



## 2. SPECIFICATIONS

Parameter	Value
Input Voltage Range	DC 4.5V to 24V
Adjustable Output Voltage Range	0.8V to 17V
Fixed Output Voltage Options	1.8V, 2.5V, 3.3V, 5V, 9V, 12V
Maximum Output Current	3A (requires enhanced cooling for full load)
Dimensions (L x W x H)	Approximately 13.4 x 6.2 x 3.2 cm (for package, module is smaller)
Weight	Approximately 10g

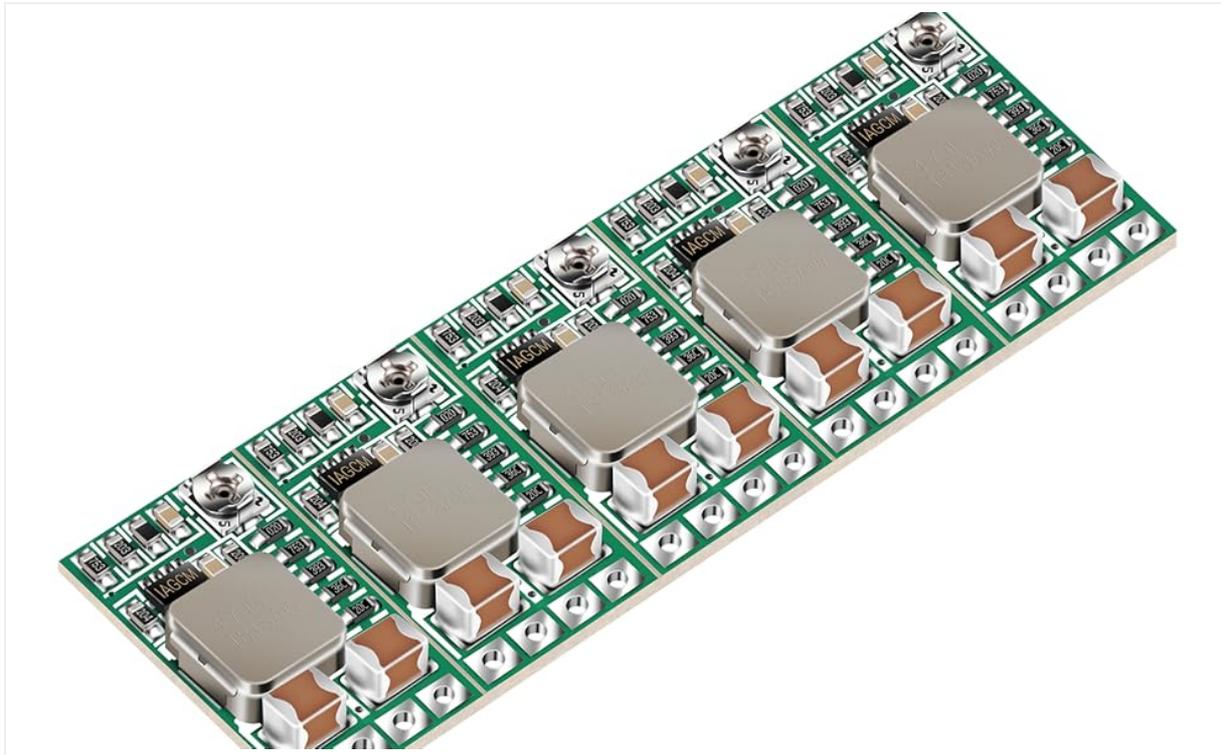


Figure 2: Module dimensions for integration.

## 3. SETUP AND INSTALLATION

### 3.1 Module Overview and Connections

The module features clearly marked terminals for input, output, ground, and an enable pin. The potentiometer allows for adjustable output voltage.

