

Rheem 47-22861-02

Rheem Protech 47-22861-02 Manual Reset Limit Switch Instruction Manual

Model: 47-22861-02

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the Rheem Protech 47-22861-02 Manual Reset Limit Switch. This component is designed as a safety device for various HVAC systems, including furnaces, air conditioners, water heaters, air handlers, boilers, and rooftop units. It is crucial to read and understand all instructions before proceeding with installation or service.



Figure 1: Rheem Protech 47-22861-02 Manual Reset Limit Switch. This image shows the compact, disc-shaped switch with its metal mounting flange, two quick-connect terminals, and the red manual reset button on top.

2. SAFETY INFORMATION

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life. Installation and service must be performed by a qualified installer, service agency, or the gas supplier.

- Always disconnect electrical power to the appliance before installing or servicing the limit switch.
- Ensure all wiring connections are secure and comply with local electrical codes.
- Wear appropriate personal protective equipment (PPE) during installation and service.
- Do not bypass or tamper with the limit switch, as it is a critical safety device.
- Verify the correct model number and specifications before replacement.

3. PRODUCT COMPONENTS

The Rheem Protech 47-22861-02 Manual Reset Limit Switch consists of the following key parts:

- **Switch Body:** The main housing containing the thermal sensing element and electrical contacts.
- **Manual Reset Button:** A red button located on the top of the switch, used to manually reset the contacts after a trip condition.
- **Mounting Flange:** A metal flange with holes for secure attachment to the appliance's airstream or surface.
- **Quick Connect Terminals:** Two 1/4 inch terminals for electrical connections.

4. INSTALLATION INSTRUCTIONS

This limit switch is intended for replacement purposes in compatible Rheem, Ruud, and Protech HVAC systems. Professional installation is highly recommended.

1. **Power Disconnection:** Before beginning any work, ensure that all electrical power to the appliance (furnace, air conditioner, water heater, etc.) is completely disconnected at the main breaker or fuse panel. Verify with a voltage tester.
2. **Locate Existing Switch:** Identify the existing limit switch to be replaced. Note its mounting position and wiring connections.
3. **Remove Old Switch:** Carefully disconnect the wires from the old switch's terminals. Unscrew or unclip the old switch from its mounting location.
4. **Mount New Switch:** Position the new Rheem Protech 47-22861-02 limit switch in the exact location of the old one. Secure it using the mounting flange and appropriate fasteners. Ensure it is firmly attached for proper thermal sensing.
5. **Connect Wiring:** Connect the electrical wires to the 1/4 inch quick connect terminals on the new switch. Ensure connections are tight and correct according to the appliance's wiring diagram. This switch features SPST (Single Pole, Single Throw) contacts.
6. **Verify Installation:** Double-check all connections and mounting to ensure everything is secure and correctly installed.
7. **Restore Power:** Once installation is complete and verified, restore electrical power to the appliance.

5. OPERATION

The 47-22861-02 is a manual reset limit switch designed to open an electrical circuit when a specific temperature threshold is exceeded, preventing overheating and potential damage to the appliance or creating a fire hazard.

- **Normal Operation:** Under normal operating conditions, the switch contacts remain closed, allowing electrical current to flow.
- **Over-Temperature Trip:** If the temperature at the switch location reaches or exceeds its open temperature (typically 400°F for this model), the internal contacts will open, interrupting the circuit and shutting down the appliance.
- **Manual Reset:** After the switch has tripped due to an over-temperature condition, it will not automatically reset. The appliance will remain off until the temperature drops below the minimum manual reset temperature (230°F for this model) and the red reset button on top of the switch is manually pressed.
- **Before Resetting:** Always investigate and resolve the cause of the over-temperature condition before resetting the limit switch. Repeated tripping indicates a problem that requires professional diagnosis.

6. MAINTENANCE

The Rheem Protech 47-22861-02 Manual Reset Limit Switch is a sealed component and requires minimal maintenance. However, periodic inspection is recommended as part of routine appliance servicing.

- **Visual Inspection:** During routine maintenance of the appliance, visually inspect the limit switch for any signs of physical damage, corrosion, or loose connections.
- **Cleanliness:** Ensure the area around the switch is free from dust, debris, or obstructions that could affect its thermal sensing capabilities.
- **Functionality Check:** If the appliance is experiencing frequent over-temperature trips, have a qualified technician test the limit switch and diagnose the underlying cause.

7. TROUBLESHOOTING

If your appliance is not operating correctly, and you suspect the limit switch may be involved, consider the following:

- **Appliance Not Starting/Running:**

- Check if the limit switch has tripped. If the red button is popped out, press it to reset (after ensuring the appliance has cooled down and the cause of the trip has been investigated).
- Ensure power is supplied to the appliance.
- Verify all wiring connections to the limit switch are secure.

- **Frequent Tripping of Limit Switch:**

- This indicates an underlying issue with the appliance causing it to overheat. Common causes include:
 - Restricted airflow (e.g., dirty filters, blocked vents).
 - Malfunctioning blower motor.
 - Over-firing of the burner.
 - Improper sizing or installation of the appliance.
- Contact a qualified HVAC technician for diagnosis and repair. Do not repeatedly reset the switch without addressing the root cause.

- **Switch Does Not Reset:**

- Ensure the appliance has cooled sufficiently below the minimum manual reset temperature (230°F).
- If the switch still does not reset after cooling and pressing the button, the switch may be faulty and require replacement.

8. TECHNICAL SPECIFICATIONS

Feature	Specification
Model Number	47-22861-02
Brand	Rheem / Protech
TOD Switch Series	36T
Operation Mode	Manual Reset
Number of Poles	1
Switch Type	SPST (Single Pole, Single Throw)
Contact Orientation	Normally Closed
Maximum Voltage Rating	120/230 VAC
Maximum Current Rating	15A (120V) / 10A (230V)
Open Temperature	400°F (+/-20°F tolerance)
Minimum Manual Reset Temperature	230°F
Mounting	Flanged Airstream
Connections	1/4 inch Quick Connects

Feature	Specification
Item Dimensions (L x W x H)	2 x 1.6 x 1 inches
Item Weight	1.6 ounces
Contact Material	Copper
International Protection Rating	IP54

9. WARRANTY INFORMATION

Unless otherwise noted, all items carry a one-year limited warranty from the date of purchase. Please retain your proof of purchase for warranty claims. For specific warranty details and procedures, refer to the original product packaging or contact the manufacturer.

10. CUSTOMER SUPPORT

For technical assistance, troubleshooting beyond this manual, or to locate a qualified service technician, please visit the official Rheem or Protech website or contact their customer service department. Always provide the model number (47-22861-02) when seeking support.

You can find more information about Rheem products at: [Rheem Store on Amazon](#)