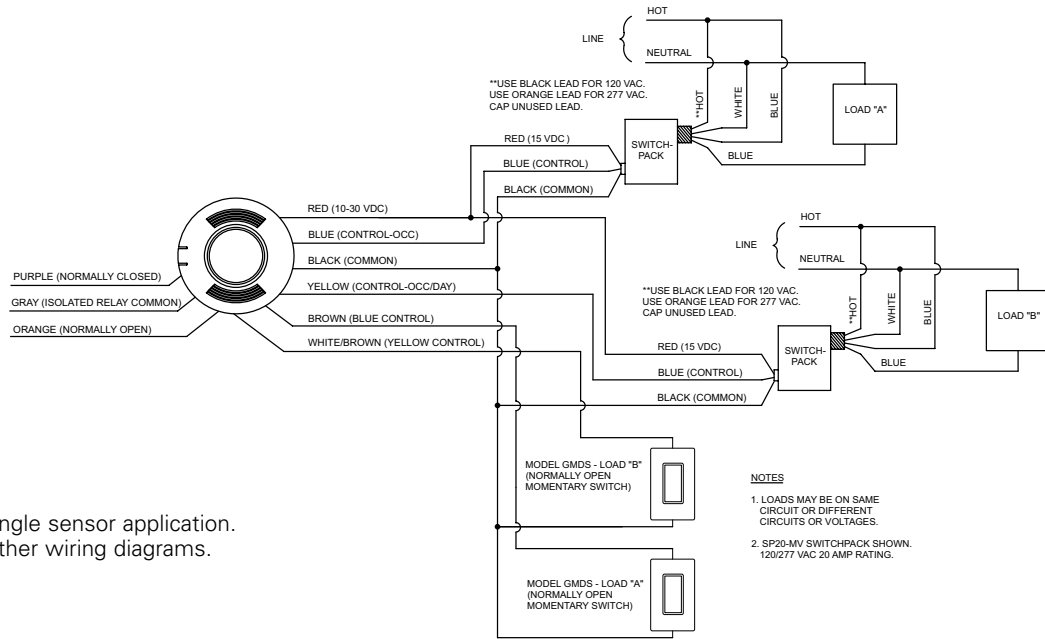- Utility Closets

Wiring Diagrams

VAC-P-1500-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:
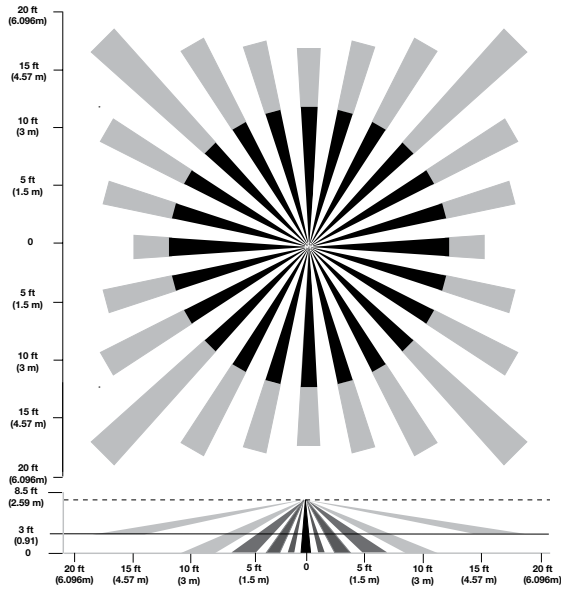18-3 AWG STRANDED WIRE SHIELDED OR NON/SHIELDED

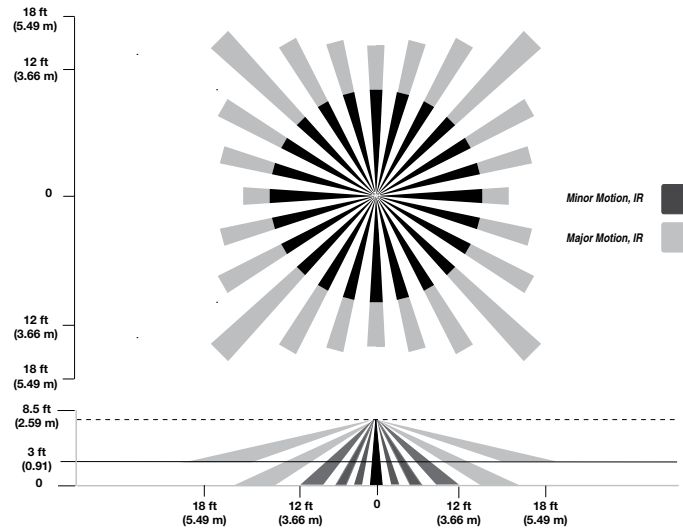*Wiring diagram for single sensor application. Visit our website for other wiring diagrams.

