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Riseem STN605

Riseem STN605 Programmable Thermostat User Manual

Model: STN605

1. Product Overview

The Riseem STN605 is a 5-1-1 day programmable digital thermostat designed for conventional single-stage heating and cooling systems. It features a clear, easy-to-read blue backlit LCD display and user-friendly controls for efficient temperature management.



Front view of the Riseem STN605 Programmable Thermostat, showcasing its blue backlit display and control buttons.

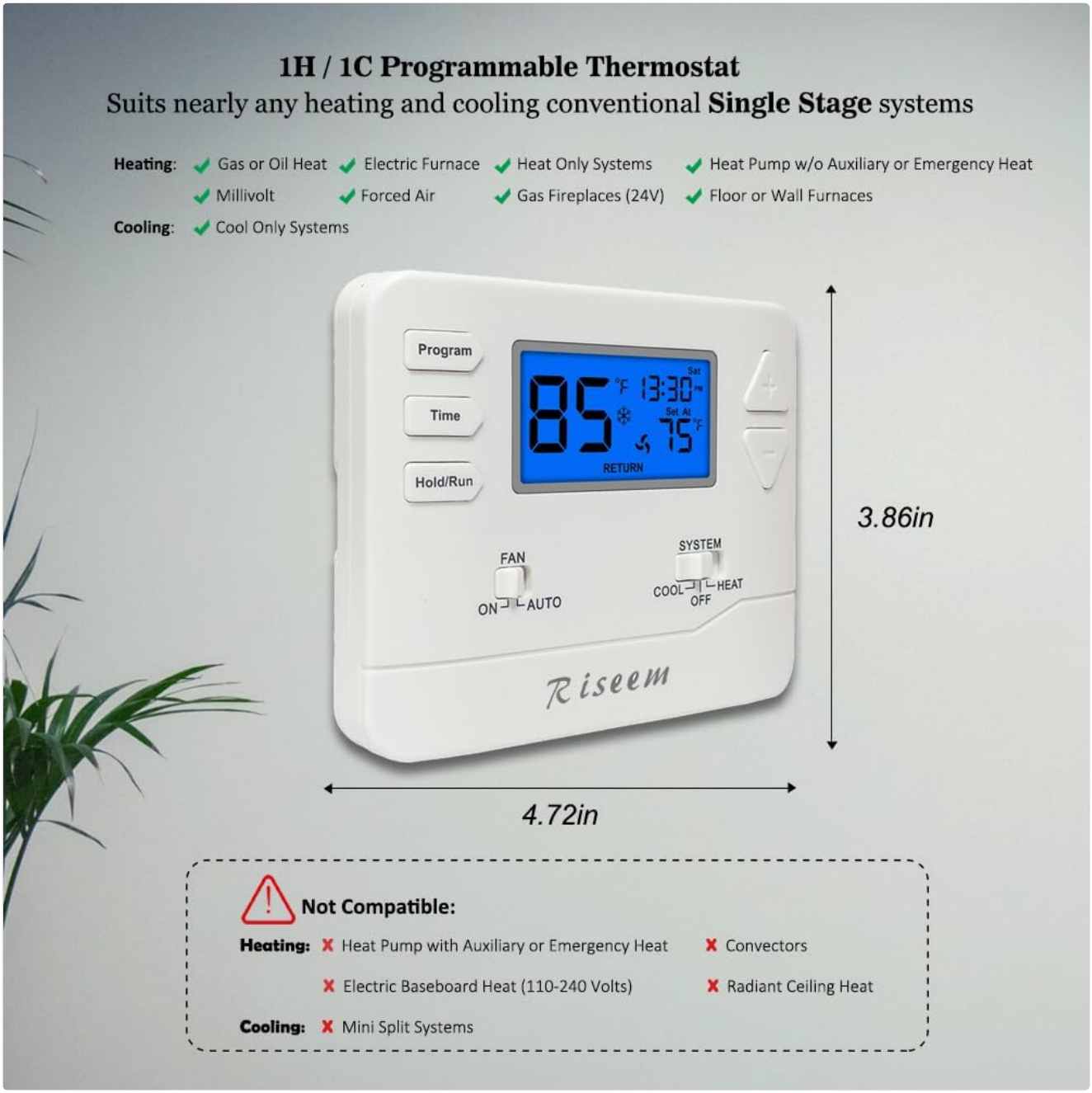
1.1 Key Features

- **5-1-1 Day Programmability:** Allows for flexible scheduling to match your comfort needs.
- **Digital Display:** Clear, easy-to-read LCD with blue backlight.
- **Dual Power Supply:** Operates on 24VAC power or 2 AAA batteries.
- **Temperature Control:** Adjustable temperature differential (swing) for energy optimization.
- **Calibration:** Supports temperature display calibration.
- **Unit Conversion:** Convert between Celsius (°C) and Fahrenheit (°F).
- **Compressor Delay Protection:** Selectable on or off.
- **Low Battery Indicator:** Alerts when batteries need replacement.

