

ClimaTek ST9120C 2002

ClimaTek ST9120C 2002 Furnace Control Circuit Board User Manual

Model: **ST9120C 2002** | Brand: **ClimaTek**

This manual provides essential information for the safe and effective installation, operation, and maintenance of your ClimaTek ST9120C 2002 Furnace Control Circuit Board.

1. IMPORTANT SAFETY INFORMATION

WARNING: Installation and servicing of heating, ventilation, and air conditioning (HVAC) equipment can be hazardous and requires specialized knowledge and training. Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life.

Always disconnect all power to the furnace before installing or servicing the control board. Failure to do so can result in electrical shock, fire, or death. This control board operates with high voltage. Only qualified service personnel should install or service this equipment.

- Ensure power is OFF before beginning any work.
- Wear appropriate personal protective equipment (PPE).
- Verify all wiring connections are secure and correct before restoring power.
- Consult local electrical codes and regulations.

2. PRODUCT OVERVIEW

The ClimaTek ST9120C 2002 is an upgraded furnace control circuit board designed to replace original equipment manufacturer (OEM) parts. It manages the sequence of operations for a furnace, including ignition, fan control, and heat cycles, ensuring efficient and reliable heating performance.

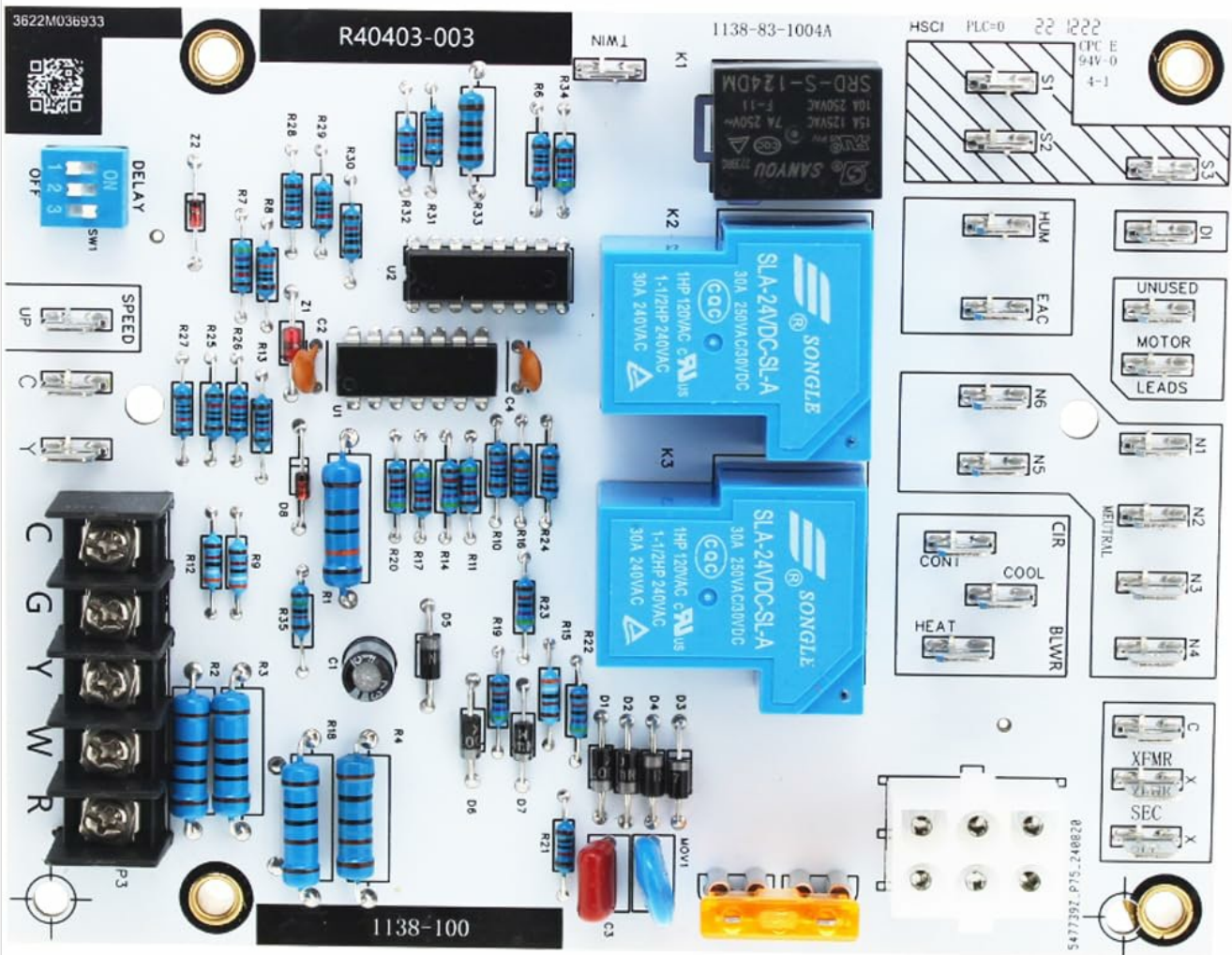


Figure 1: ClimaTek ST9120C 2002 Furnace Control Circuit Board. This image displays an overhead view of the circuit board, highlighting various electronic components such as relays, resistors, capacitors, and terminal blocks. Labels for connections like 'DELAY', 'SPEED', 'HUM', 'MOTOR', 'HEAT', 'COOL', and 'BLWR' are clearly visible, indicating the board's functional areas.

3. SETUP AND INSTALLATION

This section outlines the general steps for installing the ClimaTek ST9120C 2002 control board. Always refer to the specific wiring diagrams and instructions provided with your furnace model for detailed guidance. Professional installation by a qualified HVAC technician is highly recommended.

1. **Disconnect Power:** Locate the main power switch for your furnace and turn it OFF. For added safety, turn off the circuit breaker supplying power to the furnace. Verify power is off using a voltage tester.
2. **Access Control Board:** Open the furnace access panel to expose the existing control board.
3. **Document Wiring:** Before disconnecting any wires, take clear photographs of all existing wiring connections to the old control board. Label each wire with its corresponding terminal designation (e.g., R, W, Y, G, C, B, L1, L2, etc.). This step is critical for correct re-installation.
