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**Garosa QF-221**

# Power Switcher Mains Electricity Back On/Failure Auxiliary Switching Control Module

Model: QF-221

Brand: Garosa

## 1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the Garosa QF-221 Power Switcher Mains Electricity Back On/Failure Auxiliary Switching Control Module. This module is designed to provide auxiliary control signals based on the presence or absence of mains electricity, facilitating automatic switching of standby power or control within various electrical systems.

## 2. Key Features

- **Low Power Consumption:** Efficient design minimizes energy usage.
- **High Sensitivity:** Detects mains power status changes accurately.
- **Quick Response:** Provides rapid signal output upon power events.
- **High Current Output:** Each relay channel can withstand up to 10A current.
- **Wide Input Voltage Range:** Supports mains electricity from 100V to 250V.
- **Passive Output:** Provides dry contact (switch on/off) signals without voltage.

## 3. Specifications

| Parameter | Value |
|---|---|
| Function | Relay A, B terminals connect for 0.2S when mains returns. C, D terminals connect for 0.2S when mains fails. |
| Power Consumption | <1W |
| Input Voltage | 100V-250V AC |
| Connection Time | 0.2 seconds |

| | |
|---|---|
| Output Capacity | A-B, C-D can withstand 10A current each |
| Output Form | Passive (dry contact, switch on/off, no voltage) |
| Operation Mode | Automatic |
| Dimensions (Approx.) | 88mm x 48mm x 22mm (3.46in x 1.89in x 0.87in) |

