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Robertshaw RS9110

Robertshaw RS9110 Pro Series Programmable Thermostat User Manual

Model: RS9110

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Robertshaw RS9110 Pro Series Programmable Thermostat. This thermostat is designed for single-stage heating and cooling systems, offering reliable temperature control and energy-saving programming options.
Key features include a 5-1-1 or 7-day programmable schedule, a clear 4.6-square-inch blue backlit display, adjustable temperature differential (swing), short cycle protection, and a filter change reminder. Please read this manual thoroughly before installation and use to ensure proper function and to maximize the benefits of your new thermostat.

2. Safety Information

- Always turn off power to the heating/cooling system at the main circuit breaker or fuse box before installing or servicing the thermostat.
- This thermostat operates on 24 Volts AC. Do not use it with line voltage systems (120V or 240V).
- Improper wiring can damage the thermostat and/or the heating/cooling system. If you are unsure about any part of the installation process, consult a qualified HVAC technician.
- Do not short (jumper) the terminals on the gas valve or at the system to test the thermostat. This can damage the thermostat and void the warranty.
- Keep the thermostat away from direct sunlight, heat sources, and drafts, as these can affect temperature readings.

3. Package Contents

Verify that your package contains the following items:

- Robertshaw RS9110 Thermostat Unit
- Thermostat Wall Plate (Sub-base)
- Mounting Screws and Wall Anchors
- 2 AAA 1.5V Alkaline Batteries

- Installation Manual
- Operation Manual



Figure 3.1: Contents of the Robertshaw RS9110 package, showing the thermostat, installation and operation manuals, and mounting hardware.

4. Product Overview

The Robertshaw RS9110 thermostat features a user-friendly interface with a large digital display and intuitive controls.

4.1 Front Panel and Display



Figure 4.1: Front view of the Robertshaw RS9110 thermostat with its display illuminated, showing operational information.



Figure 4.2: Front view of the Robertshaw RS9110 thermostat with the display unlit, highlighting the physical buttons and switches.

- **Digital Display:** Shows current time, day, room temperature, set temperature, system mode, fan status, and programming icons.
- **Menu Button:** Accesses programming and setup options.
- **Up/Down Buttons:** Adjust temperature settings and navigate menu options.
- **Fan Switch (ON/AUTO):** Controls fan operation. ON runs the fan continuously; AUTO runs the fan only when heating or cooling is active.
- **System Switch (COOL/OFF/HEAT):** Selects the operating mode for your HVAC system.

4.2 Back of the Thermostat and Wall Plate



Figure 4.3: Rear view of the Robertshaw RS9110 thermostat unit, showing the electrical connection pins that mate with the wall plate.

