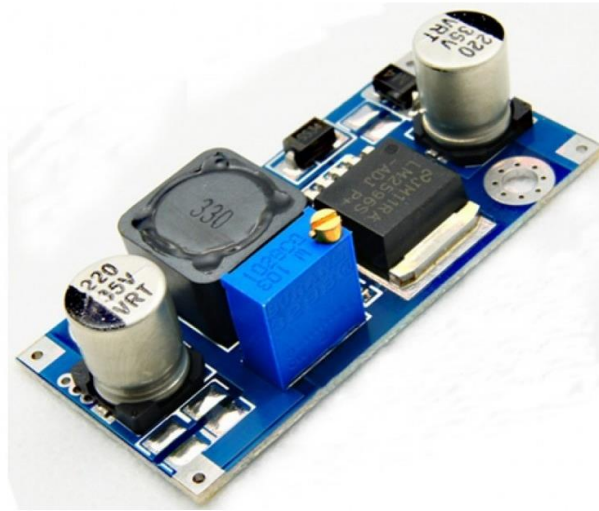


LM2596 DC-DC Adjustable Step-Down Voltage Converter with Voltmeter Display

Introduction:



The LM2596 DC-DC Adjustable Step-Down Voltage Converter with Voltmeter Display is a compact and versatile electronic module designed for efficiently converting higher DC voltages to adjustable lower levels. This module is widely embraced in electronics and DIY projects for its ease of use and reliability. With an adjustable output feature, users can easily set their desired voltage using the onboard potentiometer, making it adaptable to various applications.

Specifications:

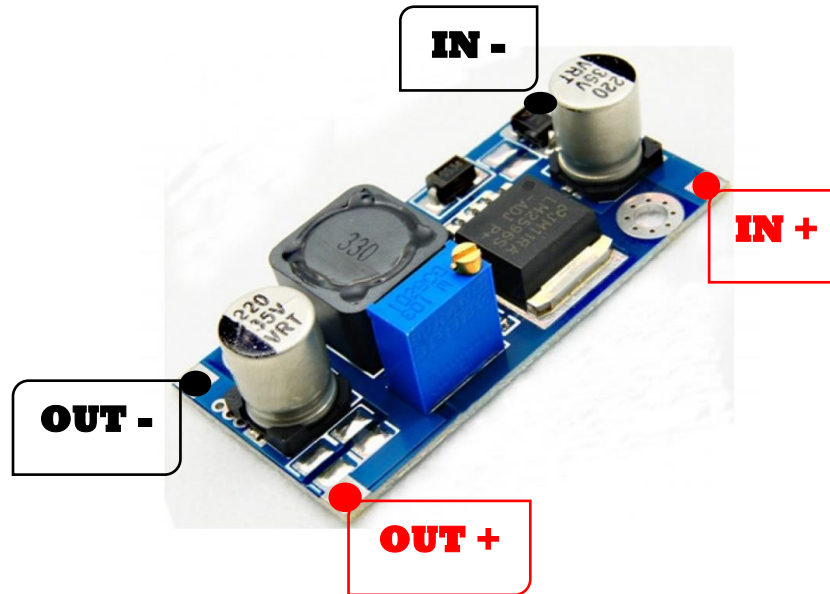
- Input voltage range: 4 to 30Vdc
- Output voltage range: 1.25 to 30Vdc
- Output rated current: 2A
- Output maximum current: 3A (need to add heat sink)
- Conversion efficiency: 92%
- Switching frequency: 150kHz
- Dimension: 41 x 20 x 14 mm
- Weight: 12g

Pinout:

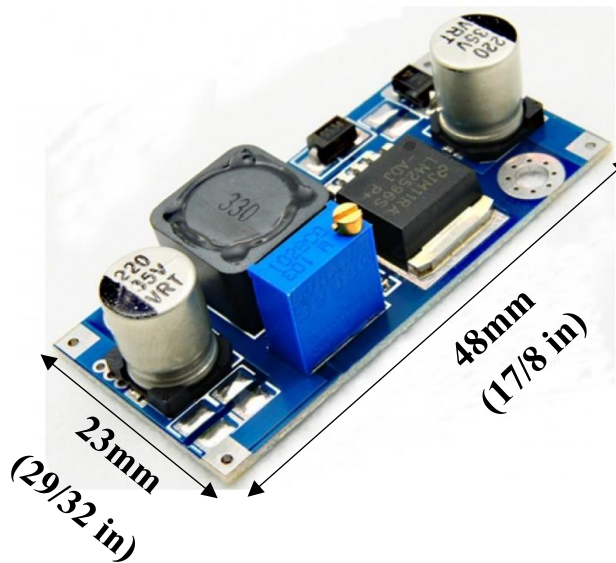
- IN+ = Input voltage
- IN- = Ground
- OUT+ = Output voltage
- OUT- = Ground

