Greengate

Installation Instructions

Passive Infrared (PIR) Single Relay
Auto/Manual ON Sensing Wall Switch

PIR Activated

California Title 24 Compliant

RoHS

Model # OSW-P-0801-120
VSW-P-0801-120

General Information

- Read all instructions on both sides of this sheet first
- Install in accordance with ALL local codes
- For indoor use only

Specifications

- 120V/AC, 60 Hz
- Incandescent/Tungsten/Halogen/LED/ Electronic Low Voltage (ELV) — 600W
- Magnetic Low Voltage — 600VA
- Fluorescent, Compact Fluorescent — 5.0A/600W
- Motor Load — 1/6 HP
- NOTE - A Ground connection is required in the Wall Box where the sensor will be installed

Description

This Sensor Wall Switch can replace a standard Wall Switch in any of the following applications:
- Single location – one Single Pole switch.
- Two location – one location is the sensor and the other location is a standard 3-way switch
- Two location – replace both 3-way switches with sensors.

The OSW-P-0801-120 turns ON automatically when a person enters the room.
The VSW-P-0801-120 requires manual activation to turn ON the lights.
Both OSW-P-0801-120 and VSW-P-1001-120 will automatically turn OFF lights after a selectable Time Delay.
OSW-P-0801-120 includes a light level adjustment for daylight to prevent motion from turning ON the lights.

Auto ON Sensor – OSW-P-0801-120

OSW-P-0801-120 will turn ON lights automatically when a person enters the room.
Lights will turn OFF automatically when no motion is detected after a selectable Time Delay.
The selectable Time Delays are 5 seconds (Test Mode), 5 minutes (factory default), 10 minutes, 20 minutes and 30 minutes.

Manual ON Sensor – VSW-P-0801-120

The VSW-P-0801-120 must be turned on manually with the ON/OFF button.
Lights will turn OFF automatically when no motion is detected after a selectable Time Delay.
The selectable Time Delays are 5 seconds (Test Mode), 5 minutes, 10 minutes, 20 minutes and 30 minutes (factory default).
When the lights have turned OFF due to a lack of motion, the lights will turn ON automatically if motion is detected within 30 seconds.

COVERAGE PATTERN

12' 8' 0 8' 12'
0
15'
25'

MAJOR MOTION
800 SQ. FT.
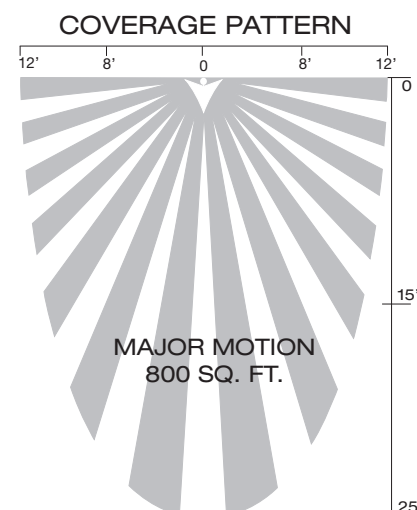
Installation

Refer to the wiring diagrams and install the sensor according to these directions.

For single pole applications, wire the sensor switch according to wiring diagram #1 using the wire nuts provided.
1. The sensor black wire will connect to the hot wire (black) in the Wall Box.
2. The sensor red wire will connect to the wire which goes to the light fixture.
3. The sensor blue wire is not used and should be capped OFF with a wire nut.
4. The sensor green wire will connect to the ground wire in the Wall Box.
5. Install the sensor loosely using the mounting screws provided.
6. Apply power and wait one minute. Verify that the sensor works by pushing the ON/OFF button to verify the lights turn ON and OFF. You must wait 2 seconds between button presses. If the lights do not work, then turn OFF the power and swap the connections on the sensor black and red wires.
7. Apply power again and verify that the sensor works by pushing the ON/OFF button to verify the lights turn ON and OFF.
8. Turn power OFF and go to COMPLETING THE INSTALLATION.

