

Manuals+

[Q & A](#) | [Deep Search](#) | [Upload](#)

[manuals.plus](#) /

› [Robertshaw](#) /

› [Robertshaw RS9220 Pro Series 7-Day Programmable Thermostat User Manual](#)

Robertshaw RS9220

Robertshaw RS9220 Pro Series Thermostat

USER MANUAL

Model: RS9220 | Brand: Robertshaw

1. Introduction

The Robertshaw RS9220 Pro Series Thermostat is a programmable 7-day wall thermostat designed for multi-stage heating and cooling systems. It offers precise temperature control with a large, easy-to-read backlit display and user-friendly programming options. This manual provides detailed instructions for installation, operation, maintenance, and troubleshooting to ensure optimal performance of your thermostat.



Figure 1: Front view of the Robertshaw RS9220 Thermostat with active display.

2. Safety Information

Please read all instructions carefully before installing or operating this thermostat. Failure to follow these instructions could result in property damage, personal injury, or death.

- Turn off power to the heating/cooling system at the main fuse or circuit breaker panel before installation.
- This thermostat is designed for 24 VAC systems only. Do not use with 120/240V electric baseboard heaters.
- Ensure all wiring connections are secure and comply with local electrical codes.
- Do not short out terminals on the gas valve or at the heating/cooling system to test the thermostat.
- Keep batteries out of reach of children.

3. Installation

3.1 Pre-Installation Checklist

1. Verify that the thermostat is compatible with your HVAC system (Multi-Stage - Up to 2 Heat / 2 Cool, 24 Vac systems).
2. Gather necessary tools: screwdriver, wire strippers, drill (if needed).
3. Turn off power to the HVAC system at the circuit breaker.

3.2 Removing Old Thermostat

Carefully remove your old thermostat from the wall. Note the wiring connections. It is recommended to label each wire with the terminal designation it was connected to before disconnecting.

3.3 Mounting the New Thermostat Base

The RS9220 features a universal sub-base for easy installation.

- Separate the thermostat from its sub-base.
- Position the sub-base on the wall where the old thermostat was located. Use the provided screws and anchors to secure it.

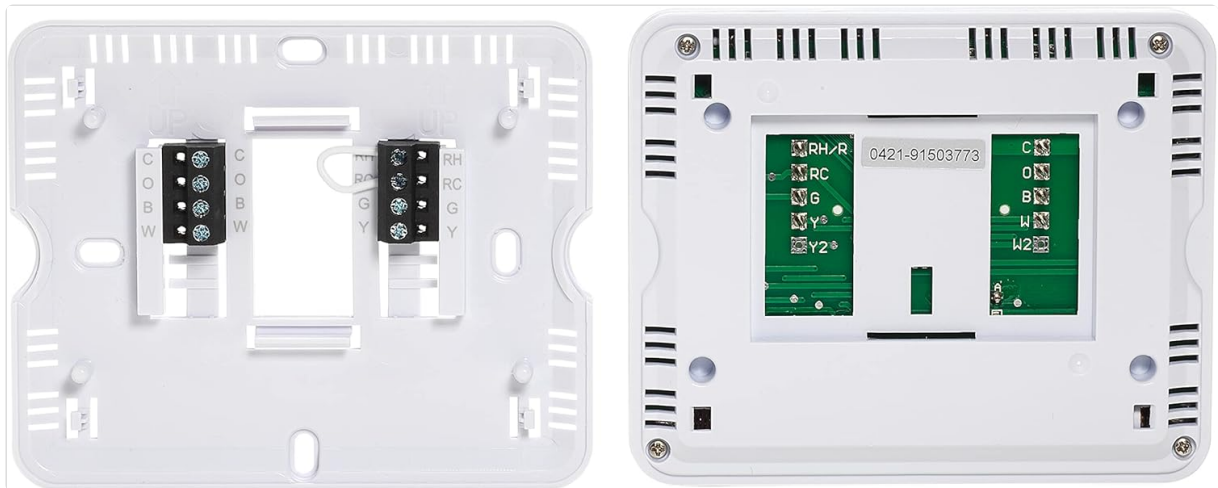


Figure 2: Rear view of the thermostat base showing wiring terminals.

3.4 Wiring Connections

Connect the wires from your HVAC system to the corresponding terminals on the thermostat sub-base. Refer to the wiring diagram below and your old thermostat's wiring for guidance. Ensure all connections are tight.



Figure 3: Detailed view of wiring terminals.

Common Wiring Terminals

Terminal	Description
R/RH	24 VAC Heating Power
RC	24 VAC Cooling Power
C	24 VAC Common
W/W1	Heat Stage 1
Y/Y1	Cool Stage 1
G	Fan Relay
W2	Heat Stage 2
Y2	Cool Stage 2

3.5 Attaching Thermostat to Base

Once wiring is complete, carefully align the thermostat body with the mounted sub-base and snap it into place. Ensure it is securely fastened.

3.6 Battery Installation

The RS9220 requires two AAA 1.5V alkaline batteries (included). The front-load battery compartment allows for easy replacement without removing the thermostat from the wall.

- Open the battery compartment cover.
- Insert the batteries, observing the correct polarity (+/-).
- Close the battery compartment cover.



Figure 4: Thermostat with mounting hardware.

