EcoSwitch

Installation Guide

SS8030

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Installation Requirements

Required Equipment

- EcoSwitch (P/N: SS8030)
- Flathead screwdriver for mounting and unmounting wall plate
- Wire nuts
- Voltmeter

Electrical Requirements

Before installation, ensure that the EcoSwitch will be connected to a line with the following electrical properties:

LINE Type	Alternating Current (AC)
LINE Voltage	120 Volts (V)
LINE Frequency	60 Hertz (Hz)

Before installation, ensure that the devices controlled by the EcoSwitch use less than the following maximum loads:

Incandescent Load	600 Watts (W)
Motor Load	1/2 Horsepower (HP)
Resistive Load	1800 Watts (W) 15 Amperes (A)

Regulatory Compliance

FCC Notice

This equipment has been tested and found to comply with the limits for a class B digital device pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or experienced radio/TV technician for help.

Operation with non-approved equipment is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of the manufacturer could void the user's authority to operate the equipment.

To satisfy RF exposure requirements, this device and its antennas must operate with a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Wiring the EcoSwitch

1. Turn the power off at the circuit breaker.
2. Unmount the existing switch cover plate.
3. Unmount the existing switch from the junction box.
4. Use the voltmeter to verify the power is off.
5. Disconnect the existing switch from its wiring.
6. Use the table below to determine which wires are the 120V LINE, GROUND, and NEUTRAL IN from the breaker panel.
7. Use the table below to determine which wires are the LOAD and NEUTRAL OUT wires to control the light fixture.

Function	Term	Commonly Used Wire Color
120V In From Breaker Panel	LINE	Black
Out to Fixture	LOAD	Red
Neutral From Breaker Panel	NEUTRAL IN	White
Neutral to Fixture	NEUTRAL OUT	White
Ground	GROUND	Green

Some junction boxes may only have one neutral wire.

If there are no neutral wires, the EcoSwitch will not function. Discontinue installation.

8. Label the wires appropriately.
9. Connect the LINE wire from the wall to the black wire on the EcoSwitch.
10. Connect the GROUND wire from the wall to the green GROUND wire on the EcoSwitch.
11. Connect the LOAD wire leading to the fixture to the red wire on the EcoSwitch.
12. Connect the NEUTRAL IN wire from the breaker panel to the white NEUTRAL IN wire on the EcoSwitch.
13. Connect the NEUTRAL OUT wire leading to the fixture to the white NEUTRAL OUT wire on the EcoSwitch.

If only one neutral wire exists, connect the NEUTRAL IN wire on the EcoSwitch to the NEUTRAL IN wire coming from the breaker panel. Cap the NEUTRAL OUT wire coming from the EcoSwitch.

Alternatively, both the NEUTRAL IN and the NEUTRAL OUT wires from the EcoSwitch can be connected to the NEUTRAL IN wire from the breaker panel.

With only one neutral wire, the EcoSwitch will not be able to report power or current. The EcoSwitch will only report Voltage.

14. Verify all wire connections. The wires should now look like Figure 1. If only one Neutral connection was available, the wires will look like Figure 2.

