Riseem STN625

Riseem STN625 Programmable Thermostat User Manual

Model: STN625

Brand: Riseem

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Riseem STN625 Programmable Thermostat. This thermostat is designed to provide comfortable temperature control for your home heating and cooling systems. Please read this manual thoroughly before installation and use to ensure proper function and safety.



Figure 1: Riseem STN625 Thermostat installed in a home environment.

2. System Compatibility

The Riseem STN625 thermostat is compatible with a variety of heating and cooling systems. Please verify your system type before installation.

2.1 Compatible Systems:

- Heat pump multi-stage systems (2 Heat/1 Cool)
- Conventional single-stage systems (1 Heat/1 Cool)
- Forced air systems (gas, oil, or electric furnaces)
- Electric furnaces
- Hot water steam or gravity radiant heat systems
- Heat-only systems
- Heat pump systems with or without auxiliary or emergency heat
- Millivolt conventional systems
- Gas fireplaces (24V)
- Floor or wall furnaces

- Cool-only systems

2.2 Not Compatible With:

- Two transformer systems
- Conventional multi-stage systems
- Dual fuel/hybrid heating systems
- Electric baseboard heat (110-240 volts)
- Line voltage systems
- Convectors
- Radiant-ceiling heat
- Mini split systems
- 12V RV systems

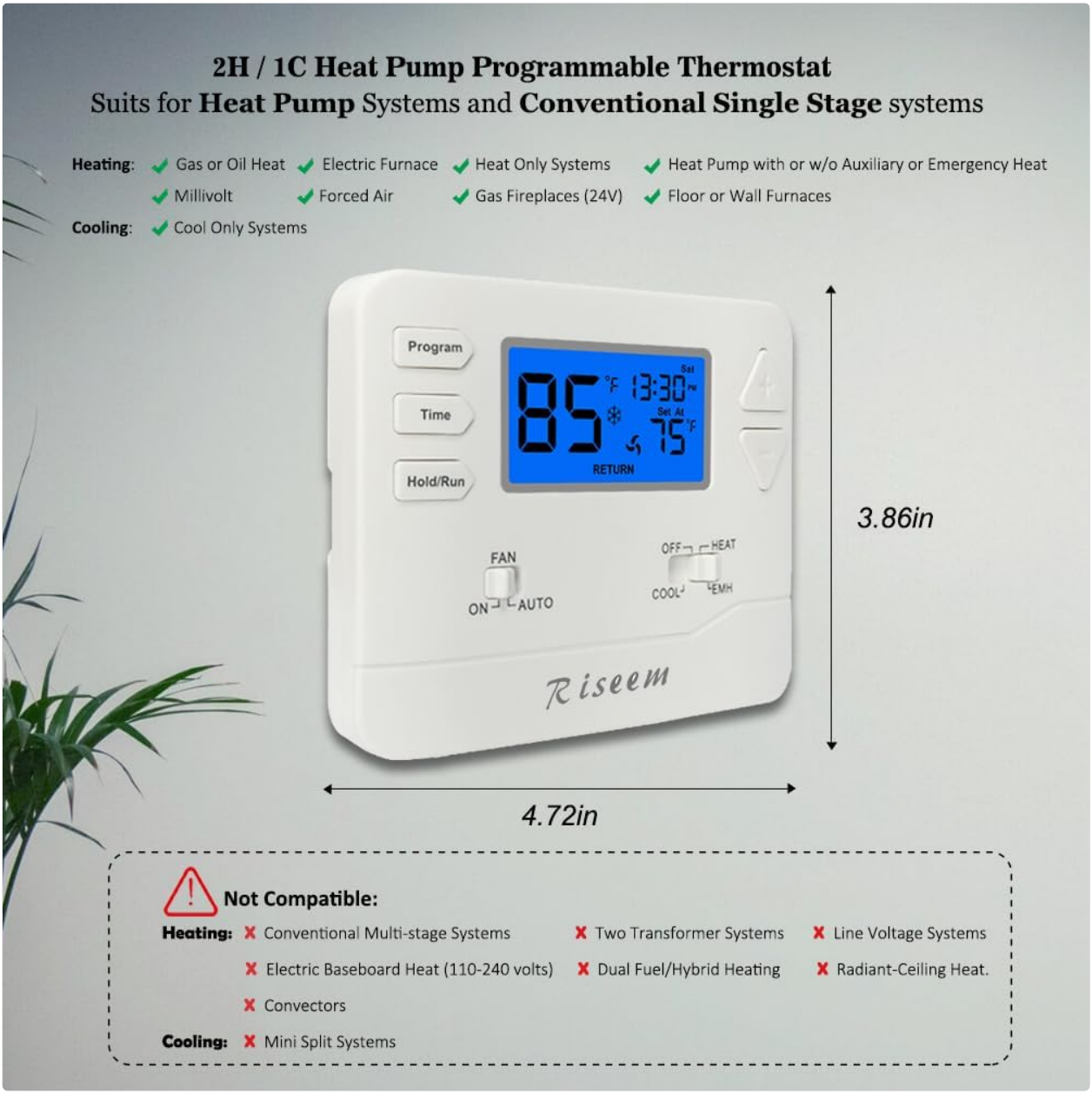


Figure 2: Visual guide to compatible and incompatible HVAC systems.

