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Riseem STN605

Riseem STN605 Programmable Thermostat User Manual

Model: STN605

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Riseem STN605 Programmable Thermostat. Please read this manual thoroughly before installation and use to ensure proper function and safety.



Image: Front view of the Riseem STN605 Programmable Thermostat, showing the digital display and control buttons.

System Compatibility

The Riseem STN605 thermostat is designed for use with conventional single-stage heating and cooling systems. It is compatible with:

- 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
- 24V Gas fireplaces
- Floor or wall furnaces
- Cool only systems

Important: 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

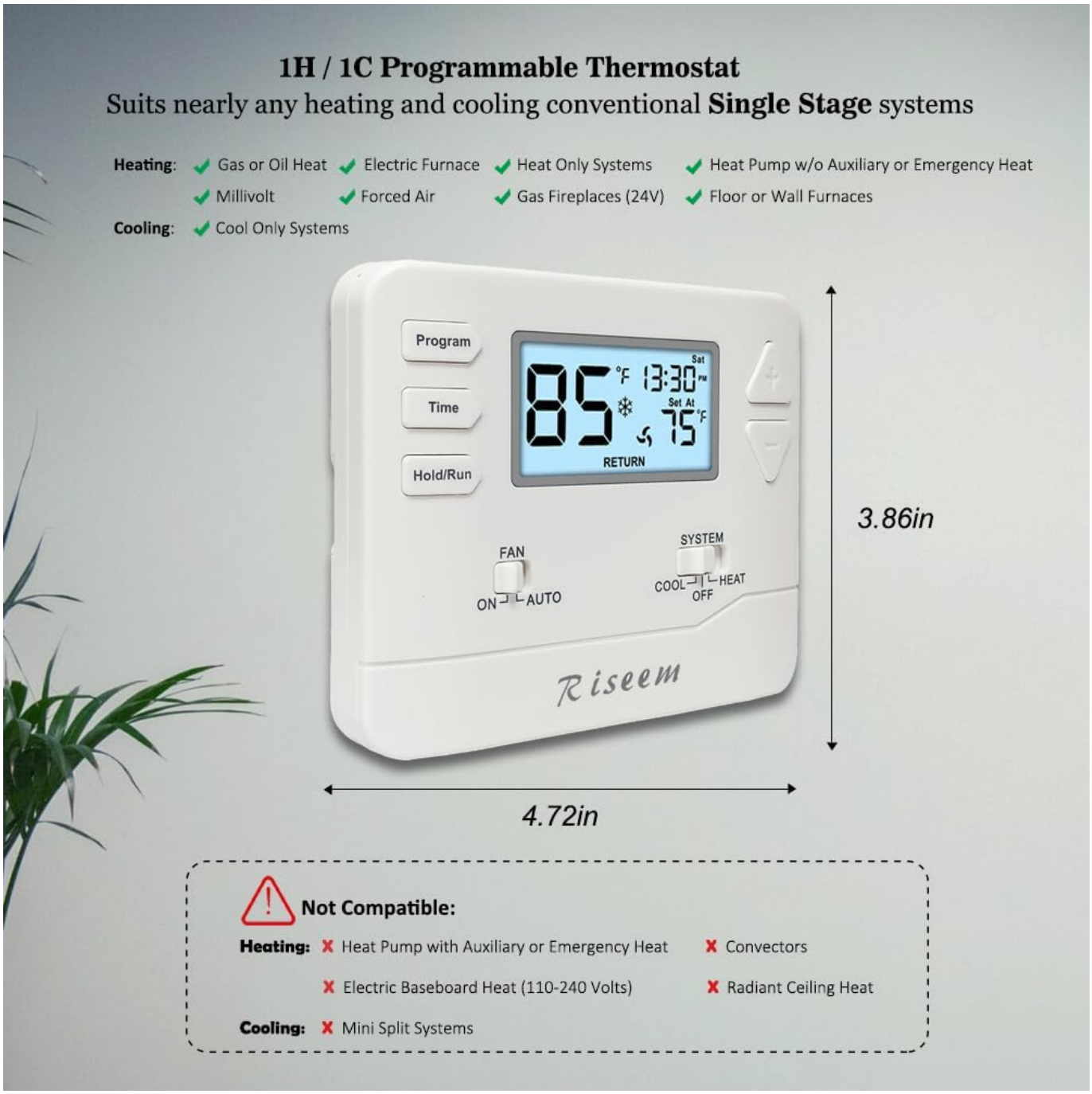


Image: A visual guide detailing compatible and incompatible HVAC systems for the STN605 thermostat.

