LiebeWH LiebeWH69v2mgr3eb

LiebeWH HV3.7V-4.2V to 15KV High Voltage Flyback Transformer Module User Manual

Model: LiebeWH69v2mgr3eb | Brand: LiebeWH

1. Introduction

This manual provides essential information for the safe and effective use of the LiebeWH HV3.7V-4.2V to 15KV High Voltage Flyback Transformer Module. This module is designed for various applications including high school science experiments, electronic instruments, negative ion generators, and small-scale scientific production.
The module converts a low input voltage (3.7V-4.2V) into a high output voltage (up to 15KV), making it suitable for generating high voltage pulses.

1.1 Package Contents

- 1 x LiebeWH High Voltage Flyback Transformer Module

2. Safety Information

WARNING: This product generates high voltage. Improper use can result in serious injury or death. Always exercise extreme caution when handling this module.

- Do not touch the high voltage output terminals while the module is powered.
- Ensure proper insulation and isolation from other components and personnel.
- When operating in air, the module generates high temperatures and can easily ignite flammable materials such as paper, plastic, or thin wires. Keep away from combustible substances.
- Always use appropriate safety equipment, including insulated gloves and eye protection.
- Operate in a well-ventilated area.
- This module is intended for educational and experimental purposes by experienced individuals. Not suitable for unsupervised use by children.

3. Product Features

- **Durable Construction:** Made from quality materials for extended operational life.
- **High Voltage Output:** Capable of generating up to 15KV from a low voltage input.
- **Versatile Application:** Suitable for scientific experiments, electronic projects, and negative ion generation.
- **Integrated Windings:** Features primary and feedback windings for efficient operation.

4. Specifications

Parameter	Value
Input Voltage	3.7V - 4.2V DC
Input Current	≤ 2 A
Output Voltage	≤ 15 KV
High Voltage Ignition Distance	0.5 - 1 cm (0.2 - 0.4 inches)
Approximate Module Dimensions (L x W x H)	25 mm x 20 mm x 15 mm
Manufacturer	LiebeWH
Model Number	LiebeWH69v2mgr3eb
Power Source	Wired Electric
Mounting Type	Surface Mount
Country of Origin	China

5. Setup and Wiring

The LiebeWH High Voltage Flyback Transformer Module requires careful wiring to ensure correct and safe operation. The primary winding has two parts: a main winding and a feedback winding. The low voltage winding is on the outer layer, and the high voltage winding is encapsulated in the inner layer.

