WOWOONE MT3608

WOWOONE MT3608 DC-DC Step Up Converter User Manual

Brand: WOWOONE | **Model:** MT3608

1. Introduction and Overview

The WOWOONE MT3608 DC-DC Step Up Converter is a compact and efficient power module designed to boost a lower DC input voltage to a higher, adjustable DC output voltage. It features a micro USB input for convenient power sourcing and is suitable for a wide range of electronic projects and applications requiring a stable, higher voltage supply from a lower voltage source.

2. Product Features

- **Input Voltage:** DC 2V-24V.
- **Output Voltage:** Adjustable from 5V-28V.
- **Maximum Output Current:** 2A.
- **High Conversion Efficiency:** Up to 93%.
- **Compact Design:** Board size approximately 30 x 17 x 14mm (1.18 x 0.67 x 0.55 inches).
- **Micro USB Input:** Allows direct connection with a standard USB power adapter.
- **Integrated Protections:** Includes under-voltage lockout, current limiting, and thermal overload protection to prevent damage.
- **Versatile Applications:** Ideal for storage batteries, power transformers, DIY adjustable regulated power supplies, and various industrial equipment requiring 5V, 9V, 12V, or 28V output.

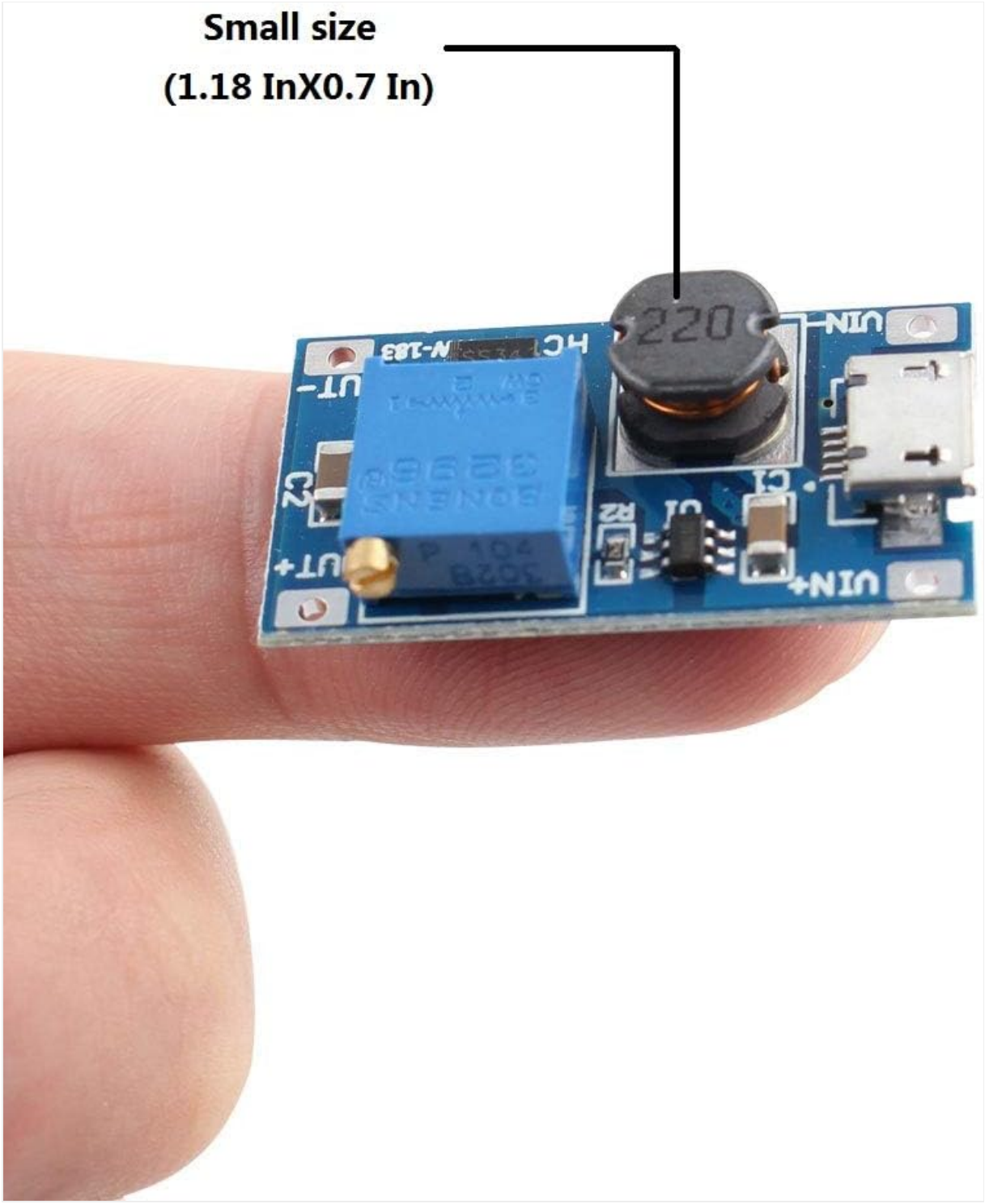

Figure 2.1: The compact size of the MT3608 module, measuring approximately 1.18 x 0.67 inches.

3. Setup and Connections

Before connecting power, familiarize yourself with the module's input and output terminals and the voltage adjustment potentiometer.