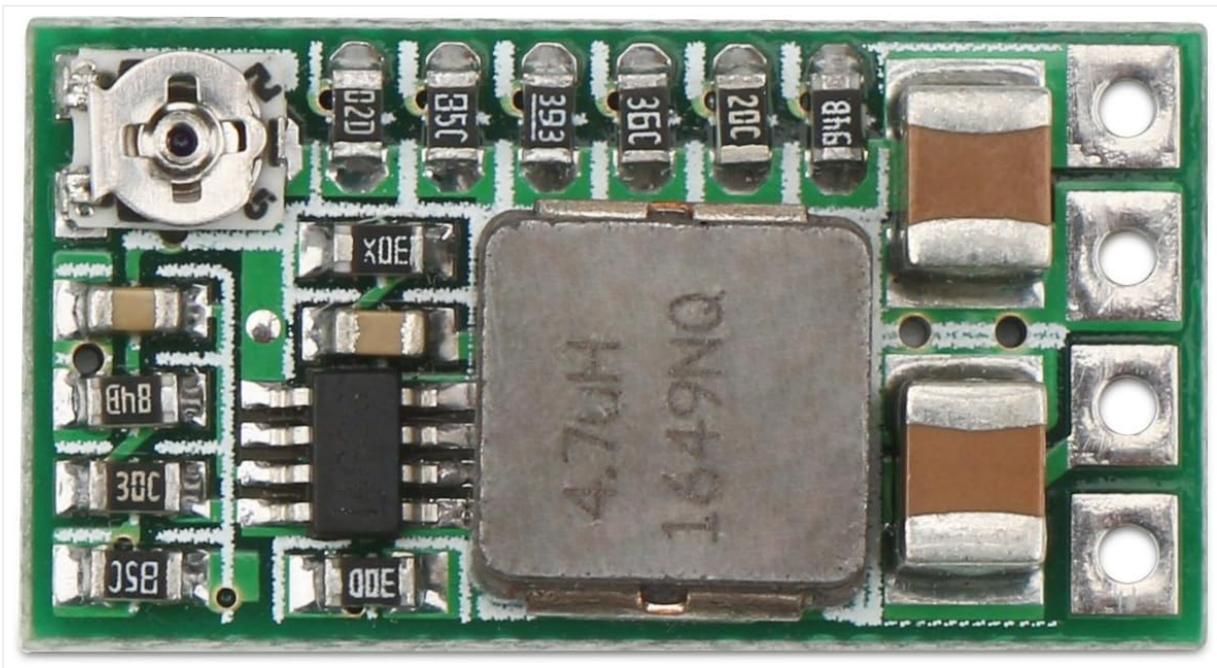


Figure 3: Top view of the module with connection points and potentiometer.

- **IN+**: Positive input voltage (DC 4.5V-24V)
- **GND**: Common ground for input and output
- **VOU+**: Positive output voltage
- **EN**: Enable pin (default active, low level turns off)
- **Potentiometer**: For adjusting output voltage when not using fixed output.

### 3.2 Setting Output Voltage

The module supports two modes for output voltage: adjustable and fixed. By default, the module is in adjustable mode, controlled by the onboard potentiometer.

#### Adjustable Output Voltage:

To set an adjustable output voltage between 0.8V and 17V, connect your input power to IN+ and GND. Then, use a small screwdriver to turn the onboard potentiometer (located on the top left of the module, as shown in Figure 3) clockwise to increase the voltage or counter-clockwise to decrease it. Monitor the output voltage with a multimeter connected to VOUT+ and GND.

#### Fixed Output Voltage:

For specific fixed output voltages (1.8V, 2.5V, 3.3V, 5V, 9V, 12V), the module provides solder pads on the backside. To select a fixed voltage, you must first cut the trace to the 'ADJ' pad and then solder the desired voltage pad to the adjacent common pad. This disables the potentiometer for fixed output operation.