What's in the Box

Upon opening the package, you should find the following items:

- Riseem STN605 Thermostat
- Installation Manual
- Operating Manual
- Two Screws and Anchors
- Cable Labels (Wire Tags)

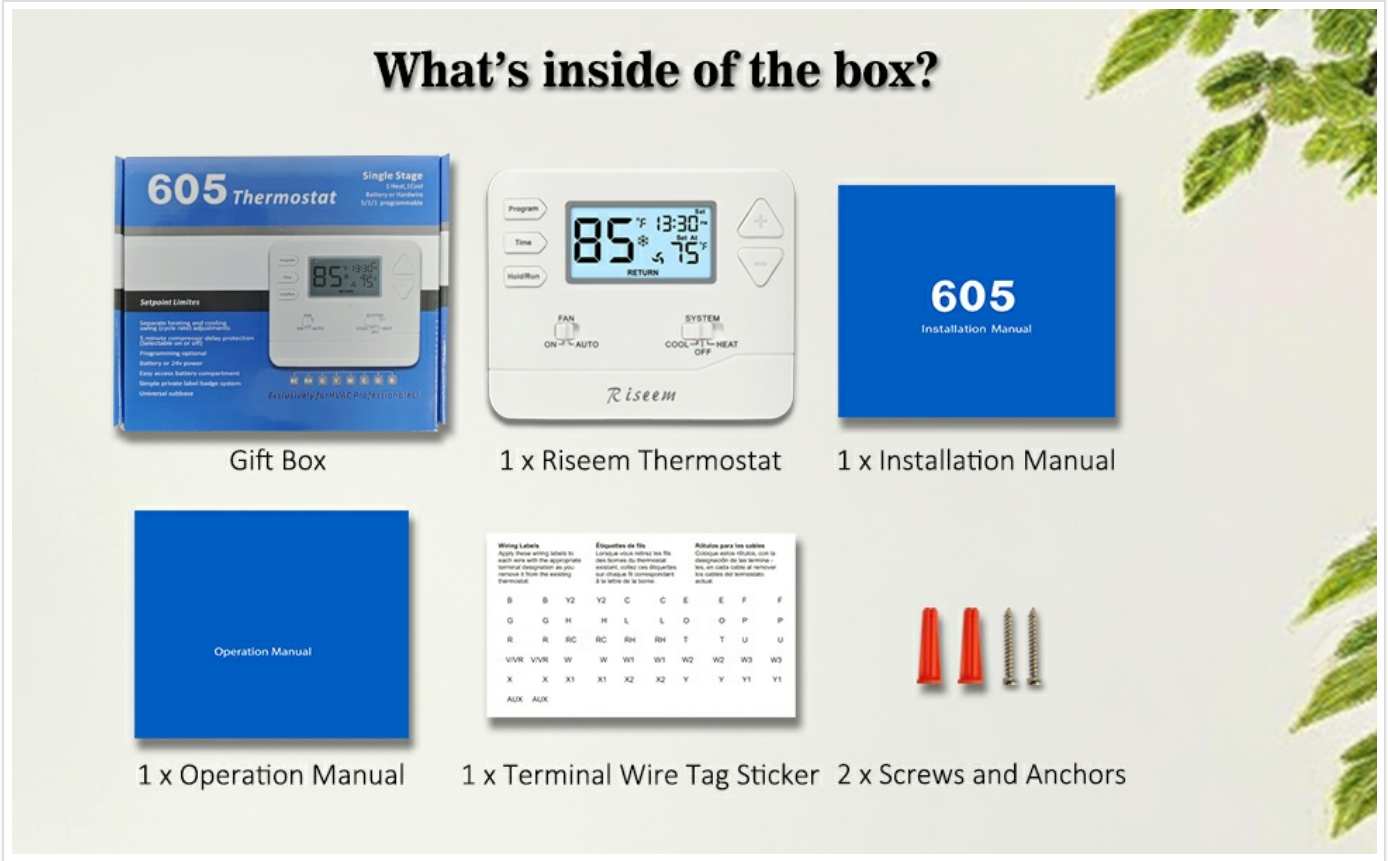


Image: Contents of the product box, including the thermostat, manuals, mounting hardware, and wire labels.

Setup and Installation

Safety Information

- **Always turn off power to 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.

