WIRING DIRECTIONS

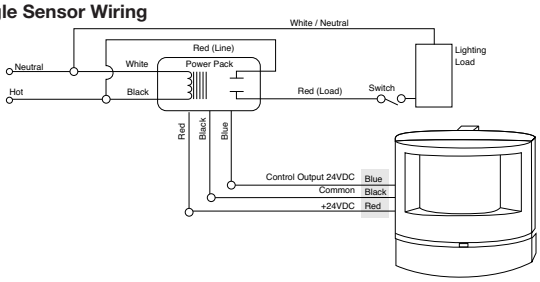
WARNING – Turn power off at the circuit breaker before installing power pack or sensors.

Note: Each power pack can supply power for up to eight sensors. If using more than eight sensors, multiple power packs are required.

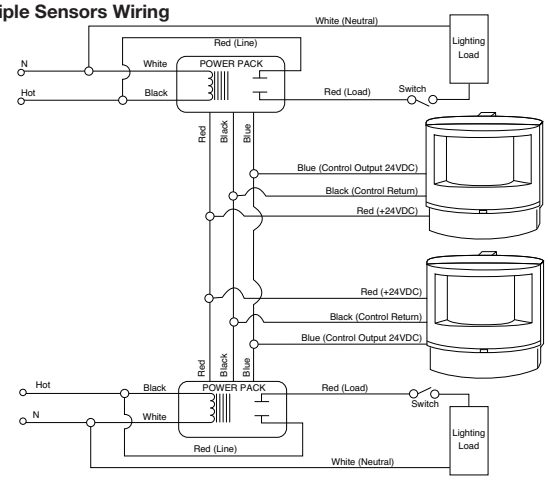
For normal installation, connect:

BLUE wire from power pack to *BLUE* wire from sensor.
RED wire from power pack to *RED* wire from sensor.
and *BLACK* wire from power pack to *BLACK* wire from sensor.

Single Sensor Wiring



Multiple Sensors Wiring



LIMITED FIVE YEAR WARRANTY

Pass & Seymour will remedy any defect in workmanship or material in Pass & Seymour products which may develop under proper and normal use within five (5) years from date of purchase by a consumer:

(1) by repair or replacement, or, at Pass & Seymour's option, (2) by return of an amount equal to consumer's purchase price. Such remedy is IN LIEU OF ANY AND ALL EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Such remedy by Pass & Seymour does not include or cover cost of labor for removal or reinstallation of the product. ALL OTHER FURTHER ELEMENTS OF DAMAGE (INCIDENTAL OR CONSEQUENTIAL DAMAGES) FOR BREACH OF ANY AND ALL EXPRESSED OR IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED HEREBY. (Some states do not allow disclaimer or exclusion or limitation of incidental or consequential damages, so the above disclaimers and limitation or exclusion may not apply to you.) ANY IMPLIED WARRANTIES INCLUDING WHERE REQUIRED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED TO THE FIVE YEAR PERIOD SET FORTH ABOVE. (Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)

To insure safety, all repair to Pass & Seymour products must be made by Pass & Seymour, or under its specific direction. Procedure to obtain performance of any warranty obligation is as follows: (1) Contact Pass & Seymour, Syracuse, New York 13221, for instructions concerning return or repair, (2) return the product to Pass & Seymour, postage paid, with your name and address and a written description of the installation or use of the Pass & Seymour product, and the observed defects or failure to operate, or other claimed basis for dissatisfaction.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Pass & Seymour legrand®
P.O. Box 4822
Syracuse, NY 13221
(800) 223-4185

Part No. 340400 Rev. D
Printed in U.S.A.

INSTALLATION & OPERATING INSTRUCTIONS
WA1001/HS1001
PIR OCCUPANCY SENSOR

Pass & Seymour legrand®

US Patent No.: 4,787,722

UNIT DESCRIPTION

The WA1001/HS1001 are 24VDC passive infrared (PIR) occupancy sensors which control lighting or HVAC systems based on occupancy.

PIR sensing systems are passive systems which react to changes in infrared energy (moving body heat) within the coverage area. PIR sensors must directly "see" motion of an occupant to detect them, so careful consideration must be given to sensor placement.