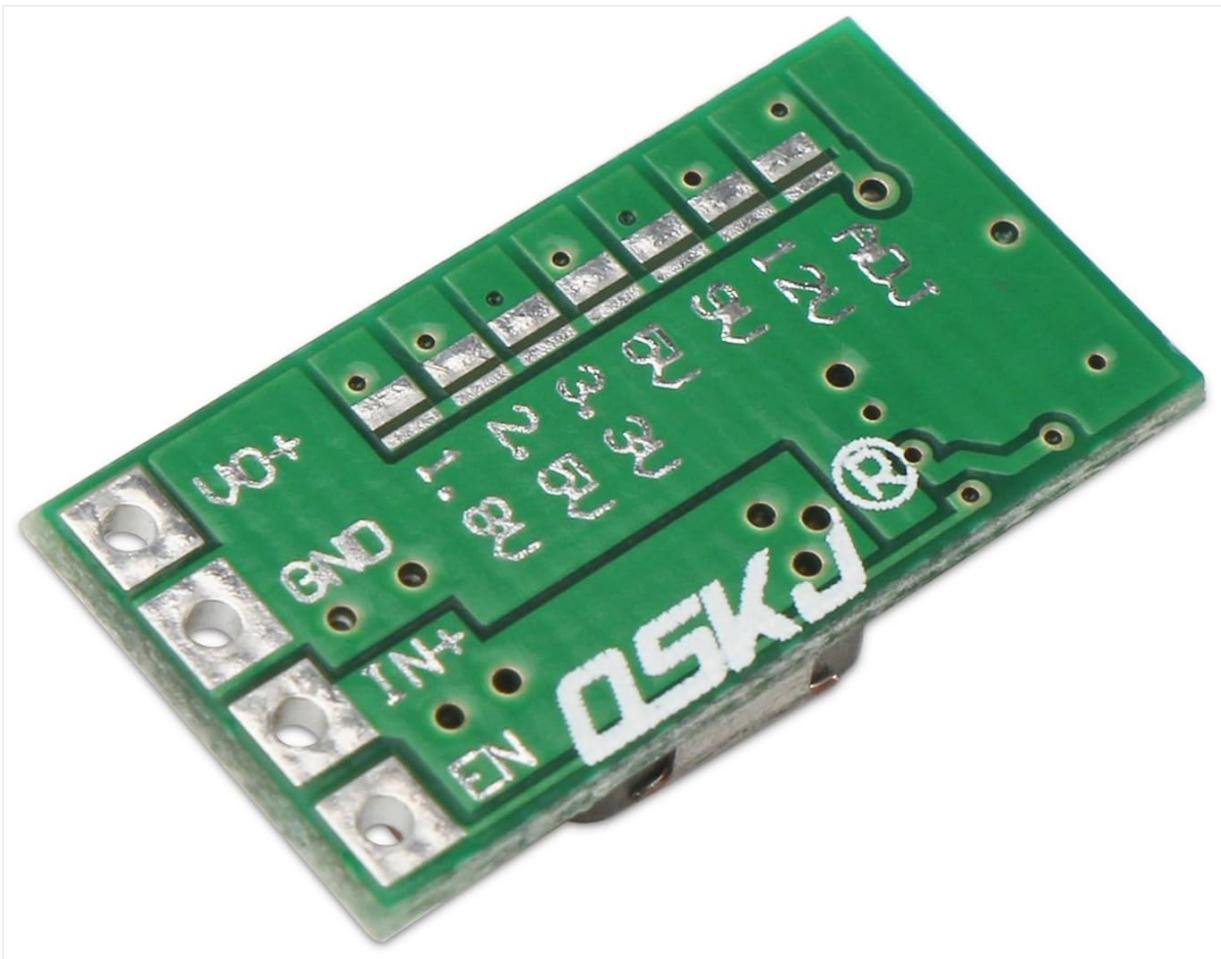


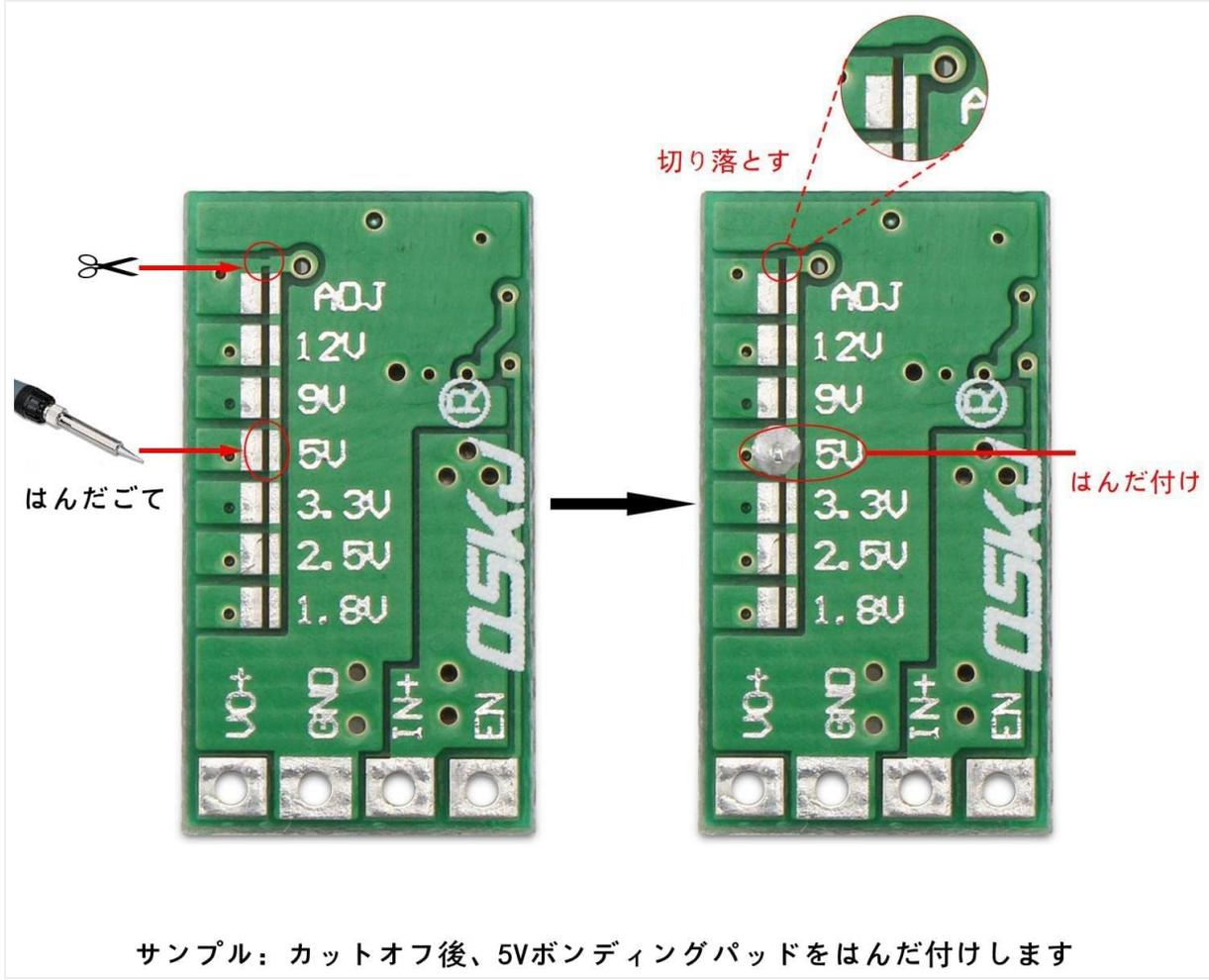
Figure 4: Bottom view of the module with fixed voltage selection pads.