Replacing Your Old Thermostat

1. **Step 1: Turn off power.** Locate the circuit breaker or fuse box for your heating/cooling system and turn off the power. Verify the system is off by trying to adjust the old thermostat.
2. **Step 2: Remove old thermostat.** Carefully remove the old thermostat cover. Leave the wallplate with wires attached for now.
3. **Step 3: Label wires.** Before disconnecting any wires, use the supplied cable labels to clearly mark each wire according to its terminal designation on your old thermostat. Take a picture of the wiring for reference.
4. **Step 4: Mount new wallplate.** Disconnect the old wires and remove the old wallplate. Mount the new thermostat wallplate using the included screws and anchors.
5. **Step 5: Connect wires.** Connect the labeled wires to the corresponding terminals on the new Riseem STN605 wallplate. Ensure connections are secure.

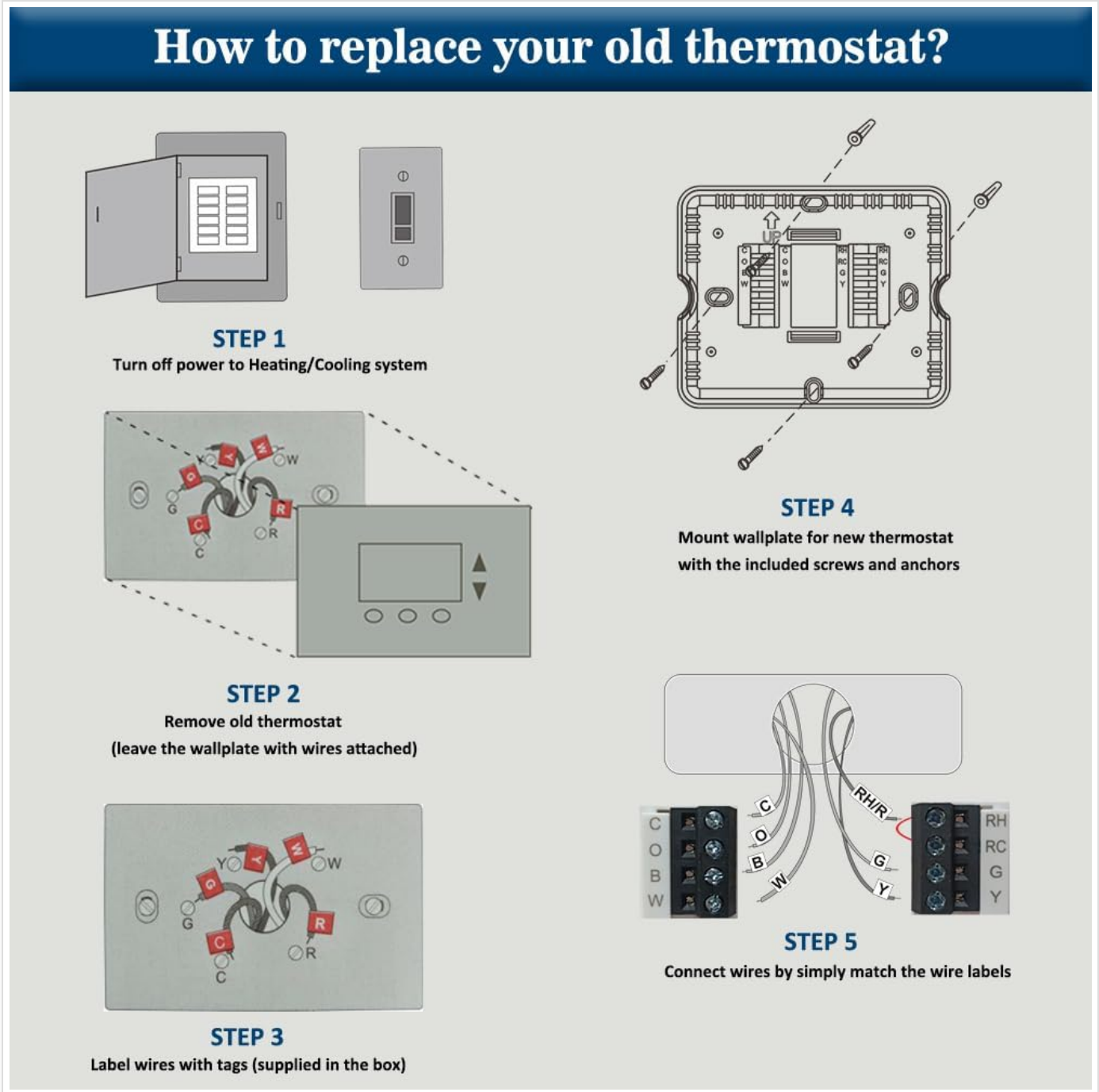


Image: Visual instructions for replacing an existing thermostat with the new STN605 model.

