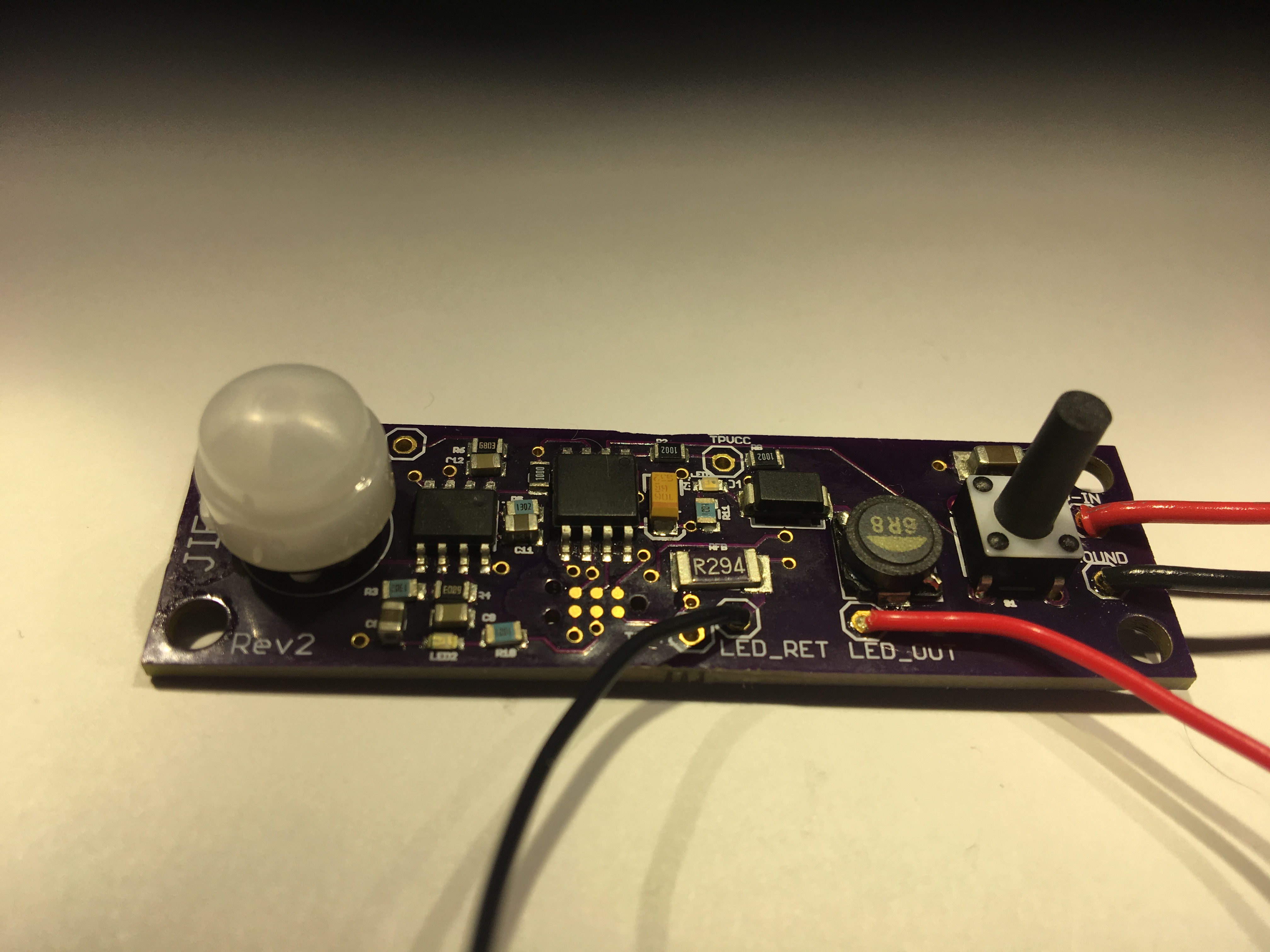
# Motion Sensor-Equipped LED Driver



This board contains an ATTiny microcontroller which monitors the input from an on-board PIR sensor as well as the input from a button. The Tiny can generate a control signal to enable/PWM an LM3405 Power LED Driver.

The required input power is 5-15VDC capable of supplying 1A. The exact voltage required depends on the number of LED’s driven and the voltage drops across each LED. If there’s any uncertainty on required voltage, it’s safe to just use the maximum 15V.

There are two low-voltage indicator LED’s on the board. The power Indicator LED will be lit up anytime that there is power applied to the board. The PIR Indicator LED will light up whenever motion is sensed.

There are 2 modes that the driver can be used in:

* Constant-on Mode
* Controlled Mode

At any point, to toggle between Constant-on Mode and Controlled Mode, press and hold the button for 4 seconds. When the mode is changed, the current mode is stored in onboard EEPROM and remembered at next power cycle.

Constant-on Mode is just what it sounds like: as soon as power is applied, the LED intensity will ramp up and the LED Driver will be constantly ON until power is removed (or until the board is put into Controlled Mode as outlined above). This mode can be used if the user plans to have some external control of the DC voltage powering the strip (i.e. a power supply on a light switch or some other external control).