3. Package Contents

Verify that all items are present in your package:

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

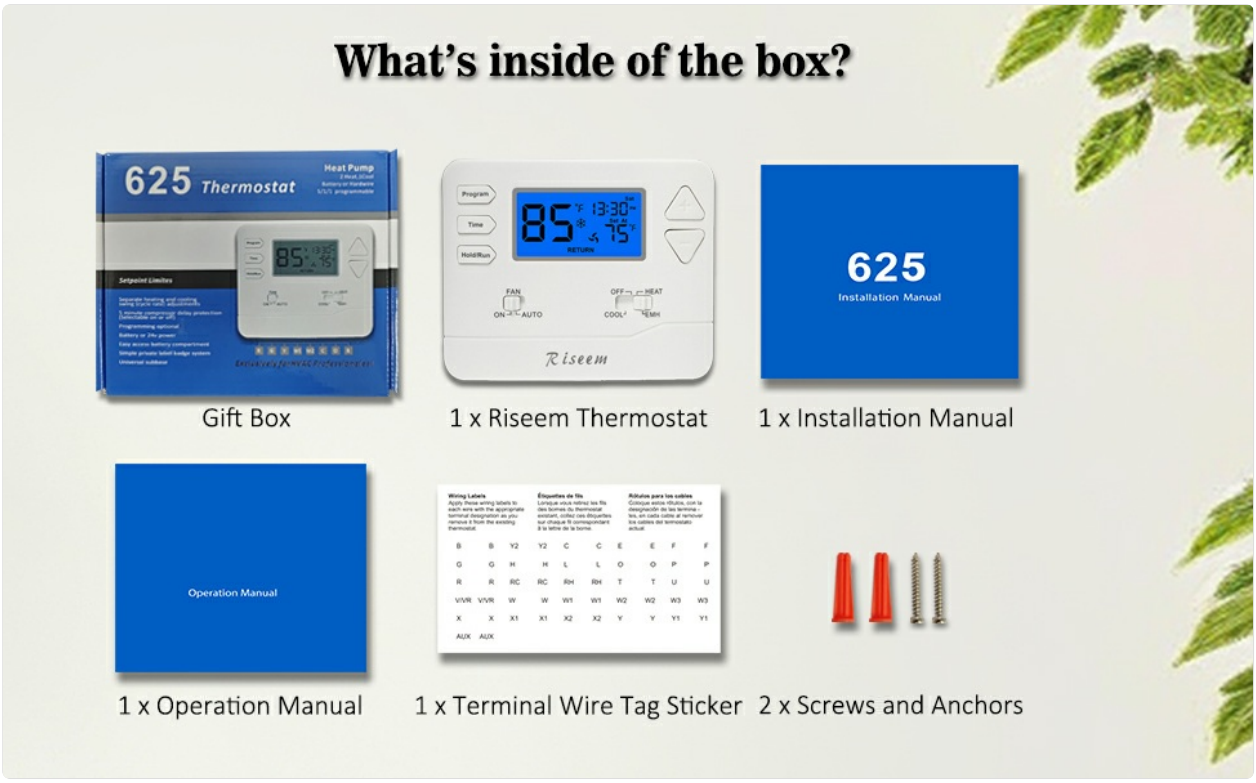


Figure 3: Items included in the product package.

4. Installation Guide

4.1 Important Safety Warning:

- Always turn off power at the main power source by unscrewing the fuse or switching the circuit breaker to the OFF position before installing, removing, cleaning, or servicing this thermostat.
- Read all information in the manual before installing or programming this thermostat.
- Before removing the old thermostat, label the wires with the supplied wire labels.

4.2 Step-by-Step Installation:

1. **Turn off Power:** Locate your circuit breaker panel or fuse box and turn off the power to your heating and cooling system.
2. **Remove Old Thermostat:** Carefully remove the old thermostat from its wall plate. Leave the wall plate with wires attached for now.
3. **Label Wires:** Use the provided cable labels to mark each wire according to its terminal designation on your old thermostat. This is crucial for correct wiring.
4. **Remove Old Wall Plate:** Once wires are labeled, disconnect them and remove the old wall plate.
5. **Mount New Wall Plate:** Mount the new thermostat wall plate to the wall using the included screws and anchors. Ensure it is level.
6. **Connect Wires:** Connect the labeled wires to the corresponding terminals on the new wall plate. Refer to the terminal designations diagram below. A small Phillips screwdriver is required for this step.