1.2 Compatibility

The Riseem STN605 thermostat is compatible with the following conventional single-stage systems:

- Forced air (gas, oil, or electric)
- Electric furnace
- Hot water steam or gravity radiant heat
- Heat only systems
- Heat pump without auxiliary or emergency heat
- Millivolt systems
- Gas fireplaces (24V)
- Floor or wall furnaces
- Cool only systems



Visual guide to compatible and incompatible HVAC systems for the STN605 thermostat.

1.3 Incompatibility

This thermostat is **NOT** compatible with:

- Heat pump with auxiliary or emergency heat
- Dual fuel/hybrid heating systems
- Electric baseboard heat (110-240 volts)
- Line voltage systems
- Convectors
- Radiant-ceiling heat
- Mini split systems
- 12V RV systems

2. Setup and Installation

2.1 What's in the Box

Before you begin, ensure all components are present:

- Riseem STN605 Thermostat
- Installation Manual
- Operating Manual
- Two Screws and Anchors
- Cable Labels

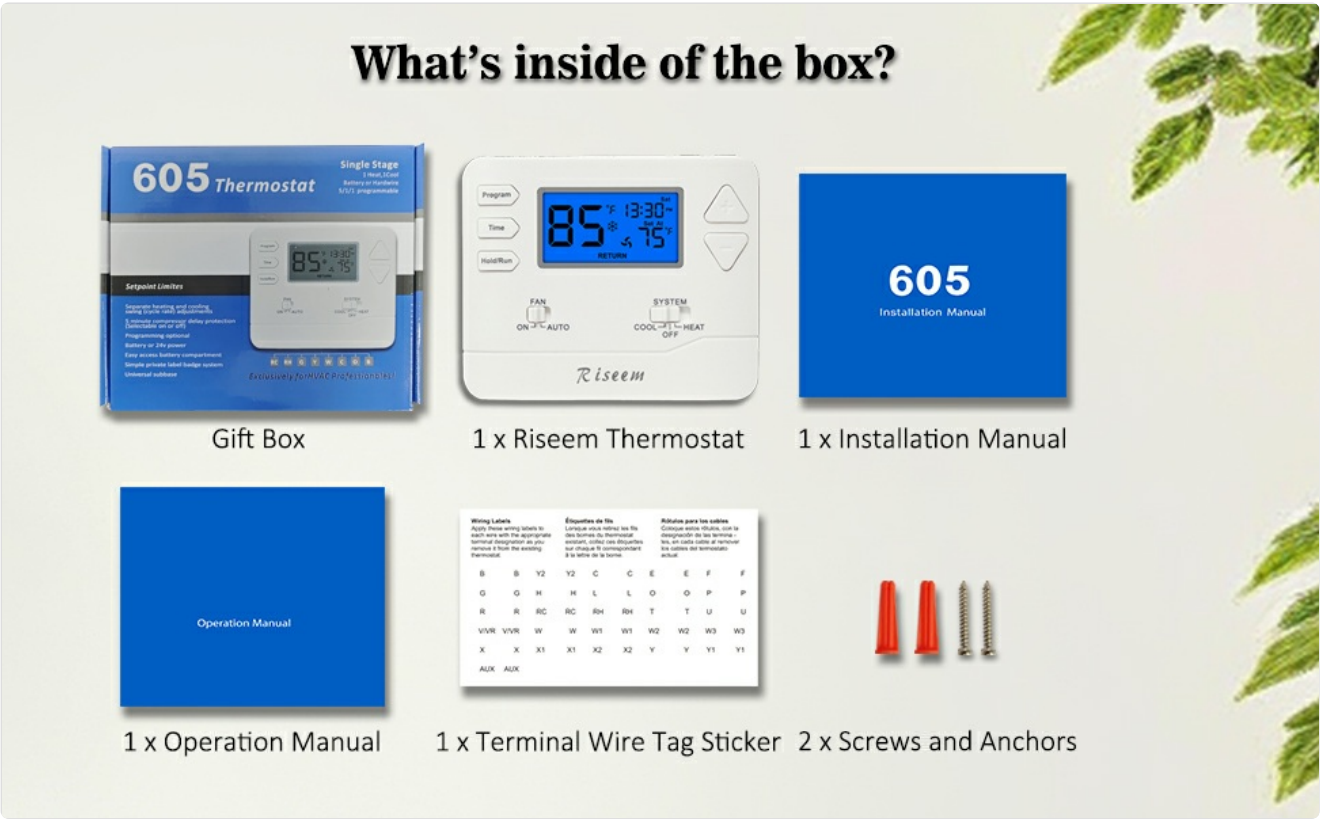


Illustration of all items included in the Riseem STN605 thermostat package.