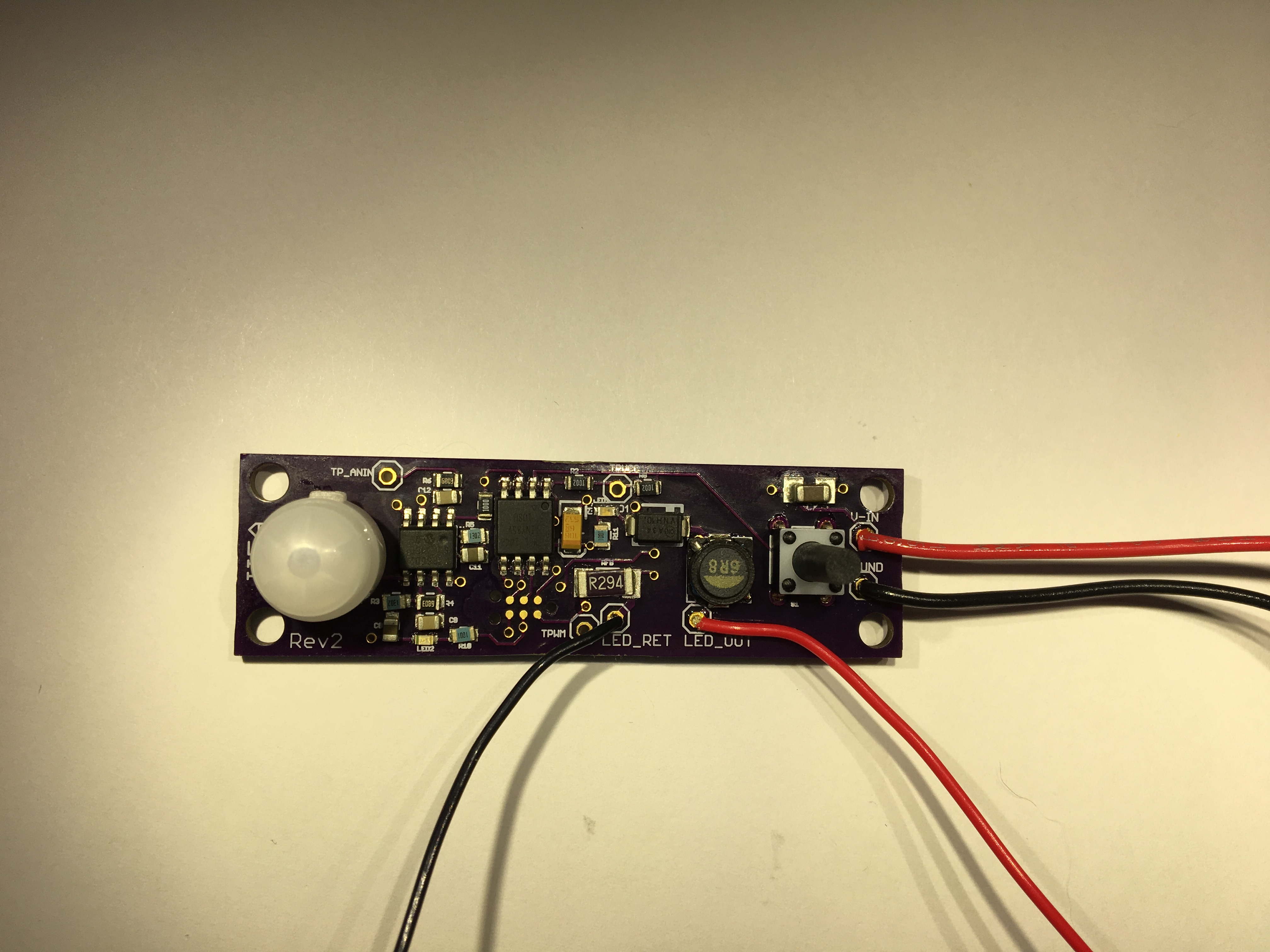
In Controlled Mode, the board will require a button press to activate the LED when it is first powered up. There are two types of button presses that can activate the LED from this point:

* A quick press (pressed and released within 1 second)
* A long press (pressed and held for greater than 1 second)

After a quick press, the LED intensity will ramp up and a 5-minute timer will be started. Any time motion is detected, the timer will be reset to 5 minutes. If the 5-minute timer is allowed to expire (i.e. no motion is detected for 5 minutes) then the LED intensity will ramp down and LED’s will stay off until motion is detected again, at which time the ramp up and 5-minute timer repeat. This means that after power-up, the user can press the button just once and from that point on the LED will turn on when motion is sensed, and turn off when no motion is sensed. When the board is in Controlled Mode and the LED is on, any time a button press is detected the LED will immediately turn off and go to the initial power-on state (requiring a button press to turn on LED’s).

If the button is pressed and held for greater than 1 second, the LED will immediately turn on and stay on until either power is removed or another button press is detected. This means that the user can run this in a ‘manual mode’ where they can turn on the LED with a long button press, and turn it off with a button press.

Wiring of the board is outlined below.



INPUT

VOLTAGE

Be sure to return LED

Wiring to LED\_RET and

**NOT** TPWM or the board ***WILL***

***BE DAMAGED!!!!***

For any questions, comments or issues with the board please contact [roger\_archibald@hotmail.com](mailto:roger_archibald@hotmail.com)