7. **Set System Type Switch:** On the back of the thermostat unit, locate the 'ELEC/GAS' switch. Set it to 'GAS' if you have a gas furnace or 'ELEC' for electric systems.
8. **Attach Thermostat to Wall Plate:** Carefully align the thermostat unit with the mounted wall plate and push it firmly into place until it clicks.
9. **Install Batteries:** Open the front-load battery compartment and insert two AAA alkaline batteries (not supplied).
10. **Restore Power:** Turn the power back on at your circuit breaker panel or fuse box.

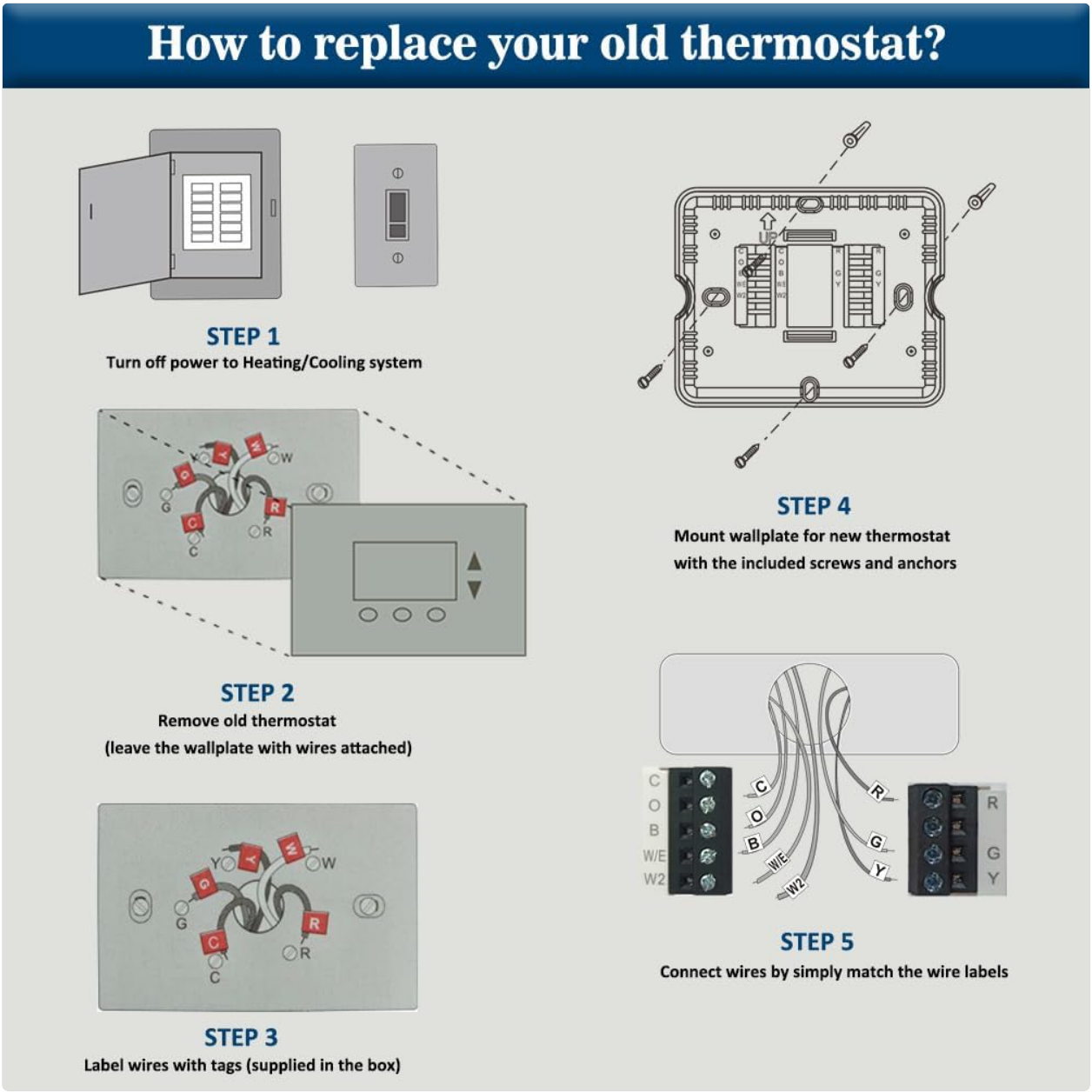


Figure 4: Visual guide for replacing your old thermostat.