2.2 Important Safety Information

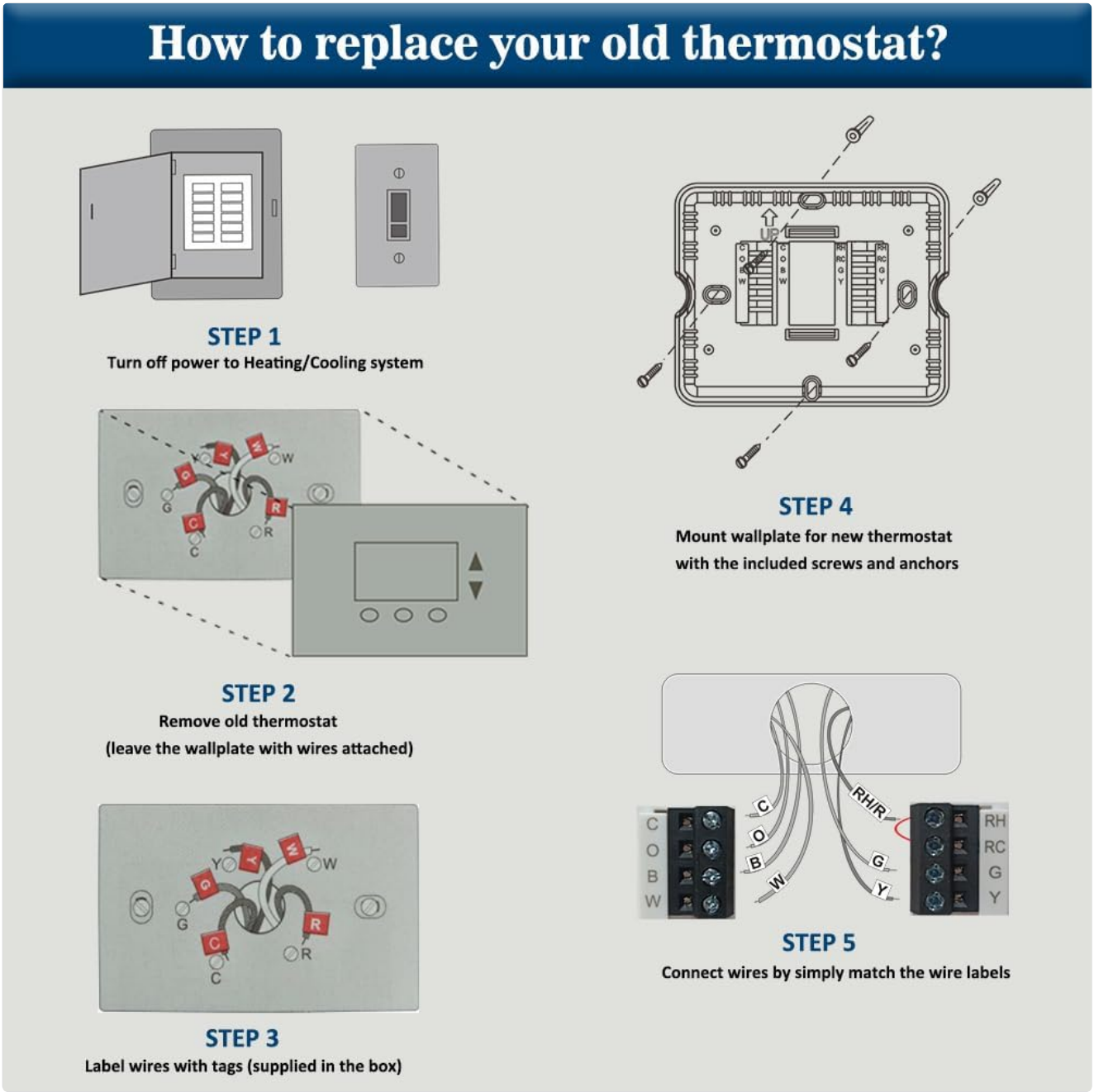
- **Always turn off power** at the main power source (e.g., circuit breaker) before installing, removing, cleaning, or servicing the thermostat.
- Read all information in this manual before installing or programming this thermostat.
- Before removing your old thermostat, please label the wires with the supplied wire labels.

