

## Walfront GYVRM-K240505

# Walfront 12V/24V to 5V DC-DC Step Down Converter Module GYVRM-K240505 Instruction Manual

### INTRODUCTION

The Walfront GYVRM-K240505 is a non-isolated DC-DC step-down converter module designed to efficiently convert a wide input voltage range of 8-40V DC into a stable 5V DC output. This module is capable of delivering up to 5A of current, providing 25W of power. Its robust design includes a flame-retardant silicone shell and precision SMT internal circuitry, ensuring durability and protection against environmental factors. Integrated safety features protect the module and connected devices from common electrical issues.



Figure 1: Walfront GYVRM-K240505 DC-DC Converter module.

SPECIFICATIONS

Model	GYVRM-K240505
Type	DC-DC Non-isolated Step Down Module
Input Voltage	12V/24V (8-40V DC)
Output Voltage	5V ±0.25V DC
Output Current	5A
Output Power	25W
Conversion Efficiency	96%
Size (L*W*H)	63mm * 32mm * 18mm (2.42in * 1.26in * 0.71in)
Mounting Hole Diameter	4mm (0.16in)
Hole Distance	56mm (2.20in)
Weight	Approx. 46g (1.6oz)
Manufacturer	WALFRONT
Color	Black

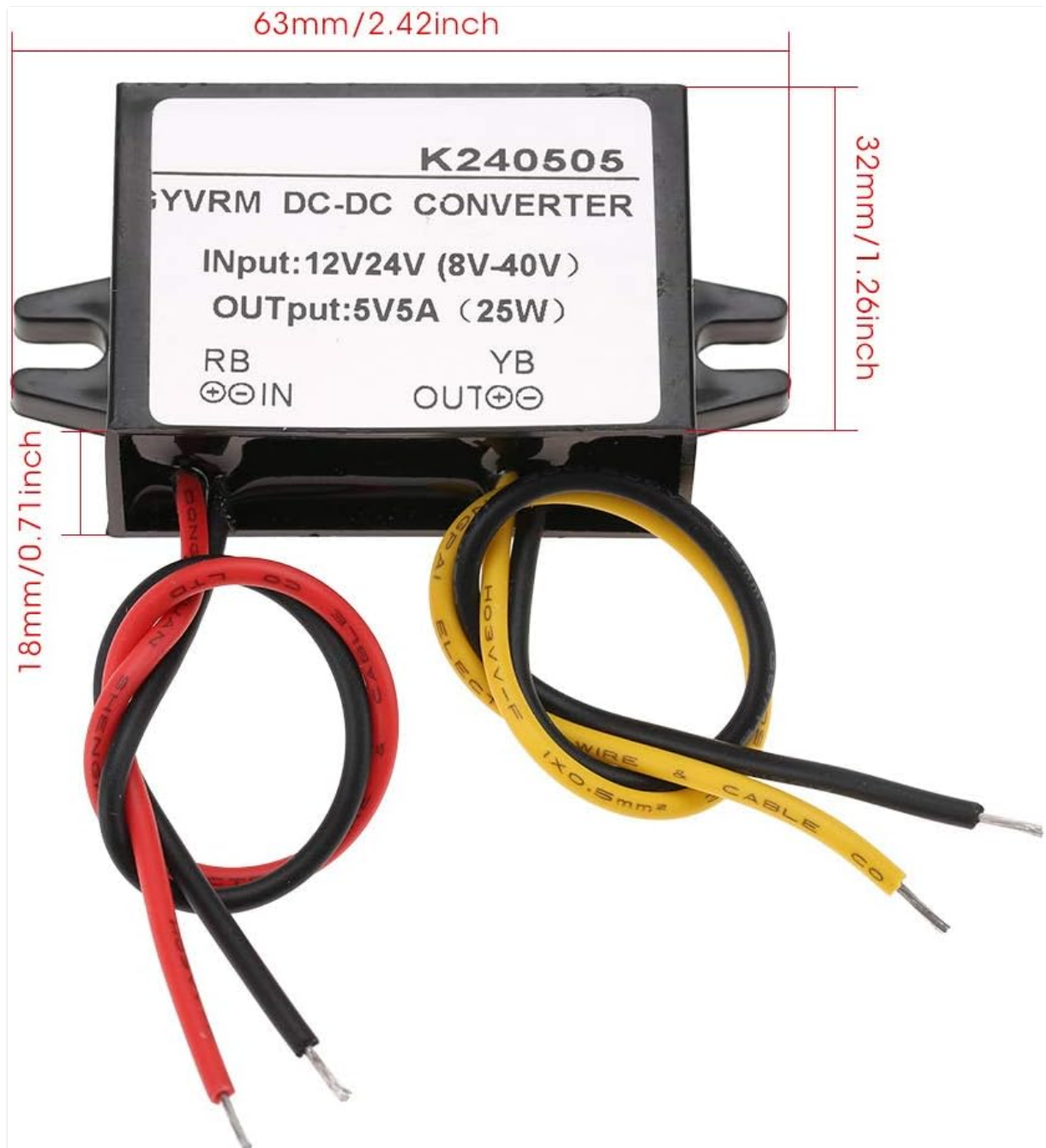


Figure 2: Physical dimensions of the converter module.

