

GCP 90-370

Instruction Manual

WHITE-RODGERS 90-370 FAN RELAY, 24 VAC

Model: 90-370

1. Introduction

This manual provides essential information for the safe and effective installation, operation, and maintenance of the White-Rodgers 90-370 Fan Relay. Please read this manual thoroughly before attempting any installation or operation to ensure proper function and to prevent potential hazards.

2. Safety Information

WARNING: Electrical Shock Hazard. Disconnect power before installation or servicing.

- Installation and servicing should only be performed by a qualified technician.
- Ensure all local and national electrical codes are followed.
- Verify the power supply voltage matches the relay's coil voltage (24 Vac).
- Do not operate the relay if it appears damaged.
- Keep hands and tools clear of electrical connections when power is applied.

3. Product Overview

The White-Rodgers 90-370 is a compact, totally-enclosed magnetic relay designed for quiet and reliable performance in various heating, cooling, and general switching applications. It features a durable construction and can operate effectively in any mounting position.



A close-up view of the White-Rodgers 90-370 magnetic fan relay. The black, rectangular unit features quick-connect terminals on the sides and a label on top detailing specifications such as model number (90-370, 184-916), voltage ratings (12FLA 60LRA 125VAC, 8FLA 48LRA 250VAC, 18A, 277VAC RES), and coil voltage (24 VAC 50/60 HZ). The label also indicates 'MADE IN USA'. Mounting tabs are visible on the sides.

This heavy-duty fan relay is suitable for switching single or two-speed fan motors, solenoids, other relays, resistive loads, and general-purpose switching tasks. It includes quick-connect push-on terminals and plastic mounting tabs for ease of installation. The unit is UL compliant.

4. Specifications

Feature	Specification
Item	Magnetic Relay
Type	Enclosed Fan Relay (Heavy-Duty)
Model Number	90-370
Coil Volts	24 Vac, 50/60 Hz
Switch Type	SPDT (Single Pole Double Throw)
Resistive Amps @ 120V	18 A
Full Load Amps @ 120VAC	12 A
Resistive Amps @ 240V	18 A
Full Load Amps @ 240VAC	8 A
Resistive Amps @ 277V	18 A
Height	1-1/2 inches
Width	1-1/4 inches
Depth	2-2/3 inches

Feature	Specification
Mounting	Universal (Screw Mount)
Temperature Range	-40°F to 150°F (-40°C to 65°C)
Mechanical Life (no load)	1,000,000 operations (120 operations/min.)
Electrical Life (rated load)	100,000 operations (6 operations/min.)
Agency Compliance	UL
Manufacturer	CAI - WHITE-RODGERS

5. Setup and Installation

Proper installation is crucial for the safe and reliable operation of the relay. Always ensure power is disconnected before beginning installation.

- Mounting:** The relay features plastic mounting tabs for universal mounting. Secure the relay firmly in the desired location using appropriate screws. The relay can operate in any position.
- Wiring:** Connect the 24 Vac control circuit to the coil terminals of the relay. Connect the load circuit (e.g., fan motor, solenoid) to the appropriate switch terminals (normally open or normally closed) using the quick-connect push-on terminals. Refer to the specific wiring diagram for your application, typically found on the equipment being controlled or provided by the equipment manufacturer.
- Verification:** After wiring, double-check all connections for security and correctness. Ensure no bare wires are exposed.
- Power On:** Restore power to the system and test the relay's operation.

It is highly recommended that installation be performed by a qualified electrician or HVAC technician.

6. Operation

The White-Rodgers 90-370 relay functions as an electrical switch. When 24 Vac is applied to the coil terminals, an electromagnetic field is generated, which causes the internal contacts to change state (e.g., a normally open contact will close, and a normally closed contact will open). This action completes or breaks a separate electrical circuit, thereby controlling the connected load, such as a fan motor or solenoid. The relay will remain in its actuated state as long as power is supplied to the coil. When power to the coil is removed, the contacts will return to their original state.

7. Maintenance

The White-Rodgers 90-370 is a totally-enclosed, heavy-duty relay designed for minimal maintenance. However, periodic inspection can help ensure long-term reliability:

- **Visual Inspection:** Annually inspect the relay for any signs of physical damage, discoloration, or loose connections.
- **Terminal Connections:** Ensure all quick-connect terminals are securely attached and free from corrosion.
- **Environmental Conditions:** Verify that the operating environment remains within the specified temperature range (-40°F to 150°F) and is free from excessive moisture or corrosive agents.

No internal user-serviceable parts are present. If the relay malfunctions, it should be replaced by a qualified

technician.

8. Troubleshooting

If the relay is not functioning as expected, consider the following common issues:

- **Relay Not Engaging:**
 - Check if 24 Vac is present at the coil terminals when the control circuit is active.
 - Verify that the coil terminals are correctly wired.
 - Inspect the relay for visible damage.
- **Load Not Actuating (e.g., Fan Not Turning On):**
 - Ensure the relay coil is energized and the contacts are switching.
 - Check for continuity across the appropriate load contacts when the coil is energized.
 - Verify that the load circuit has power and the load itself is functional.
 - Confirm that the load's current draw does not exceed the relay's rated electrical life or amperage limits.
- **Intermittent Operation:**
 - Check for loose wiring connections.
 - Ensure stable 24 Vac power to the coil.

For persistent issues, consult a qualified technician. Do not attempt to repair the relay yourself.

9. Warranty

This White-Rodgers 90-370 Fan Relay is covered by the manufacturer's standard warranty. Please refer to the warranty documentation provided with your purchase or contact the manufacturer, CAI - WHITE-RODGERS, for specific terms and conditions. Keep your proof of purchase for warranty claims.

10. Support

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact your distributor or the manufacturer directly. When contacting support, please have the model number (90-370) and any relevant purchase information readily available.