2.3 Installation Steps

Follow these steps to install your new thermostat:

1. **Turn off Power:** Locate your heating/cooling system's circuit breaker and switch it to the OFF position. Verify power is off before proceeding.
2. **Remove Old Thermostat:** Carefully remove your old thermostat from the wallplate. Leave the wallplate with wires attached for now.
3. **Label Wires:** Use the provided cable labels to clearly mark each wire according to its terminal designation on your old thermostat's wallplate.
4. **Mount New Wallplate:** Remove the old wallplate. Mount the new Riseem STN605 wallplate to the wall using the included screws and anchors.

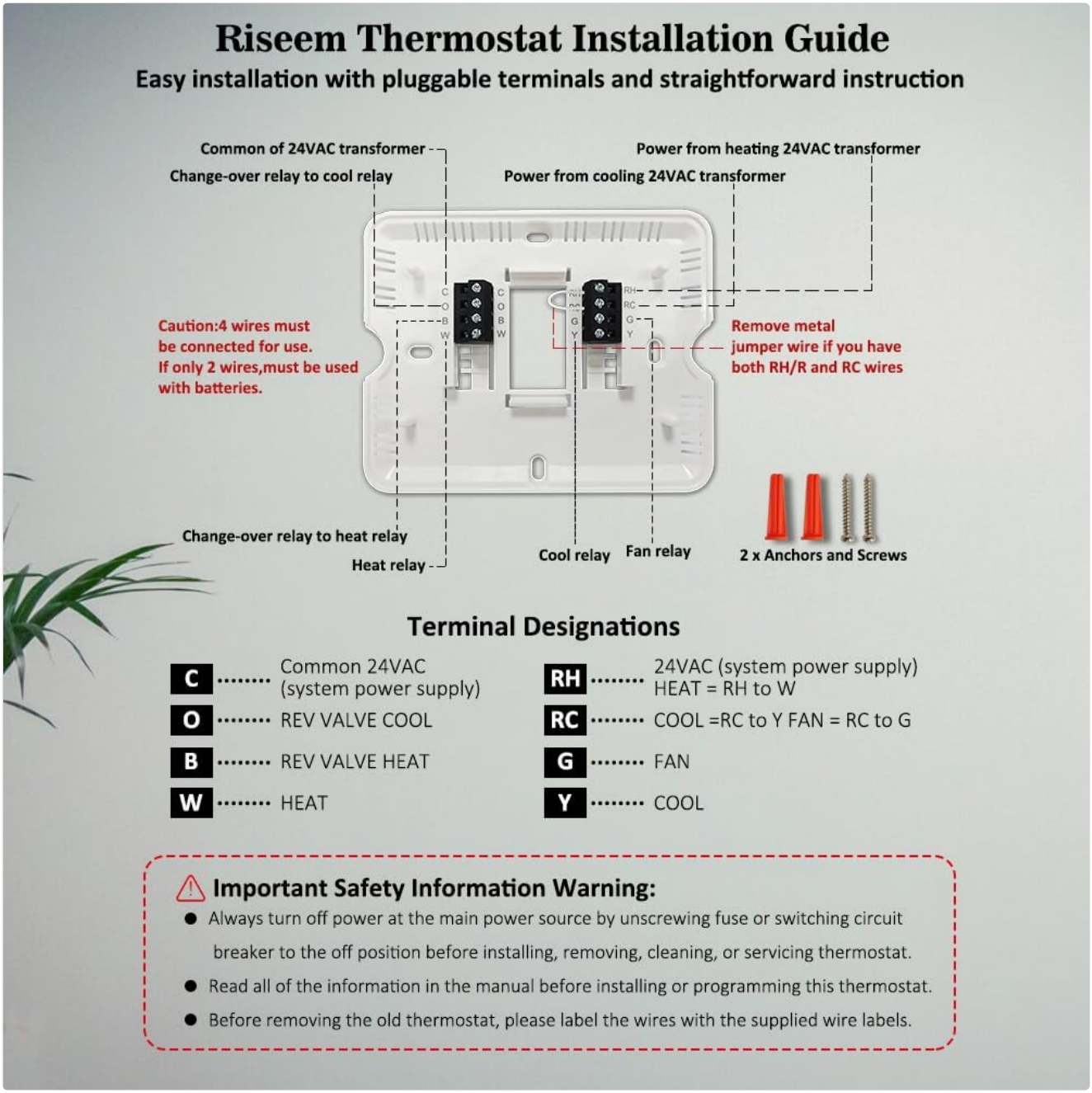
5. **Connect Wires:** Simply match the labeled wires to the corresponding terminals on the new thermostat's wallplate. Ensure secure connections.
6. **Install Batteries (if applicable):** If not using a C-wire for continuous 24VAC power, insert 2 AAA alkaline batteries into the front-load battery compartment.
7. **Attach Thermostat:** Securely attach the thermostat body to the mounted wallplate.
8. **Restore Power:** Turn the power back on at the circuit breaker.