Wiring Diagram and Terminal Designations

Refer to the diagram below for proper wiring connections. The STN605 supports dual power supply: 24VAC power or 2 AAA batteries. A common wire (C-wire) is not required on most systems, but is necessary for heat-only and cool-only systems if not using batteries.

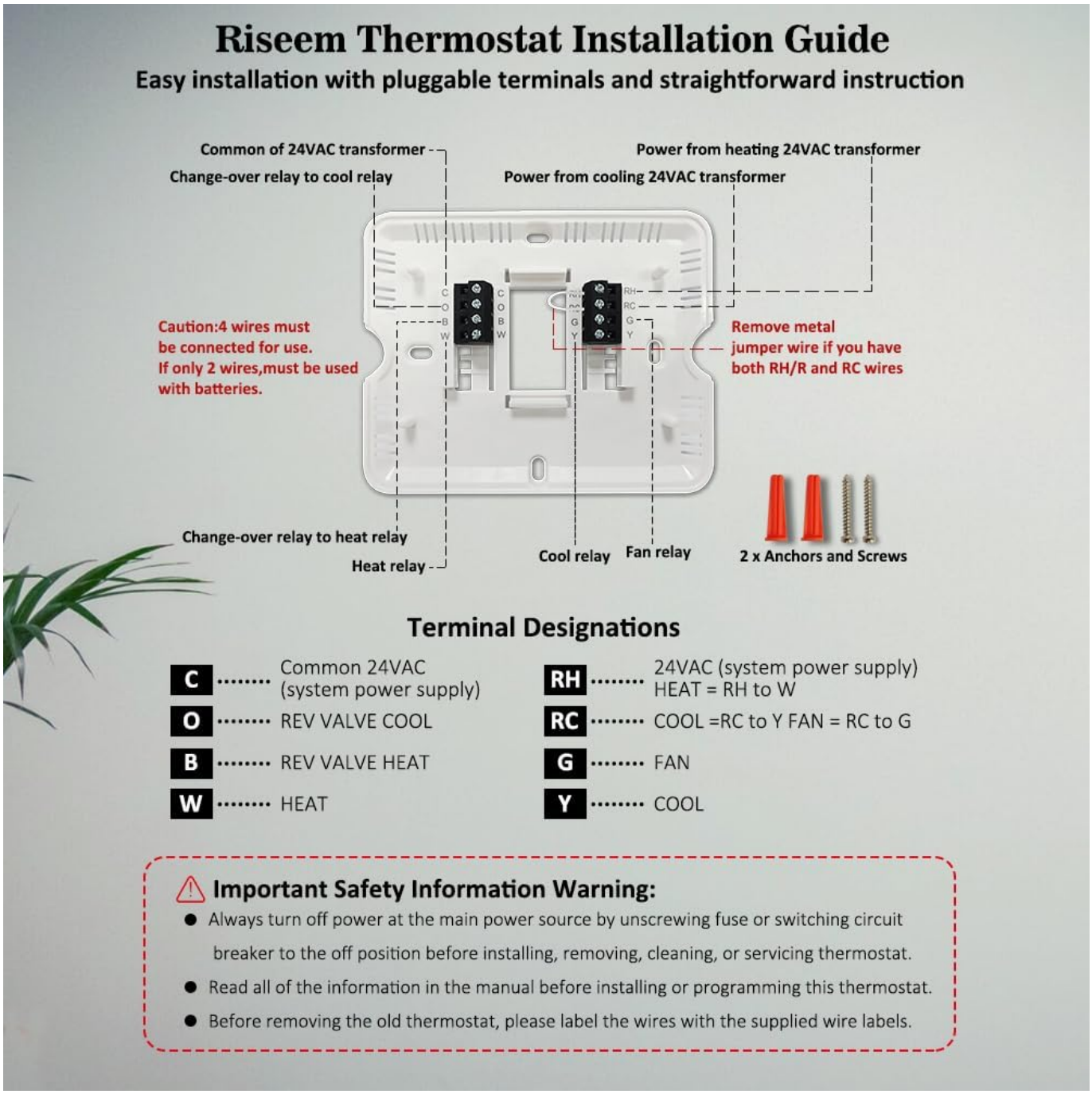


Image: Detailed wiring diagram for the Riseem STN605 thermostat, showing terminal designations and connections.

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

Remove the metal jumper wire if you have both RH/R and RC wires.

