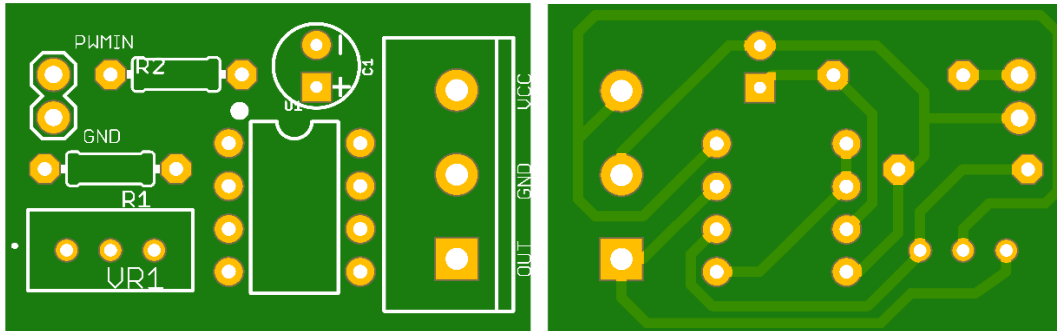


# PWM to DC Voltage Converter Module (Gain of 2x)

**Description:** -This is PWM to DC voltage converter module which converts the PWM signal from any controller like ESP8266 or Arduino to an equivalent DC voltage signal. This board has default gain of 2 so that whatever input voltage range is coming will double at the output. For example, esp8266 has PWM voltage range of 3.3 V. If this PWM signal is connected to the input of this module, then the output voltage will have range from 0 to 6.6 V dc.



**Working:** - The average value of a PWM square wave is the peak value of the square wave multiplied by the duty cycle. This means that the duty cycle and the DC-output are proportional, and the output will increase linearly with respect to the duty cycle. The module can convert PWM digital signals (0 to 3.3V) into 0 to 6.6V Digital signals. The output voltage can be adjusted by varying the duty ratio of the PWM signal. This module is based on LM358 IC which has two OPAMPS. We have to connect PWM signal to the PWMIN pin and we have to connect the VCC of the OPAMPS to the VCC pin. We can check the output between OUT and GND pin. For input PWM signal ranging from 3 to 5V we can connect 12V at VCC pin.

## **Application:** -

1. To drive any DC motor through any controller like ESP, Arduino or FPGA.
2. To increase the range of PWM signals.
3. Can work as Voltage doubler.

## **Specifications:** -

1. Input voltage – 3.3 to 5V.
2. Output voltage – 6.6 to 10V.
3. Length, Width and Height - 3.2, 2 and 1.3
4. Weight- 5gm.
5. PWM Signal Frequency: 1kHz to 3kHz