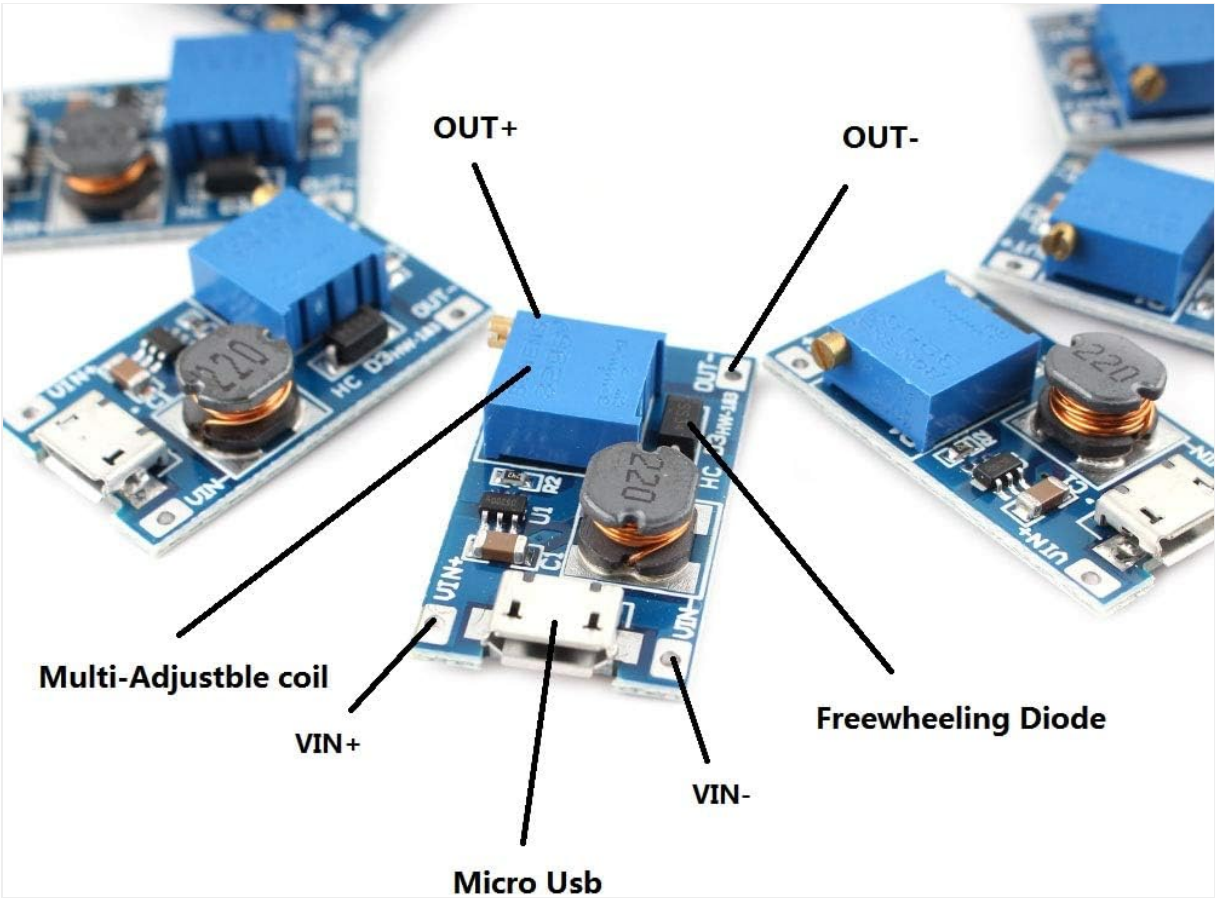

Figure 3.1: Component layout and connection points of the MT3608 module.

1. **Input Power Connection:**
    - Connect your DC input voltage source (2V-24V) to the **VIN+** and **VIN-** pads. Ensure correct polarity.
    - Alternatively, you can power the module via the **Micro USB** port using a standard USB power adapter or cable.
2. **Output Connection:**
    - Connect your load to the **OUT+** and **OUT-** pads. Ensure correct polarity.
3. **Initial Potentiometer Adjustment:**

    Upon receiving the module, it is recommended to rotate the multi-adjustable coil (potentiometer) approximately 15 full turns clockwise *before* applying power. This sets the output voltage to a lower, safer starting point, preventing potential damage to connected devices if the output is initially set too high.

