

AC Wireless Wall Transmitter

Model Number: 6023-TX

General Description:

The 6023-TX AC Wireless Wall Transmitter 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 by the compatible receiver to turn the room lights ON or OFF or to dim the lights.

The housing, front cover, and pushbuttons are made of an ABS plastic (PA765A) and the mounting plate is made of 16 gauge sheet metal. The assembly is designed to mount to a standard single-gang junction box.

The electrical circuitry is comprised of a 5-Volt DC power supply, 3 tact switches, one 4-position dipswitch, a CMOS 12-bit encoder IC, a 315 MHz RF oscillator circuit, and complementary passive components. The power supply is a half-wave rectifier with voltage-dropping resistor/capacitor and 5-volt regulator. The power supply circuitry is located on the rear circuit board and the RF and encoder circuitry is located on the front circuit board. The two boards are connected together with a ribbon cable. The printed circuit boards are double-sided and have a 94V-0 rating.

Specifications:

- Input: 120 VAC, 60 Hz
- Circuit voltage: ~5.0 volts DC.
- RF Carrier Frequency: 315 MHz
- Modulated Data Frequency: 3.0 KHz
- User-selectable address codes: 16

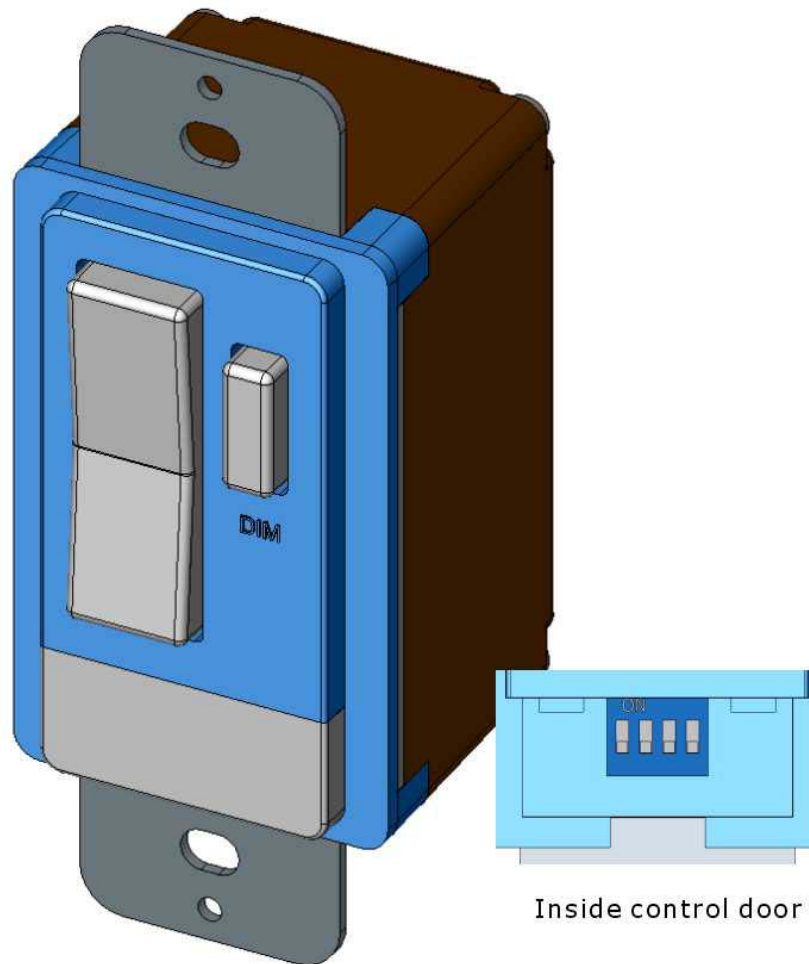
Theory of Operation:

The wireless transmitter 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, the 5-volt power supply output is connected to the encoder IC and RF circuitry. When the 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.