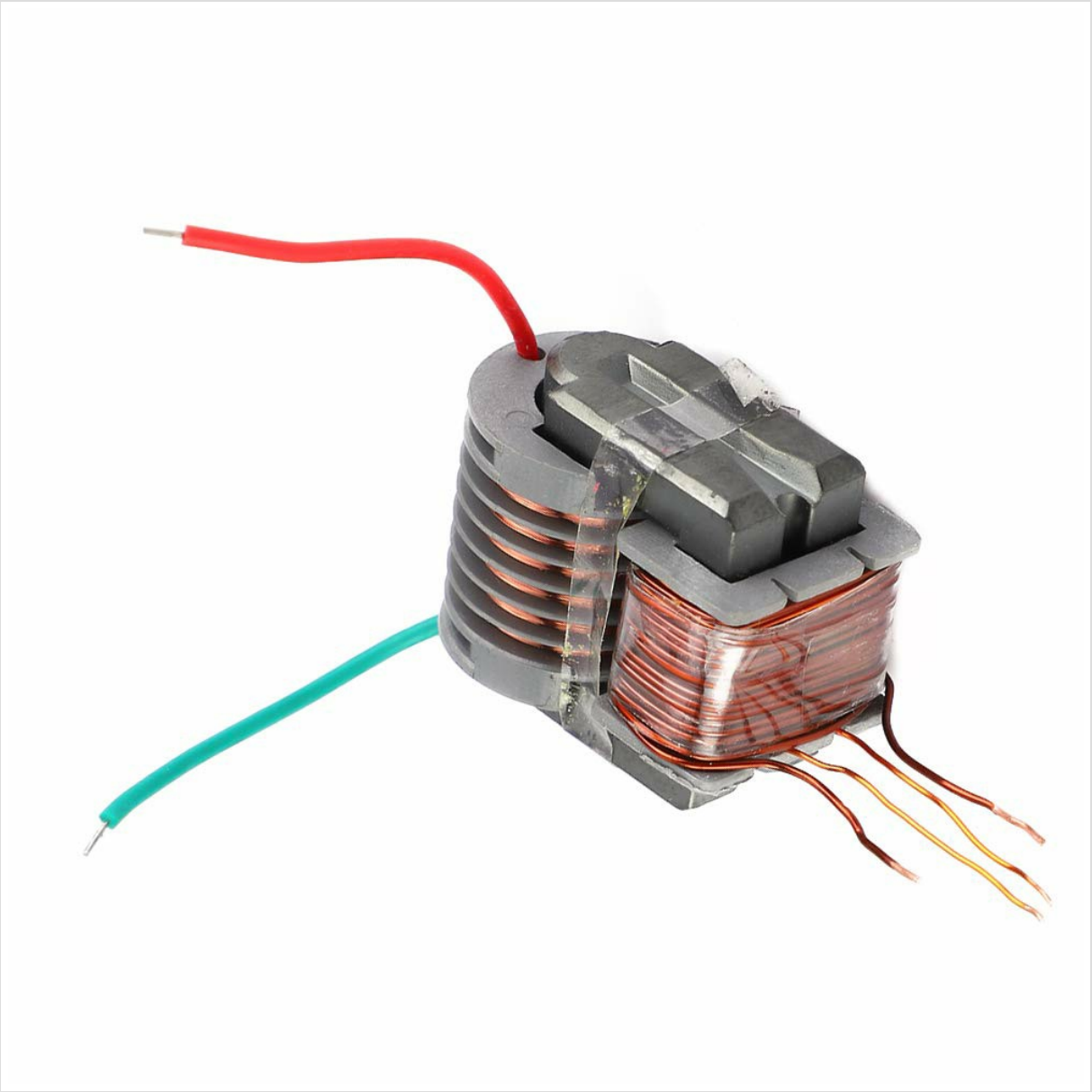

Figure 5.1: LiebeWH High Voltage Flyback Transformer Module. This image shows the compact design of the module with its input (red and green) and output (multiple thin copper) wires clearly visible.

5.1 Input Connections (Low Voltage)

- Identify the two thick and thin coiled copper wires. These are the positive poles for the primary winding.
- One wire corresponds to the 'main winding' and the other to the 'feedback winding' head.
- Connect these two wires to the positive terminal of your 3.7V-4.2V DC power supply.
- The remaining wire (typically green or another color, as shown in images) is the negative input. Connect this to the negative terminal of your power supply.
- **Important:** Do not confuse the low voltage input windings with the high voltage output windings. Incorrect connection can damage the module or your power supply.

