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Irritrol SR-1

Irritrol SR-1 Pump Start Relay Instruction Manual

INTRODUCTION

The Irritrol SR-1 Pump Start Relay is an industrial control device designed to provide reliable switching control for pumps or other electrical equipment from a controller. It features a durable, lockable, vandal- and weather-resistant enclosure, making it suitable for both indoor and outdoor installations. This manual provides essential information for the safe and correct installation, operation, and maintenance of your SR-1 Pump Start Relay.

SAFETY INFORMATION

WARNING: Electrical shock hazard. Always disconnect power before installing or servicing this unit. Installation should be performed by a qualified electrician or service personnel in accordance with all local and national electrical codes.

- Ensure the main power supply to the pump and controller is turned off before making any electrical connections.
- Do not apply voltage higher than 30 VAC to the coil.
- Non-metallic enclosures do not provide grounding between conduits; use grounding bushings and a jumper wire for proper grounding.
- Electronic controllers should be installed at least 12 feet from the pump and 5 feet from the starter relay to prevent potential malfunctions.
- Use copper conductors only, rated to not exceed the contact ratings.

INSTALLATION INSTRUCTIONS

Follow these steps carefully for proper installation of the Irritrol SR-1 Pump Start Relay.



This image displays the Irritrol SR-1 Pump Start Relay unit with its protective cover open. Inside the cover, detailed installation instructions and a wiring diagram are visible, illustrating the connections for the pump, controller, and power.

1. Mounting the Enclosure

1. Assemble the hanger to the back of the case using the provided hardware.
2. Remove the wiring cover and the voltage plate to access the two mounting holes located in the bottom of the case.
3. Mount the case securely on the wall.

2. Connecting to the Pump

Ensure power to the pump motor is OFF before proceeding.

1. Connect the pump to the relay. Assemble the conduit for the pump power wires (typically 2 blue and 2 yellow wires).
2. Connect one set of wires (1 blue and 1 yellow) to the pump power source.
3. Connect the other set of wires to the pump starter or contractors.
4. Use copper conductors only, rated to not exceed the contact ratings.

3. Connecting to the Controller

Do not connect the relay while a watering cycle is in progress.

1. Connect one white wire from the relay to the terminal marked 'PUMP' on the controller.
2. Connect the other white wire from the relay to the 'COMMON' terminal on the controller.
3. Do not apply voltage higher than 30 VAC to the coil.

4. Grounding

For non-metallic enclosures, grounding is not provided between conduits. Always use grounding bushings and a jumper wire for proper grounding to ensure safety and compliance.

WIRING DIAGRAM OVERVIEW

The following diagram illustrates the typical wiring connections for the Irritrol SR-1 Pump Start Relay.

Connections:

PUMP COMM: Connects to the pump common line.

CONTROLLER: Connects to the irrigation controller's pump start and common terminals.

SWITCHING RELAY: Internal relay mechanism (1 Yellow, 1 Blue wire).

TO PUMP OR PUMP STARTER: Connections for the pump's electrical starter.

PUMP POWER: Input for the main pump power supply (1 Yellow, 1 Blue wire), protected by a fuse.

Note: This device is suitable for use on a circuit capable of delivering not more than 5000 symmetrical amperes, 250 Volts maximum, and should be protected by nontime delay branch circuit type fuses rated 45 A maximum.

SPECIFICATIONS

Feature	Detail
Model Number	SR-1
Manufacturer	Irritrol
Product Dimensions	7 x 3 x 4 inches

Item Weight	1.84 pounds
Contact Rating (120VAC, 1 Phase)	Up to 1 HP
Contact Rating (250VAC, 1 Phase)	Up to 2 HP
Coil Voltage Rating	24VAC, 3VA
Minimum Coil Voltage	19VAC
Maximum Coil Voltage	30VAC
Enclosure Type	3R (Vandal- and weather-resistant)

Note: The above instructions and specifications also apply to hook-up of lighting or other appliances within the rated electrical limits.

OPERATION

The Irritrol SR-1 Pump Start Relay operates by receiving a low-voltage signal from an irrigation controller. When the controller activates a watering cycle, it sends a 24VAC signal to the relay's coil. This energizes the relay, closing its high-voltage contacts and allowing power to flow to the connected pump or other electrical device. When the controller deactivates, the signal to the relay coil is removed, opening the contacts and shutting off power to the pump.

MAINTENANCE

The Irritrol SR-1 Pump Start Relay is designed for minimal maintenance. Periodically inspect the enclosure for any signs of damage, such as cracks or loose seals, especially if installed outdoors. Ensure all wiring connections remain secure and free from corrosion. Keep the area around the relay clear of debris and pests. If the unit is exposed to harsh environmental conditions, more frequent inspections may be necessary.

TROUBLESHOOTING

- **Pump does not start:**
 - Check if the controller is sending a signal to the relay.
 - Verify all low-voltage and high-voltage connections are secure.
 - Inspect the pump power source and any associated fuses or circuit breakers.
 - Ensure the relay coil is receiving the correct voltage (19-30VAC).
- **Relay makes clicking noise but pump does not start:**
 - This indicates the low-voltage control circuit is working. The issue likely lies in the high-voltage power circuit to the pump.
 - Check pump motor, pump power connections, and fuses/breakers.
- **Relay does not respond:**
 - Confirm the controller is functioning correctly and sending a signal.
 - Check for loose or corroded low-voltage wiring to the relay coil.
 - Ensure the coil voltage is within the specified range.

If troubleshooting steps do not resolve the issue, contact a qualified technician or Irritrol customer support.

WARRANTY AND SUPPORT

For specific warranty information, please refer to the documentation included with your purchase or visit the official Irritrol website. For technical support, product inquiries, or service, please contact Irritrol customer service through their official channels. Keep your purchase receipt for warranty claims.