SPECIFICATIONS

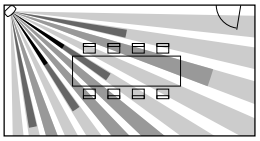
Voltage 24VDC
Power Supply . . . . . Pass & Seymour Power Pack
Current Consumption . . . . . 8mA Typical
Time Adjustment . . . . . 15 seconds–30 minutes
Sensitivity Adjustment . . . . . Minimum–Maximum

APPLICATION

Coverage may be slightly less than the maximum sensing distance depending upon obstacles such as furniture or partitions. This must be considered when planning the number of sensors and their placement. Also, total coverage area will be smaller for lower mounting heights.

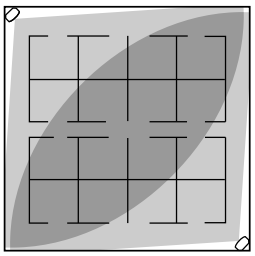
Enclosed office applications

The best location to install the WA1001 is in a corner which does not face a door. Avoid placing the sensor so that it can see out an open door where it may be able to sense people walking by. Also, avoid placing the sensor where obstacles will block its view—the sensor must "see" the occupants in order to detect them.



Conference Rooms, Large Office Areas, and Classrooms

For these applications, the WA1001 is best. Place sensor in the corner facing into the room. To obtain maximum coverage in a partitioned work area, use the sensors to create coverage zones that overlap each other. As a general rule, you should be able to view the sensor clearly from each desk in the coverage area.



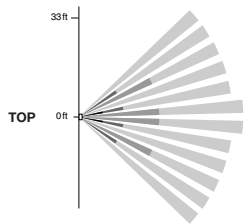
Aisleways, Hallways and Shelving Areas

In these types of applications, the HS1001 is used.

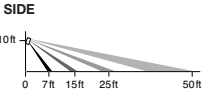
The HS1001 lens has a narrow, long-range view and should be installed on a wall or ceiling at the end of an aisleway. It works best when mounted at 10 ft.

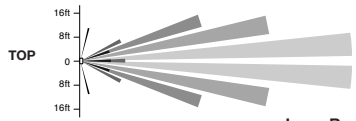
COVERAGE PATTERNS

Coverages shown are maximum and represent coverage for half-step, walking motion.



Dense Wide Angle Lens (WA1001)
up to 1200 sq ft





Long Range Lens (HS1001)
up to 90 linear ft

SELECTING SENSOR LOCATION

Proper placement of the sensor is critical in achieving maximum performance of the device. Passive infrared sensors respond to movement of heat sources, such as humans, through their direct viewing area. Use the following rules when selecting the location of the sensors:

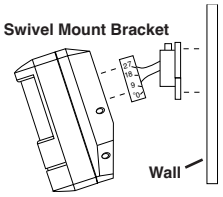
- Do not place sensors where viewing area contains direct air currents, or concentrated, direct reflected light.
- Sensor viewing is line-of-sight, therefore, do not place sensors where desired coverage is obstructed by walls, columns or other objects.
- Do not place sensors directly above baseboard heaters or forced air outlets.
- Use sensors only with lighting loads.
- Sensors should be used in dry, indoor locations.

INSTALLATION

The WA1001 and HS1001 can be mounted to a wall or ceiling. Brackets are available that give flexibility for positioning the sensor.

Swivel Mount Bracket

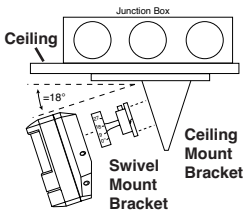
The swivel mounting bracket gives the angle adjustment flexibility needed in some applications, especially for low or very high mounting heights, or when mounting to a wall. This is achieved by aligning the angle markings on the sensor mount with the alignment mark on the wall mount. The swivel mounting bracket can be used with or without the ceiling mount bracket.



Ceiling Mount Bracket

The ceiling and swivel mounting brackets can be used together when mounting the WA1001 or HS1001 to the ceiling. This arrangement gives angle adjustment flexibility.
Align the angle marks on the swivel mount bracket to the angle desired. Note that the ceiling mount bracket adds 18° to the angle set with the swivel mount bracket.

The ceiling mount bracket is designed to connect to a standard 3-0 Mud/Plaster Ring.



