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Riseem STN601

Riseem STN601 Non-Programmable Thermostat User Manual

Model: STN601

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Riseem STN601 Non-Programmable Thermostat. This thermostat is designed for single-stage heating and cooling systems, offering a user-friendly digital interface for precise temperature control.

2. Compatibility

The Riseem STN601 thermostat is compatible with a wide range of conventional single-stage HVAC systems. Please review the compatibility information below to ensure it meets your system requirements.

2.1. Compatible Systems:

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

2.2. Non-Compatible Systems:

- Heat pumps 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

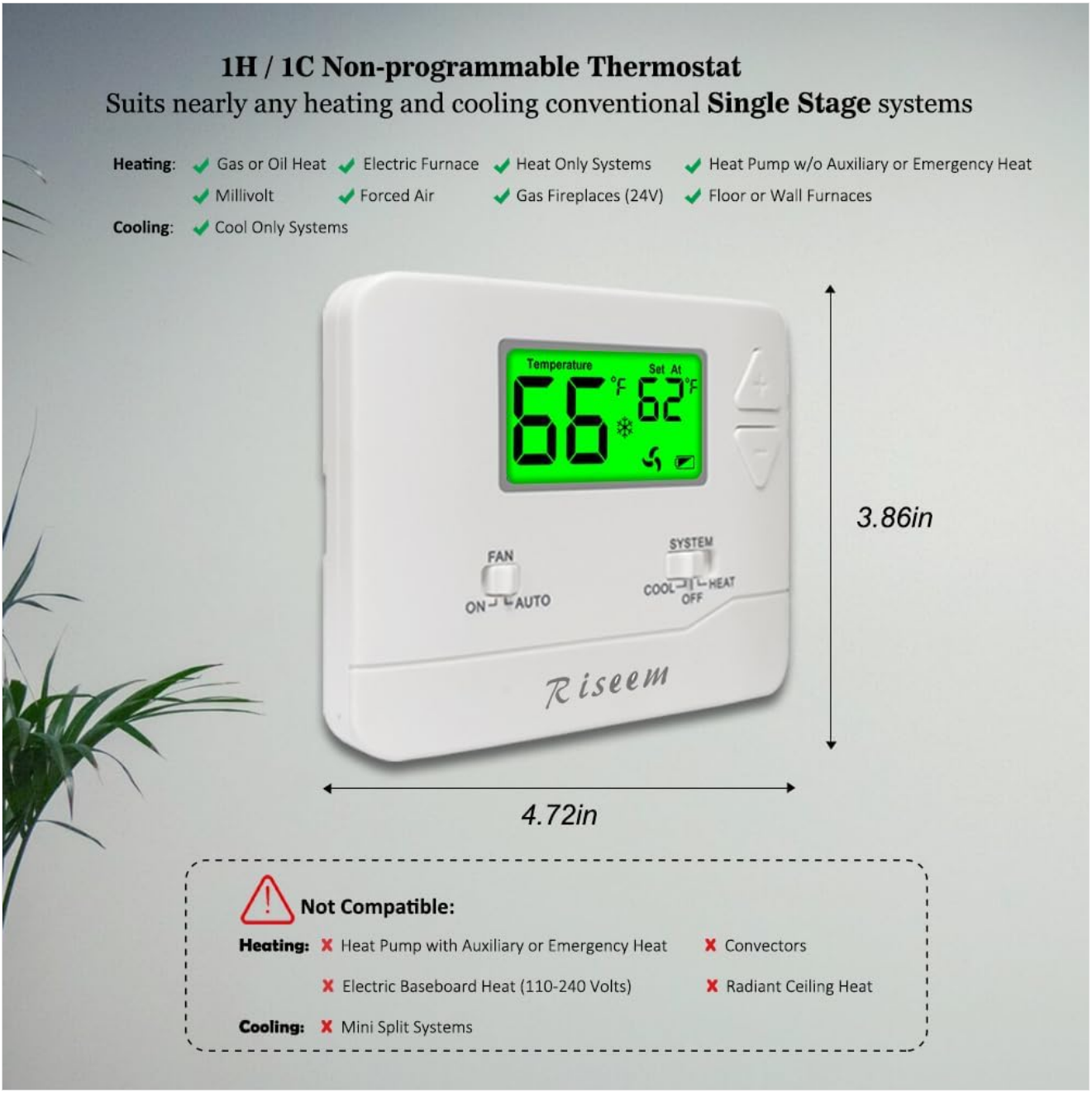


Image: Riseem STN601 Thermostat displaying its screen and a detailed list of compatible and non-compatible HVAC systems.

3. What's in the Box

Upon opening your Riseem STN601 thermostat package, you should find the following components:

- 1 x Riseem STN601 Thermostat
- 1 x Installation Manual
- 1 x Operating Manual
- 1 x Terminal Wire Tag Sticker
- 2 x Screws and Anchors for mounting



Image: A visual representation of the Riseem STN601 thermostat, installation manual, operation manual, wire labels, screws, and anchors included in the product packaging.

4. Safety Information

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, please label the wires with the supplied wire labels.

5. Installation

The Riseem STN601 thermostat is designed for easy DIY installation. Follow these steps carefully to ensure proper setup.

5.1. Preparing for Installation

1. **Turn off power:** Locate your HVAC system's circuit breaker or fuse box and turn off the power to your heating and cooling system. Verify the power is off before proceeding.
2. **Remove old thermostat:** Carefully remove your old thermostat from the wall. Leave the wallplate with wires attached for now.
3. **Label wires:** Use the provided wire tag stickers to label each wire according to its terminal on your old thermostat's wallplate. This is crucial for correct wiring.

5.2. Mounting the New Thermostat

4. **Mount wallplate:** Mount the new thermostat's wallplate to the wall using the included screws and anchors. Ensure it is level.

5. **Connect wires:** Match the labeled wires from your system to the corresponding terminals on the new thermostat's wallplate. Refer to the terminal designations below.

