Wireless Light Switch User Manual (Draft)

1   System description

The wireless light switch system is designed to wireless turn lights on or off from anyway in a house, which contains two components: switch and controller.

The Switch is a thin, wall mount switch that looks and feels much like a normal decora switch and fits in a normal decora faceplate. It is battery-powered and transmits commands in a secured way to controllers when a user pushes a button.

The Controller is an action component that receives commands from remote switches and takes action accordingly. It is installed in the junction box to a lighting fixture connected with phase, neutral and control wires. The switch to controller can be point to point (one switch controlling one controller) or multi point to multi point (multi switches signaling one or more controllers).
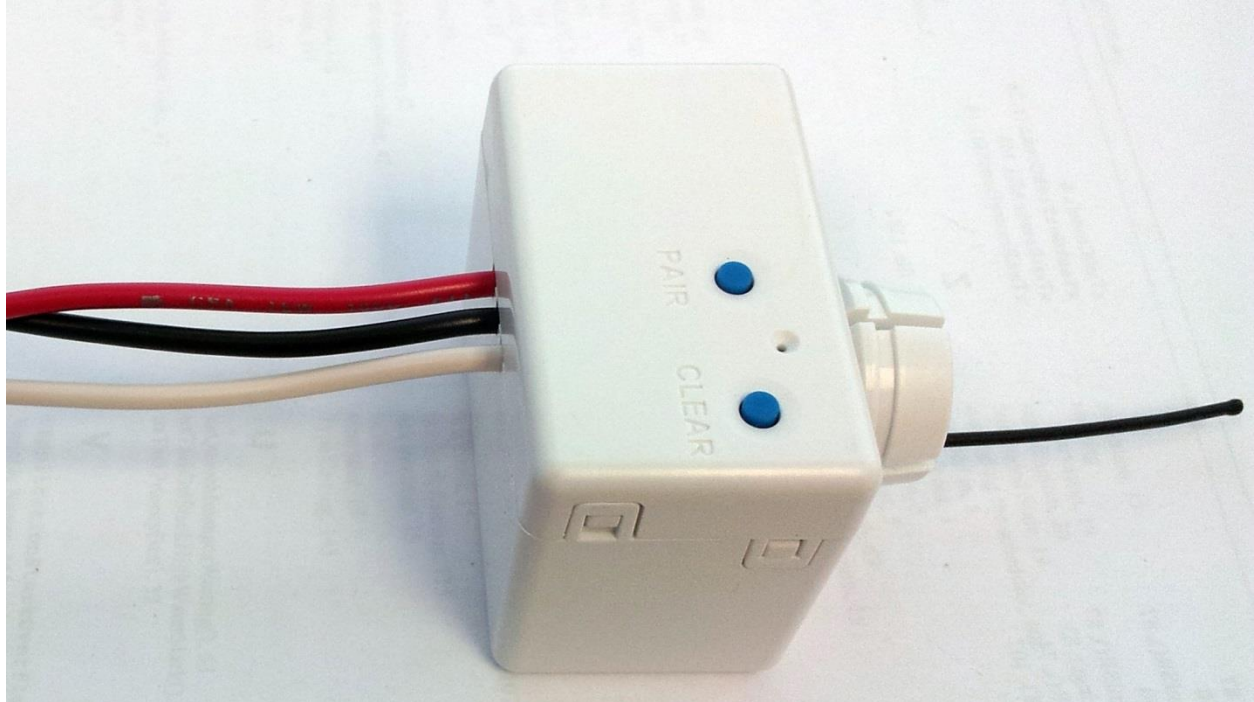
2   Specifications

2.1   Switch

1. Dimensions………………………………………………………………………105mmx36mmx11.2mm
2. Battery………………………………………………………………………………………CR2032
3. Wireless frequency…………………………………………………………………………917Mhz
4. Wireless range……………………………………………………Up to 100 meters line of sight
5. Operating Temperature………………………………………………………………………0-40°C
6. Indoor use only

2.2   Controller

1. Dimensions……………………………………………………………………56mmx47.7mmx39.6mm
2. Voltage…………………………………………………………………………………120VAC, 60Hz
3. Maximum load……………………………………………………………………………………600W
4. Wireless frequency…………………………………………………………………………917Mhz
5. Wireless range……………………………………………………Up to 100 meters line of sight
6. Operating temperature………………………………………………………………………0-40°C
7. Load type………………………………Incandescent, halogen and other resistive light fixtures

8. Indoor use only

3   Features

- Compatible for incandescent, halogen and other resistive light fixtures
- Non-relayable wireless lighting control
- On-Off controller
- Battery powered switch operable up to 10 years*
- Ease of multiple-way control
  - o   Each switch can control as many as possible controllers, as long as they are within the wireless range
  - o   Each controller controllable by up to 10 switches
- Advanced security level
  - o   Rolling code to prevent repeat attack
  - o   128-bit encryption
- Ease of installation (No wiring between controller and switch, and a switch can be attached to anywhere)
- Switch dimmer function ready