1. Use provided screws to secure ceiling mount bracket plate to mud ring.
2. Connect the swivel mount bracket to the sensor and to the V-bracket of the ceiling mount bracket with Phillips head screws.
3. Run wire through slots in V-bracket (two slots are provided for flexibility) and snap bracket to the ceiling plate, taking precautions to prevent wires from getting pinched. Connect wire leads coming out of sensor as described in wiring diagram.

Sensor Angle Adjustment

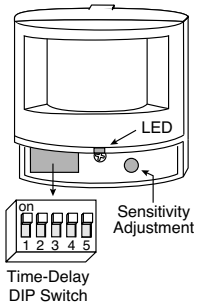
When adjusting, have a person walk toward the sensor in a zig-zag pattern from the far end of the desired coverage area. Increase or decrease mounting angle as needed until the PIR sensor detects them (red LED flashes).

SENSOR ADJUSTMENT

After sensor is installed, it should be set so the lights will stay on whenever the coverage area is occupied. Before starting the adjustment process, make sure the office furniture is installed, lighting circuits are turned on, and the HVAC systems are in the overridden/on position. VAV systems should be set to their highest air flow.

Note: There is up to a **one and a half minute warm-up** after power is restored to the sensor, before the sensor works properly.

1. Set the time delay to minimum, 15 seconds. See table under DIP Switch Settings for time delay adjustments.
2. Set the sensitivity to maximum, fully clockwise.
3. Move out of the coverage area. The lights should turn off after approximately 15 seconds. If not, see Troubleshooting. If needed, decrease sensitivity to reduce coverage in the area.
4. Set the desired time delay with the DIP switches.
5. Readjust the angle of the sensor if necessary (see Installation).



DIP SWITCH SETTINGS

Recommended time delay settings:

Offices and conference rooms: . . . . . .10-16 min.
Open office spaces: . . . . . .10-16 min.
Classrooms: . . . . . .10-16 min.
Warehouses: . . . . . .8-10 min.
Hallways: . . . . . .10-16 min.

Note: Frequent cycling of lights can reduce lamp life; use caution when setting the time delay below 8-10 min.

DIP Switch #	1	2	3	4	5
Time Delays					
15 seconds	X	X	X	X	O
2 minutes	O	X	X	X	O
4 minutes	X	O	X	X	O
6 minutes	O	O	X	X	O
8 minutes	X	X	O	X	O
10 minutes	O	X	O	X	O
12 minutes	X	O	O	X	O
14 minutes	O	O	O	X	O
16 minutes	X	X	X	O	O
18 minutes	O	X	X	O	O
20 minutes	X	O	X	O	O
22 minutes	O	O	X	O	O
24 minutes	X	X	O	O	O
26 minutes	O	X	O	O	O
28 minutes	X	O	O	O	O
30 minutes	O	O	O	O	O
Override	O	O	O	O	X

X=on O=off

TROUBLESHOOTING

WARNING – Turn off power at the circuit breaker before working with high voltage.

The lights do not turn on with occupancy:

LED does NOT flash:

1. Check the sensitivity settings. Increase (clockwise) as needed.
2. Check all sensor and power pack wire connections.
3. Check for 24VDC at sensor (red & black).
   - If 24VDC is present, replace the sensor.
   - If 24VDC is not present, check that high voltage (120 or 277VAC) is present to power pack. If it is, replace power pack.
4. Call (800) 223-4185 for technical support.

LED does flash:

1. Check all sensor and power pack wire connections.
2. Check for 24VDC at the power pack's blue wire connection to sensor while someone moves in front of sensor to activate the LED. If there is no voltage, replace the sensor. If there is voltage, replace the power pack.
3. Call (800) 223-4185 for technical support.

The lights do not turn off automatically:

1. Check the sensitivity settings. Decrease (counterclockwise) as needed.
2. Check all sensor and power pack wire connections.
3. Disconnect power pack's blue wire:
   If the lights do not turn off, replace power pack.
   If the lights turn off, the problem may be in the sensor, to check:
   - Turn sensitivity and time delay to minimum and allow the sensor to time out. If the lights turn off, the sensor is working properly. The lights may be staying on because the sensor is detecting motion or some type of interference. Go through the sensor adjustment process again.
4. If sensor still does not operate properly, call (800) 223-4185 for technical support.

Override Function:

In the event of unit failure or if it is necessary to leave the lights on, set DIP switch #5 to ON. This will bypass the automatic function of the sensor to allow manual on/off control of circuits.