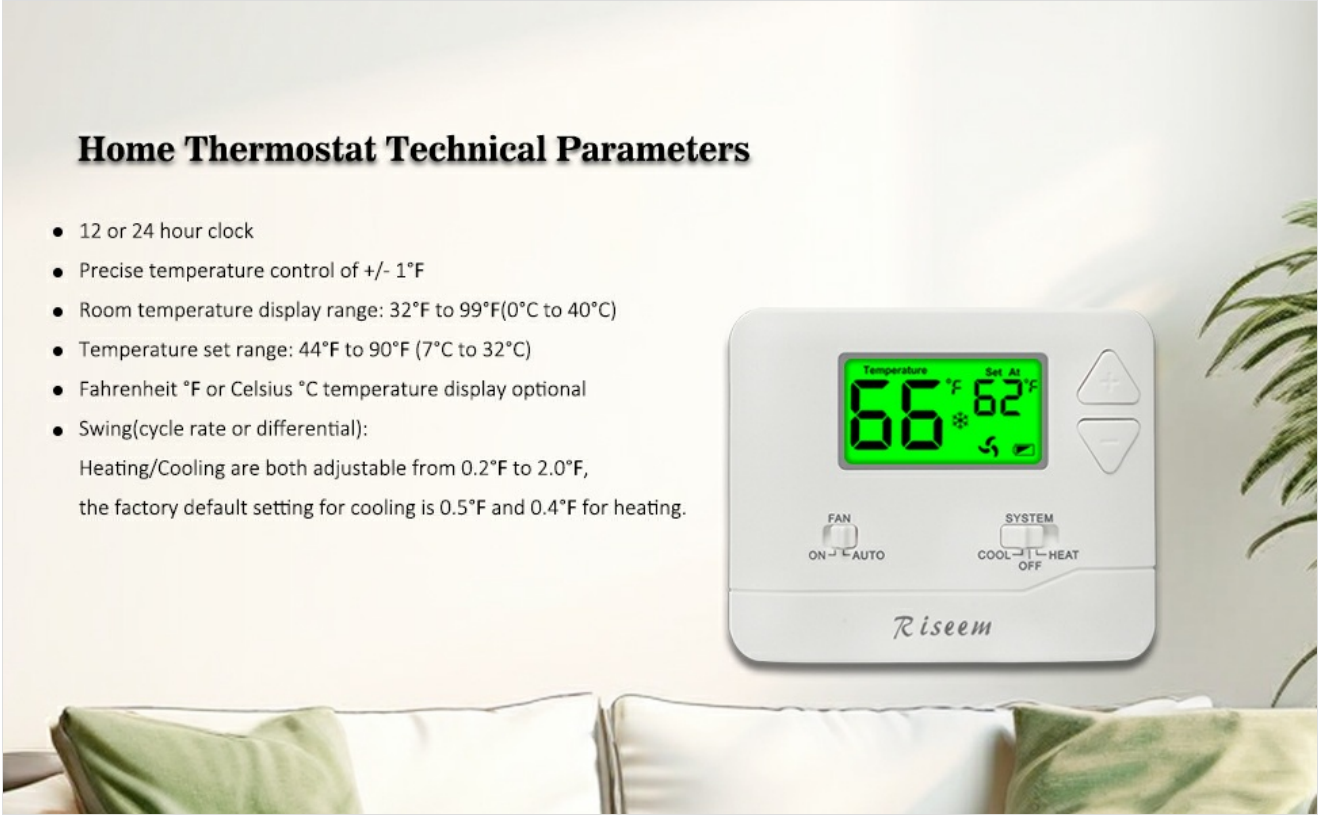


Image: Illustrated steps for replacing an old thermostat, including turning off power, removing the old unit, labeling wires, mounting the new wallplate, and connecting wires.

5.3. Terminal Designations and Wiring

The Riseem STN601 features large terminal blocks for easy wiring. Ensure all connections are secure.

Terminal	Description
C	Common 24VAC (system power supply). Required for heat-only and cool-only systems. If C-wire is available, it provides continuous power and battery backup.
O	Reversing Valve Cool
B	Reversing Valve Heat
W	Heat Relay
RH	24VAC (system power supply) - Heat. Connects to W for heating.
RC	24VAC (system power supply) - Cool. Connects to Y for cooling, and G for fan.
G	Fan Relay
Y	Cool Relay

Note: If your system has both RH and RC wires, remove the metal jumper wire between them. If only two wires are used, the thermostat must be powered by batteries.