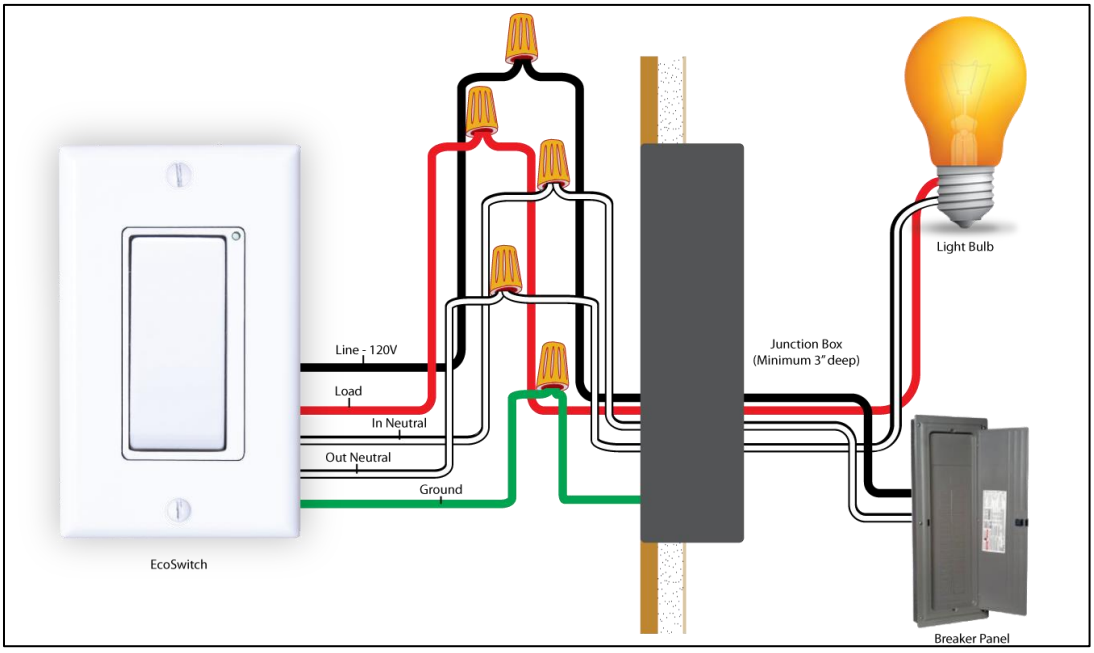

Figure 1: EcoSwitch Wiring Diagram with two Neutral Wires

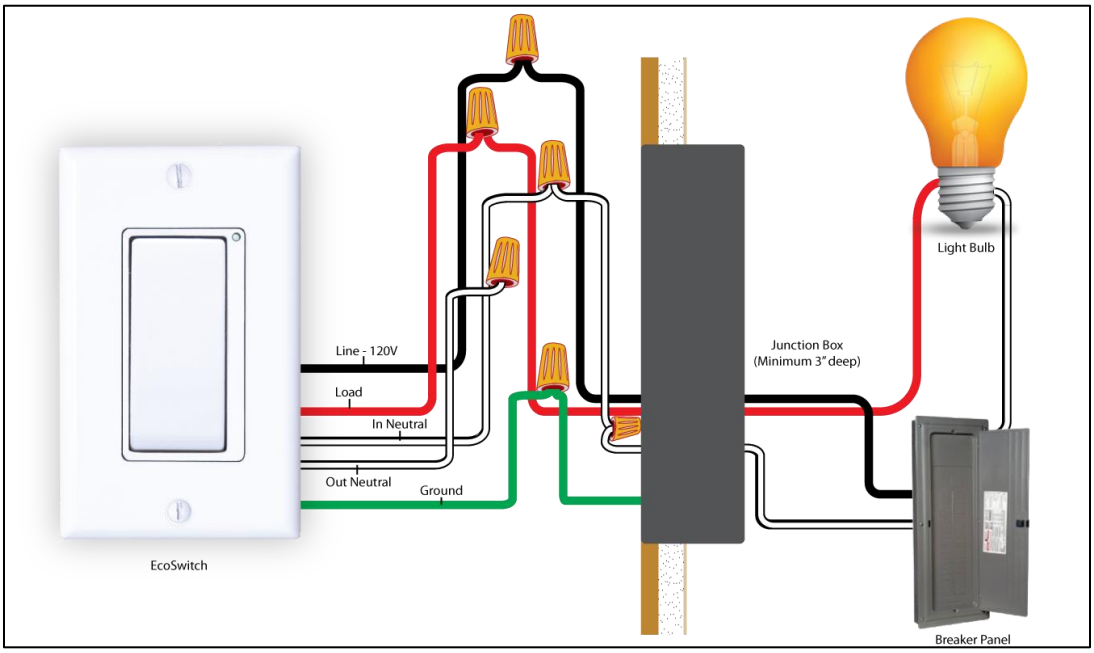

Figure 2: EcoSwitch Wiring Diagram with only one Neutral Wire

15. Turn the power on at the circuit breaker.
16. Press the switch once.
17. Verify the switch clicks and the light fixture turns on.
18. Press the switch once.
19. Verify the switch clicks and the light fixture turns off.
20. Turn the power off at the circuit breaker.
21. Mount the EcoSwitch into the junction box.
22. Mount the switch cover plate.
23. Turn the power on at the circuit breaker.
24. Wiring is complete. Complete either of the two following association sections depending on the thermostat installed in the room.

Associating the EcoSwitch with an EcoInsight

Connect the EcoSwitch to the ZigBee Network

1. Determine which EcoConnect will provide the ZigBee network for the EcoSwitch. The same EcoConnect must be used for both the EcoInsight and the EcoSwitch.
2. Activate joining on the EcoConnect using the EcoCentral Virtual Engineer web interface or by pressing the recessed button on the EcoConnect's front plate. The green LED on the front of the EcoConnect should blink green.
3. Press and hold the EcoSwitch for 10 seconds.
4. Verify the green LED on the EcoSwitch rapidly blinks green. If it does not blink or rapidly blinks red, see "Issues Connecting the EcoSwitch to the ZigBee Network" in Troubleshooting on page 8.

Associate the EcoSwitch with the EcoInsight

5. Press the right-most button beneath the display on the EcoInsight six times.
6. Verify the EcoInsight shows "Learn" in the upper right-hand corner. See Figure 3.

Figure 3: Learn Mode on the EcoInsight

7. Press and hold the EcoSwitch for 5 seconds.
8. Verify the green LED on the EcoSwitch rapidly blinks green. If it does not blink or rapidly blinks red, see "Issues Associating the EcoSwitch with the Thermostat" in Troubleshooting on page 8.