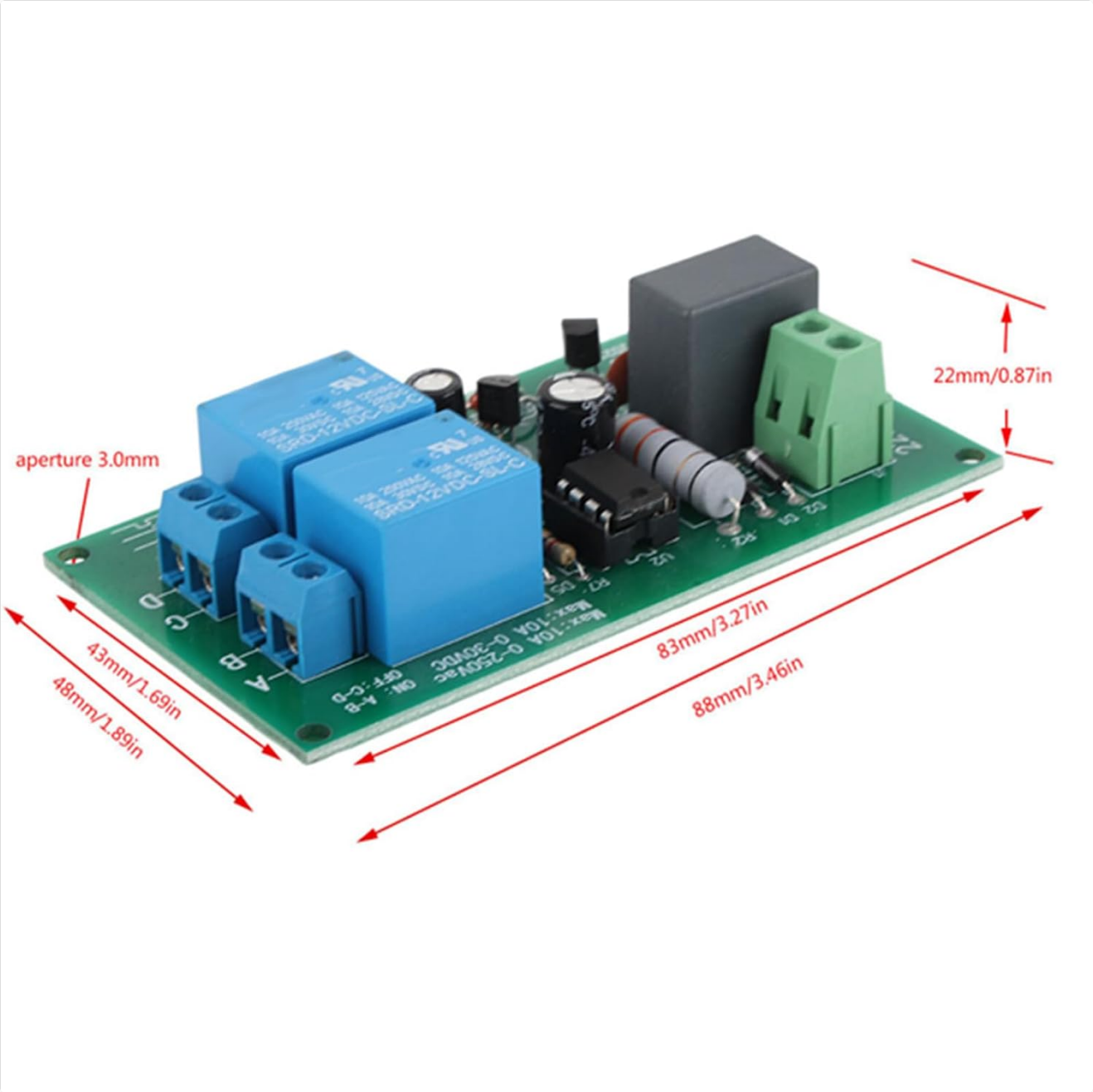



Figure 3.1: Approximate dimensions of the QF-221 module.

## 4. Setup and Wiring

Careful wiring is essential for the correct and safe operation of the QF-221 module. Ensure all power sources are disconnected before proceeding with installation.

### 4.1. Terminal Description

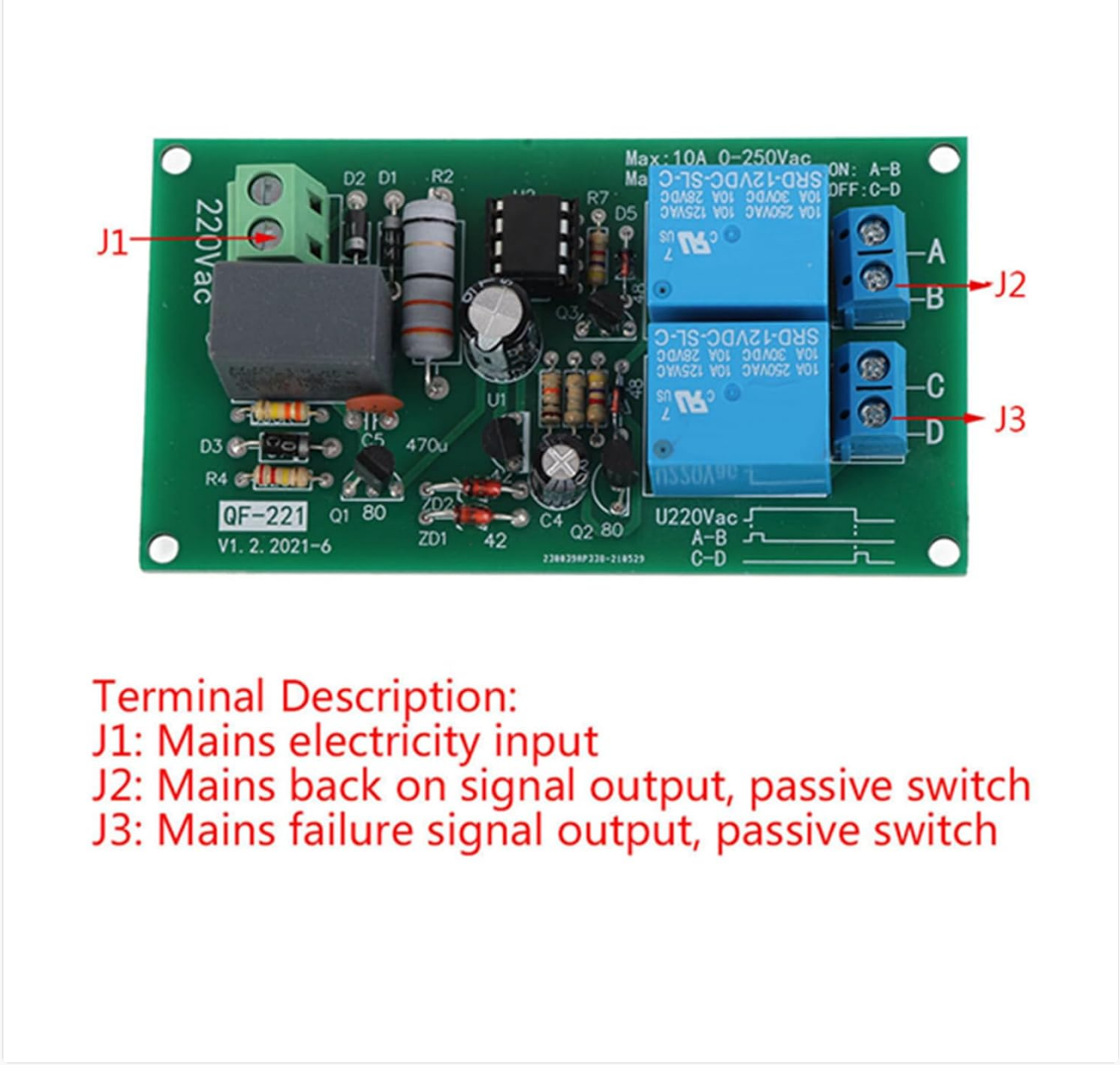



Figure 4.1: QF-221 Module Terminal Layout.

