RGB LED PWM Driver
for use with Serial Controlled Driver or Standalone Driver firmware

Note:
12V supply must be regulated DC

The PCB is designed to work with either the Standalone Driver firmware or the Serial Controlled Driver firmware. Install components for the circuit option you are constructing.

LEDs and Resistors

\[ R_{\text{led}} \text{, } G_{\text{led}} \text{, and } B_{\text{led}} \text{ are the LED current limiting resistors. You will need to calculate the correct values for these based on the Forward Voltage (} V_f \text{) and Forward Current (} I_f \text{) parameters of the specific LED's used.} \]

\[ R(\text{ohms}) = \frac{11.3 - (V_f \times n)}{I_f} \]

Vf is the LED forward voltage in Volts and If is the LED forward current in Amps. n = number of LEDs in series. For this application n = 3 for blue and green and n = 4 for the red LED current limiting resistor.

\[ \text{e.g. } V_f = 3.2, I_f = 20mA (0.02A) \]

\[ \frac{11.3 - (3.2 \times 3)}{0.02} = 85 \text{ ohms} \]

Nearest E12 series resistor values are:
- 100 ohms for If = 18mA
- 82 ohms for If = 22mA

Use 82 ohms.

This calculation needs to be repeated for each colour LED.