**Procedure for Fixed Voltage Selection:**

1. **Disconnect Power:** Ensure the module is completely disconnected from any power source before proceeding.
2. **Cut ADJ Trace:** Locate the 'ADJ' pad on the backside of the module (top left, as shown in Figure 4). Carefully cut the trace connecting the 'ADJ' pad to the main circuit. This disables the adjustable function.
3. **Solder Desired Voltage Pad:** Identify the solder pad corresponding to your desired fixed output voltage (e.g., 5V). Solder this pad to its adjacent common pad.



Figure 5: Example of setting fixed 5V output by cutting the ADJ trace and soldering the 5V pad.



サンプル: カットオフ後、5Vボンディングパッドをはんだ付けします

Figure 6: Detailed view of the soldered 5V pad after cutting the ADJ trace.

**Note:** Some users have reported that the silk screen labels for fixed voltage pads might be offset. Always verify the output voltage with a multimeter after soldering to ensure the correct voltage is achieved. If the initial fixed voltage is not as expected, you may need to adjust the potentiometer slightly after selecting a fixed output, or re-evaluate the soldering points.

**4. OPERATING INSTRUCTIONS**

Once the desired output voltage is set (either adjustable or fixed), connect your load to the VOUT+ and GND terminals. Ensure that the input voltage is within the specified range (DC 4.5V-24V) and that the output current does not exceed 3A.

- **Enable Pin (EN):** The integrated enable port is set to operate by default. When the electrical level is low, the module will turn off. This feature can be used for external control of the module's operation.
- **Cooling:** For output currents approaching the maximum 3A, it is recommended to enhance cooling. This may involve adding a heatsink or ensuring adequate airflow around the module to prevent overheating and maintain stable performance.

## 5. MAINTENANCE

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The DROK DC-DC Buck Converter Module is designed for reliable operation with minimal maintenance. Follow these guidelines to ensure longevity:

- **Keep Clean:** Periodically inspect the module for dust or debris accumulation. Clean gently with a soft, dry brush if necessary.
- **Avoid Moisture:** Protect the module from moisture and corrosive environments.
- **Ventilation:** Ensure proper ventilation, especially when operating at higher loads, to dissipate heat effectively.
- **Secure Connections:** Regularly check all input and output connections to ensure they are secure and free from shorts.

## 6. TROUBLESHOOTING

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If you encounter issues with your DROK DC-DC Buck Converter Module, consider the following troubleshooting steps:

- **No Output Voltage:**
  - Verify input voltage is present and within the 4.5V-24V range.
  - Check all wiring connections for proper polarity and secure contact.
  - Ensure the EN pin is not pulled low, which would disable the module.
- **Incorrect Output Voltage:**
  - **Adjustable Mode:** If using the potentiometer, ensure it is properly adjusted. Turn it slowly and check with a multimeter.
  - **Fixed Mode:** If fixed voltage is selected, verify that the ADJ trace was correctly cut and the desired voltage pad was properly soldered. Due to potential silk screen offsets, always confirm the output with a multimeter. Re-check soldering if necessary.
  - Ensure the input voltage is sufficiently higher than the desired output voltage (at least 1.5V-2V difference for stable buck conversion).
- **Module Overheating:**
  - Reduce the output current if it exceeds 1.5A without additional cooling.
  - Ensure adequate ventilation around the module. Consider adding a small heatsink for continuous high-current operation.
- **Unstable Output:**
  - Check for loose connections or intermittent shorts.
  - Ensure the load is not exceeding the module's current capacity.
  - Verify the input power supply is stable and capable of providing sufficient current.

## **7. WARRANTY AND SUPPORT**

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For warranty information or technical support, please refer to the product listing on the retailer's website or contact the seller directly. Keep your purchase receipt as proof of purchase.