Visual instructions for replacing an existing thermostat with the Riseem STN605.

2.4 Wiring Diagram and Terminal Designations

The STN605 features large terminal blocks with a universal sub-base for easy wiring. Refer to the diagram below for terminal designations:



Detailed wiring diagram for the Riseem STN605, showing terminal connections and functions.

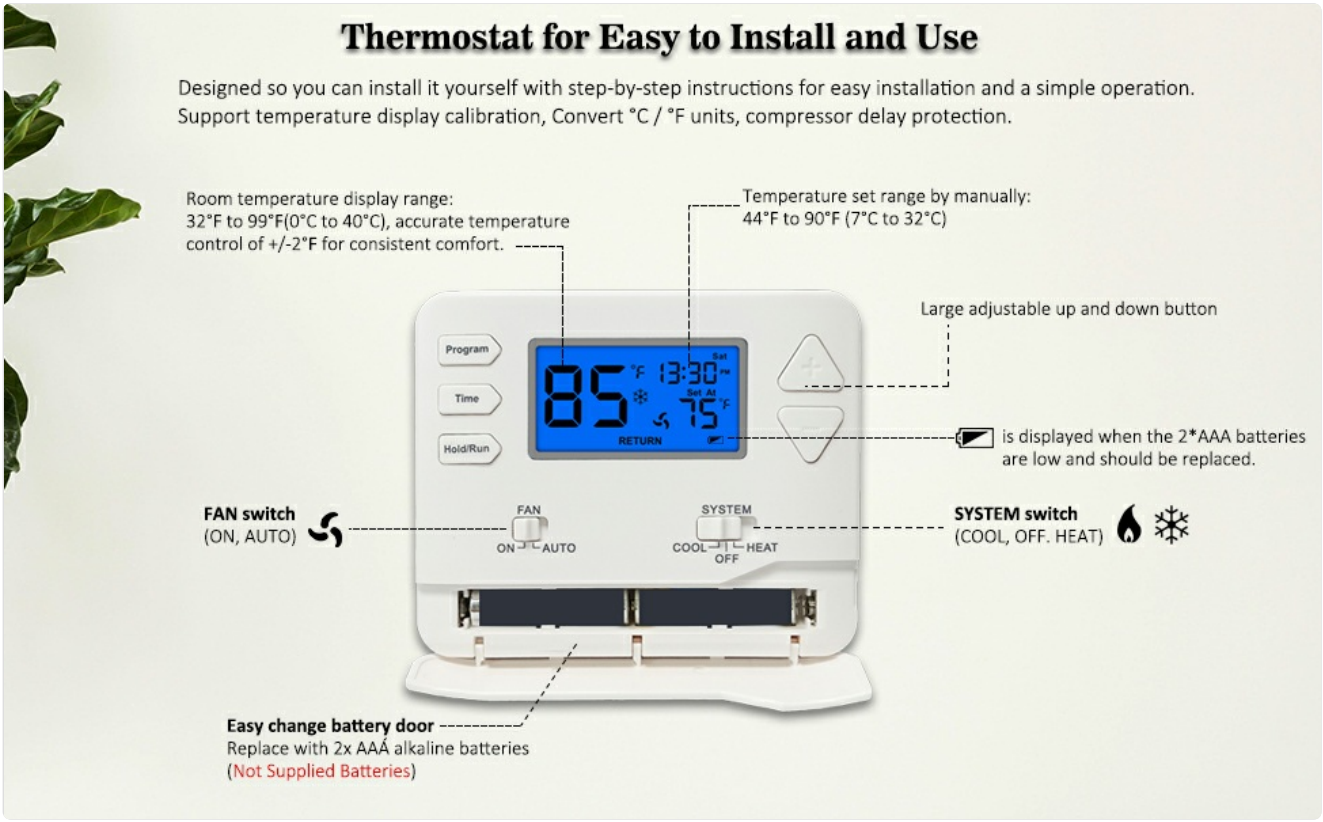
Terminal Designations

Terminal	Description
C	Common 24VAC (system power supply)
O	Reversing Valve Cool
B	Reversing Valve Heat
W	Heat Relay
RH	24VAC (system power supply) - Heat
RC	24VAC (system power supply) - Cool
G	Fan Relay
Y	Cool Relay

Note: If your system has separate RH and RC wires, remove the metal jumper wire between RH and RC on the thermostat's wallplate. If only two wires are connected, batteries must be used for power.

3. Operating Instructions

The Riseem STN605 thermostat is designed for straightforward operation. Familiarize yourself with the controls and display elements.