For 3-way applications, wire the sensor switch according to wiring diagram #2A or 2B using the wire nuts provided. The sensor may be placed at either end of the 3-way circuit.
1. Remove the existing switch in the location where the sensor will be installed.
   a. The sensor black wire will connect to either one of the black wires in the Wall Box.
   b. The sensor red wire will connect to the other black wire in the Wall Box.
   c. The sensor blue wire will connect to the red traveler wire in the Wall Box
   d. The sensor green wire will connect to the ground wire in the Wall Box.
   e. Install the sensor loosely using the mounting screws provided.
2. Remove the existing switch in the other 3-way location.
   a. Connect the two black wires together.
   b. Connect the bare ground wire in the Wall Box to the common terminal (usually a black screw or a marking such as COM or COMMON near the terminal) on the 3-way switch.
   c. Connect the red wire to either of the other switch terminals.
   d. Re-install the 3-way switch and tighten securely.
3. Apply power and wait one minute. Verify that the sensor works by pushing the ON/OFF button. You must wait 2 seconds between button presses. The lights should turn ON and OFF. If the lights do not work, then turn the power OFF and swap the connections to the sensor black and red wires.
4. Apply power again and verify the sensor works by pushing the ON/OFF button to verify the lights turn ON and OFF.
5. Turn power OFF and go to COMPLETING THE INSTALLATION.

For 2 sensor applications, wire the sensor switches according to wiring diagram #3 using the wire nuts provided.
1. Remove the existing switch in the 3-way location where the first sensor will be installed.
   a. The sensor black wire will connect to the two black wires in the Wall Box.
   b. The sensor red wire will connect to the red wire in the Wall Box.
   c. The sensor blue wire is not used and should be capped OFF with a wire nut.
   d. The sensor green wire will connect to the ground wire in the Wall Box.
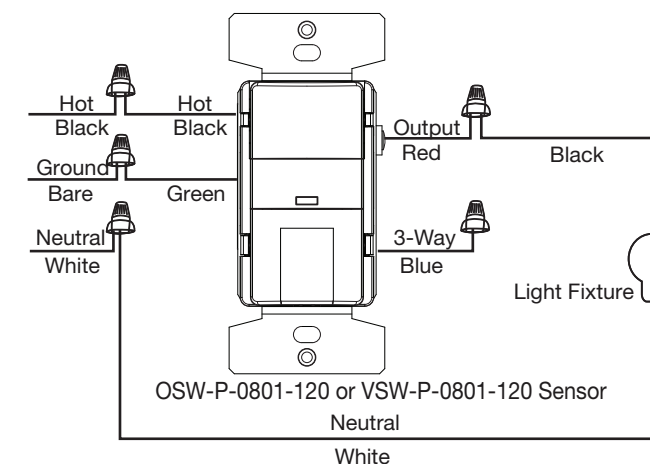   e. Install the sensor loosely using the mounting screws provided.

Wiring

CAUTION: Before installing or performing any service on a Greengate system, the power MUST be turned OFF at the branch circuit breaker. According to NEC 240-83(d), if the branch circuit breaker is used as the main switch for a fluorescent lighting circuit, the circuit breaker should be marked "SWD". All installations should be in compliance with the National Electric Code and all state and local codes.
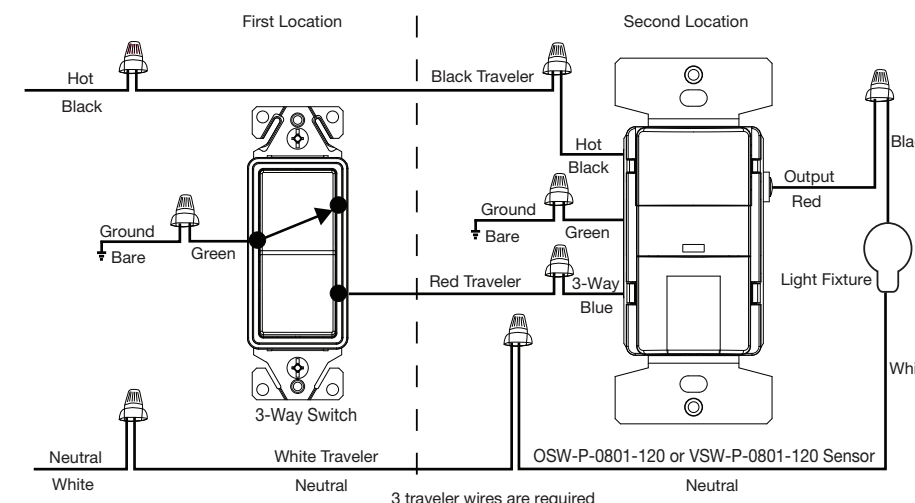
NOTE REGARDING COMPACT FLUORESCENT LAMPS: The life of some compact fluorescent lamps (CFLs) is shortened by frequent automatic or manual switching. Check with CFL and ballast manufacturer to determine the effects of cycling.

