NeoSwitch Passive Infrared (PIR) Technology
Low Voltage Occupancy Sensing Wall Switch

General Information
- Read all instructions on both sides of this sheet first.
- Install in accordance with all local codes.
- For indoor use only.
- For use with Greengage Switchpacks & Systems Only. For use with other systems, contact Technical Support.
- Do not run any Greengage Low Voltage wiring in the same conduit as power conductors.

Specifications
Technology: Passive Infrared (PIR)
Electrical Ratings:
- Input: 10-30VDC from Greengage Switchpack or Greengage System. Maximum current needed is 25mA per sensor.
- Output: Open collector output to switch up to ten Greengage Switchpacks.
- Form C Relay: Isolated Form C Relay Ratings: 1A 30VDC/VAC
- Time Delays: Self-Adjusting, 15 seconds/test (10 min tracking).

Light Level Sensing:
- (1 to 200 foot-candles

Operating Environment:
- Temperature: 52°F – 104°F (0°C – 40°C)
- Relative Humidity: 20% to 90% Non-condensing

Housing:
- Durable, injection molded housing, Polycarbonate resin complies with UL94V0.

Size:
- Mounting Plate/Shape Dimensions: 4.195” H x 1.732” W (106.553 mm x 44 mm)
- Product Housing Dimensions: 2.618” H x 1.752” W x 1.39” D (66.5 mm x 44.5 mm x 48.26 mm)

LED Indicators:
- Red LED indicates PIR detection; Green LED acts as EcoMeter or right light locator.

Coverage:
The ONW-P-1001-SP is designed for offices up to 300 square feet.

Description
The ONW-P-1001-SP Occupancy Sensing Wall Switch is a Passive Infrared (PIR) motion sensing lighting control and conventional Wall Switch all-in-one, used for energy savings and convenience.

PIR Technology
The sensor’s segmented lens divides the field of view into sensor zones, and detects the changes in temperature that are created when a person, or part of a person as small as a hand, passes into or out of a sensor zone.

The ONW-P-1001-SP allows the control of one Greengage switchpack or input to a Greengage Panel. The sensor may be interfaced to an energy management system that accepts either a normally open or normally closed dry contact via the sensor’s Form C relay. The sensor can be configured to enhance energy savings by setting the unit for manual ON operation.

In Automatic ON Mode, the lights turn ON automatically when a person enters the room. In Manual ON Mode, the lights are turned ON by pressing the universally recognized light icon Pushbutton. In either mode, the lights stay ON as long as the sensor detects motion in the room. When the room is vacated, the lights turn OFF automatically after a preset Time Delay interval.

The sensor includes self-adaptive technology that continually adjusts to conditions by adjusting sensitivity and Time Delay in real time. By adjusting sensitivity and Time Delay automatically, the sensor is maximizing the potential energy savings that are available in the particular application.

The EcoMeter provides a visual indicator of energy usage, increasing end user awareness and reminding individuals to take control of their lighting to maximize energy savings.

The Daylighting feature prevents lights from turning ON, when the room is adequately illuminated by natural light.

Walk Through feature maximizes energy savings by not leaving the lights ON after a momentary occupancy.

The sensor will switch the lights ON when it detects a person entering the area. If the sensor does not continue to detect motion 20 seconds following the initial activation, it will automatically go to a shorter 2 minute Time Delay.

Tracking Mode allows the load connected to the Form C relay to follow the state of the sensor’s blue lead. HVAC Mode allows the load connected to the Form C relay to remain ON when the lights are turned OFF manually.

Applications may include keeping the room at a desired temperature while giving a presentation and the lights are OFF.

Location
When installing the ONW-P-1001-SP in a new junction box, choose the switch location carefully to provide optimum coverage of the occupied area. When replacing an existing Wall Switch, bear in mind that there must be a Form C relay in the hallway where it may detect passers-by.

Coverage
- Minor Motion – 300 sq. ft.
- Major Motion – 1000 sq. ft.

Time Delays:
- The area is vacated and the lights turn OFF automatically.
- A person turns the lights OFF manually upon exiting an area.
- The daylight feature presents the lights from automatically turning ON when a person enters an area.

EcoMeter Operation
- Load 1 EcoMeter LED
  - Action
  - Benefit
  - OFF
  - ON
  - OFF
  - ON

- ON
  - Increased awareness of energy savings, Acts as a night light feature.
  - Increased awareness of energy savings and reminds individuals to take control of their lighting for additional savings. Acts as a night light feature.
  - Increased awareness of energy savings and lets individual know that the daylighting feature is working.

Installation
The ONW-P-1001-SP can be installed in any standard single gang box. It may be installed in the same manner as an ordinary Wall Switch.

- Wire the ONW-P-1001-SP as described in the wiring section.
- Mount the ONW-P-1001-SP in the junction box.

Wiring
CAUTION: Before installing or performing any service on a Greengage system, the power MUST be turned OFF at the branch circuit breaker. According to NEC 240.4(b), if the branch circuit breaker is used as the main switch for a fluorescent lighting circuit, the circuit breaker should be marked “SW”. All installations should be in compliance with the National Electric Code and all state and local codes.

NOTE REGARDING COMPACT FLUORESCENT LAMPS: The life of some compact fluorescent lamps (CFLs) is shortened by frequent automatic or manual switching. Check with CFL and ballast manufacturers to determine the effects of cycling.

1. Make sure power is turned OFF at the branch circuit breaker.
2. Wire units as shown in wiring diagrams per applicable voltage requirements.
3. Mount unit to Wall Box.
4. Turn power back ON at the branch circuit breaker and wait 2 minutes for the unit to stabilize.
5. Make necessary adjustments. (See Checkout and Adjustments section)
6. Install Wall Switch plate.