Labeled diagram of the Riseem STN605 thermostat, highlighting buttons, switches, and display indicators.

3.1 Control Buttons and Switches

- **Program:** Used to enter and adjust programming schedules.
- **Time:** Used to set the current time and day.
- **Hold/Run:** Toggles between programmed schedule and temporary/permanent hold.
- **Up/Down Arrows (▲ / ▼):**Adjust temperature settings, time, and program values.
- **FAN Switch (ON/AUTO):**
  - **ON:** Fan runs continuously.
  - **AUTO:** Fan runs only when heating or cooling system is active.
- **SYSTEM Switch (COOL/OFF/HEAT):**
  - **COOL:** Thermostat controls cooling.
  - **OFF:** System is off.
  - **HEAT:** Thermostat controls heating.

3.2 Setting the Time and Day

1. Press the **Time** button. The hour will flash.
2. Use the **Up/Down** arrows to adjust the hour (AM/PM).

3. Press **Time** again. The minutes will flash.
4. Use the **Up**/**Down** arrows to adjust the minutes.
5. Press **Time** again. The day of the week will flash.
6. Use the **Up**/**Down** arrows to select the correct day.
7. Press **Time** one last time or wait a few seconds for the settings to save.

3.3 Programming the Schedule (5-1-1 Day)

The thermostat allows for 5-1-1 day programming, meaning one schedule for weekdays (Monday-Friday), one for Saturday, and one for Sunday. Each day has four programmable periods: Wake, Leave, Return, and Sleep.

1. Press the **Program** button to enter programming mode. The display will show the first period (e.g., 'Wake') for weekdays.
2. Use the **Up**/**Down** arrows to adjust the start time for the 'Wake' period.
3. Press **Program**. Use the **Up**/**Down** arrows to adjust the temperature for the 'Wake' period.
4. Continue pressing **Program** and adjusting time/temperature for 'Leave', 'Return', and 'Sleep' periods for weekdays.
5. After setting all weekday periods, press **Program** to move to Saturday's schedule, then Sunday's.
6. Once all periods for all days are set, press **Hold**/**Run** or wait a few seconds for the settings to save and exit programming mode.

3.4 Temporary and Permanent Hold

- **Temporary Hold:** While in 'Run' mode, use the **Up**/**Down** arrows to adjust the temperature. This will temporarily override the program until the next scheduled period begins.
- **Permanent Hold:** Press the **Hold**/**Run** button once. The display will show 'Hold'. Use the **Up**/**Down** arrows to set your desired temperature. The thermostat will maintain this temperature indefinitely until 'Hold/Run' is pressed again to resume the program.

3.5 Advanced Settings (Calibration, °C/°F, Compressor Delay)

Refer to the detailed operating manual included in the box for instructions on accessing and adjusting advanced settings such as temperature display calibration, switching between °C/°F units, and enabling/disabling compressor delay protection.

4. Maintenance

4.1 Battery Replacement

The thermostat uses 2 AAA alkaline batteries for power or as a backup if 24VAC power is interrupted. A low battery indicator will appear on the display when batteries need to be replaced.

1. Open the easy-access front-load battery compartment located at the bottom of the thermostat.
2. Remove the old AAA batteries.
3. Insert two new AAA alkaline batteries, ensuring correct polarity (+/-).
4. Close the battery compartment.