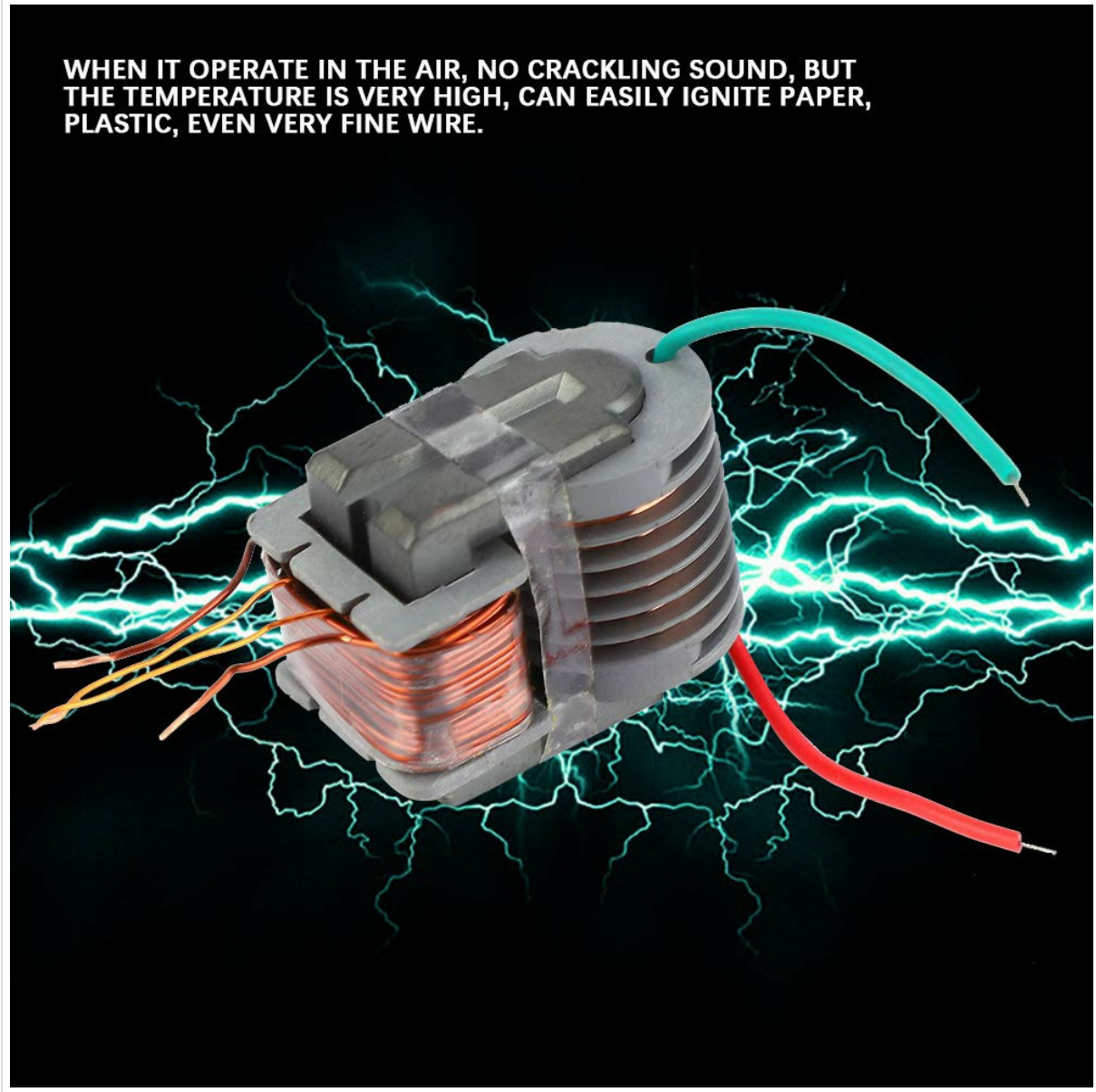

Figure 5.2: Module in operation context. This image illustrates the module's potential for generating electrical discharges, emphasizing the need for safety precautions.

5.2 Output Connections (High Voltage)

- The high voltage output is typically from the thicker, insulated wires that are part of the inner winding.
- Ensure these output wires are properly insulated and routed away from other components and conductive surfaces.
- Maintain a safe distance between the high voltage output terminals (0.5-1 cm for ignition distance).

6. Operating Instructions

1. **Verify Connections:** Double-check all input and output wiring according to Section 5.
2. **Ensure Safety:** Confirm that all safety precautions from Section 2 are in place. Wear appropriate personal protective equipment.
3. **Apply Power:** Connect the 3.7V-4.2V DC power supply to the module.
4. **Observe Operation:** Upon power application, the module will begin generating high voltage. While no crackling sound may be heard in the air, the high voltage output will generate significant heat and can ignite flammable materials.
5. **Power Off:** Disconnect the power supply when operation is complete. Allow sufficient time for any residual charge to dissipate before handling.