1. Make sure power is turned OFF at the branch circuit breaker.
2. Wire units as shown in wiring diagrams per applicable voltage requirements. (Use twist-ON wire connectors for all connections) CAP ALL UNUSED WIRE LEADS.
3. Mount unit to wall, ceiling, junction box, or round fixture with raceway.
4. Turn power back ON at the branch circuit breaker and wait 2 minutes for the unit to stabilize.
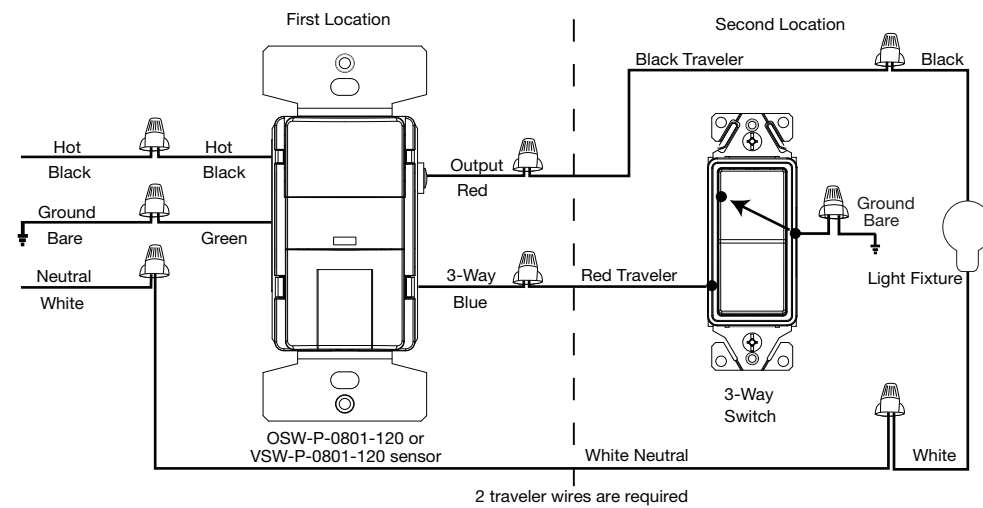5. Make necessary adjustments. (See Checkout and Adjustments section)

WIRING DIAGRAM 1: SENSOR IN ONE LOCATION

Hot — Hot
Black — Black
Ground
Bare — Green
Neutral
White
Output
Red — Black
3-Way
Blue
Light Fixture
OSW-P-0801-120 or VSW-P-0801-120 Sensor
Neutral
White

WIRING DIAGRAM 2: SWITCH IN LOCATION WITH HOT WIRE

First Location
Hot
Black
Ground
Bare — Green
3-Way Switch
Neutral
White
Black Traveler
Red Traveler
White Traveler
Neutral

Second Location
Hot
Black
Ground
Bare — Green
Output
Red
Black
3-Way
Blue
Light Fixture
White
OSW-P-0801-120 or VSW-P-0801-120 Sensor
Neutral
3 traveler wires are required

WIRING DIAGRAM 2B: SENSOR IN ONE LOCATION WITH HOT WIRE

First Location
Second Location

Black Traveler — Black

Hot — Hot
Black — Black
Output Red
Ground — Green
Bare — Ground Bare
Neutral — 3-Way — Red Traveler
White — Blue
Light Fixture

OSW-P-0801-120 or VSW-P-0801-120 sensor
White Neutral — White

3-Way Switch

2 traveler wires are required

WIRING DIAGRAM 3: SENSORS IN BOTH LOCATIONS

First Location
Second Location

Black Traveler

Red Traveler

Hot — Hot
Black — Black
Output Red
Ground — Green
Bare — 3-Way
Neutral — Blue
White