- **C:** Common 24VAC (system power supply)
- **O:** Reverse Valve Cool
- **B:** Reverse Valve Heat
- **W:** Heat
- **RH:** 24VAC (system power supply) HEAT = RH to W
- **RC:** COOL = RC to Y FAN = RC to G
- **G:** Fan
- **Y:** Cool

Power Supply

The thermostat can be powered by either 24VAC from your HVAC system or by 2 AAA alkaline batteries (not supplied). If

24VAC power is available, the batteries provide a backup power source in case of an outage, maintaining your settings.

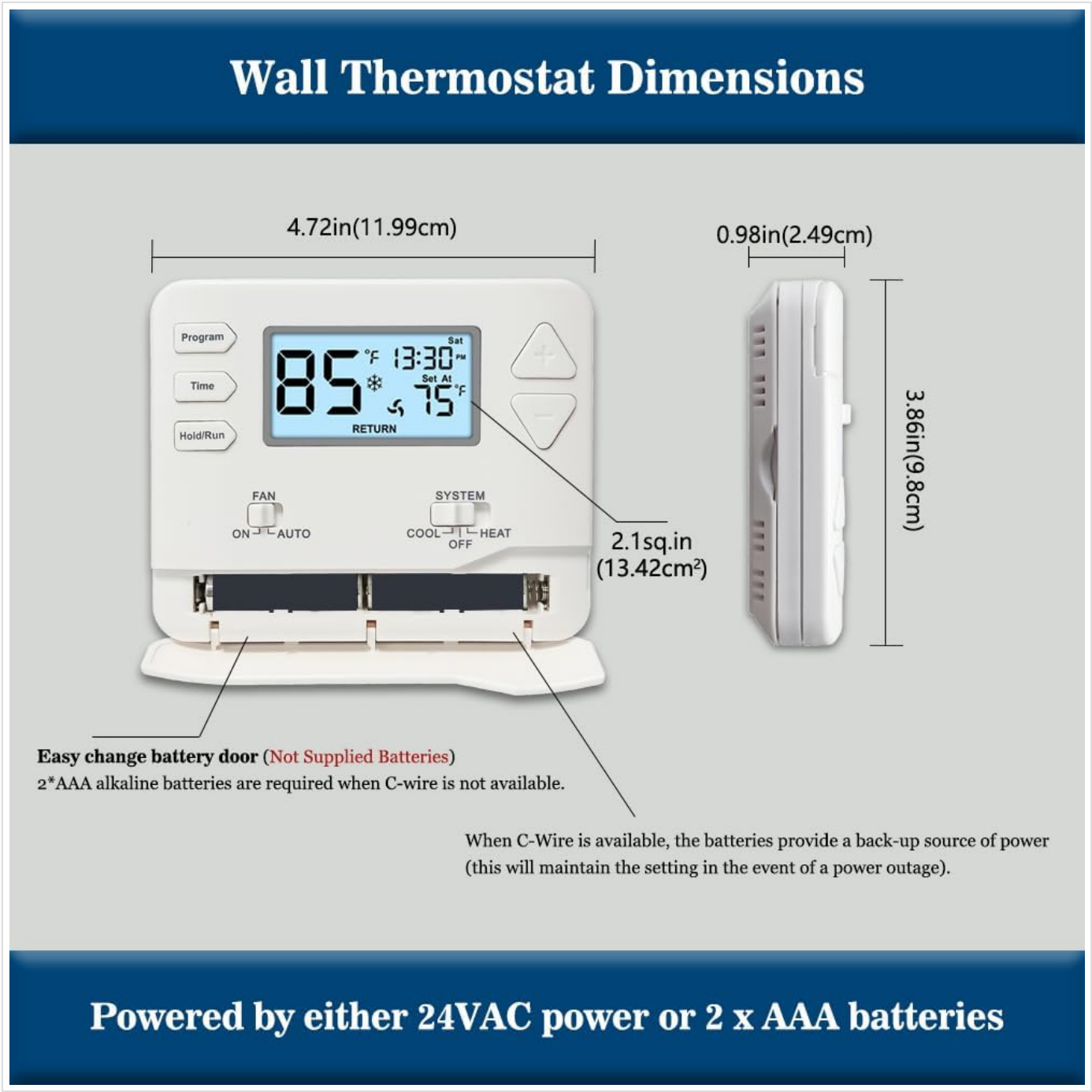


Image: Rear view of the thermostat showing the battery compartment and dimensions.

To install batteries, open the easy-change battery door on the front of the thermostat and insert 2 AAA alkaline batteries, observing polarity.

Operation

Thermostat Controls and Display

The thermostat features a clear, easy-to-read backlight LCD display and intuitive buttons for control.