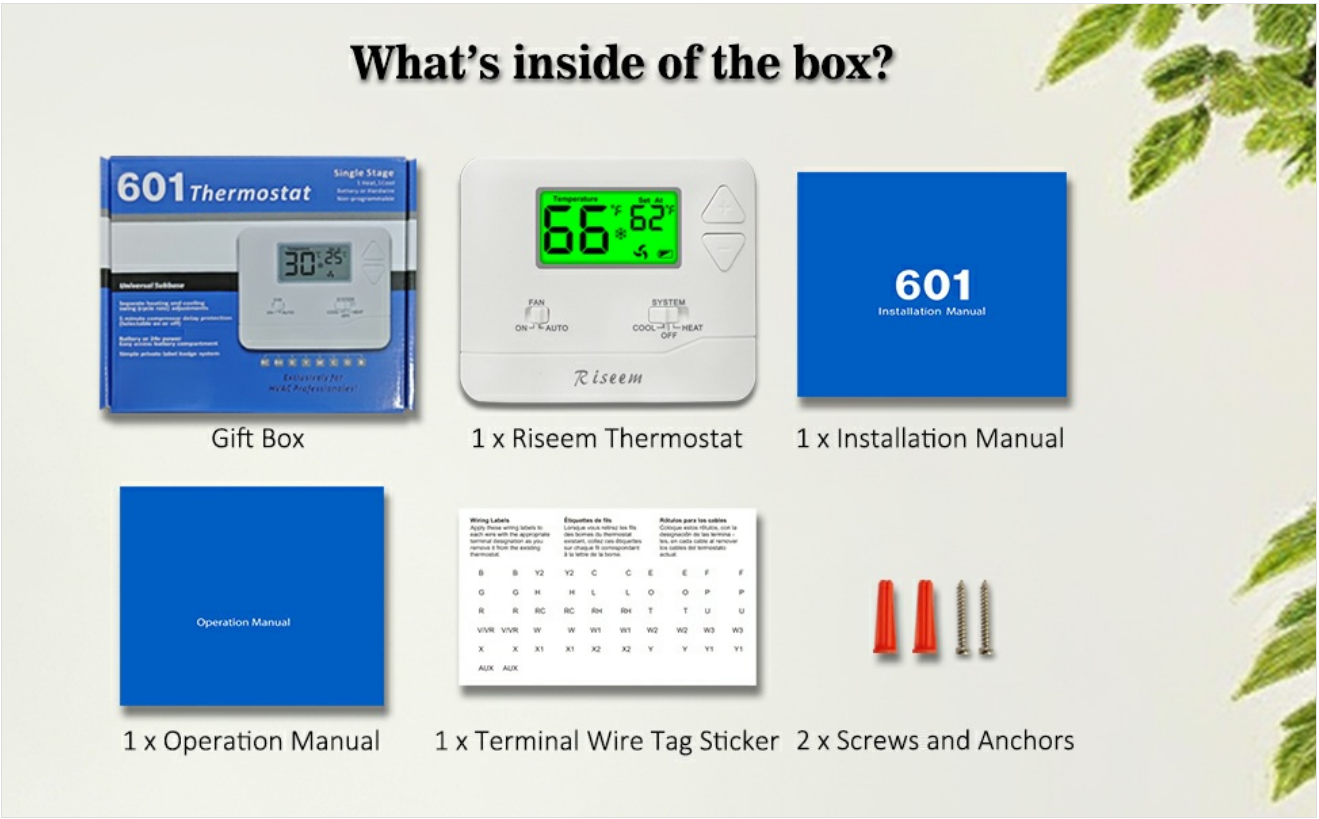


Image: Detailed wiring diagram for the Riseem STN601 thermostat, showing terminal designations and included mounting hardware.

5.4. Fan Mode Switch (GAS/ELEC)

Before snapping the thermostat onto its base, ensure the GAS/ELEC fan mode switch on the back of the thermostat is set correctly:

- **GAS Mode:** The thermostat will not independently turn on the blower fan when a heat demand signal is sent. The furnace controls the fan.
- **ELEC Mode:** The thermostat will turn on the fan (via the G wire) at the same time the heat demand signal is sent.

The default setting out of the box is GAS.

6. Setup and Initial Configuration

After installation, you can configure several settings to optimize your thermostat's performance.

6.1. Power Supply

The thermostat can be powered by either 24VAC power (if a C-wire is connected) or 2 AAA batteries. If a C-wire is available, the batteries provide a backup power source during outages. If no C-wire is used, batteries are required for operation.