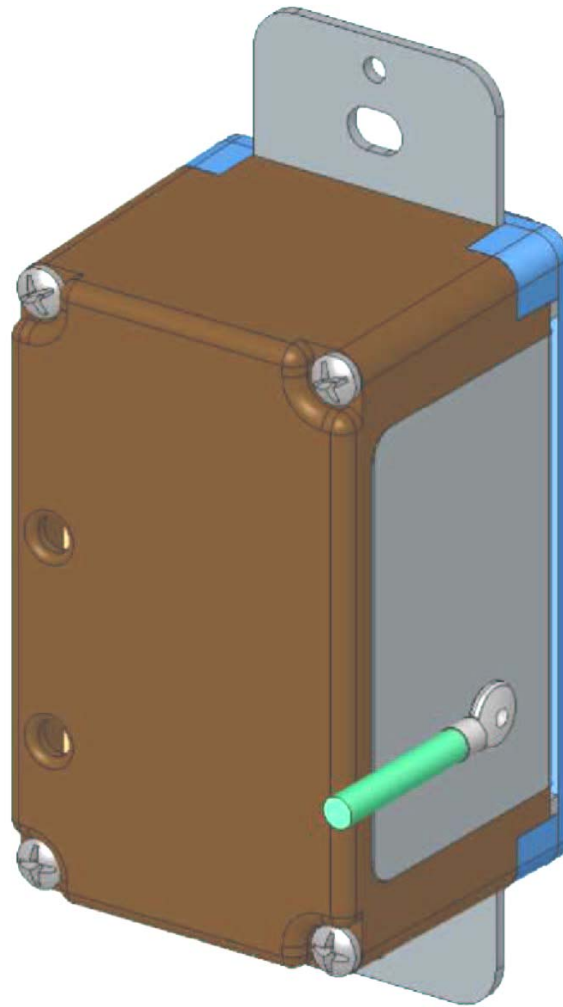
The 12-bit output consists of an 8-bit address and 4 bits of data. The user-selectable address is set with a four-position dipswitch. The other 4 address lines are permanently set. The receiving unit to be controlled is set to the same address as the wireless transmitter.

Theory of Operation (continued)

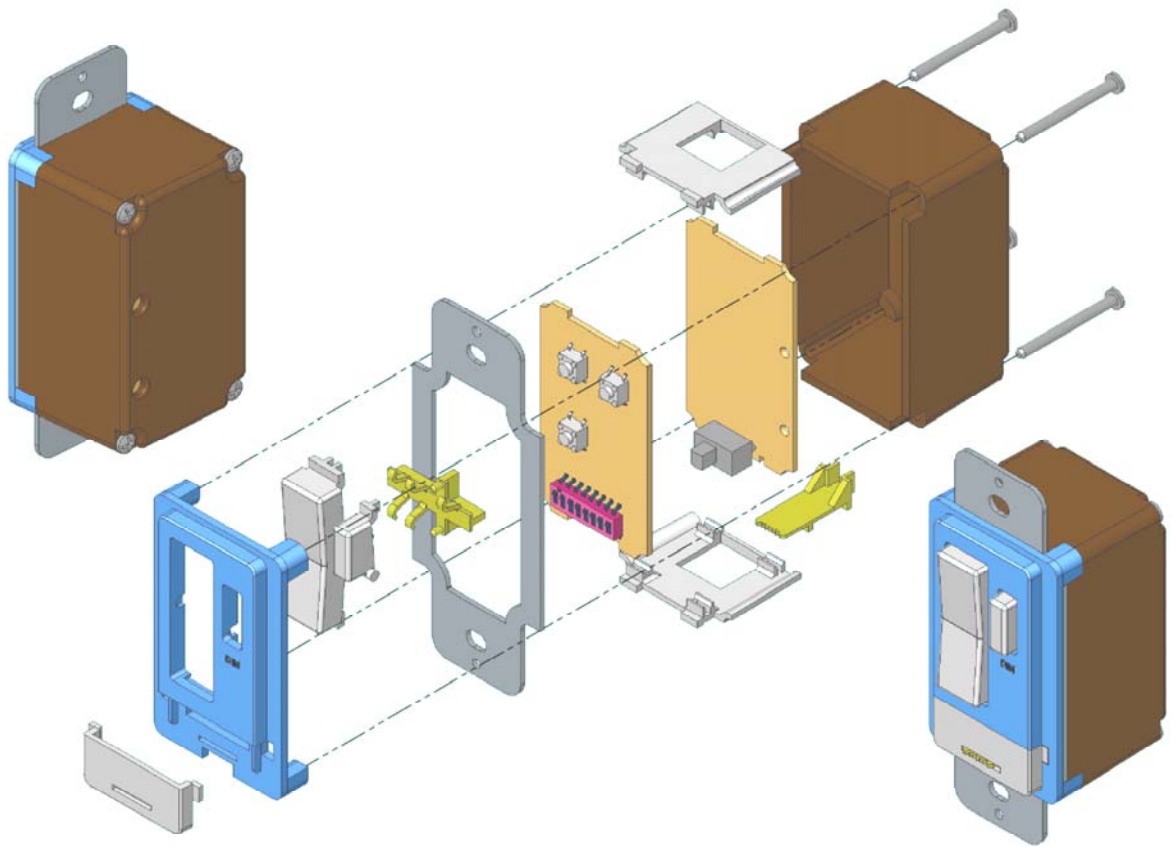
The wireless switch is capable of sending 3 different commands to a compatible receiver. It can transmit an ON, OFF, and DIM code. When the ON, OFF, or DIM switch is depressed, the corresponding data bit is pulled low (connected to ground via the tact switch). When the receiving unit receives and decodes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