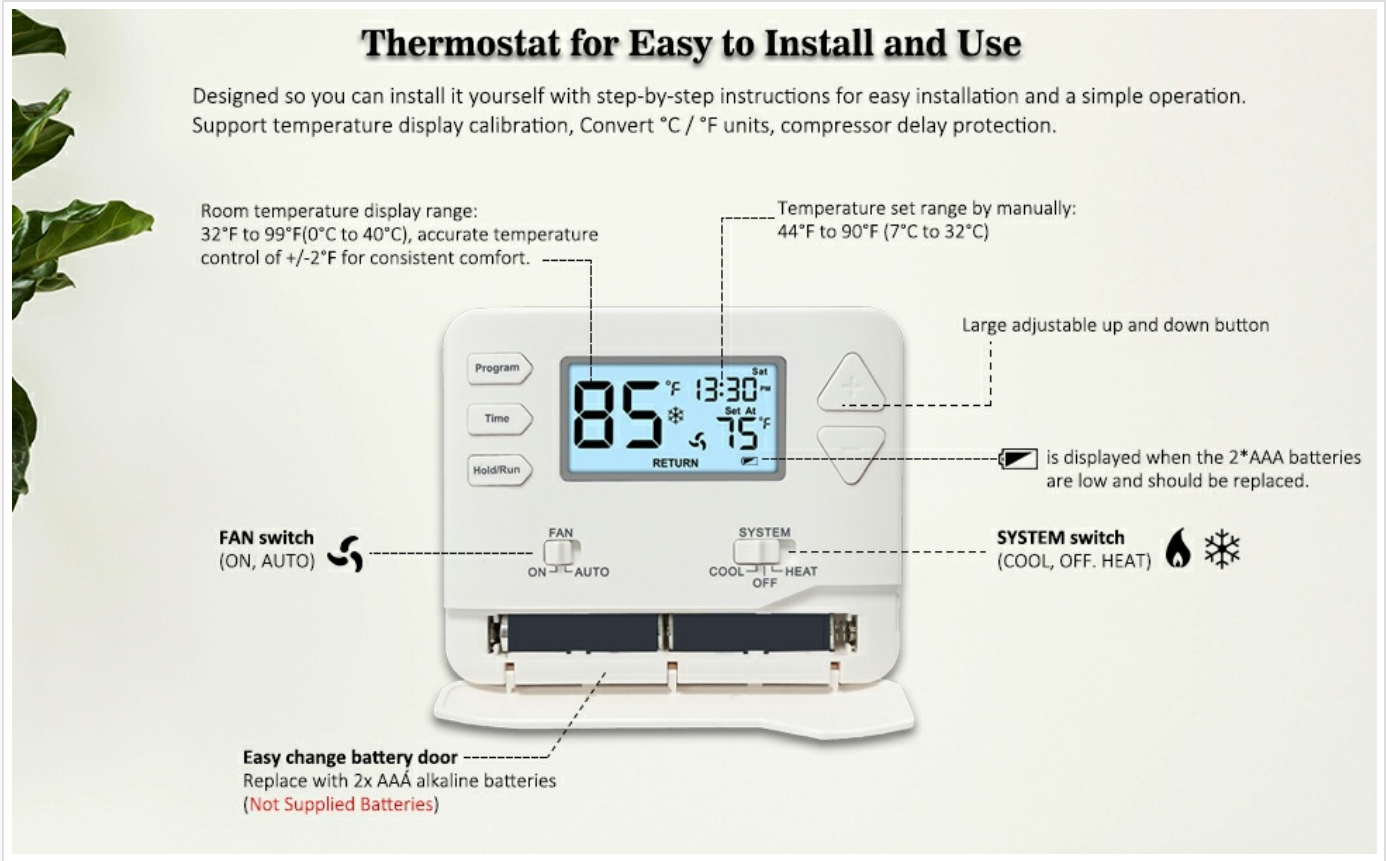


Image: Diagram highlighting the display elements, control buttons, and switches on the thermostat.

- **Program Button:** Used to enter and adjust programming schedules.
- **Time Button:** Used to set the current time and day.
- **Hold/Run Button:** Toggles between programmed schedule and temporary/permanent hold.
- **Up/Down Buttons (+/-):** 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 system.
  - **OFF:** Heating and cooling systems are off.
  - **HEAT:** Thermostat controls heating system.
- **Low Battery Indicator:** An icon will display on the screen when the 2 AAA batteries are low and require replacement.

Setting Time and Day

1. Press the **Time** button. The hour will flash.
2. Use the **Up/Down** buttons to adjust the hour.
3. Press **Time** again. The minutes will flash.
4. Use the **Up/Down** buttons to adjust the minutes.
5. Press **Time** again. The day of the week will flash.
6. Use the **Up/Down** buttons to adjust the day.
7. Press **Time** or wait 10 seconds for changes to be saved and exit.