Hot — Black
Output Red
Ground — Green
Bare — 3-Way
Blue

Black
Light Fixture

OSW-P-0801-120 or VSW-P-0801-120 Sensor
OSW-P-0801-120 or VSW-P-0801-120 Sensor

White Neutral
White Neutral

2 traveler wires are required
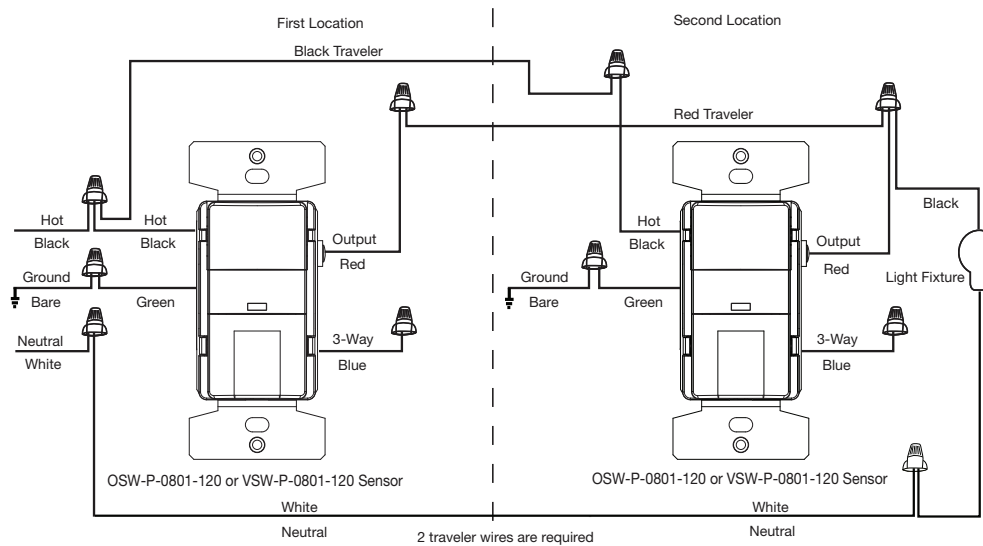
Installer Adjustments

2. Remove the existing switch in the other 3-way location where the second sensor will be installed.
   a. The sensor black wire will connect to the black wire coming from the first Wall Box.
   b. The sensor red wire will connect to the red wire coming from the first Wall Box and to the black wire going to the light fixture.
   c. The sensor blue wire is not used and should be capped OFF with a wire nut.
   d. The sensor green wire will connect to the ground wire in the Wall Box.
   e. Install the sensor loosely using the mounting screws provided.
3. Apply power and wait one minute. Verify that the sensors work by pressing the ON/OFF buttons on each sensor. If the light does not turn ON and OFF from either or both sensors, you must swap the red and black sensor wire ON that sensor.
4. Re-install the sensor loosely, apply power again, and verify the sensor works by pushing the ON/OFF button to verify the lights turn ON and OFF. You must wait 2 seconds between button presses.
5. Turn power OFF and go to COMPLETING THE INSTALLATION.

COMPLETING THE INSTALLATION:

1. Secure sensor into the Wall Box using two mounting screws provided. Turn the circuit breaker ON.
2. Allow the sensor to stabilize for one minute. The sensor is now ready to detect motion.
3. Verify that Power is ON by pushing the ON/OFF button. Lights should turn ON.
4. NOTE - The sensor Time Delay is factory preset (OSW-P-0801-120 = 5 minutes; VSW-P-0801-120 = 30 minutes).
5. If you want to change the Time Delay proceed as follows:
   a. Remove the button from the sensor by pressing in the hooks on the button, and then lift up on the button as shown in Fig. 4.
   b. Set the Time Delay using the dial on the right side by using a small Phillips screwdriver. Align the arrow on the dial to desired Time Delay.
   c. To allow the installer to quickly confirm that the sensor is functioning properly the Time Delay can be set to TEST. This will set a Time Delay of 5 seconds, which allows quick feedback that the sensor is working properly.
6. Replace Pushbutton by sliding it upward into the slots in the front housing and push down until the button hook snaps into place.
7. Push the ON/OFF button to verify that the lights turn ON/OFF, and that the button operates freely.
8. Install the Wallplate.

Daylight Sensing Adjustment (OSW-P-0801-120 only):

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

NOTE - The factory setting for this adjustment is fully counter-clockwise, which permits motion detection to turn the lights ON regardless of the ambient light level in the room.
This adjustment requires a small Phillips screwdriver and must be made when the light level in the room is at the desired level for the lights to turn ON.