Product Pictorials:

Front View with Dipswitch



Rear View with Earth Ground Attachment

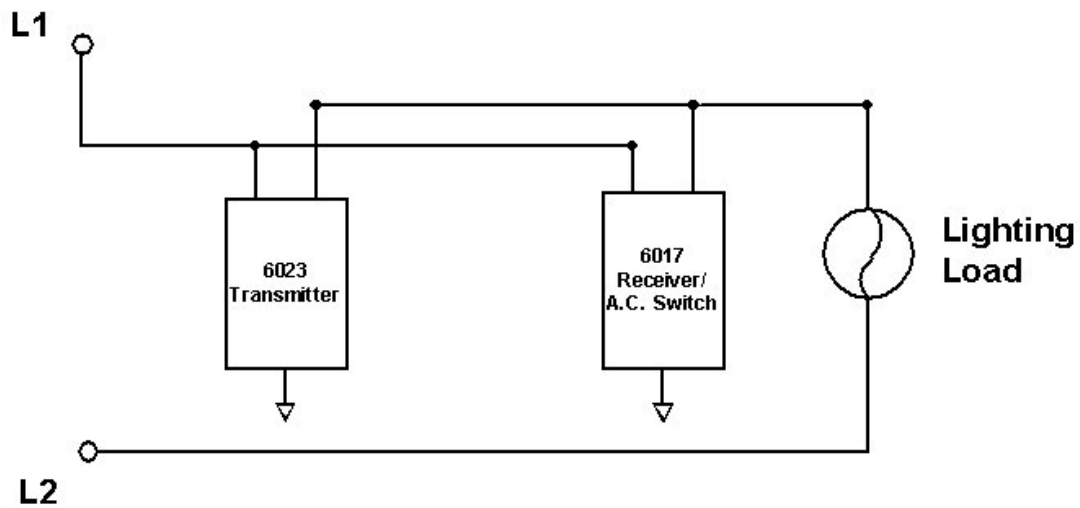


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Exploded Isometric View

Wiring Diagram:

**6023-TX & 6017 Three-Way
Wiring Block Diagram**



DESA International
Bowling Green, KY
1-22-03

Electrical Schematic:

