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## Walfront WALFRONTnya7kqh2ro

# Walfront 80kV High Voltage Pulse Generator Inverter Instruction Manual

Model: WALFRONTnya7kqh2ro

## 1. INTRODUCTION

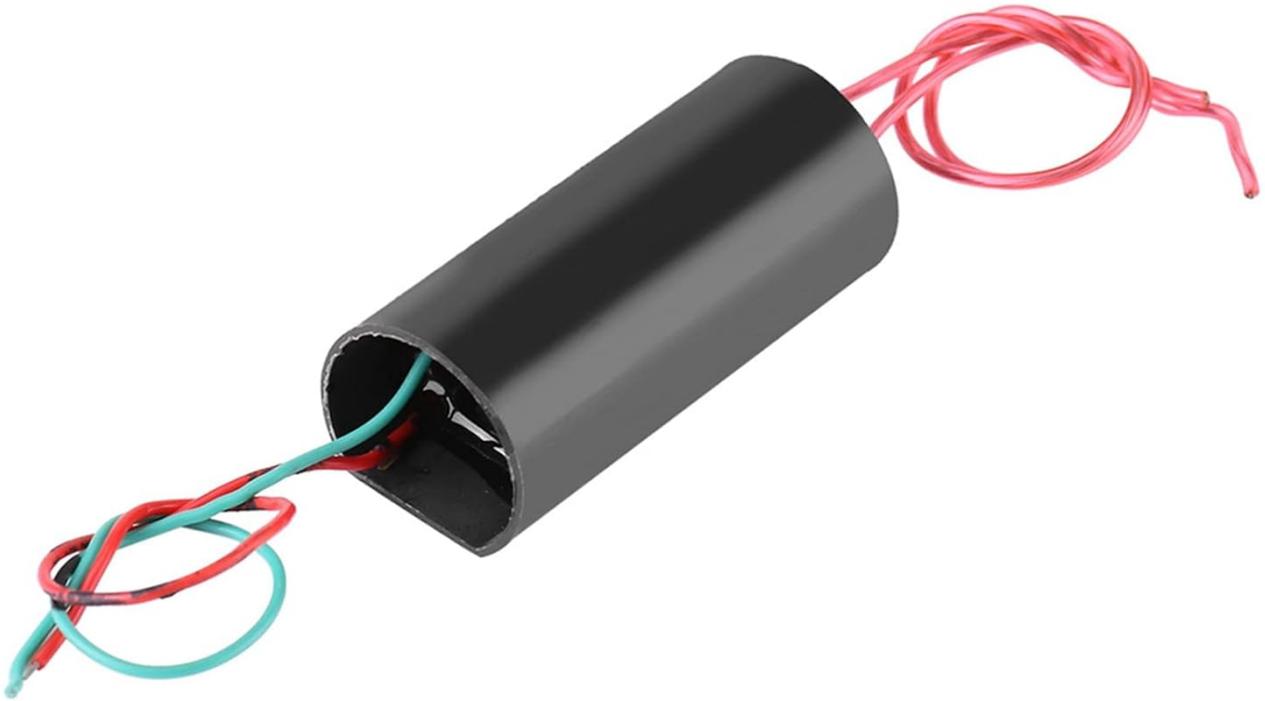
This manual provides essential information for the safe and effective use of the Walfront 80kV High Voltage Pulse Generator Inverter. This module is designed to produce a high-voltage arc for various scientific and experimental applications. Please read all instructions carefully before operation.

### Safety Warnings

- **High Voltage Hazard:** This device generates extremely high voltage (up to 80kV). Direct contact with the output terminals or arc can cause severe injury or death.
- Always ensure proper insulation and maintain a safe distance from the output arc.
- Do not operate in wet conditions or near flammable materials.
- Keep out of reach of children.
- Use appropriate personal protective equipment (PPE) when operating.

## 2. PRODUCT OVERVIEW

The Walfront 80kV High Voltage Pulse Generator Inverter is a compact and efficient module designed to convert low DC voltage into a high-voltage pulse current, capable of generating a high-temperature arc.



**Figure 2.1:** Walfront 80kV High Voltage Pulse Generator Inverter module. This image shows the compact black cylindrical body of the pulse generator with red and green input wires on one end and red output wires on the other.

### Key Features:

- **Efficient Operation:** Small size with high efficiency, converting DC 6-12V input to approximately 80kV output.
- **Extended Ignition Time:** Capable of continuous operation for up to 20 seconds without overheating.
- **High Voltage Output:** Produces a high-frequency arc with high temperature, suitable for ignition.
- **Simple Design:** Requires minimal external components for operation (battery and switch).
- **Versatile Applications:** Ideal for high school science experiments, electronic instruments, negative ion generators, and small scientific projects.

## 3. SPECIFICATIONS

# High Voltage Pulse Generator Inverter



## Product Introduction

1. Size: 55\*24\*22mm
2. Input Voltage: DC 6-12V
3. Input Current: 0.5A~2A
4. Input Wire Length: 10cm
5. High Voltage Type: AC
6. Output Voltage: 80kV
7. Output Current:  $\leq 0.5A$
8. Output Wire Length: 10cm
9. High Voltage Polarization Ignition Distance:  $\leq 1.5cm$

**Figure 3.1:** Product specifications diagram. This image displays the key specifications of the pulse generator, including size, input/output voltage, and wire lengths, alongside an image of the module.