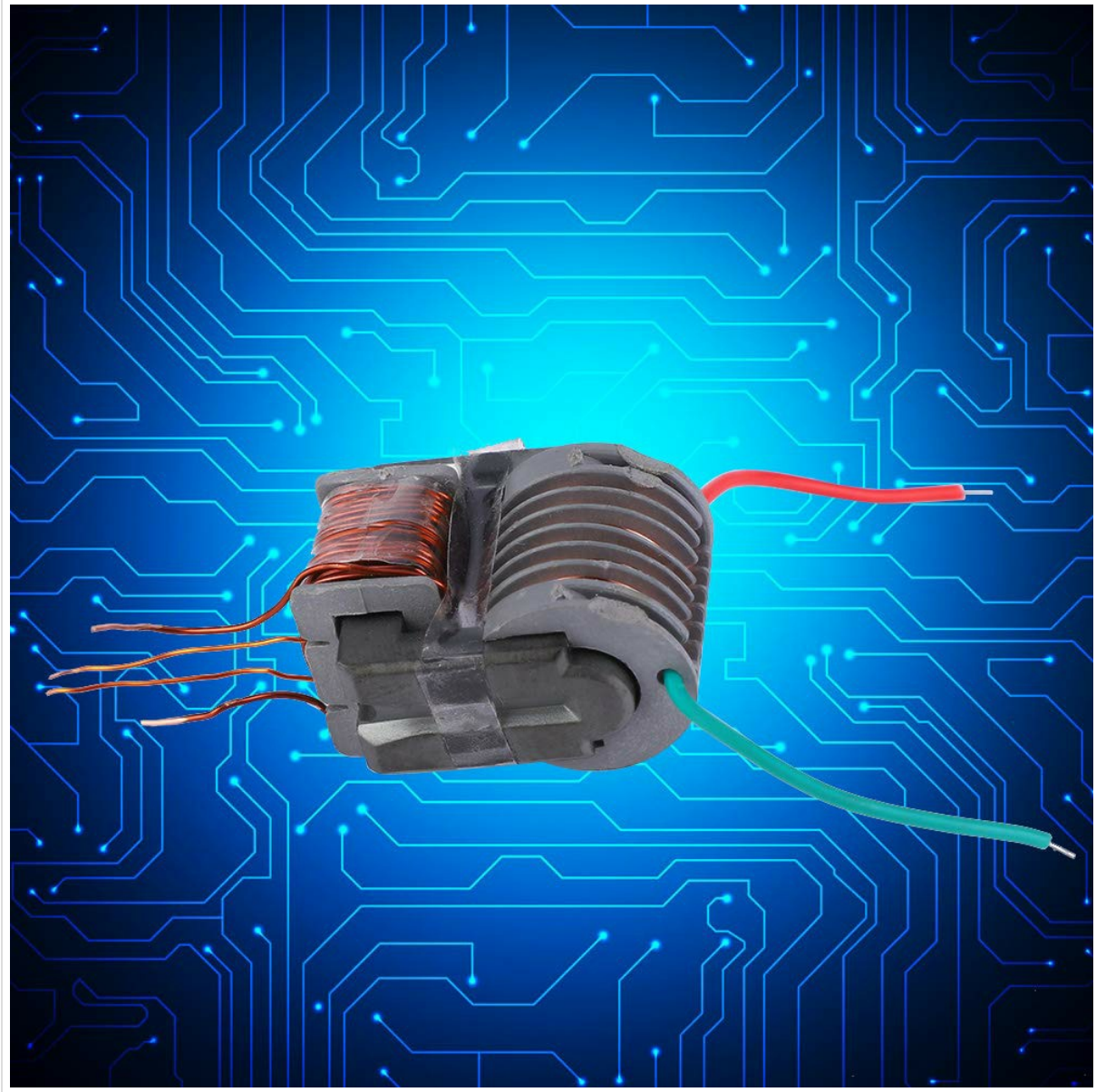

Figure 6.1: Module integrated into a circuit. This image shows the module against a circuit board pattern, suggesting its use in electronic projects.

7. Maintenance

- Keep the module clean and free from dust and debris.
- Store in a dry environment, away from moisture and extreme temperatures.
- Regularly inspect wiring for any signs of damage or wear. Replace damaged wires immediately.
- Ensure proper ventilation during operation to prevent overheating.

8. Troubleshooting

Problem	Possible Cause	Solution
No high voltage output	Incorrect input voltage or current; incorrect wiring; faulty power supply.	Verify input voltage (3.7V-4.2V) and current capacity of power supply. Check all wiring connections, especially the primary and feedback windings. Test power supply independently.

Problem	Possible Cause	Solution
Module overheating rapidly	Excessive input current; insufficient ventilation; short circuit in output.	Ensure input current does not exceed 2A. Provide adequate ventilation. Check for any unintended contact or short circuits at the high voltage output.
Weak or inconsistent spark	Low input voltage; poor contact at output terminals.	Confirm input voltage is within the specified range. Ensure clean and secure contact at the high voltage output points.

9. Warranty and Support

For warranty information or technical support, please contact your retailer or the manufacturer, LiebeWH, directly. Please have your model number (LiebeWH69v2mgr3eb) and purchase details available when contacting support.
Manufacturer: LiebeWH
Country of Origin: China