4. **Remove Old Board:** Carefully disconnect all wires and mounting screws securing the old control board.

Remove the old board from the furnace.

5. **Install New Board:** Position the ClimaTek ST9120C 2002 control board in the same location as the old board. Secure it using the appropriate mounting screws.
 6. **Connect Wiring:** Refer to your documented wiring and the furnace's wiring diagram. Connect each labeled wire to its corresponding terminal on the new ClimaTek ST9120C 2002 board. Ensure all connections are tight and secure.
 7. **Configure DIP Switches:** The board features DIP switches for 'DELAY' (SW1) and 'SPEED' (SW1).
 - **DELAY (SW1):** This switch typically controls the fan off delay. Refer to your furnace manufacturer's specifications or the original board's settings to configure switches 1, 2, and 3 for the correct delay time.
 - **SPEED (SW1):** This switch likely controls fan speed settings (e.g., for heating or cooling). Adjust according to your furnace requirements, typically 'UP' or 'OFF' positions.
- Note:** Incorrect DIP switch settings can lead to improper furnace operation or reduced efficiency. Consult your furnace manual for recommended settings.
8. **Close Access Panel:** Once all connections are verified and DIP switches are set, close the furnace access panel.
 9. **Restore Power:** Turn the circuit breaker back ON, then turn the main power switch for the furnace ON.
 10. **Test Operation:** Initiate a heating cycle to ensure the furnace operates correctly. Observe the ignition sequence, fan operation, and heat output.

4. OPERATING PRINCIPLES

The ClimaTek ST9120C 2002 furnace control board functions as the central command unit for your furnace. It receives signals from the thermostat and other safety devices, then initiates and monitors the various stages of the heating process. This includes:

- **Ignition Sequence:** Controls the gas valve and igniter to safely start the burner.
- **Flame Sensing:** Monitors the presence of a flame to ensure safe operation.
- **Blower Motor Control:** Activates the blower motor to distribute heated air throughout the home, often with adjustable delays for optimal comfort.
- **Safety Shutdowns:** If any safety limits are exceeded (e.g., high temperature, flame failure), the board will shut down the furnace to prevent damage or hazardous conditions.
- **Cooling Integration:** In systems with air conditioning, the board also manages the blower operation during cooling cycles.