Features:

- Small size & high efficiency
- Easy to install
- Stable and reliable



Product dimension:



Objectives:

To step-down the high voltage DC output from the battery or power supply by using the LM2596 buck converter

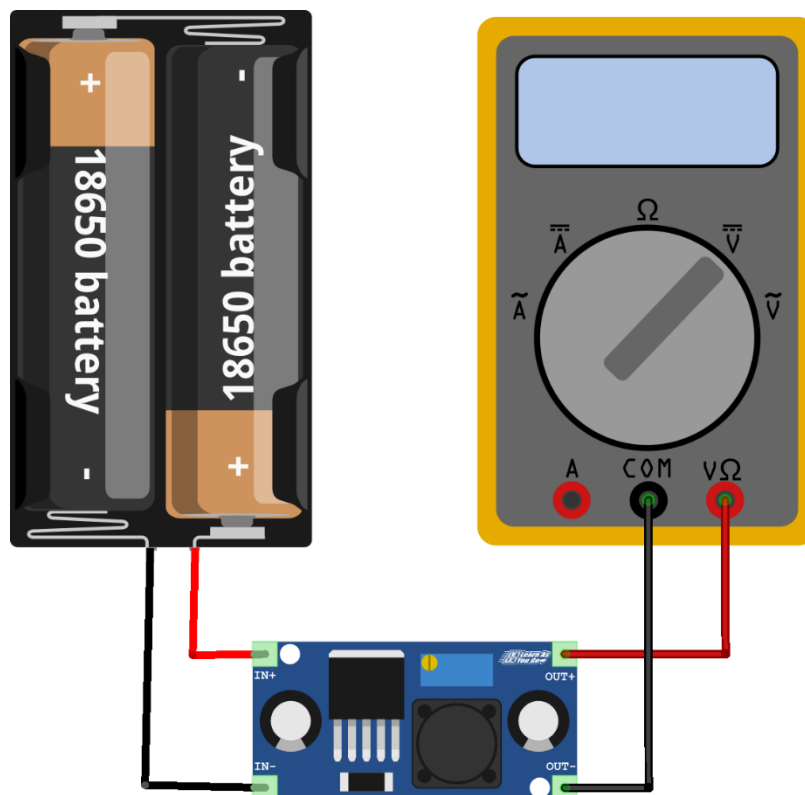
Components needed:

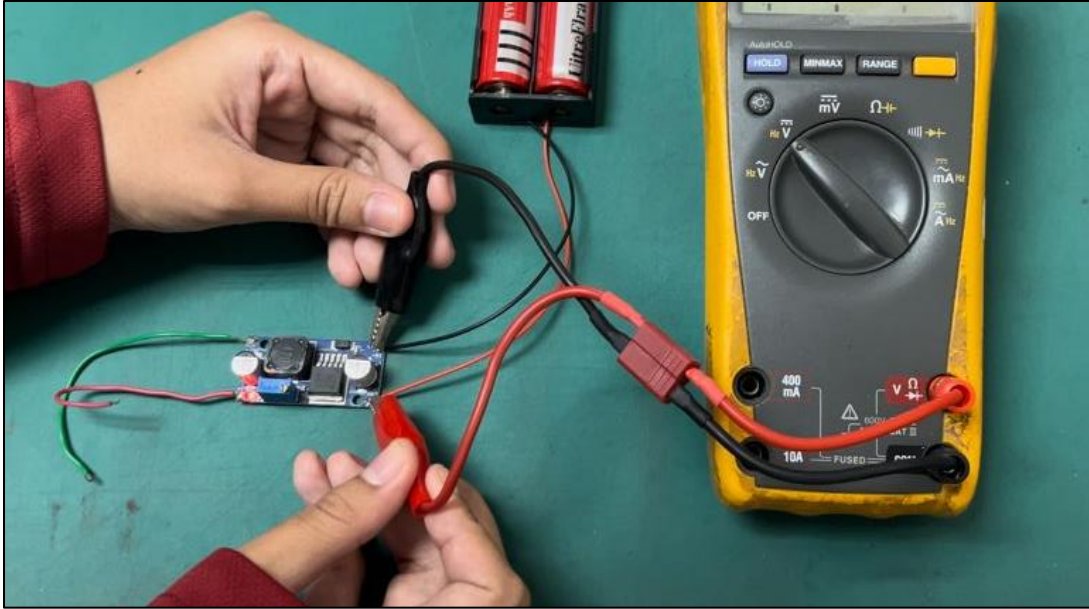
- LM2596 module
- DC power supply / Battery
- Multimeter
- Screwdriver

Procedures:

Step 1:

- Identify the input voltage (IN+ & IN-), output voltage (OUT+ & OUT-) and the trimmer potentiometer on the LM2596 Module.
- Connect the input voltage source with the 18650 battery and the output voltage to the multimeter as image below.