4.3 Terminal Designations:

Refer to this diagram for connecting your system wires to the thermostat terminals.

Terminal	Description
C	Common 24VAC (system power supply)
R	24VAC (system power supply)

Terminal	Description
O	REV VALVE COOL (Change-over relay to cool relay)
B	REV VALVE HEAT (Change-over relay to heat relay)
G	FAN (Fan relay)
Y	Cool relay
W/E	Emergency heat relay stage 1
W2	Auxiliary heat relay stage 2

Caution: 4 wires must be connected for use. If only 2 wires, batteries must be used.

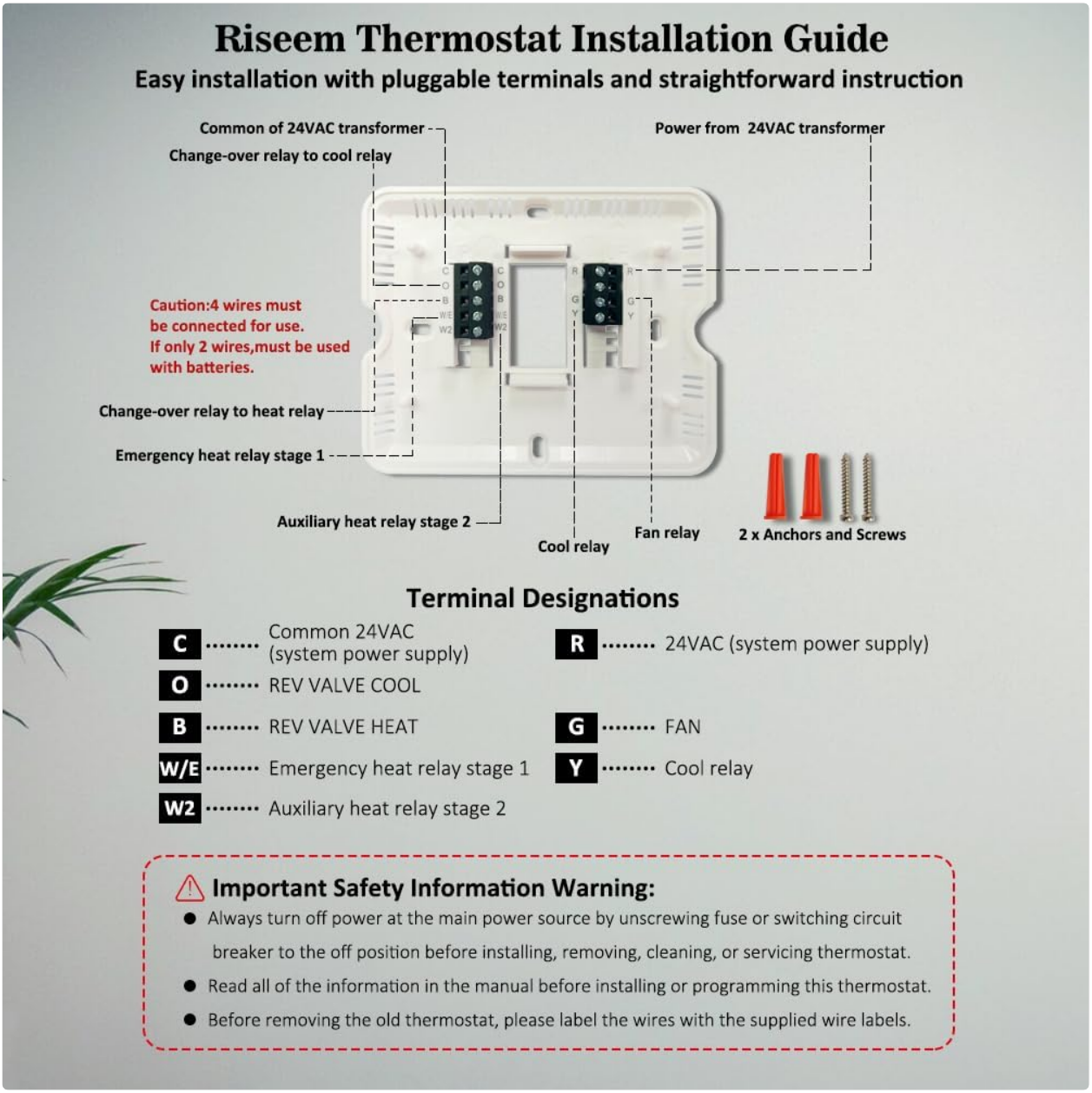


Figure 5: Terminal designations and wiring guide.