## PRODUCT FEATURES

- Converts 8-40V DC input to a stable 5V 5A output.
- Module shell constructed from flame-retardant silicone for enhanced safety and reduced heat production.
- Internal circuit board features precision SMT workmanship, providing waterproof, dustproof, and anti-shock capabilities.
- Built-in intelligent protection mechanisms including overvoltage, overcurrent, overheat, and short circuit protection.
- Suitable for a wide range of 5V electrical devices such as car LED screens, monitor cameras, fans, motors, and routers.

## 4 INTELLIGENT PROTECTION



OVERCURRENT  
PROTECTION



OVERHEAT  
PROTECTION



SHORT CIRCUIT  
PROTECTION



OVERVOLTAGE  
PROTECTION

Figure 3: The converter module features multiple intelligent protection functions.

### SETUP INSTRUCTIONS

Follow these steps to properly set up your Wafirm DC-DC converter module:

1. **Identify Wires:** The module has two sets of wires. The red and black wires are for input, and the yellow and black wires are for output.
2. **Input Connection:** Connect the red input wire to the positive (+) terminal of your 8-40V DC power source. Connect the black input wire to the negative (-) terminal of your 8-40V DC power source.
3. **Output Connection:** Connect the yellow output wire to the positive (+) terminal of your 5V electrical device. Connect the black output wire to the negative (-) terminal of your 5V electrical device.
4. **Secure Connections:** Ensure all wire connections are secure and properly insulated to prevent short circuits or accidental disconnections.
5. **Verify Polarity:** Double-check all polarity connections before applying power to avoid damage to the converter or connected devices.



Figure 4: Input (red/black) and output (yellow/black) wiring connections.

## OPERATING GUIDELINES

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To ensure safe and efficient operation of the converter module:

- **Input Voltage Range:** Always ensure that the input voltage supplied to the converter is within the specified range of 8V to 40V DC. Operating outside this range may damage the module.
- **Load Capacity:** Do not exceed the maximum output current of 5A or the maximum output power of 25W. Overloading the converter can lead to overheating and potential failure.
- **Ventilation:** While the module has a silicone shell for heat dissipation, ensure it is installed in an area with adequate airflow to prevent excessive heat buildup, especially during prolonged operation at higher loads.
- **Environmental Conditions:** Although the module is waterproof and anti-shock, avoid exposing it to extreme temperatures, direct sunlight for extended periods, or highly corrosive environments.

## MAINTENANCE

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The Walfront DC-DC converter module is designed for low maintenance. However, periodic checks can help ensure its longevity and reliable performance:

- **Cleaning:** Keep the module clean and free from dust, dirt, and debris. Use a soft, dry cloth for cleaning. Do not use harsh chemicals or abrasive materials.
- **Connection Inspection:** Periodically inspect all wire connections to ensure they remain tight and free from corrosion. Loose connections can lead to intermittent operation or power loss.

- **Physical Damage:** Check for any signs of physical damage to the module or its wiring. Replace the module if any significant damage is observed.

## TROUBLESHOOTING

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If you encounter issues with your Walfront DC-DC converter, consider the following troubleshooting steps:

- **No Output Voltage:**
  - Verify that the input power source is active and providing voltage within the 8-40V range.
  - Check all input and output wiring connections for correct polarity and secure contact.
  - Ensure there are no short circuits in the connected load device.
- **Incorrect Output Voltage:**
  - Confirm that the input voltage is stable and within the specified operating range.
  - Check if the connected load exceeds the module's maximum output power (25W) or current (5A). An overloaded module may experience voltage drop.
- **Module Overheating:**
  - Ensure the module has sufficient ventilation and is not enclosed in a confined space.
  - Reduce the load if the module is consistently operating at or near its maximum capacity.
  - Verify that the input voltage is not fluctuating or excessively high, even with overvoltage protection.

## PACKAGE CONTENTS

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The package includes:

- 1 x Walfront GYVRM-K240505 DC-DC Step Down Converter Module

## IMPORTANT NOTES

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- Due to variations in monitors and lighting conditions, the actual color of the item may differ slightly from the images shown.
- Please allow for slight measurement errors due to manual measurement. Your understanding is appreciated.