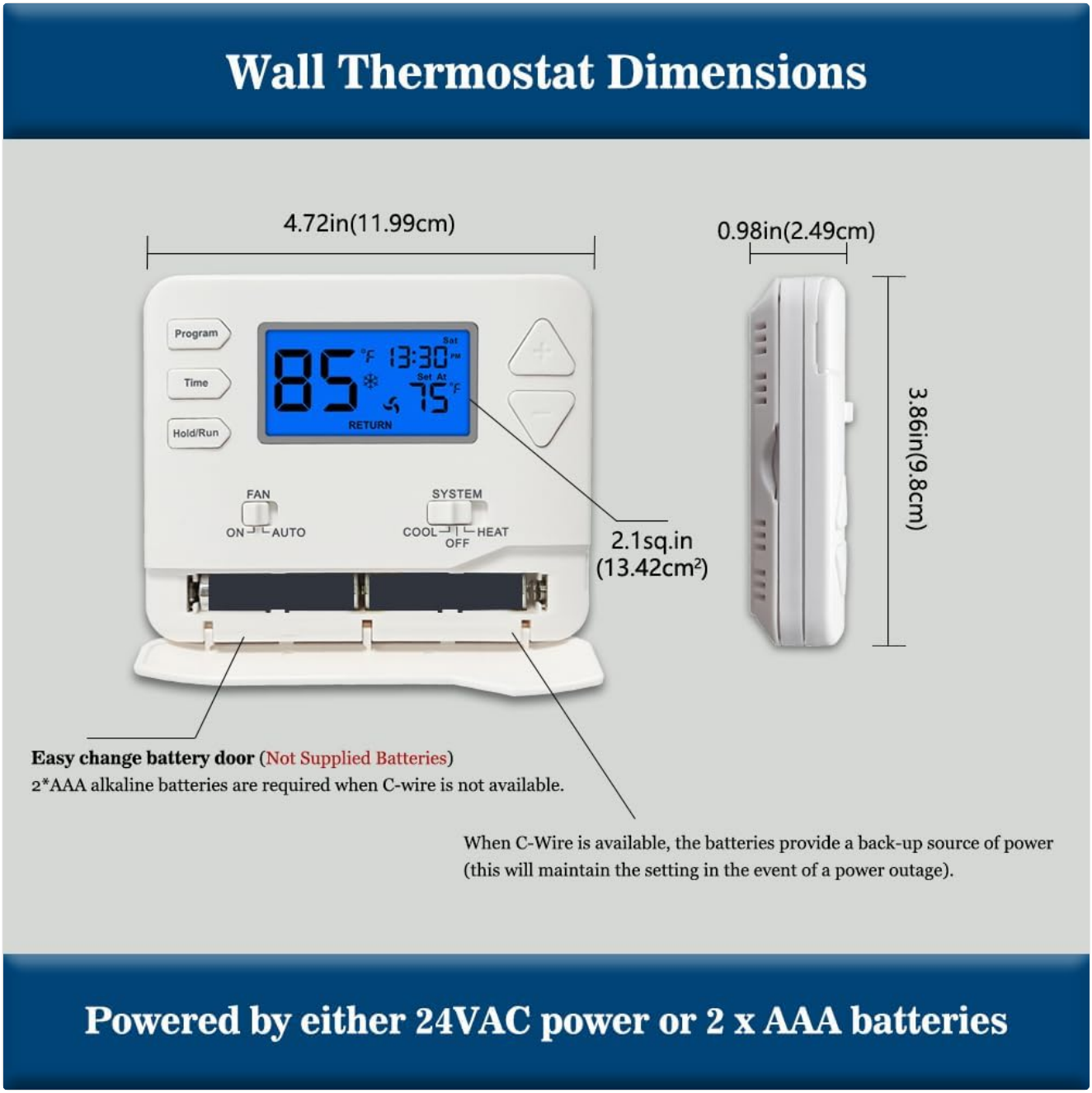


Image showing the battery compartment location on the Riseem STN605 thermostat.

4.2 Cleaning

To clean the thermostat, gently wipe the exterior with a soft, damp cloth. Do not use abrasive cleaners, solvents, or spray cleaners directly onto the thermostat.

5. Troubleshooting

If you encounter issues with your Riseem STN605 thermostat, refer to the following common troubleshooting steps:

- **No Display or Blank Screen:**
  - Check if the circuit breaker for your HVAC system is ON.
  - Replace the AAA batteries with fresh ones.
  - Ensure all wiring connections are secure at the thermostat and the HVAC system.
- **System Not Responding (No Heating/Cooling):**