*Conditions apply: typical operation 100 switches per day, average 0.5 second press and hold time, 20°C. Actual battery life greatly depends on usage environment, such as temperature and humidity, and operation conditions, such as press and hold time.
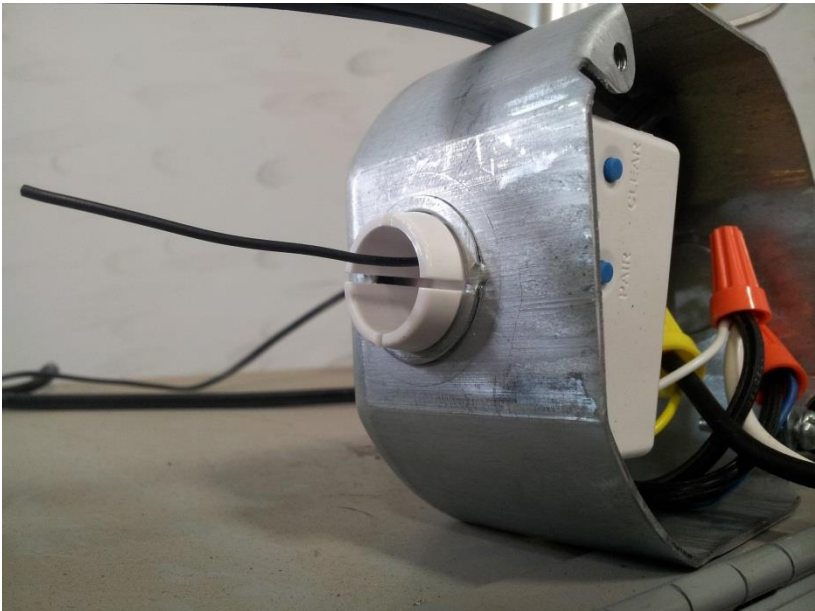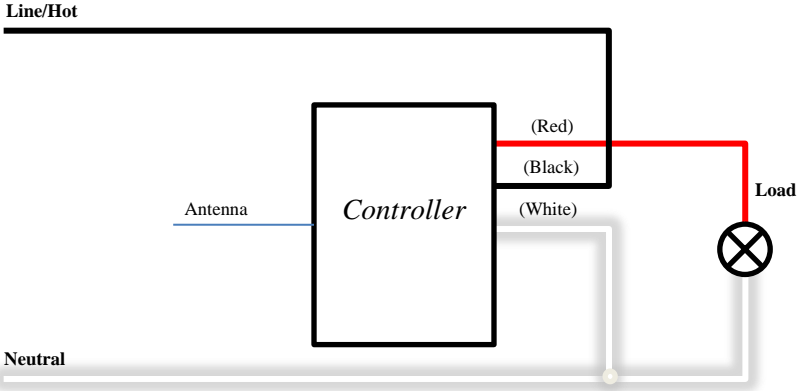
4   Installation Instructions

WARNINGS:
- To be installed and/or used in accordance with local electrical codes and regulations.
- The controller should be mounted to a listed electrical junction box of suitable size with height no less than 2" (50.8mm) and with ½" knockouts, such as $4 \times 2\, {}^{1}\!/_{8}$ " Octagonal box.
- If you are unsure about any part of these instructions, consult a qualified electrician.

NOTE: Use check boxes ☐ when Steps are completed.

Step 1 ☐	**WARNING: TO AVOID FIRE SHOCK OR DEATH; TURN OFF POWER** at circuit breaker or fuse and test that power is off before wiring!
Step 2 ☐	**Identifying your wiring application, these wires in a junction box are needed** **1.** Line/hot **2.** Neutral

	3. Load (to light fixture)
Step 3 ☐	**Mount the controller inside a suitable junction box:** The controller is normally installed inside a junction box that supports light fixtures. Insert its connector coupling into a ½" knockout from inside, with the antenna stretching out from the hole as well.

Step 4 ☐	**Wiring controller:** • Connect (Neutral) wire from junction box to **white** wire on controller • Connect (Line/hot) wire from junction box to **black** wire on controller • Connect (Load) wire from junction box to **red** wire on controller Line/Hot (Red) (Black) Load Antenna *Controller* (White) Neutral
Step 5 ☐	**Power on the controller** • The green LED on the controller will be lit • The red LED will indicate controller status: it is on indicating the circuit to the light fixture is connected; it is off indicating the circuit to the light fixture is disconnected
Step 6 ☐	**Pairing switch with controller:** • On the controller, press "PAIR" button. The LED on the controller will begin flash green slowly **NOTE**: If there is no pairing request received within 60 seconds, the controller will quit the pairing procedure and the LED will go back to solid status automatically • Press both switch buttons. You may need to push hard to let them contact the bottom of the switch. When it is activated, the LED on the controller will begin flash green and red rapidly • Press "PAIR" on the controller again to confirm the pairing. The LED will flash green rapidly for a while to indicate success, then stop flashing and go back to solid status **NOTE**: If no confirmation operation is performed within 60 seconds, the controller will quit the pairing procedure and the LED will go back to solid status automatically • Pairing procedure end •
Step 7 ☐	You are ready to go now.