Model # ONW-P-1001-SP-B
Model # ONW-P-1001-SP-G
Model # ONW-P-1001-SP-V
Model # ONW-P-1001-SP-W

Electrical Ratings:
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DIP Switch Settings

Checkout and Adjustment
Adjustments should be made with the HVAC system on so that the installer will be able to detect the effect of artificial light on the operation of the OMNI-P-1001-SP. Use only insulated tools to make adjustments. Immediately after applying power to the lighting circuit, wait approximately two minutes for the switch to power up and stabilize.

Self-Adjust
Sensor is shipped in self-adjust mode. This applies to Time Delay and PIR sensitivity. In preparation for the installer Test, the Time Delay is set to 15 seconds, after the sensor is installed, powered ON and has stabilized, the unit will Time-out 15 seconds after the last motion detected. Coverage and sensitivity can be confirmed by watching the Red (PIR) indicator LED on the front of the sensor, while moving around the room.

1. Walk around the room and monitor LEDs.
2. Stand in different parts of the room and wave your hands.
3. With the load(s) ON, put the sensor into Test Mode. To place into Test Mode, toggle DIP Switch 8 out of its current position, wait 3 seconds and then back into its original position.
4. Let the sensor Time-out so lights are OFF. Enter the space and lights should remain OFF.
5. Make sure not to block the sensor from the daylight source and adjust the light level potentiometer (CW) in small increments. (Pause 5 seconds between each adjustment)
6. Lights will not turn ON upon occupancy activation, when the ambient light level exceeds the daylight threshold setting.

Time Delay Adjustments
People who remain very still for long periods of time may need a longer Time Delay than the default setting of 10 minutes. As long as the self-adjusting feature is enabled, the switch will respond to each pair of False-offs with no normal OFF in between, by alternating making slight adjustments to either Time Delay (by 2 minutes increments) or sensitivity, so there should be no need for manual adjustment. If manual adjustment is desired, refer to Time Delay settings in DIP Switch legend.

Reset sensor Time Delay to factory settings by moving DIP Switches 1 and 2 down. (DIP Switches 1 and 2 are already down, toggle DIP Switch 1 out of its current position, wait 3 seconds, and then back to its original position)

Tracking/HVAC
When the occupancy sensor turns the lights ON or OFF either by detection or a manual press, the lights can be turned OFF manually by pressing the Pushbutton. The lights will remain OFF as long as there is motion in the room, once the occupancy sensor no longer detects motion and the Time Delay expires, the sensor will revert back to its normal operation.

Mode – Isolated relay will follow operation of sensor in all modes. Relay state will change when occupancy sensor is activated and/or turned ON or OFF manually. HVAC Mode – Isolated relay will only change state in Auto/Manual ON and Auto OFF modes. The state will not change, if the occupancy sensor is turned OFF manually. The relay will change state once the Time Delay expires.

Override
The override setting allows the sensor to operate as a service switch in the unlikely event of failure.
1. Move DIP Switch 8 up.
2. The Pushbutton can be used to manually turn lights ON or OFF.

Troubleshooting

Issue | Possible Causes | Suggestions
--- | --- | ---
Lights Won't Turn ON automatically | Sensor is in Manual ON mode | Press Pushbutton. If Auto Mode is desired change Activation Mode to Auto.
 Lights were turned OFF manually | Check EcoMeter LED. If LED is ON this is an indication that the lights were turned OFF manually.

Daylight Feature Enabled | If all lights are required to turn ON adjust daylight photometer.

Power Interruption | Check incoming voltage and/or wiring.

If lights still will not turn OFF, set sensor to override mode and call Technical Services at 1-800-553-3879

Warranties and Limitation of Liability
Please refer to www.coopercontrol.com under the Legal section for our terms and conditions.

Daylight Adjustments
The daylighting feature prevents the lights from turning ON when the room is adequately illuminated by natural light. If there is enough light in the room regardless of occupancy, the sensor will hold the lights OFF. If there is not enough light in the room, the sensor will allow the lights to turn ON when occupied. The sensor will not allow the daylighting feature to turn the load OFF until the space is vacant or the light level rises above the setback and the Time Delay expires. While in Manual Activation Mode, if someone attempts to turn the load ON and there is sufficient daylight available the Daylighting feature will hold the lights OFF.

1. Set the light level when the ambient light is at the level where no artificial light is needed. If this feature is not needed, leave the light level at maximum (fully CW).
2. With the load(s) ON, put the sensor into Test Mode. To place into Test Mode, toggle DIP Switch 8 out of its current position, wait 3 seconds and then back in to its original position.
3. Set the Light level to minimum (fully CCW).
4. Let the sensor Time-out so lights are OFF. Enter the space and lights should remain OFF.
5. Make sure not to block the sensor from the daylight source and adjust the light level potentiometer (CW) in small increments. (Pause 5 seconds between each adjustment)
6. Lights will not turn ON upon occupancy activation, when the ambient light level exceeds the daylight threshold setting.

PIR Sensitivity
1. Stand in different areas of the room and wave your hands.
2. If the Red LED does not turn ON, check for any obstructions.
3. Stand still for four feet away from sensor for five seconds. LED should not turn ON.
4. If Red LED turns ON without motion or is constantly ON adjust PIR sensitivity to 50% by moving DIP Switch 5 up.

Field-of-view outside the space
1. Adjust PIR sensitivity to 50% by moving DIP Switch 5 up.
2. Use non-reflective tape strips to cover the portions of the sensor lens that view outside the space.