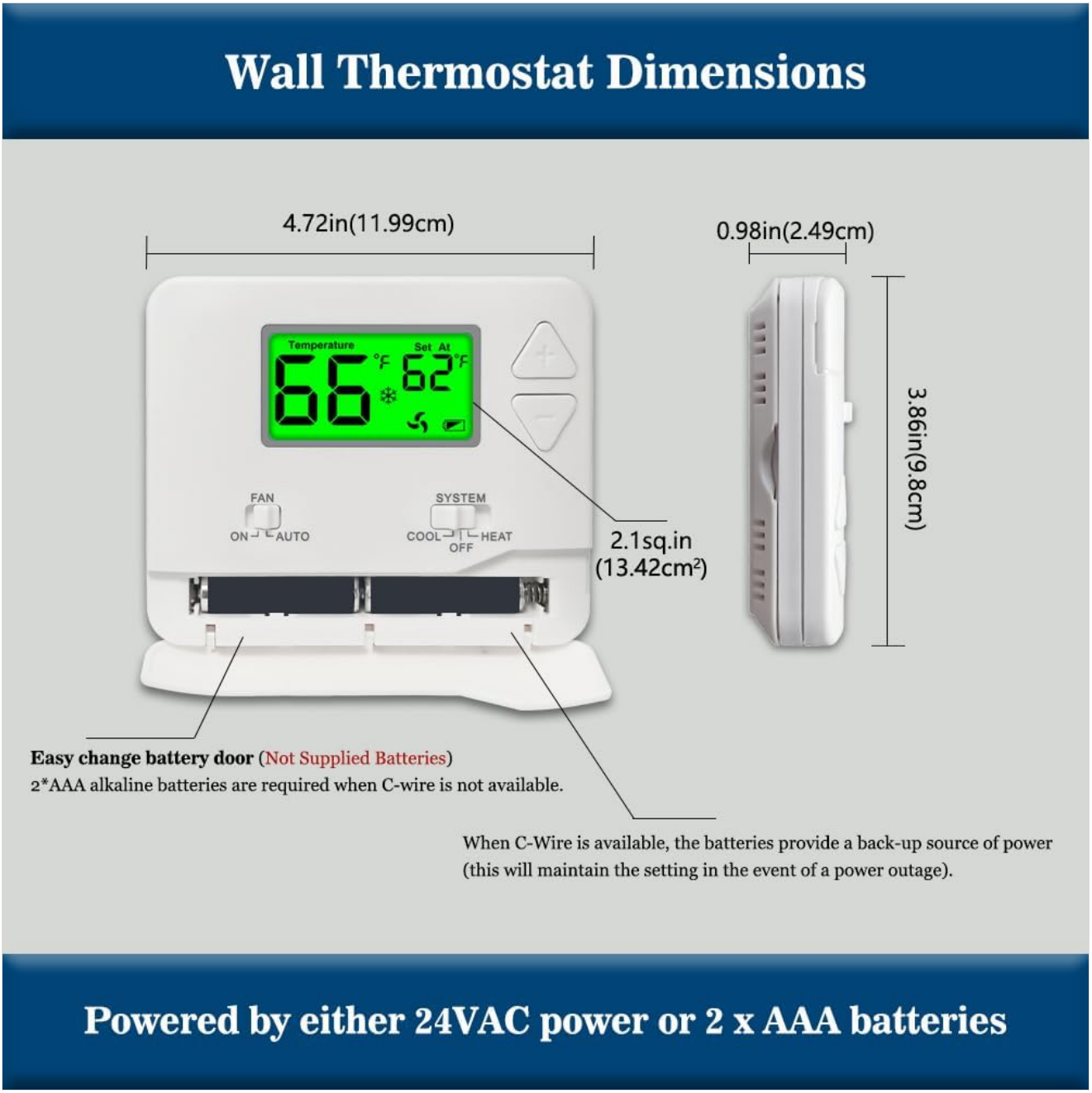


Image: Front and side view of the Riseem STN601 thermostat, highlighting its dimensions and the easy-access front-load battery compartment.

6.2. Adjustable Temperature Differential (Swing)

The thermostat allows you to adjust the temperature differential (also known as cycle rate or swing) for both heating and cooling. This setting determines how far the temperature must deviate from the setpoint before the system activates. A smaller swing results in more frequent, shorter cycles, while a larger swing results in less frequent, longer cycles.

