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› [Walfront](#) /

› [Walfront 12V/24V to 5V DC-DC Step Down Converter Module GYVRM-K240505 Instruction Manual](#)

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 ± 0.25 V 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 Walfront DC-DC converter module:

- 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.
- 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.
- 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.
- Secure Connections:** Ensure all wire connections are secure and properly insulated to prevent short circuits or accidental disconnections.
- 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

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

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

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

The package includes:

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

IMPORTANT NOTES

- 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.