Programming (5-1-1 Day Schedule)

The thermostat allows for flexible 5-1-1 day programming, meaning you can set different schedules for weekdays (Monday-Friday), Saturday, and Sunday. Each day or group of days has four programmable periods: Wake, Leave, Return, and Sleep.

1. Press the **Program** button. The display will show "MON-FRI" and the "WAKE" period.
2. Use the **Up/Down** buttons to adjust the desired temperature for the "WAKE" period.
3. Press **Time** to adjust the time for the "WAKE" period. Use **Up/Down** buttons.
4. Press **Program** to advance to the "LEAVE" period. Repeat steps 2-3 for "LEAVE", "RETURN", and "SLEEP" periods for "MON-FRI".
5. After setting all four periods for "MON-FRI", press **Program** to move to "SAT" (Saturday). Repeat steps 2-4 for Saturday's schedule.
6. Press **Program** to move to "SUN" (Sunday). Repeat steps 2-4 for Sunday's schedule.
7. After setting all schedules, press **Hold/Run** or wait 10 seconds to save and exit programming mode.

Temperature Hold Function

The Hold function allows you to temporarily or permanently override the programmed schedule.

- **Temporary Hold:** While in "RUN" mode, use the **Up/Down** buttons to adjust the temperature. The new temperature will be held until the next programmed period begins. "HOLD" will flash on the display.
- **Permanent Hold:** Press the **Hold/Run** button once. "HOLD" will appear steadily on the display. Use the **Up/Down** buttons to set the desired temperature. This temperature will be maintained indefinitely until **Hold/Run** is pressed again to resume the schedule.

Advanced Settings (Installer Menu)

The thermostat offers several adjustable parameters for energy optimization and system life. These settings are typically configured during installation.

- **Temperature Display Calibration:** Allows fine-tuning of the displayed room temperature.
- **°C/°F Units Conversion:** Switch between Fahrenheit and Celsius display.
- **Compressor Delay Protection:** Selectable on or off, this feature protects your compressor from short cycling.
- **Adjustable Temperature Differential (Swing):** Controls the temperature range before the system activates. Factory default is 0.5°F for cooling and 0.4°F for heating, adjustable from 0.2°F to 2.0°F.

Refer to the detailed operating manual included in the box for instructions on accessing and adjusting these advanced settings.

Maintenance

Battery Replacement

When the low battery indicator appears on the display, it's time to replace the batteries. The thermostat requires 2 AAA alkaline batteries.

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

Replacing batteries typically does not affect your programmed settings if 24VAC power is also connected. If only battery-

powered, you may need to reset the time and day after replacement.

Cleaning

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

Troubleshooting

Problem	Possible Cause	Solution
Display is blank or dim.	Low or dead batteries; No 24VAC power.	Replace AAA batteries. Check circuit breaker for HVAC system.
System (heating/cooling) does not turn on.	Power off; Incorrect wiring; System switch in "OFF" position; Compressor delay active.	Ensure power is on at breaker. Verify wiring connections. Set SYSTEM switch to "HEAT" or "COOL". Wait 3-5 minutes for compressor delay.
Temperature reading seems inaccurate.	Thermostat location; Calibration needed.	Ensure thermostat is not in direct sunlight or near heat sources/drafts. Refer to manual for temperature display calibration.
Programmed schedule is not followed.	Thermostat is in "HOLD" mode; Incorrect time/day setting; Programming errors.	Press "Hold/Run" to exit permanent hold. Verify current time and day. Re-enter programming schedule carefully.
Fan runs continuously in AUTO mode.	Fan switch set to "ON".	Ensure FAN switch is set to "AUTO".

Specifications

Feature	Detail
Model Name	STN605
Product Dimensions (H x W x D)	4.72" x 3.86" x 0.98" (11.99cm x 9.8cm x 2.49cm)
Item Weight	6.1 ounces (173 grams)
Power Source	24 Volts (AC) or 2 AAA batteries (not included)
Compatibility	Conventional Single Stage Systems (1 Heat/1 Cool)
Temperature Control Type	Push Button, Button Control
Display Type	LCD with Backlight
Temperature Range (Display)	32°F to 99°F (0°C to 40°C)