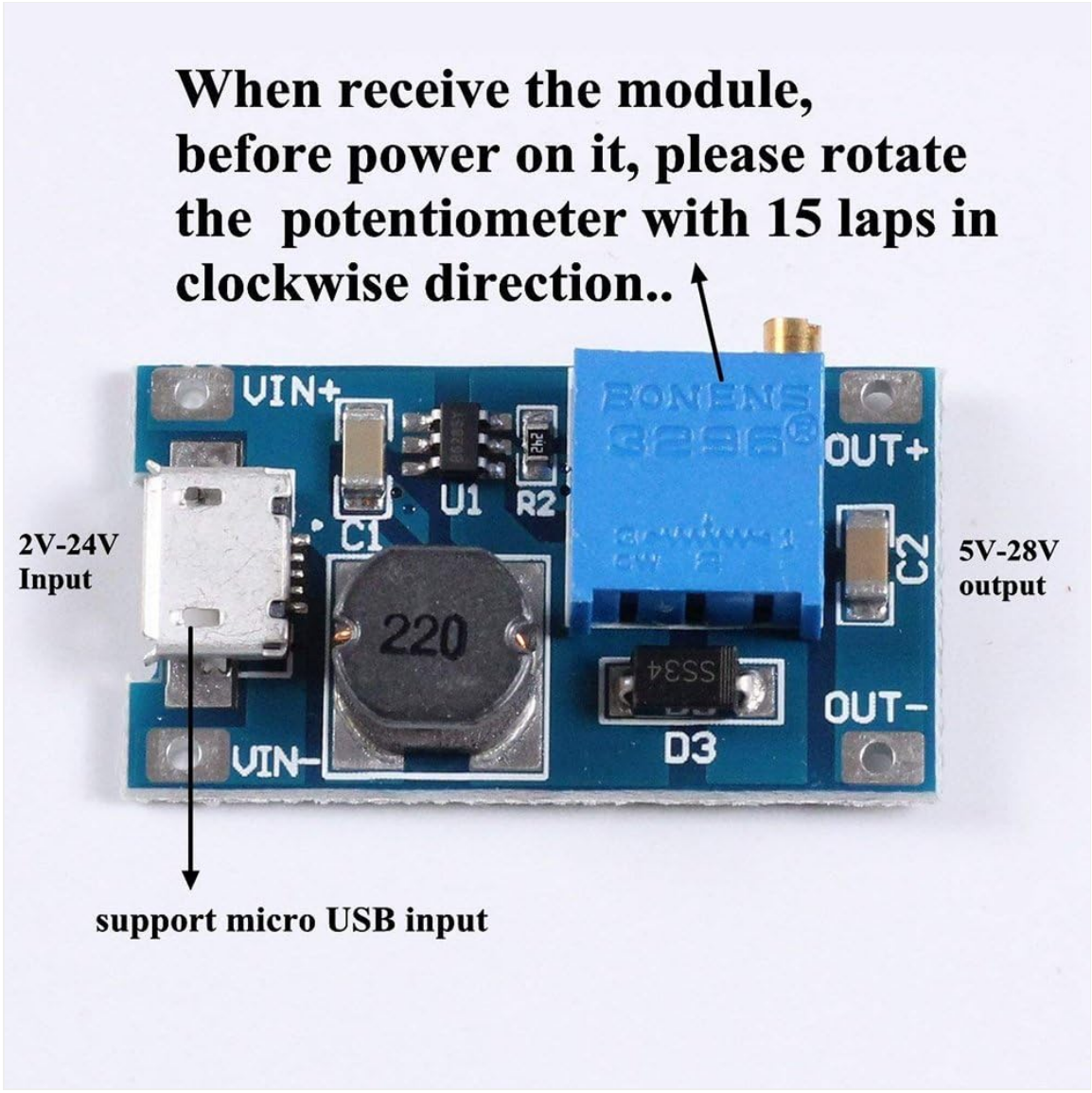

Figure 3.2: Initial adjustment of the potentiometer.

4. Operating Instructions

1. **Apply Input Power:** Connect your chosen input power source (DC 2V-24V via VIN terminals or Micro USB).
2. **Measure Output Voltage:** Use a multimeter to measure the voltage across the OUT+ and OUT- terminals.
3. **Adjust Output Voltage:** Carefully turn the potentiometer (the blue square component with a brass screw) using a small screwdriver.
    - Turning clockwise will increase the output voltage.
    - Turning counter-clockwise will decrease the output voltage.

    Adjust until the desired output voltage (between 5V and 28V) is achieved. Always monitor the output with a multimeter during adjustment.
4. **Connect Load:** Once the desired stable output voltage is set, connect your device or circuit to the OUT+ and OUT- terminals.