5   Basic operation

ON: Push switch ON (Activate when push down)

OFF: Push switch OFF (Activate when release)

BRIGHTEN*: Push and hold the switch ON button for more than 3 seconds. If the lights are not lit previously, they are lit up first.

DIM*: Push and hold the switch OFF button for more than 3 seconds. Lights should first be lit up to be dimmed.

*Optional, only work on dimmer controller.

6   Advanced operations

6.1   Paring

A switch should first be paired to a controller to control it.

- On the controller, press "PAIR" button. The LED on the controller will begin flash green slowly
  NOTE: If there is no pairing request received within 60 seconds, the controller will quit the pairing procedure and the LED will go back to solid status automatically
- Press both switch buttons. You may need to push hard to let them contact the bottom of the switch. When it is activated, the LED on the controller will begin flash green and red rapidly
- Press "PAIR" on the controller again to confirm the pairing. The LED will flash green rapidly for a while to indicate success, then stop flashing and go back to solid status
  NOTE: If no confirmation operation is performed within 60 seconds, the controller will quit the pairing procedure and the LED will go back to solid status automatically
- Pairing procedure end

*Press controller "CLEAR" button anytime to quite pairing procedure

6.2   Clear all pairing information

- On the controller, press and hold "CLEAR" button for more than 5 seconds. The LED on the controller will flash red rapidly for a while to indicate successfully delete all paired information. Then the LED will go back to solid status automatically.
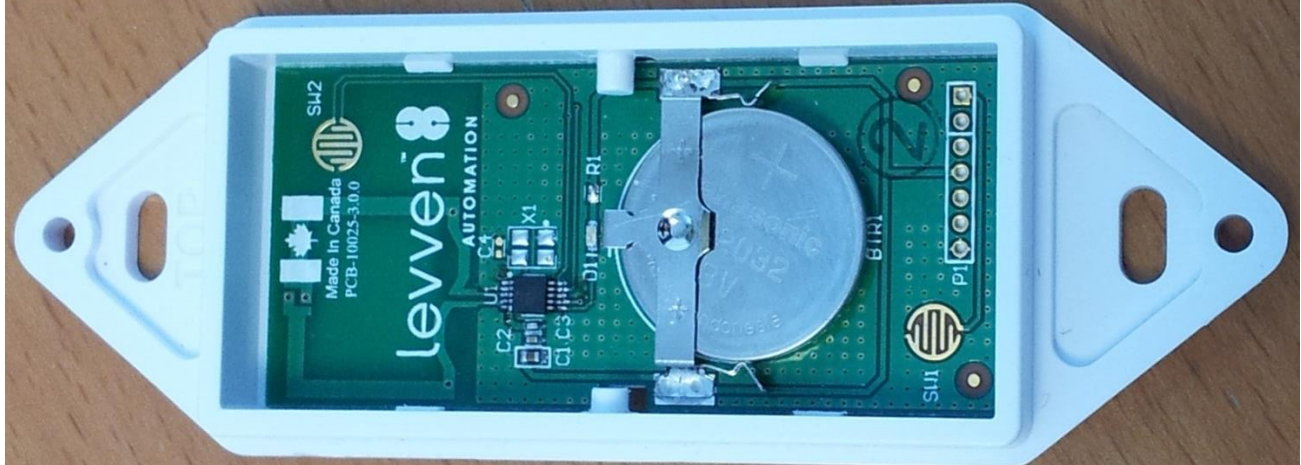
*No individual clearance of a single pairing available. You may need to repair all switches later.

7   Change switch battery

- Open switch rocker using the notch on the rocker edge.

- Change the battery

- Close the rocker.

8   Wireless performance

Actual wireless performance in a home depends on the installation environment, including numbers of walls between the controller and the switch, the type of construction, etc.

Things to consider regarding RF range:

- Each wall or obstacle (i.e., refrigerator, big screen TV, etc.) between the controller and the switch will reduce the maximum range by approximately 25-30%.
- Brick, tile or concrete walls block more of the RF signal than walls made of wooden studs and plasterboard (drywall).
- Devices installed in metal junction boxes will suffer a significant loss of range (approximately 20%) since the metal box blocks a large part of the RF signal.

9   FCC Part 15 Notice

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio and television reception. 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference.

2) This device must accept any interference received, including interference that may cause undesired operation.

Notice: The FCC regulations provide that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate this equipment.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with 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 receiver.
- Connect the equipment into a different outlet so that the equipment and the receiver are on different branch circuits.
- Consult the dealer or an experienced radio/television technician for help.