The board operates automatically based on thermostat calls for heat or cool and internal safety protocols. User interaction is primarily through the thermostat and initial DIP switch configuration during installation.

5. MAINTENANCE

The ClimaTek ST9120C 2002 furnace control board is designed for reliable, long-term operation and typically requires minimal direct maintenance. However, regular maintenance of the overall furnace system is crucial for its longevity and performance.

- **Annual Furnace Inspection:** Have your entire furnace system inspected annually by a qualified HVAC technician. They can check electrical connections, clean components, and ensure all parts, including the control board, are functioning correctly.
- **Keep Area Clean:** Ensure the area around the furnace and the control board is free from dust, debris, and

obstructions. Excessive dust can accumulate on electronic components and potentially affect performance.

- **Inspect Wiring:** During routine furnace maintenance, visually inspect all wiring connected to the control board for any signs of wear, fraying, or loose connections.
- **No User-Serviceable Parts:** The control board itself contains no user-serviceable parts. Do not attempt to repair or alter the board. If a malfunction is suspected, consult a qualified technician.

6. TROUBLESHOOTING

If your furnace is experiencing issues after installing or while using the ClimaTek ST9120C 2002 control board, consider the following troubleshooting steps. Always ensure power is disconnected before inspecting any internal components.

- **No Power to Furnace:**
 - Check the furnace's main power switch and ensure it is ON.
 - Check the circuit breaker for the furnace in your electrical panel. Reset if tripped.
 - Ensure the furnace access panel is securely closed, as many furnaces have safety interlock switches.
- **Furnace Not Heating / No Ignition:**
 - Verify the thermostat is set to 'Heat' and the temperature is above the ambient room temperature.
 - Check gas supply to the furnace. Ensure the gas valve is open.
 - Inspect wiring connections to the control board, especially those related to the gas valve and igniter.
 - Check for any diagnostic fault codes on the control board (if applicable, some boards have LED indicators). Consult your furnace manual for code interpretations.
- **Blower Fan Not Operating Correctly:**
 - Ensure the thermostat fan setting is correct (e.g., 'Auto' for heating/cooling, 'On' for continuous).
 - Verify the 'SPEED' DIP switch settings on the control board are configured correctly for your furnace.
 - Check wiring to the blower motor.
- **Intermittent Operation:**
 - Loose wiring connections can cause intermittent issues. Re-check all terminals.
 - Ensure proper airflow through the furnace. A clogged air filter can cause overheating and safety shutdowns.

If these steps do not resolve the issue, it is recommended to contact a qualified HVAC technician for further diagnosis and repair.

7. SPECIFICATIONS

Model Number	ST9120C 2002
Brand	ClimaTek
Replaces Part #	ST9120C 2002 (Original Resideo part)
Manufacturer	ClimaTek
Product Dimensions	2 x 7 x 5 inches; 8 ounces

Relay Specifications (SLA-24VDC-SL-A)	30A 250VAC/30VDC, 1HP 120VAC, 1-1/2HP 240VAC, 30A 240VAC
Relay Specifications (SANYOU)	7A 250V, 10A 250VAC, 15A 125VAC
ASIN	B0DSCLWT1S
Date First Available	January 6, 2025

8. WARRANTY AND SUPPORT

For specific warranty information regarding your ClimaTek ST9120C 2002 Furnace Control Circuit Board, please refer to the documentation provided at the time of purchase or contact the seller directly. Warranty terms can vary.

For technical support, installation assistance, or complex troubleshooting, it is strongly recommended to contact a qualified and certified HVAC professional. They possess the necessary expertise and tools to safely diagnose and resolve issues related to furnace control boards and overall HVAC systems.

You may also visit the [ClimaTek Store on Amazon](#) for additional product information or to contact the manufacturer.

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Always prioritize safety and consult qualified professionals for installation and service.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

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

Details

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

Submit question

