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› [Honeywell](#) /

› [Honeywell L8124C1003 Triple Aquastat Relay User Manual](#)

Honeywell L8124C1003

Honeywell L8124C1003 Triple Aquastat Relay User Manual

1. PRODUCT OVERVIEW

The Honeywell L8124C1003 is an immersion-type controller designed for use in forced hydronic heating systems. This device integrates high limit protection with both low limit and circulator control functions, ensuring efficient and safe operation of your boiler system.



Image showing the Honeywell L8124C1003 Triple Aquastat Relay unit, typically installed in a boiler system.

2. KEY FEATURES

- Provides multizone control capability when used with a separate circulator and R845 Relay for each zone.
- Incorporates a diaphragm powerhead and Micro Switch assembly designed to respond accurately to temperature changes within the boiler water.
- Offers a Low Limit temperature range of 110°F to 220°F and a High Limit range of 130°F to 240°F.
- Designed to withstand 200 psi on the outside of the immersion well and 100 psi on the capsule if inserted directly.

3. SETUP AND INSTALLATION

Installation of the L8124C1003 Aquastat Relay should only be performed by a qualified heating technician. Incorrect installation can lead to system malfunction, property damage, or personal injury.

1. **Safety First:** Ensure all power to the heating system is disconnected at the main circuit breaker before beginning any installation work.
2. **Mounting:** The unit is designed for panel mounting. Securely attach the Aquastat Relay to the designated panel location.
3. **Immersion Well:** Insert the temperature sensing element into the boiler's immersion well. Ensure a proper seal to prevent leaks.
4. **Wiring:** Connect the Aquastat Relay to the boiler's electrical system, circulator pump, and other control components according to the wiring diagram provided with the product packaging. Pay close attention to the three terminal connections.
5. **Initial Settings:** Once wired, set the desired high and low limit temperatures within the specified ranges.
6. **Power Restoration:** After verifying all connections are secure and correct, restore power to the heating system.

4. OPERATING INSTRUCTIONS

The Honeywell L8124C1003 operates automatically to maintain boiler water temperatures within the set limits and control the circulator pump.

- **High Limit Control:** This function prevents the boiler water temperature from exceeding a safe maximum. If the water temperature reaches the high limit setting, the burner will shut off until the temperature drops.
- **Low Limit Control:** This function ensures the boiler water maintains a minimum temperature, often for domestic hot water production. If the temperature falls below the low limit, the burner will activate to reheat the water.
- **Circulator Control:** The Aquastat manages the operation of the circulator pump, typically allowing it to run only when the boiler water is at a sufficient temperature to provide heat to the system.

Periodically check the temperature settings to ensure they align with your heating requirements and system specifications.

5. MAINTENANCE

The L8124C1003 Aquastat Relay is designed for reliable operation with minimal maintenance. However,

regular system checks are recommended.

- **Annual Inspection:** Have a qualified technician inspect the Aquastat and the entire heating system annually.
- **Cleanliness:** Ensure the area around the Aquastat is free from dust and debris to prevent overheating or interference with components.
- **Wiring Check:** During professional inspections, ensure all electrical connections remain tight and free from corrosion.

Do not attempt to repair the Aquastat yourself. If a malfunction is suspected, contact a qualified service technician.

6. TROUBLESHOOTING

If your heating system is not operating as expected, consider the following basic troubleshooting steps. For complex issues, consult a qualified technician.

- **No Heat/System Not Running:**
 - Check if the main power supply to the boiler is on.
 - Verify that the Aquastat's high and low limit settings are appropriate and not set too low.
 - Ensure the thermostat is calling for heat.
- **Boiler Overheating:**
 - Confirm the high limit setting is correctly configured and not set too high.
 - Check for proper immersion well insertion and contact with boiler water.
- **Circulator Not Running:**
 - Ensure the boiler water temperature is above the low limit setting.
 - Verify wiring connections to the circulator pump.

If these steps do not resolve the issue, contact a professional heating service for diagnosis and repair.

7. SPECIFICATIONS

Brand	Honeywell
Model Number	L8124C1003
Connector Type	Screw
Contact Material	Copper
Contact Type	Normally Open
Current Rating	10 Amps
Mounting Type	Panel Mount
Operation Mode	Automatic
Number of Terminals	3
Specification Met	CSA, UL

Item Weight	3.05 pounds
Package Dimensions	7.2 x 5.2 x 5.1 inches

8. WARRANTY AND SUPPORT

This product is listed with "No Warranty" by the manufacturer. Please refer to your point of purchase for any specific return or exchange policies.

For technical assistance or further inquiries regarding the Honeywell L8124C1003 Aquastat Relay, please contact a qualified HVAC professional or refer to the official Honeywell support resources available on their website.