Wireless Wall Switch

Model Number: 6014-TX

General Description:

The 6014-TX Wireless Wall Switch is a transmitting device used for remotely controlling room lights by utilizing RF transmission technology and a compatible RF receiving device. The device is capable of transmitting three separate commands, which are used to turn the room lights ON or OFF or to dim the lights.

The housing and pushbuttons are made from non-metallic material and is designed to screw directly to a wall simulating a standard light switch installation. The electrical circuitry is comprised of a DC power supply, 3 tact switches, one 4-position dipswitch, an 8 line to 3 line binary encoder IC, a CMOS 12-bit encoder IC, a 315 MHz RF oscillator circuit, and complementary passive components. The circuitry is soldered to a double-sided, 94V-0 rated printed circuit board. The circuit is powered by replaceable 3-volt lithium, 20 mm coin cell battery.

Specifications:

- Input: 3 volt battery, type CR2032 lithium
- Circuit voltage: ~5.0 volts DC. Battery output is regulated by a series regulator power supply circuit (transistor & zener diode).
- Radio Frequency: 315 MHz
- User-selectable address codes: 16

Theory of Operation:

The wireless switch is normally off with the RF transmission starting when one of the pushbuttons is depressed momentarily. When one of the three normally open pushbuttons is depressed, it connects the circuit ground to the negative side of the battery, thereby completing the ground circuit. When ground circuit is completed, the encoder outputs a 3 KHz 12-bit transmission to the RF oscillator circuit transmitting the information at a carrier frequency of 315 MHz. The encoder continues to transmit as long as the pushbutton is depressed.

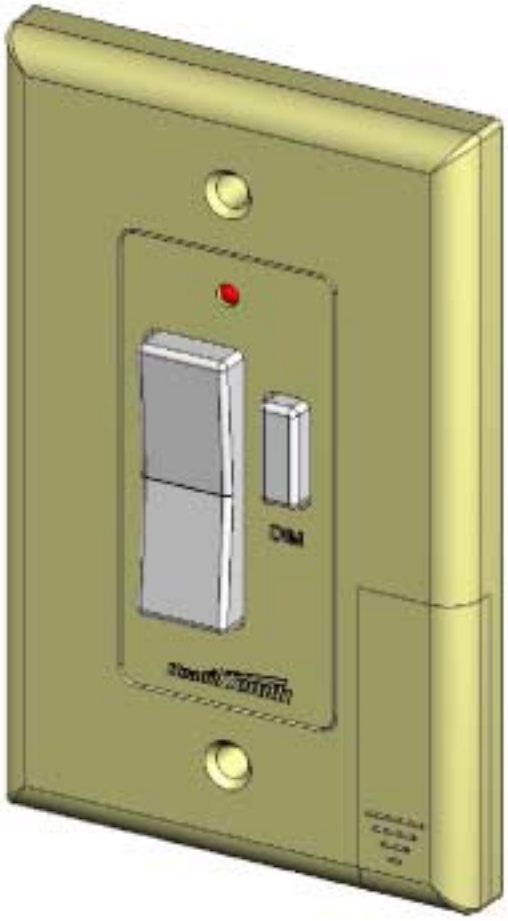
The 12-bit output consists of an 8-bit address and 4 bits of data. The user-selectable address is set with a four-position dipswitch. The other 4 address lines are permanently set. The receiving unit to be controlled is set to the same address as the wireless switch.

The wireless switch is capable of sending 3 different commands to a compatible receiver. It can transmit an ON, OFF, and DIM code. When the ON, OFF, or DIM switch is depressed, the corresponding data bit is pulled low (connected to ground via the tact switch). When the receiving unit receives and decodes the signal, it executes the desired ON, OFF, or DIM operation.

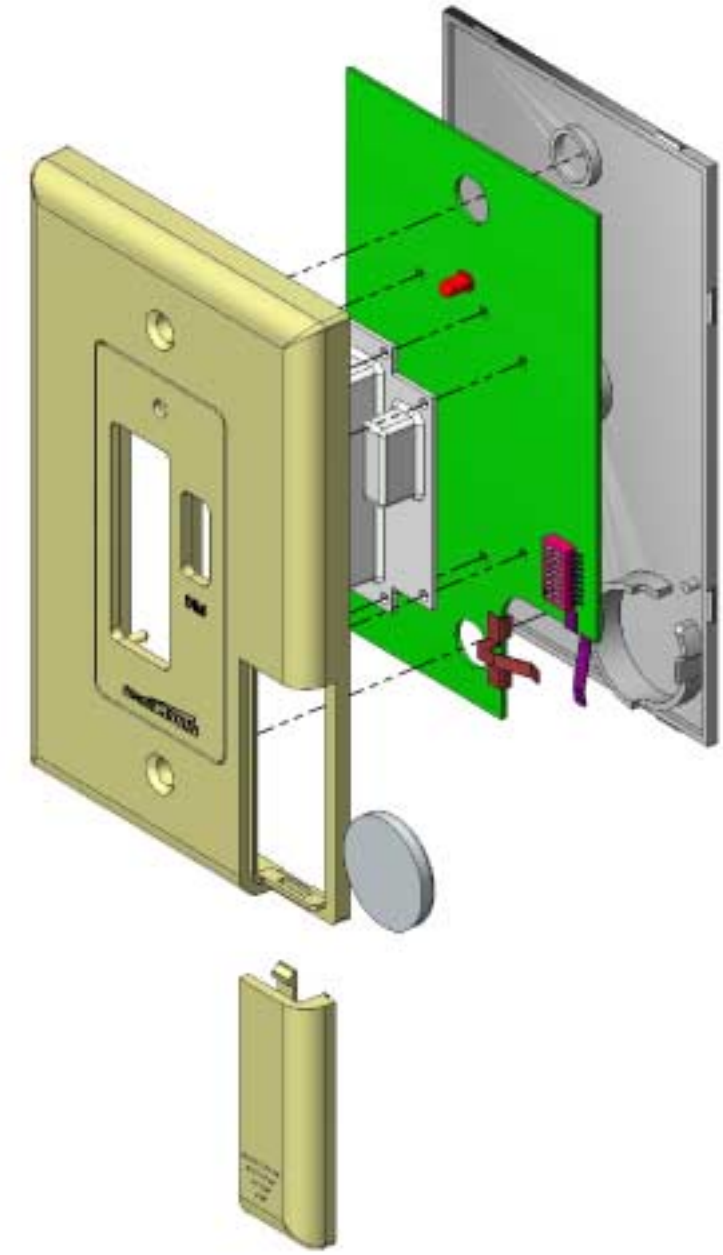
Theory of Operation: (Continued)

A red LED is located on the front panel above the ON/OFF rocker switch and DIM switch. The purpose of the LED is to serve as a visual indicator to let the operator know that the unit is transmitting a command when the buttons are depressed. The LED remains in the "on" state until the pushbutton is released.

Product Pictorials:



6014-TX Wireless Wall Switch
Assembled Isometric View



6014-TX Wireless Wall Switch
Exploded Isometric View