- **J1: Mains Electricity Input (220Vac)**
  Connect your primary AC mains power supply (100V-250V) to these terminals. This is the power source the module monitors.
- **J2: Mains Back On Signal Output (A-B, Passive Switch)**
  These terminals provide a passive (dry contact) switch closure for approximately 0.2 seconds when the mains electricity, connected to J1, is restored after an outage. Connect this output to the control input of your standby power system or other auxiliary equipment that needs to be activated upon mains return.
- **J3: Mains Failure Signal Output (C-D, Passive Switch)**
  These terminals provide a passive (dry contact) switch closure for approximately 0.2 seconds when the mains electricity, connected to J1, fails. Connect this output to the control input of your standby power system or other auxiliary equipment that needs to be activated upon mains failure.

## 4.2. Installation Steps

1. **Mounting:** Securely mount the QF-221 module in a suitable enclosure or location, ensuring it is protected from moisture, dust, and excessive temperatures.
2. **Input Wiring:** Connect the mains electricity supply (100V-250V AC) to the J1 terminals. Ensure proper polarity

if applicable, though for AC mains, either wire can go to either terminal.

3. **Output Wiring:** Connect the J2 (A-B) and J3 (C-D) output terminals to the respective control inputs of the devices you wish to control. Remember these are passive contacts; they do not supply voltage. They simply close a circuit for a brief duration.
4. **Verify Connections:** Double-check all wiring for correctness and secure connections before applying power.

## 5. Operation

Once correctly installed and powered, the Garosa QF-221 module operates automatically. It continuously monitors the mains electricity input at J1.

- **Mains Power Restoration:** When the mains electricity at J1 is restored after an interruption, the A-B terminals (J2) will momentarily close for approximately 0.2 seconds. This signal can be used to trigger a standby power system to switch back to mains, or to soft-start other equipment.
- **Mains Power Failure:** When the mains electricity at J1 fails or is interrupted, the C-D terminals (J3) will momentarily close for approximately 0.2 seconds. This signal can be used to trigger a standby power system to activate, or to initiate shutdown procedures for sensitive equipment.

The module's output is passive, meaning it acts as a simple switch. It does not provide voltage to the connected devices. Ensure that the devices connected to J2 and J3 are designed to accept a dry contact closure as a control signal.

## 6. Maintenance

The Garosa QF-221 module is designed for reliable, long-term operation with minimal maintenance. However, periodic checks can help ensure continued performance:

- **Visual Inspection:** Periodically inspect the module for any signs of physical damage, loose connections, or overheating.
- **Environmental Conditions:** Ensure the operating environment remains within specified temperature and humidity ranges. Keep the module free from dust and moisture.
- **Cleaning:** If necessary, gently clean the module with a dry, soft cloth. Do not use liquid cleaners or solvents.

No user-serviceable parts are inside the module. Do not attempt to disassemble or repair the unit yourself.

## 7. Troubleshooting

If the QF-221 module is not functioning as expected, consider the following:

- **No Output Signal:**
  - Verify that mains power is correctly supplied to J1 terminals (100V-250V AC).
  - Check the wiring to the J2 and J3 output terminals for secure connections and correct routing.
  - Ensure the connected device's control input is compatible with a passive (dry contact) switch closure.
- **Incorrect Signal Timing:**
  - The module provides a fixed 0.2-second pulse. If your application requires a different timing, external circuitry may be needed.
- **Module Not Powering On:**

- Confirm that the input voltage at J1 is within the 100V-250V AC range.
- Check the integrity of the power supply circuit leading to J1.

If issues persist after checking these points, contact Garosa customer support for further assistance.

## 8. Warranty and Support

Garosa products are manufactured to high-quality standards. For information regarding warranty coverage, technical support, or service, please refer to the warranty card included with your product or visit the official Garosa website. Please retain your proof of purchase for warranty claims.
For additional resources and product information, you may visit theGarosa Store on Amazon.

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