HOT

LINE

NEUTRAL

**USE BLACK LEAD FOR 120 VAC. USE ORANGE LEAD FOR 277 VAC. CAP UNUSED LEAD.

**HOT WHITE BLUE

LOAD "A"

RED (15 VDC)
BLUE (CONTROL)
BLACK (COMMON)

SWITCH-PACK

BLUE

RED (10-30 VDC)
BLUE (CONTROL-OCC)
BLACK (COMMON)
YELLOW (CONTROL-OCC/DAY)

PURPLE (NORMALLY CLOSED)
GRAY (ISOLATED RELAY COMMON)
ORANGE (NORMALLY OPEN)

BROWN (BLUE CONTROL)
WHITE/BROWN (YELLOW CONTROL)

HOT

LINE

NEUTRAL

**USE BLACK LEAD FOR 120 VAC. USE ORANGE LEAD FOR 277 VAC. CAP UNUSED LEAD.

**HOT WHITE BLUE

LOAD "B"

RED (15 VDC)
BLUE (CONTROL)
BLACK (COMMON)

SWITCH-PACK

BLUE

MODEL GMDS - LOAD "B" (NORMALLY OPEN MOMENTARY SWITCH)

NOTES

1. LOADS MAY BE ON SAME CIRCUIT OR DIFFERENT CIRCUITS OR VOLTAGES.

2. SP20-MV SWITCHPACK SHOWN. 120/277 VAC 20 AMP RATING.

MODEL GMDS - LOAD "A" (NORMALLY OPEN MOMENTARY SWITCH)

Coverage

VAC-P-1500-R
1500 sq. ft.

20 ft (6.096m)
15 ft (4.57 m)
10 ft (3 m)
5 ft (1.5 m)
0
5 ft (1.5 m)
10 ft (3 m)
15 ft (4.57 m)
20 ft (6.096m)
8.5 ft (2.59 m)
3 ft (0.91)
0

20 ft (6.096m) 15 ft (4.57 m) 10 ft (3 m) 5 ft (1.5 m) 0 5 ft (1.5 m) 10 ft (3 m) 15 ft (4.57 m) 20 ft (6.096m)

Recommended Mounting Height: 8 to 12 ft

VAC-P-0500-R
500 sq. ft.

18 ft (5.49 m)
12 ft (3.66 m)
0
12 ft (3.66 m)
18 ft (5.49 m)
8.5 ft (2.59 m)
3 ft (0.91)
0

18 ft (5.49 m) 12 ft (3.66 m) 0 12 ft (3.66 m) 18 ft (5.49 m)

Minor Motion, IR

Major Motion, IR

Controls

DIP Switch Legend

	Time Delay		Not Used		PIR Sensitivity	Not Used	LEDs	Override	Sweep	Full/Half Logic	HVAC/Tracking	Zero Time Delay
DIP Switch	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 = [   ]

Daylight Sensor Adjustment

PIR Detector
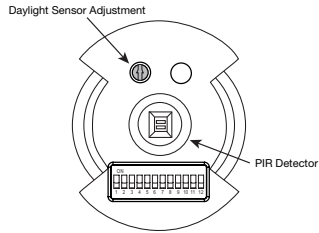
Ordering

Catalog #	Recommended Room Size	Field of View	Features
VAC-P-0500-R	500 sq. ft.	360°	w/ BAS Relay & Daylight Sensor
VAC-P-1500-R	1,500 sq. ft.	360°	w/ BAS Relay & Daylight Sensor

Accessory Components

Suggested Low Voltage Manual ON Switch(es)

GMDS-W

Specifications and
dimensions subject to
change without notice.

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