Parameter	Value
Model	WALFRONTnya7kqh2ro
Dimensions (L x W x H)	Approx. 65 x 24 x 22 mm (2.6 x 0.9 x 0.9 inches)
Input Voltage	DC 6V - 12V
Input Current	0.5A - 2A (depending on input voltage)
Input Line Length	Approx. 10 cm (3.94 inches)
High Voltage Type	DC Type
Output Voltage	Approx. 80KV
Output Current	0.5A

Parameter	Value
Output Line Length	Approx. 10 cm (3.94 inches)
High Voltage Poles Ignition Distance	≤ 1.5 cm (1 cm is recommended for optimal performance)

## 4. SETUP INSTRUCTIONS

Follow these steps to properly set up your high voltage pulse generator module:

### 1. Identify Input and Output Wires:

- The input wires are typically red and green. The red wire connects to the positive (+) terminal of your power source, and the green wire connects to the negative (-) terminal.
- The output wires are typically two red wires of the same color and thicker gauge. These are the high voltage output terminals.

### 2. Connect Power Source:

- Connect a DC power source within the 6V-12V range to the input wires.
- Recommended power sources include 3.7V lithium batteries (connected in series to achieve 6-12V, ensure capacity is at least 2000mAh), or NiMH battery packs.
- It is advisable to include a switch in the input circuit for safe control of power.

### 3. Position Output Terminals:

- Position the two high voltage output wires with a gap of approximately 1 cm to 1.5 cm between them. This gap will be the point of arc discharge.
- Ensure the output terminals are clear of any conductive materials or surfaces that could cause unintended discharge.

Using Method:red wire and green wire are input ports,red wire connects with positive;green wire connects with negative;the same color wires are output ports



### Product usage method:

Module input terminal and the output terminal, red and green line is Input terminal, red“-” green“+”,two thick line which has same color is the high voltage output, fixed output end of the proper arc distance and input end is connected with a battery can generate high-voltage electric arc.

**Figure 4.1:** Wiring diagram for the pulse generator. This image illustrates the connection method: red input wire to positive, green input wire to negative, and the two thicker red wires as output terminals.

## 5. OPERATING INSTRUCTIONS

Once the module is set up according to the instructions above, you can proceed with operation:

1. **Ensure Safety:** Double-check that all safety precautions are observed. Ensure no flammable materials are nearby and that you are maintaining a safe distance.
2. **Activate Power:** Turn on the power switch connected to the input of the module.
3. **Observe Arc:** A high-temperature arc should form between the two output terminals. The arc can ignite combustible materials like paper.
4. **Continuous Operation:** The module is designed to work continuously for up to 20 seconds. Avoid exceeding this duration to prevent potential damage or overheating.
5. **Deactivate Power:** After use, immediately turn off the power switch to disconnect the module from the power



**Figure 5.1:** Pulse generator in operation, showing the high voltage arc. This image depicts the module generating a bright blue electrical arc between its output terminals.

#### **Important Notes:**

- The maximum ignition distance for the high voltage poles is 1.5 cm. For best performance and a stable arc, a distance of 1 cm is recommended.
- The module outputs a high voltage pulse current. When operating, a distinct crackling sound may not always be present, but the arc will be visible.

## **6. MAINTENANCE**

The Walfront 80kV High Voltage Pulse Generator Inverter is designed for low maintenance. To ensure its longevity and safe operation:

- **Storage:** Store the module in a dry, cool place, away from direct sunlight and moisture.
- **Cleaning:** If necessary, gently wipe the exterior of the module with a dry, soft cloth. Do not use liquids or abrasive cleaners.
- **Inspection:** Periodically inspect the input and output wires for any signs of damage, fraying, or loose connections. Replace damaged wires immediately.
- **Avoid Overload:** Do not exceed the recommended input voltage or continuous operating time (20 seconds) to prevent internal damage.

## 7. TROUBLESHOOTING

If you encounter issues with your Walfront 80kV High Voltage Pulse Generator Inverter, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
No arc or very weak arc.	<ul style="list-style-type: none"> <li>◦ Incorrect input voltage.</li> <li>◦ Insufficient input current.</li> <li>◦ Loose or incorrect wiring connections.</li> <li>◦ Output terminals too far apart.</li> <li>◦ Faulty power source.</li> </ul>	<ul style="list-style-type: none"> <li>◦ Verify input voltage is within 6V-12V.</li> <li>◦ Ensure power source can supply 0.5A-2A.</li> <li>◦ Check all input (red to +, green to -) and output connections.</li> <li>◦ Adjust output terminal distance to 1 cm.</li> <li>◦ Test with a different, known-good power source.</li> </ul>
Module gets excessively hot quickly.	<ul style="list-style-type: none"> <li>◦ Operating for too long (exceeding 20 seconds).</li> <li>◦ Input voltage too high.</li> <li>◦ Short circuit at output.</li> </ul>	<ul style="list-style-type: none"> <li>◦ Limit continuous operation to 20 seconds. Allow cooling time.</li> <li>◦ Ensure input voltage does not exceed 12V.</li> <li>◦ Inspect output wires for any unintended contact.</li> </ul>
Module not turning on.	<ul style="list-style-type: none"> <li>◦ No power to input.</li> <li>◦ Input wires connected incorrectly.</li> <li>◦ Faulty module.</li> </ul>	<ul style="list-style-type: none"> <li>◦ Check power source and switch.</li> <li>◦ Verify red input to positive, green input to negative.</li> <li>◦ If all checks fail, the module may be defective.</li> </ul>

## 8. WARRANTY AND SUPPORT

Specific warranty information for this product is not provided in the available documentation. For warranty claims or technical support, please contact the retailer or manufacturer directly with your purchase details.

When contacting support, please have the following information ready:

- Product Model: WALFRONTnya7kqh2ro
- Date of Purchase
- Description of the issue
- Your contact information

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