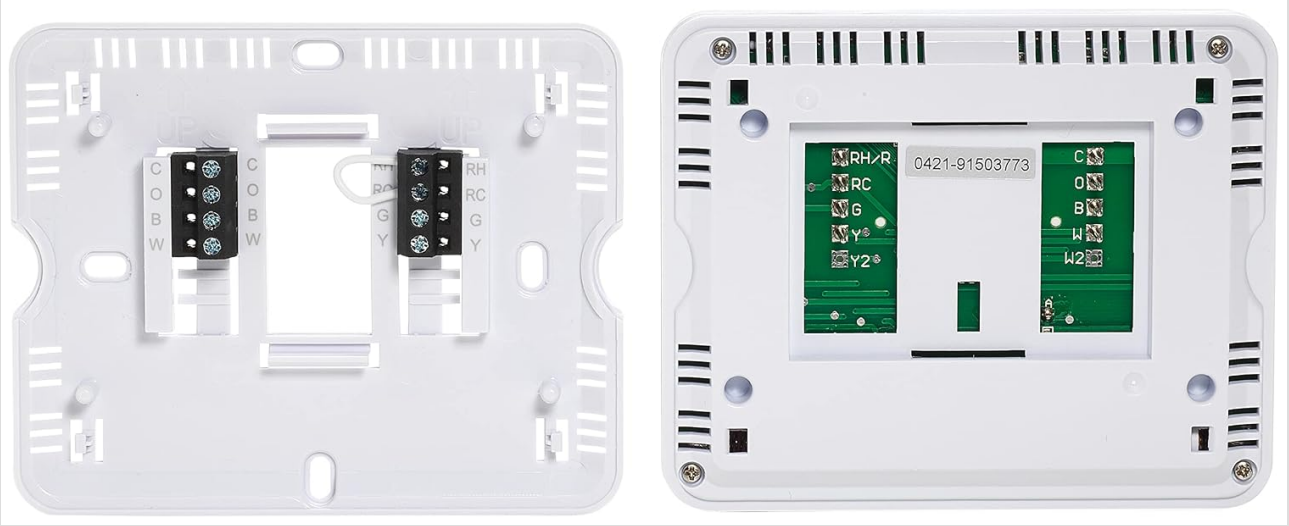

Figure 4.4: The wall plate (sub-base) for the Robertshaw RS9110, featuring large, clearly labeled terminal blocks for wiring connections.

The thermostat unit detaches from the wall plate for easy installation and battery replacement. The wall plate contains the wiring terminals for connecting to your HVAC system.

5. Setup and Installation

Before beginning installation, ensure you have read the safety information in Section 2.

5.1 Removing Your Old Thermostat

1. Turn off the power to your heating and cooling system at the main circuit breaker or fuse box.
2. Remove the cover of your old thermostat.
3. Take a picture of the existing wiring connections for reference. Label each wire with the terminal designation it was connected to.
4. Disconnect the wires and remove the old thermostat's wall plate.

5.2 Mounting the New Wall Plate

1. Position the new Robertshaw RS9110 wall plate against the wall where the old thermostat was located.
2. Use the provided mounting screws and wall anchors to secure the wall plate. Ensure it is level for aesthetic purposes.



Figure 5.1: Mounting hardware included with the Robertshaw RS9110 thermostat.

5.3 Wiring the Thermostat

The RS9110 is designed for single-stage heat/cool systems. Refer to the wiring diagram in the included Installation Manual for specific connections. The large terminal blocks on the wall plate facilitate easy wiring.

- Connect the labeled wires from your HVAC system to the corresponding terminals on the RS9110 wall plate.
- Ensure all wire connections are secure.

5.4 Attaching the Thermostat Unit and Initial Power-Up

1. Insert the two AAA batteries into the battery compartment on the back of the thermostat unit.
2. Carefully align the thermostat unit with the mounted wall plate and push it firmly into place until it clicks.
3. Restore power to your HVAC system at the circuit breaker. The thermostat display should now illuminate.
4. Follow the on-screen prompts or refer to the Operation Manual for initial setup, including setting the current

time and day.

6. Operating the Thermostat

This section details how to use the various functions of your Robertshaw RS9110 thermostat.

6.1 Understanding the Display Icons

- **Room Temperature:** The large number indicating the current ambient temperature.
- **Set At Temperature:** The smaller number indicating your desired temperature setting.
- **Time and Day:** Current time and day of the week.
- **System Mode Icons:** Indicates if the system is in COOL, HEAT, or OFF mode.
- **Fan Status:** Indicates if the fan is ON or AUTO.
- **Sleep Icon:** Appears during programmed sleep periods.

6.2 Setting Time and Day

Press the **Menu** button and navigate to the Time/Day setting. Use the **Up**/**Down** buttons to adjust the hour, minute, and day, then confirm your selections.

6.3 System and Fan Modes

- **System Switch:** Slide the switch to select **COOL** (for air conditioning), **OFF** (system is off), or **HEAT** (for heating).
- **Fan Switch:** Slide the switch to select **ON** (fan runs continuously) or **AUTO** (fan runs only when heating or cooling is active).

6.4 Programming Schedules (5-1-1 or 7-Day)

The RS9110 allows for programmable schedules to optimize comfort and energy savings. You can typically set four periods per day (Wake, Leave, Return, Sleep) with different temperature settings.