Video 1: Installation and basic operation overview. This video demonstrates the physical installation process, including wiring and mounting, and shows basic temperature adjustments. Note: While the video title mentions 'Non-Programmable', the visual installation steps are applicable to this model.

5. Operating Instructions

The Riseem STN625 thermostat features a clear, easy-to-read backlight LCD display and simple controls for a user-friendly experience.

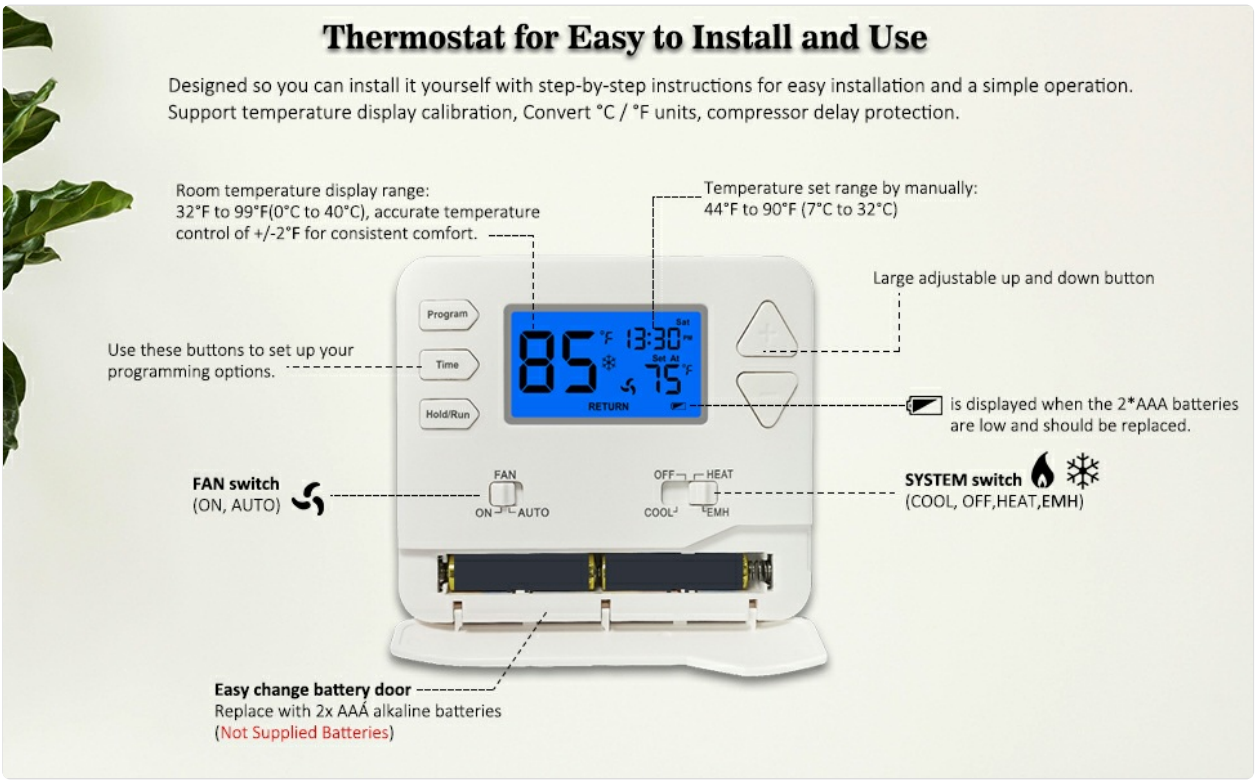


Figure 6: Thermostat display and control buttons.

5.1 Basic Controls:

- **Temperature Adjustment:** Use the large adjustable up and down arrow buttons to set your desired temperature.
- **Fan Switch:** Toggle between 'ON' (fan runs continuously) and 'AUTO' (fan runs only when heating or cooling is active).
- **System Switch:** Select your desired operating mode: 'COOL', 'OFF', 'HEAT', or 'EMH' (Emergency Heat).

5.2 Programming:

The thermostat offers 5/1/1 programming menus, allowing you to set different temperature schedules for weekdays, Saturday, and Sunday. Refer to the detailed operating manual for specific programming steps to synchronize your comfort with your schedule.

5.3 Advanced Settings:

The thermostat includes several advanced control options for energy optimization and system longevity:

- **Adjustable Temperature Differential (Swing):** This setting controls the temperature range before the system turns on or off, optimizing system life.
- **Temperature Display Calibration:** Allows for fine-tuning the displayed room temperature.
- **Convert °C/°F Units:** Switch between Fahrenheit and Celsius temperature display.
- **Compressor Delay Protection:** A selectable feature (on or off) that protects the compressor from short cycling.