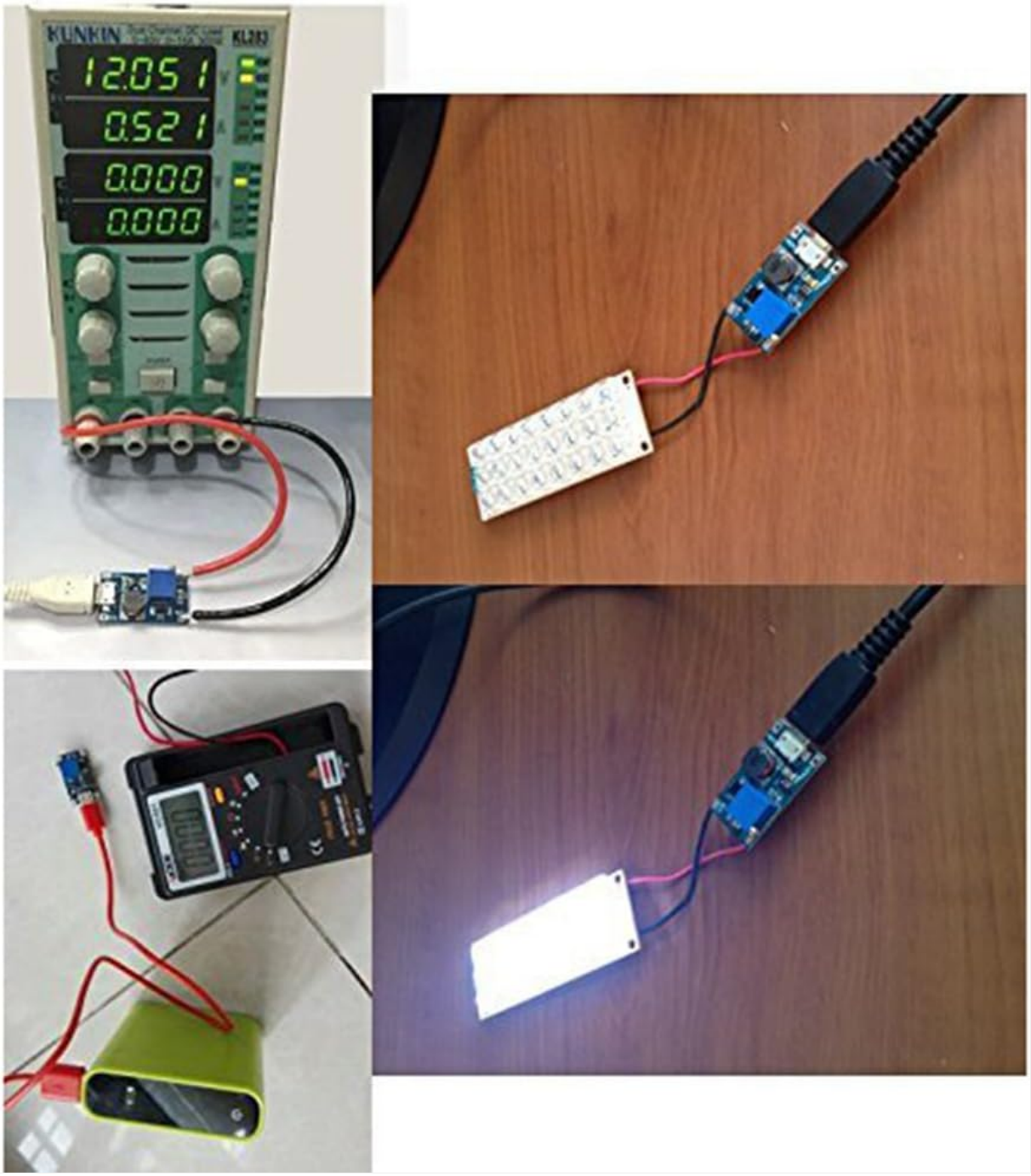

Figure 4.1: Demonstrations of the MT3608 module in operation, including voltage measurement and powering a load.

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Video 4.1: Demonstration of the MT3608 DC-DC Step Up Converter, showing connections and voltage adjustment with a multimeter. This video illustrates the stability of the boost function and an application for cooling a fan.

5. Specifications

Parameter	Value
Input Voltage	DC 2V - 24V
Output Voltage	DC 5V - 28V (Adjustable)
Maximum Output Current	2A
Conversion Efficiency	Up to 93%

Parameter	Value
Board Dimensions (L x W x H)	30 x 17 x 14 mm (1.18 x 0.67 x 0.55 inches)
Protection Features	Under-voltage lockout, Current limiting, Thermal overload protection
Model Number	MT3608

6. Troubleshooting

- **No Output Voltage:**
  - Verify input power is correctly connected and within the 2V-24V range.
  - Ensure the potentiometer has been adjusted. If it was turned fully counter-clockwise, the output might be very low or zero. Turn it clockwise to increase voltage.
  - Check for correct polarity on both input and output connections.
- **Output Voltage is Unstable or Incorrect:**
  - Re-adjust the potentiometer slowly while monitoring with a multimeter.
  - Ensure the load current does not exceed the maximum 2A. Overloading can cause voltage drops or instability.
  - For sensitive applications or to reduce output ripple, consider adding a 10uF or larger capacitor across the output terminals.
- **Module Gets Hot:**
  - High current draw or large voltage differences between input and output can cause the module to heat up. Ensure operation is within specified limits.
  - If operating near the maximum current, consider providing adequate ventilation or a small heatsink if possible, though the module is designed for compact use.
- **Module Failure / Short Circuit:**
  - The module may be sensitive to sudden surges or incorrect connections. Always double-check wiring before applying power.
  - For critical applications, consider adding a fuse at the input to protect the module and connected components from overcurrent.
- **Noise in Audio Applications:**
  - Switching converters can introduce electrical noise. This module is generally not recommended for highly sensitive audio circuits without additional filtering.

7. Warranty and Support

For technical assistance, product inquiries, or warranty information, please contact WOWOONE customer support through your purchase platform. Please provide your order details and a clear description of the issue for prompt service.