- Adjustable range: 0.2°F to 2.0°F
- Factory default for cooling: 0.5°F
- Factory default for heating: 0.4°F

6.3. Temperature Display Calibration

You can calibrate the displayed room temperature to match another thermometer if desired. This ensures the thermostat's reading is accurate for your specific location.

6.4. Temperature Unit Conversion (°C/°F)

The thermostat supports conversion between Fahrenheit (°F) and Celsius (°C) temperature units.

6.5. Compressor Delay Protection

This feature protects your compressor from short cycling by enforcing a minimum off-time between cooling cycles. It can be selected ON or OFF.

7. Operation

The Riseem STN601 thermostat features a clear, easy-to-read backlight LCD display and simple controls.

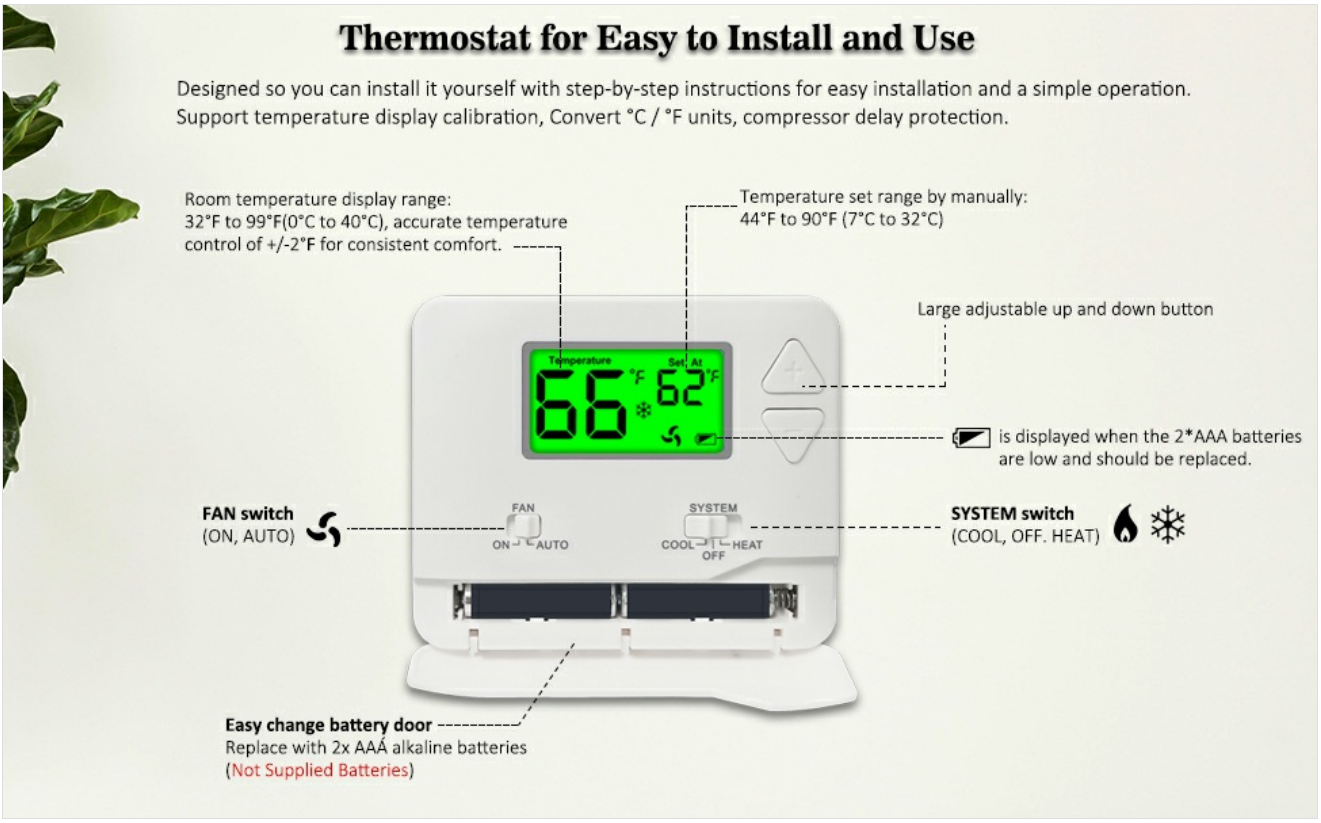


Image: The Riseem STN601 thermostat with labels pointing to the display, up/down buttons, FAN switch, SYSTEM switch, and battery compartment.

7.1. Display

- The large LCD displays the current room temperature and the set temperature.
- The backlight illuminates when any button is pressed, improving visibility in low light conditions.
- A low battery indicator will appear on the display when the 2 AAA batteries are low and require replacement.

7.2. Temperature Adjustment

Use the large UP and DOWN arrow buttons on the right side of the thermostat to adjust your desired set temperature.

7.3. FAN Switch

The FAN switch (located on the left) has two settings:

- **ON:** The fan runs continuously.

- **AUTO:** The fan runs only when the heating or cooling system is actively operating.

7.4. SYSTEM Switch

The SYSTEM switch (located on the right) has three settings:

- **COOL:** The thermostat will operate your cooling system to maintain the set temperature.
- **OFF:** Both heating and cooling systems are turned off.
- **HEAT:** The thermostat will operate your heating system to maintain the set temperature.

8. Maintenance

8.1. Battery Replacement

When the low battery indicator appears on the display, it is time to replace the batteries. The thermostat uses 2 AAA alkaline batteries. The easy-access front-load battery compartment allows for quick replacement without removing the thermostat from the wall.

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

If a C-wire is connected, the batteries primarily serve as a backup. However, it is still recommended to replace them when indicated to ensure continuous operation during power outages.