1. Press the **Menu** button and navigate to the Program settings.
2. Select whether you want to program 5-1-1 (weekdays, Saturday, Sunday) or 7-day individual programming.
3. For each period (Wake, Leave, Return, Sleep) and each day/group of days, set your desired start time and temperature using the **Up**/**Down** buttons.
4. Save your settings as you proceed.

6.5 Advanced Features

- **Adjustable Temperature Differential (Swing):** This feature allows you to control how sensitive the thermostat is to temperature changes before activating the system. A smaller differential means more frequent, shorter cycles; a larger differential means less frequent, longer cycles. This can be adjusted in the installer setup menu.
- **Short Cycle Protection:** A built-in 5-minute selectable on/off compressor delay protects your HVAC system from damage due to rapid cycling.
- **Filter Change Reminder:** The thermostat can be programmed to remind you when it's time to change your system's air filter, based on system run time.
- **Adjustable Room Temperature Calibration:** If you find the thermostat's temperature reading is consistently different from another accurate thermometer, you can calibrate it in the setup menu.
- **Setpoint Limits:** You can set minimum and maximum temperature limits to prevent extreme settings.

7. Maintenance

7.1 Battery Replacement

The RS9110 uses two AAA 1.5V alkaline batteries. When the battery indicator appears on the display, it's time to replace them.

1. Gently pull the thermostat unit straight off the wall plate.
2. Remove the old batteries and insert two new AAA alkaline batteries, observing the correct polarity (+/-).
3. Snap the thermostat unit back onto the wall plate.

7.2 Cleaning

To clean the thermostat, gently wipe the exterior with a soft, damp cloth. Do not use abrasive cleaners or solvents, as these can damage the finish or internal components.

8. Troubleshooting

If you experience issues with your thermostat, try the following troubleshooting steps:

- **No Display:** Check if the batteries are correctly installed and fresh. If the system is hardwired, ensure power is supplied to the HVAC system at the circuit breaker.
- **System Not Responding (No Heat/Cool):**
  - Ensure the System switch is set to COOL or HEAT, not OFF.
  - Check the circuit breaker for your HVAC system.
  - Verify that the set temperature is appropriately above (for heat) or below (for cool) the current room temperature.
  - Allow for the 5-minute compressor delay if the system was recently turned off or switched modes.
- **Inaccurate Temperature Reading:** If the room temperature displayed seems incorrect, you may need to calibrate the thermostat. Refer to the Operation Manual for instructions on temperature calibration. Ensure the thermostat is not exposed to direct sunlight or drafts.
- **Filter Reminder Appears:** This indicates it's time to change your HVAC system's air filter. After changing the filter, reset the reminder in the thermostat's menu.

If problems persist after attempting these steps, contact a qualified HVAC technician or Robertshaw customer support.

9. Specifications

Brand	Robertshaw
Model Name	Pro Series Programmable Thermostat RS9110
Controller Type	Push Button
Special Feature	Programmable (5-1-1 / 7-Day)
Color	White
Temperature Control Type	Programmable, Digital

Power Source	Battery Powered (2 AAA 1.5V alkaline batteries included)
Voltage	24 Volts AC
Material	Plastic
Display Type	Digital, Blue Backlit
Screen Size	4.6 Inches (diagonal)
Mounting Type	Wall Mount
Product Dimensions	4.7 x 3.8 x 1 inches
Item Weight	9.3 ounces
UPC	662013228217

10. Warranty Information

The Robertshaw RS9110 Pro Series Programmable Thermostat is backed by a**6-year limited warranty**. This warranty covers defects in materials and workmanship under normal use and service. For specific terms and conditions, please refer to the warranty documentation included with your product or contact Robertshaw customer service.

11. Support

For further assistance, technical support, or warranty claims, please contact Robertshaw customer service. It is recommended to have your model number (RS9110) and purchase date available when contacting support. You may also consult a qualified HVAC professional for installation or complex troubleshooting.

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