Feature	Detail
Temperature Range (Set)	44°F to 90°F (7°C to 32°C)
Temperature Accuracy	+/- 1°F
Programmability	5-1-1 Day Programmable (4 periods per day)
Special Features	Separate Heating and Cooling Swing (Cycle Rate), Low Battery Indicator, Temperature Display Calibration, °C/°F Conversion, Compressor Delay Protection
Material	Plastic
Mounting Type	Wall Mount

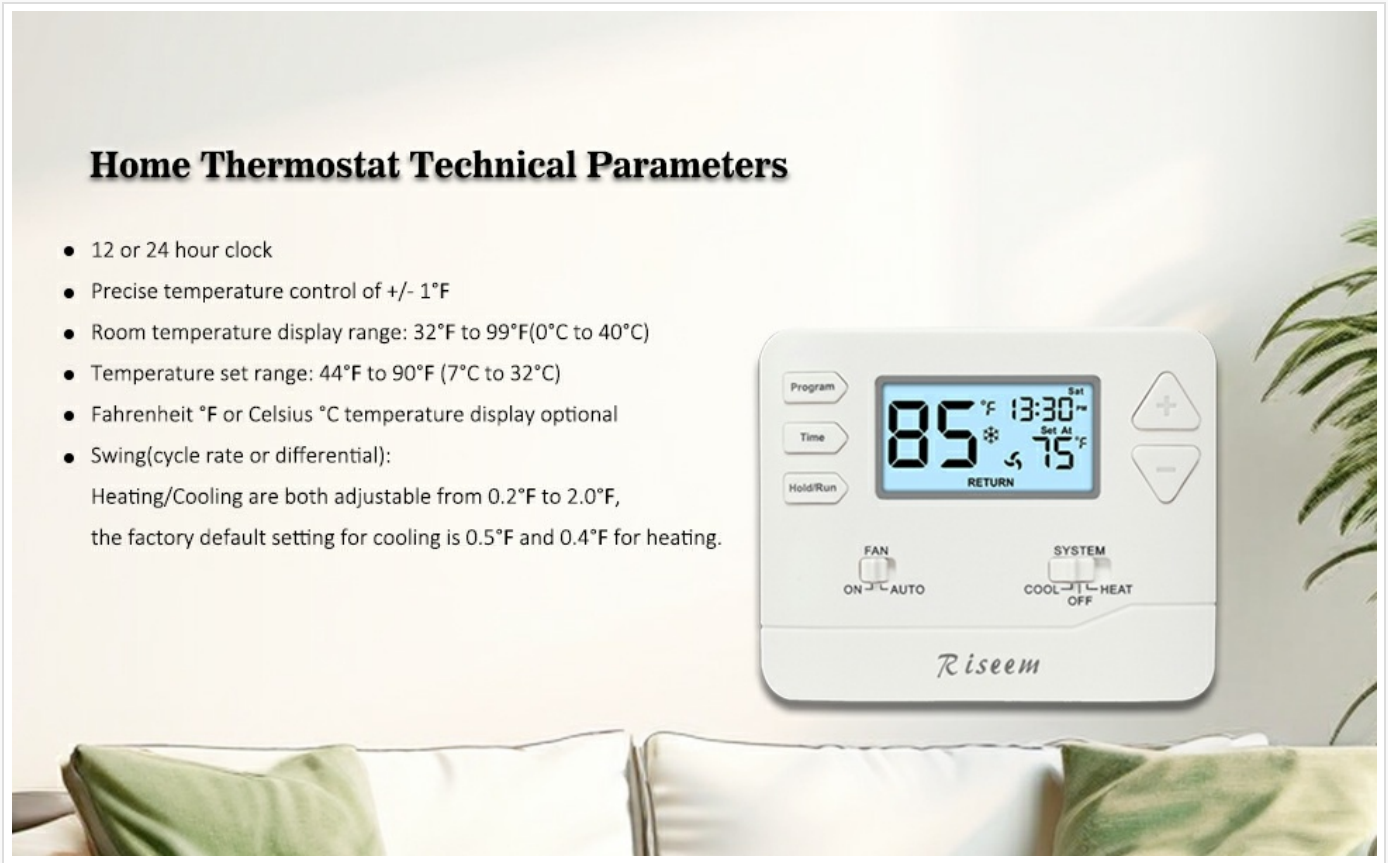


Image: A summary of the thermostat's technical specifications and features.

Support

For any questions, technical assistance, or support regarding your Riseem STN605 Programmable Thermostat, please contact our customer service team. Our customer service is available 24/7 to assist you.
Riseem is a professional manufacturer with over 20 years of experience in digital thermostats, ensuring reliable product quality and support.
Please refer to the contact information provided in the packaging or on the official Riseem website for the most up-to-date support channels.

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