5.4 Battery Replacement:

The thermostat uses two AAA alkaline batteries, accessible via an easy-access front-load battery compartment. A low battery indicator will appear on the display when batteries need replacement. When C-Wire is available, batteries provide a back-up source of power to maintain settings during a power outage.

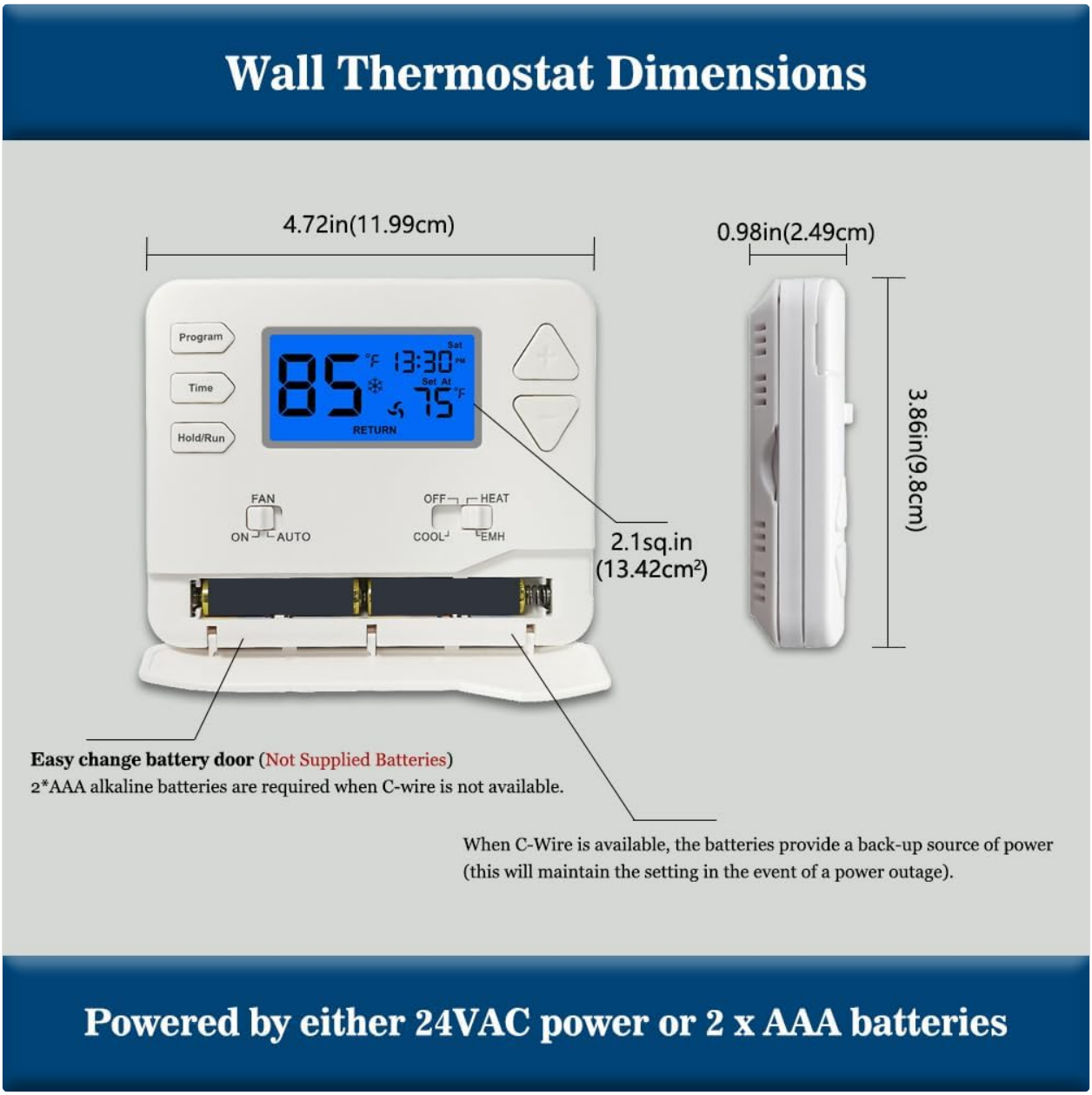


Figure 7: Battery compartment location.

