

Irritrol R811-24VACG

Irritrol R811-24VACG Replacement Solenoid Instruction Manual

Model: R811-24VACG

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Irritrol R811-24VACG Replacement Solenoid. Please read this manual thoroughly before attempting any installation or maintenance to ensure proper function and safety. Keep this manual for future reference.

2. PRODUCT OVERVIEW

The Irritrol R811-24VACG is a 24-volt AC replacement solenoid designed for use with various irrigation valves, including Hardie, Richdel, and Irritrol models. This component is crucial for the automatic control of water flow in your irrigation system, allowing the controller to open and close the valve as programmed. It is designed for easy replacement to restore functionality to your existing irrigation valves.



Figure 2.1: Irritrol R811-24VACG Replacement Solenoid. This image shows the solenoid with its wire leads, ready for installation into an irrigation valve.

3. SAFETY INFORMATION

Always observe the following safety precautions:

- **Electrical Hazard:** Ensure the power to the irrigation controller is turned OFF before attempting any installation or maintenance. Working with live electrical components can result in electric shock.
- **Water Pressure:** Turn off the main water supply to the irrigation system before working on any valves to prevent water spray and potential damage.
- **Proper Tools:** Use appropriate tools for installation to avoid damaging the solenoid or valve components.
- **Professional Assistance:** If you are unsure about any step, consult a qualified irrigation technician.

4. SETUP AND INSTALLATION

4.1. Tools Required

- Adjustable wrench or pliers
- Wire strippers
- Waterproof wire connectors (e.g., grease caps)
- Small flathead screwdriver (optional, for terminal connections)

4.2. Installation Steps

1. **Turn Off Power and Water:** Locate your irrigation controller and turn off the power supply. Close the main water shut-off valve for your irrigation system.
2. **Locate the Valve:** Identify the irrigation valve with the faulty solenoid. Dig around the valve box if necessary to access the valve and wiring.
3. **Disconnect Old Solenoid:** Carefully disconnect the two wires leading to the old solenoid. Note which wire connects to the common wire (usually white) and which connects to the zone wire. Remove any waterproof connectors.
4. **Remove Old Solenoid:** Unscrew the old solenoid from the valve body by turning it counter-clockwise. It may be hand-tight or require an adjustable wrench. Be careful not to damage the valve body or internal components.
5. **Install New Solenoid:** Screw the new Irritrol R811-24VACG solenoid into the valve body clockwise until it is hand-tight. Do not overtighten, as this can damage the valve or solenoid.
6. **Connect Wiring:** Connect one wire from the new solenoid to the common wire from the controller and the other solenoid wire to the zone wire from the controller. Use waterproof wire connectors to ensure a secure and moisture-resistant connection. Ensure no bare wire is exposed.
7. **Test the System:**
 - Turn on the main water supply to the irrigation system.
 - Turn on the power to the irrigation controller.
 - Manually activate the zone associated with the newly installed solenoid from your controller. Verify that the valve opens and closes correctly and that water flows as expected.
 - Check for any leaks around the solenoid or valve body.
8. **Backfill (if applicable):** Once confirmed operational and leak-free, carefully backfill the valve box with soil, ensuring the valve and wiring are protected.

5. OPERATING THE SOLENOID

The Irritrol R811-24VACG solenoid operates automatically in conjunction with your irrigation controller. Once installed and wired correctly, the solenoid receives a 24VAC electrical signal from the controller, which energizes a coil, creating a magnetic field. This magnetic field lifts a plunger, allowing water pressure to open the valve. When the signal is removed, the plunger drops, and water pressure closes the valve. No direct user operation of the solenoid itself is required beyond its initial installation and connection to the controller.

For specific programming and operation of your irrigation system, refer to your irrigation controller's instruction manual.

6. MAINTENANCE

The Irritrol R811-24VACG solenoid is designed for durability and minimal maintenance. However, periodic checks can help ensure its longevity and proper function:

- **Inspect Wiring:** Annually inspect the wiring connections for corrosion or damage. Replace waterproof connectors if they appear compromised.
- **Check for Leaks:** Periodically check around the valve box for any signs of water leaks, which could indicate a faulty

seal or a loose solenoid.

- **Clean Valve Box:** Keep the valve box clear of debris, soil, and plant roots to ensure easy access and prevent interference with valve components.
- **Winterization:** In colder climates, ensure your irrigation system, including solenoids and valves, is properly winterized according to your system's guidelines to prevent freeze damage.

7. TROUBLESHOOTING

If your irrigation valve is not functioning correctly after solenoid replacement, consider the following:

Problem	Possible Cause	Solution
Valve does not open.	No power to the controller. Loose or faulty wiring connection to the solenoid. Solenoid not fully screwed in. Controller programming error. Main water supply off.	Check controller power. Inspect and secure wiring connections. Ensure solenoid is hand-tight. Verify controller schedule. Open main water supply.
Valve does not close.	Debris lodged in the valve. Solenoid stuck in open position. Controller continuously sending power.	Turn off water, disassemble valve, clean diaphragm. Replace solenoid if stuck. Check controller for faults or manual override.
Water leaks from solenoid.	Solenoid not tightened sufficiently. Damaged O-ring or seal. Cracked valve body.	Tighten solenoid (hand-tight). Inspect and replace O-ring/seal if damaged. Valve body replacement may be necessary.

8. SPECIFICATIONS

- **Model:** Irritrol R811-24VACG
- **Voltage:** 24 Volts AC
- **Compatibility:** Hardie, Richdel, and Irritrol irrigation valves
- **Package Weight:** Approximately 1.4 Pounds (for 5-pack)
- **Item Weight:** Approximately 1.4 Pounds (for 5-pack)
- **Date First Available:** July 27, 2019

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Irritrol website or contact their customer service department. Keep your purchase receipt as proof of purchase for any warranty claims.

Note: Specific warranty terms may vary by region and retailer.

ASK A QUESTION ABOUT THIS MANUAL

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Question

Example: How do I reset this device or fix this error?

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Model number, symptoms, what you tried, or the section of the manual you are using.

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