8.2. Cleaning

To clean the thermostat, gently wipe the exterior with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure no moisture enters the internal components.

9. Troubleshooting

If you encounter issues with your Riseem STN601 thermostat, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
Display is blank or dim	Low or dead batteries; No 24VAC power (if C-wire used)	Replace AAA batteries. Check circuit breaker for HVAC system. Ensure C-wire is properly connected if used.
System (heating/cooling) not turning on	Incorrect SYSTEM switch setting; Power off to HVAC system; Wiring issue; Temperature differential setting	Ensure SYSTEM switch is set to HEAT or COOL. Check circuit breaker. Verify wiring connections. Adjust temperature differential (swing) if it's too wide.
Fan not operating correctly	Incorrect FAN switch setting; Incorrect GAS/ELEC switch setting (on back of thermostat)	Set FAN switch to ON for continuous operation or AUTO for automatic operation. Verify GAS/ELEC switch is set appropriately for your furnace type.

Problem	Possible Cause	Solution
Inaccurate temperature reading	Thermostat location; Calibration needed	Ensure thermostat is not exposed to direct sunlight, drafts, or heat sources. Use the temperature display calibration feature to adjust.

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

10. Specifications

Feature	Detail
Model Name	STN601
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
Special Features	Separate Heating and Cooling Swing (Cycle Rate), Low Battery Indicator
Specific Uses	Heating and Cooling Controls
Temperature Control Type	Conventional Single Stage Systems
Power Source	Battery Powered (2 AAA batteries required) or 24VAC (with C-wire)
Item Weight	5.9 ounces (0.37 Pounds)
Voltage	24 Volts (AC)
Material	Plastic
Display Type	LCD
Control Method	Button Control
Mounting Type	Wall Mount
Style	Digital
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
UPC	607605200677

11. Warranty and Support

Specific warranty information is not provided in the product details. For warranty claims, technical support, or further assistance, please refer to the contact information provided in your product packaging or visit the official Riseem website.

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