6. Technical Specifications

Feature	Specification
Model Name	STN625
Product Dimensions	0.98"D x 3.86"W x 4.72"H
Controller Type	Push Button
Special Feature	24V Heat Pump Thermostat
Color	Blue
Specific Uses	Heating and Cooling Controls

Feature	Specification
Temperature Control Type	24V Heat Pump Thermostat
Power Source	Corded Electric (24V AC) or 2 x AAA Batteries
Item Weight	0.39 Pounds (6.2 ounces)
Material	Plastic
Display Type	LCD with Blue Backlight
Control Method	Button Control
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 Control Precision	+/- 1°F
Programming	5/1/1 Programmable

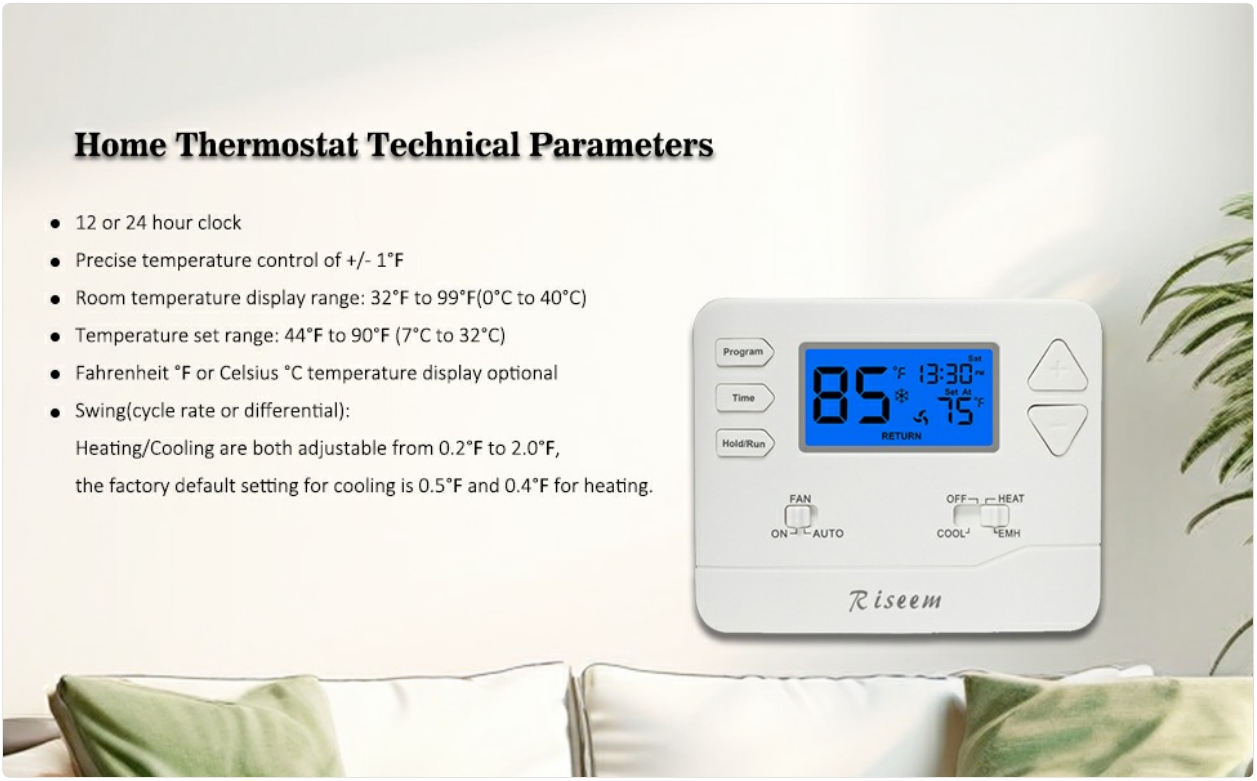


Figure 8: Overview of technical parameters.