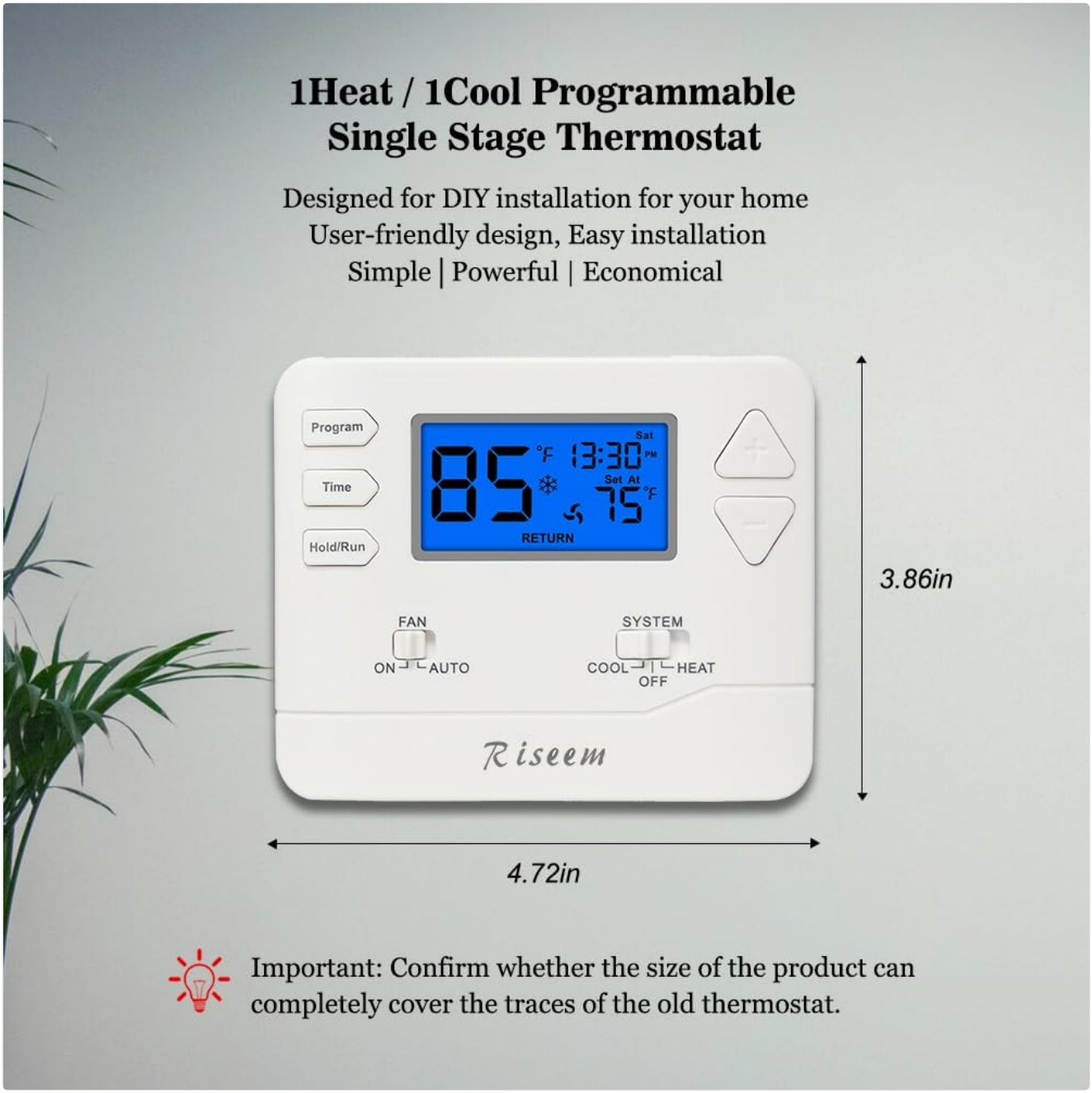
- Verify the SYSTEM switch is set to HEAT or COOL, not OFF.
- Check that the desired temperature is set appropriately (higher than room temp for heat, lower for cool).
- Ensure the FAN switch is set to AUTO or ON.
- Confirm all wiring connections are correct and secure.
- Allow for compressor delay protection (if enabled), which can cause a short delay before cooling starts.

- **Inaccurate Temperature Reading:**
  - Ensure the thermostat is not exposed to direct sunlight, drafts, or heat sources (e.g., lamps, appliances).
  - Refer to the operating manual for instructions on temperature display calibration.
- **Programming Issues:**
  - Review the programming steps in Section 3.3 carefully.
  - Ensure the thermostat is in 'Run' mode for the program to execute.

If problems persist after attempting these steps, please contact customer support.

6. Specifications

Technical specifications for the Riseem STN605 Programmable Thermostat:



Front view of the Riseem STN605 thermostat with its primary dimensions indicated.

Product Specifications

Feature	Detail
Model Name	STN605
Product Dimensions	0.98"D x 3.86"W x 4.72"H (2.49cm D x 9.8cm W x 11.99cm H)
Controller Type	Push Button
Temperature Control Type	Conventional Single Stage Systems (1 Heat/1 Cool)
Connectivity Technology	Wired
Power Source	24 Volts (AC) or 2 AAA batteries
Material	Plastic
Display Type	LCD with Blue Backlight

Feature	Detail
Mounting Type	Wall Mount
Room Temperature Display Range	32°F to 99°F (0°C to 40°C)
Temperature Set Range	44°F to 90°F (7°C to 32°C)
Temperature Accuracy	+/- 1°F
Adjustable Swing (Differential)	0.2°F to 2.0°F (Default: 0.5°F cooling, 0.4°F heating)
Item Weight	6.1 ounces (0.38 Pounds)
UPC	607605200721

7. Warranty and Support

7.1 Warranty Information

This product is manufactured by Riseem, a company with over 20 years of experience in digital thermostats. For specific warranty terms and conditions, please refer to the warranty card included with your product or contact Riseem customer service directly.

7.2 Customer Support

Riseem offers 7*24 hours customer service to assist with any questions or issues you may have regarding your STN605 thermostat. Please refer to the contact information provided in your product packaging or on the official Riseem website for support.

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