Features

- Dual high current 2.5Amps[1] switches
- Single channel input controls both switches
- Configurable as a single 5A switch
- Ultra-light: 4g
- Low current consumption: 5mA
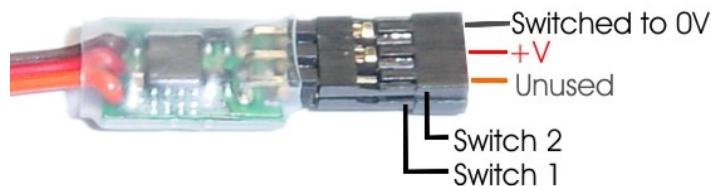- Wide input voltage: 2.7V to 6.0V

Applications

- Strobe and/or Lighting System (eg. Landing Lights)
- Smoke System
- External Relays for Higher Power Switch

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RCSwitch User Guide

1   Description

RCSwitch is a miniature dual-switch capable of handling 2.5A per switch. The control of these switches are unique in that they only need a single channel to operate both switches. The state of each switch depends on the position of the stick (or the programmed lever position on the transmitter). When the switch is closed, the supply voltage appears across the positive and negative output pins. This is suitable for driving strobes, high-bright LEDs, lights and 5V relay coils directly (a fly-back diode is required for inductive loads such as coils or motors).

2   Connections

Insert the RCSwitch's RC lead into the receiver channel intended for use. Connect the devices that need to be switched to Switch 1 and Switch 2 as shown in the diagram below. Note that the pin which is usually the signal pin is unused and must not be connected (remove the pin if necessary).

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[1] Dependent on availability of current from supply.

3   Operation

The switches are configured to turn on or off depending on the RC signal being received. If the full range of the RC signal (end point to end point) can be thought of as being divided into 3 regions with region A being anything less than the half way mark, region B being between the half way mark and the ¾ mark and region C being above the ¾ mark. The switches will assume the following state:

Region	Switch 1	Switch 2
A	OFF	OFF
B	ON	OFF
C	ON	ON

When the switch closes, the negative terminal will be switched to 0V. The positive (+V) terminal will always be at the supply voltage (normally 4.8V).

To configure the RCSwitch to handle up to 5A, connect both +V pins together and both switched 0V pins together to give a single +V and a single switched 0V. Make sure the RCSwitch is operated in region A (for off) and region C (for on), never in region B since only one switch will be on which may not be able to handle the current.

4   Driving Inductive Loads

When driving relay coils or a motor, a flyback diode is required. General purpose diode, part number 1N4001, is recommended. It is available from most electronic component supply outlets. The diode's cathode, identified by a ring on the casing, must be connected to the positive (+V) terminal with the anode to the negative terminal, as shown. Failing to add this diode will destroy the RCSwitch when driving inductive loads.

5   Technical Information

Absolute Maximum Ratings
Operation cannot be guaranteed outside the absolute maximum ratings.
Minimum Input Voltage... 2.7V
Maximum Input Voltage……..................................... 6.0V
Max Switch Current (continuous)............................ 2.5A
Max Switch Current (5s Pulse)................................ 4.0A
Operating Temperature Range............................... −25°C to +85°C
Storage Temperature Range .... −65°C to +150°C

Switch Thresholds (RC Pulse Width)
Switch 1 Threshold…………………………………… 1.5ms
Switch 2 Threshold…………………………………… 1.7ms
Switch Hysteresis…………………………………….. 0.05ms