Associating the EcoSwitch with an EcoWave (EcoAir + EcoSource)

Connect the EcoSwitch to the ZigBee Network

1. Determine which EcoConnect will provide the ZigBee network for the EcoSwitch. The same EcoConnect must be used for both the EcoSource and the EcoSwitch.
2. Activate joining on the EcoConnect using the EcoCentral Virtual Engineer web interface or by pressing the recessed button on the EcoConnect's front plate. The green LED on the front of the EcoConnect should blink green.
3. Press and hold the EcoSwitch for 10 seconds.
4. Verify the green LED on the EcoSwitch rapidly blinks green. If it does not blink or rapidly blinks red, see "Issues Connecting the EcoSwitch to the ZigBee Network" in Troubleshooting on page 8.

Associate the EcoSwitch with the EcoSource

5. Press and hold the EcoSwitch for 5 seconds.
6. Verify the green LED on the EcoSwitch rapidly blinks green. If it does not blink or rapidly blinks red, see "Issues Associating the EcoSwitch with the Thermostat" in Troubleshooting on page 8.

Troubleshooting

Issues Connecting the EcoSwitch to the ZigBee Network

Problem	Potential Cause	Potential Solution
After pressing and holding the EcoSwitch for 10 seconds, the LED is solid green.	The EcoSwitch was not held down continuously for 10 seconds.	Wait 5 seconds and try again.
After pressing and holding the EcoSwitch for 10 seconds, the LED rapidly blinks red.	The sensor is unable to locate an EcoConnect in Joining mode.	Reactivate joining on the EcoConnect and try again.

Issues Associating the EcoSwitch with the Thermostat

Problem	Potential Cause	Potential Solution
After pressing and holding the EcoSwitch for 5 seconds, the LED is solid green.	The EcoSwitch was not held down continuously for 5 seconds.	Wait 5 seconds and try again.
After pressing and holding the EcoSwitch for 10 seconds, the LED rapidly blinks red.	The sensor is unable to locate an EcoInsight or EcoSource in Learn mode.	Reactivate Learn mode on the EcoInsight or EcoSource and try again.