1. Remove the ON/OFF Pushbutton to access the light level adjustment (See Figure 4)
2. Turn the LIGHT LEVEL dial to the full clockwise position.
3. Turn the TIME DELAY dial to the TEST position and hold the screwdriver on the dial. Do not move for 5 seconds until the light turns OFF. Immediately turn the dial back to the full counter clockwise position. The light should stay OFF.
4. Stand to the side of the sensor to allow the device to sense the normal light level in the room.
5. Move your hand continually back and forth about 2 feet in front of the sensor while slowly turning the LIGHT LEVEL dial counter-clockwise until the light turns ON.
6. Adjust the Time Delay to the desired setting.
7. The Light Level adjustment is now complete. Replace the ON/OFF Pushbutton.
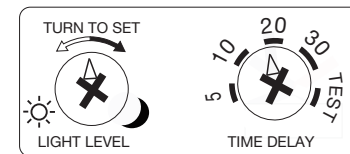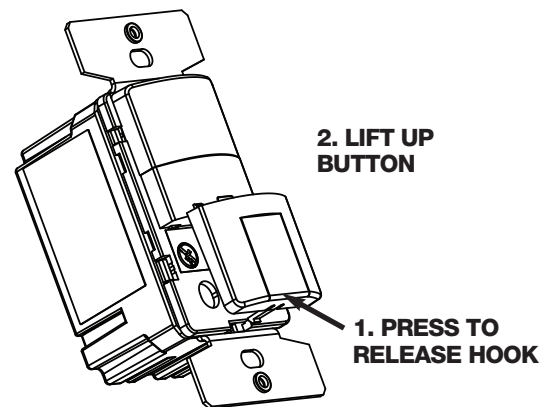
FIGURE 5

TURN TO SET

LIGHT LEVEL   TIME DELAY

FIGURE 4

2. LIFT UP BUTTON

1. PRESS TO RELEASE HOOK

Troubleshooting

Issue	Possible Causes	Suggestions
Lights Will Not Turn ON automatically (For OSW-P-1001-120 Only)	Circuit breaker is turned OFF, or fuse is blown	Turn circuit breaker ON, or replace fuse
	Bulb is defective	Replace light bulb
	Poor connection	Verify all wiring connections
	Control may be wired incorrectly	Check wiring
	Daylight sensing prevents lights ON	Re-adjust daylight sensing level
Light does not automatically turn OFF.	Motion is still present	Make sure there is no motion during the Time Delay period
	Time Delay has not expired	No action needed or shorten TIME DELAY
	Control may be wired incorrectly	Check wiring
	Switch is being triggered by air vent or other heat source	Move switch to the other switch location (if a 3-way), or determine the source triggering the switch, and alter the air flow.
Lights Will Not Stay ON	Motion is not detected	Create movement in front of the sensor for 5 seconds
	TIME control is set for too short a delay	Set switch TIME control to longer time period
Remote switch does not work	Control may be wired incorrectly	Check wiring

If lights will not operate properly, call Technical Services at 1-800-553-3879

Limited Warranty

All products manufactured by Cooper Lighting Solutions and identified with the Greengate brand are warranted to be free from defects in material and workmanship and shall conform to and perform in accordance with Seller's written specifications for a period of: Five (5) years from date of shipment for all occupancy sensors and Three (3) years from date of factory invoice for our hardware and software on Lighting Control Panels. We warranty all our standard relays for a period of 10 years from date of factory invoice. We guarantee the performance of our system to specifications or your money back. This warranty will be limited to the repair or replacement, at Seller's discretion, of any such goods found to be defective, upon their authorized return to Seller. This limited warranty does not apply if the goods have been damaged by accident, abuse, misuse, modification or misapplication, by damage during shipment or by improper service. There are no warranties, which extend beyond the hereinabove-limited warranty, INCLUD-ING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS. No employee, agent, dealer, or other person is authorized to give any warranties on behalf of the Seller or to assume for the Seller any other liability in connection with any of its goods except in writing and signed by the Seller. The Seller makes no representation that the goods comply with any present or future federal, state or local regulation or ordinance. Compliance is the Buyer's responsibility. The use of the Seller's goods should be in accordance with the provision of the National Electrical Code, UL and/or other industry or military standards that are pertinent to the particular end use. Installation or use not in accordance with these codes and standards could be hazardous.

COOPER
Lighting Solutions