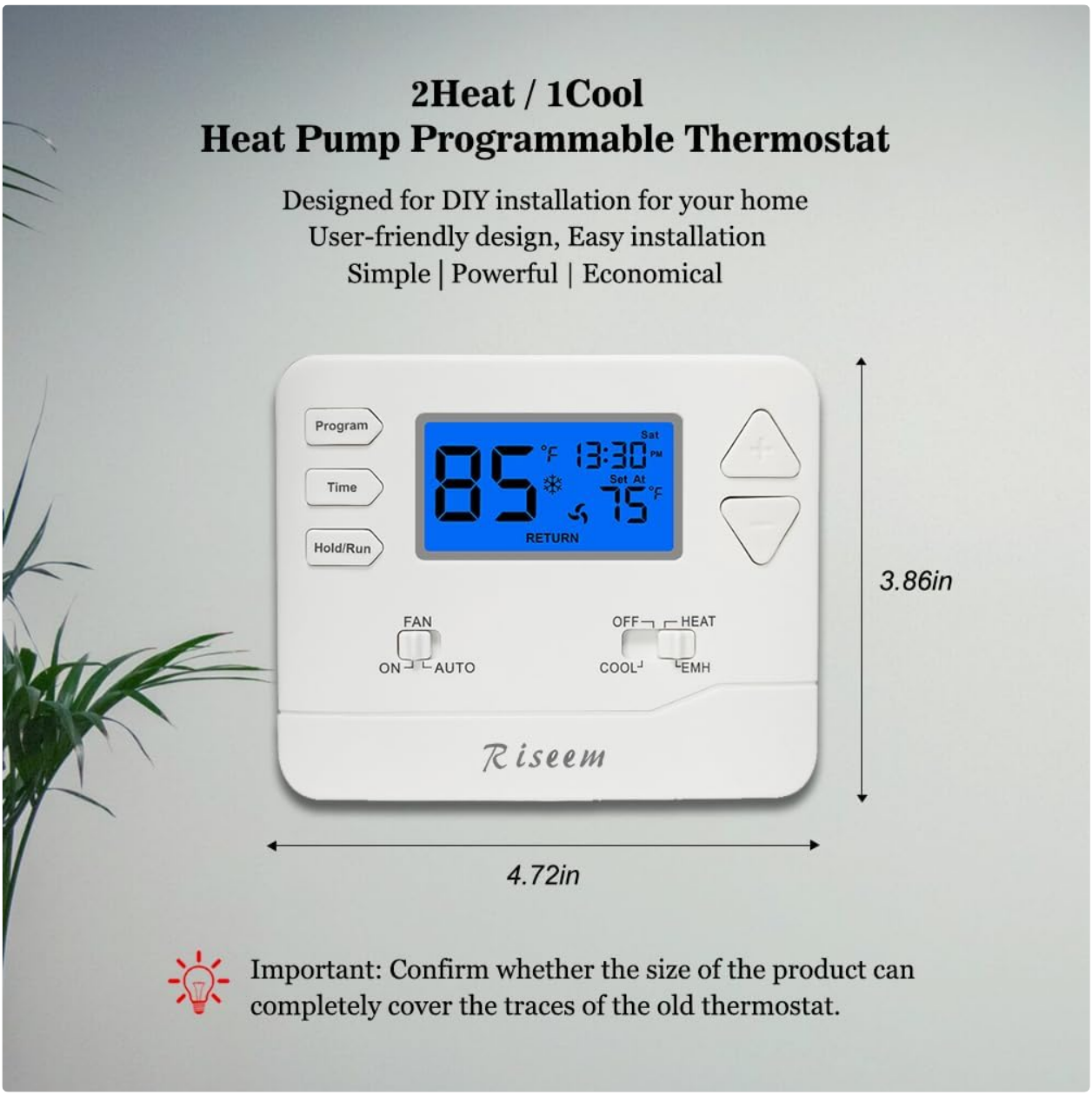


Figure 9: Thermostat dimensions.

7. Troubleshooting

If you encounter issues with your thermostat, refer to the following common problems and solutions:

- **No Display / Blank Screen:**
  - Check if the power to your HVAC system is ON at the circuit breaker.
  - Ensure batteries are correctly installed and not depleted. Replace if necessary.
  - Verify the C-wire connection if your system uses one.
- **System Not Responding (No Heating/Cooling):**
  - Confirm the system switch is set to 'HEAT' or 'COOL' and not 'OFF'.
  - Check that the set temperature is above (for heat) or below (for cool) the current room temperature.
  - Ensure the 'ELEC/GAS' switch on the back of the thermostat is set correctly for your system.
  - Verify all wiring connections are secure.
- **Inaccurate Temperature Reading:**

    - Use the temperature display calibration feature in advanced settings to adjust.
    - Ensure the thermostat is not exposed to direct sunlight, drafts, or heat sources that could affect its sensor.
- **Thermostat Cycles Too Frequently (Short Cycling):**
    - Adjust the temperature differential (swing) setting in the advanced menu to a wider range.
    - Ensure compressor delay protection is enabled if applicable.

For further assistance, consult the full operating manual or contact customer support.

8. Maintenance

To ensure optimal performance and longevity of your Riseem STN625 thermostat, follow these maintenance guidelines:

- **Cleaning:** Gently wipe the thermostat's exterior with a soft, damp cloth. Do not use abrasive cleaners, solvents, or spray cleaners directly onto the unit.
- **Battery Replacement:** Replace the two AAA alkaline batteries annually, or when the low battery indicator appears on the display.
- **Regular Checks:** Periodically check the wiring connections behind the thermostat to ensure they remain secure. (Ensure power is OFF before checking wiring).

9. Warranty and Support

The Riseem STN625 thermostat typically comes with a manufacturer's warranty. Please refer to the warranty card included in your product packaging for specific terms, conditions, and duration. For technical support, troubleshooting assistance, or warranty claims, please contact Riseem customer service through the contact information provided in your product documentation or on the official Riseem website.