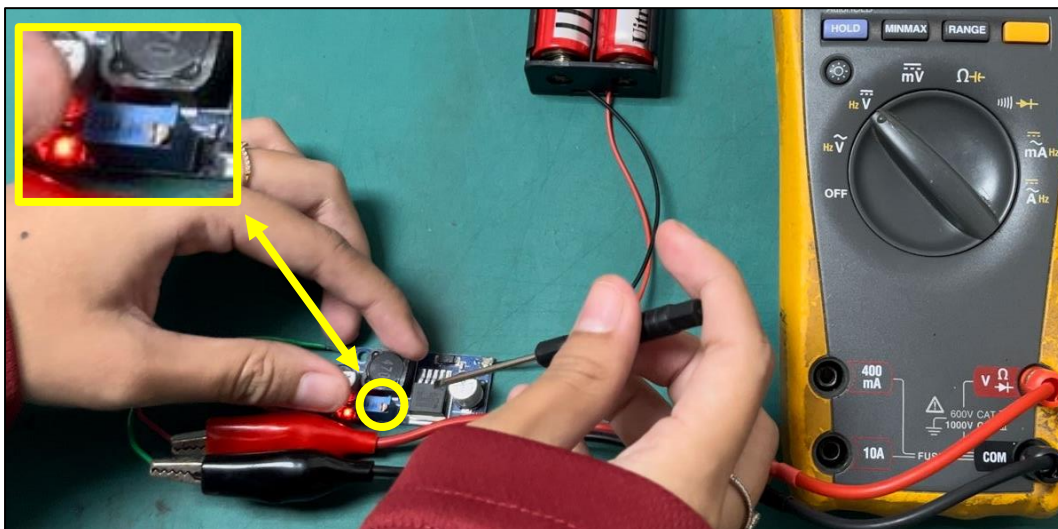




The voltage input should be around 6v to 7.4v

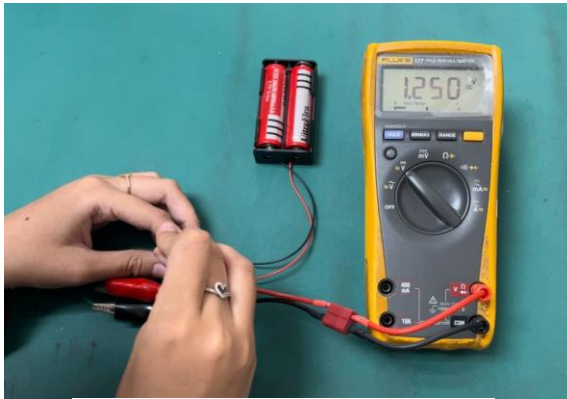
Step 2:

- If your LM2596 module has an adjustable potentiometer, use a screwdriver to set the desired output voltage.

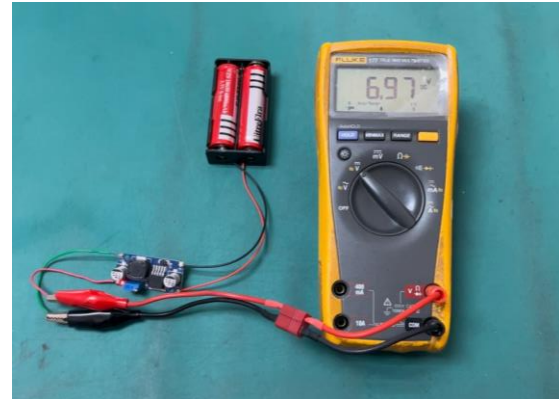


Step 3:

- Turn the potentiometer clockwise to increase the output voltage and counterclockwise to decrease it as shown below
- Observe the voltmeter display on the LM2596 module to monitor the output voltage. This display helps you ensure that the output voltage is within the desired range.



Output voltage decrease



Output voltage increase

- Gradually apply a load to the output to ensure the LM2596 can handle the current requirements of your device. Monitor the output voltage to confirm stability under varying loads.

Application:

- Power Supply for Arduino / Raspberry Pi
- Battery Charging
- LED Driver
- Mobile Charger
- Solar Power Applications

Conclusion:

The LM2596 allows for easy adjustment of the output voltage, making it suitable for a wide range of applications where precise voltage control is required. It is also ideal for powering microcontrollers like Arduino or Raspberry Pi, providing a stable and adjustable voltage source.