4. Setup and Programming

4.1 Initial Power-Up

After installation and battery insertion, restore power to your HVAC system at the circuit breaker. The thermostat display should illuminate.

4.2 Setting Time and Day

Follow the on-screen prompts or refer to the menu button to set the current time and day of the week. Use the Up/Down arrows to adjust values and the Menu/Next button to confirm.

4.3 Programming Schedule (7-Day, 5-1-1, Non-Programmable)

The RS9220 offers flexible programming options. Access the programming menu to select your desired schedule type (7-day, 5-1-1, or non-programmable). For programmable modes, you can set up to four time periods per day (e.g., Wake, Leave, Return, Sleep) with different temperature settings.

- **7-Day Programming:** Allows individual programming for each day of the week.
- **5-1-1 Programming:** Allows one program for weekdays, and separate programs for Saturday and Sunday.
- **Non-Programmable:** Maintains a single set temperature.

4.4 Advanced Settings

The thermostat includes several advanced settings accessible through the menu:

- **Adjustable Temperature Differential (Swing):** Controls the temperature range before the system activates.
- **Five-Minute Compressor Delay Protection:** Prevents short-cycling of the compressor, extending equipment life.
- **Adjustable Room Temperature Calibration:** Allows fine-tuning of the displayed room temperature.
- **Setpoint Limits:** Set minimum and maximum temperature limits for heating and cooling.

5. Operating the Thermostat

5.1 System Mode Selection

Use the SYSTEM switch on the front of the thermostat to select the desired operating mode:

- **COOL:** Activates the cooling system.
- **OFF:** Turns off both heating and cooling systems.
- **HEAT:** Activates the heating system.

5.2 Fan Mode Selection

Use the FAN switch on the front of the thermostat to select the desired fan operation:

- **ON:** The fan runs continuously.
- **AUTO:** The fan runs only when the heating or cooling system is active.

5.3 Adjusting Temperature

In any operating mode, use the Up/Down arrow buttons on the right side of the thermostat to adjust the desired setpoint temperature.

5.4 Temporary Override

If the thermostat is in a programmable mode, adjusting the temperature manually will temporarily override

the schedule until the next programmed period begins.

6. Maintenance

6.1 Battery Replacement

The thermostat will display a low battery indicator when the batteries need to be replaced. Replace with two fresh AAA 1.5V alkaline batteries. The front-load compartment makes this process easy.

6.2 Filter Change Reminder

The RS9220 includes a filter change reminder. When activated, the display will indicate that it's time to check or change your furnace filter. Reset the reminder after changing the filter.

6.3 Cleaning

Clean the thermostat's exterior with a soft, damp cloth. Do not use abrasive cleaners or solvents.

7. Troubleshooting

If you experience issues with your Robertshaw RS9220 thermostat, refer to the common problems and solutions below:

Problem	Possible Cause	Solution
No display or blank screen	Dead batteries; No power to thermostat (C-wire); Blown fuse/tripped breaker.	Replace batteries; Check wiring for C-wire connection; Check circuit breaker/fuse for HVAC system.
System not responding to thermostat settings	Incorrect wiring; System switch in OFF position; Compressor delay active.	Verify wiring connections; Ensure SYSTEM switch is set to HEAT or COOL; Wait 5 minutes for compressor delay to clear.
Temperature reading inaccurate	Thermostat location (drafts, direct sunlight); Calibration needed.	Relocate thermostat if possible; Adjust temperature calibration in advanced settings.
Programmable schedule not working	Thermostat set to non-programmable mode; Incorrect time/day; Programming errors.	Ensure thermostat is in 7-day or 5-1-1 mode; Verify time and day settings; Re-enter program schedule carefully.

8. Specifications

Feature	Detail
Model Name	Pro Series Programmable Thermostat RS9220
Product Dimensions	1"D x 3.8"W x 3.8"H
Controller Type	Push Button
Special Feature	Programmable

Feature	Detail
Color	White
Specific Uses	Home/Residential, Light Commercial
Temperature Control Type	Digital
Included Components	2 AAA 1.5V alkaline batteries
Power Source	24V AC (18 to 30V AC), 50/60 Hz for hardwire common wire or 2 AAA 1.5V alkaline batteries (included)
Item Weight	0.59 Pounds (9.4 ounces)
Voltage	240 Volts <i>(Note: Thermostat operates on 24V AC, this may refer to system compatibility)</i>
Material	Plastic
Display Type	Digital
Screen Size	4.7 Inches
Backlight	Yes
Mounting Type	Wall Mount
Manufacturer	Robertshaw

9. Warranty and Support

9.1 Limited Warranty

The Robertshaw RS9220 Pro Series Thermostat comes with an industry-leading **6-year limited warranty**. This warranty covers defects in materials and workmanship under normal use and service.

9.2 Customer Support

For technical assistance, troubleshooting, or warranty claims, please contact Robertshaw Customer Service:

- **Phone:** 800-304-6563
- **Website:** robertshaw.com

Model	5-1-1 Programmable	7-day Programmable	Heating Stages	Cooling Stages	Suits heat pump - no aux/emergency heat	Suits heat pump with aux/emergency heat	System Fuel Source: Gas, Electric or Oil	Suits milk/olt applications	Wall or junction box mount	Touchscreen display	Keypad lockout	Adjustable differential (swing) control	Auto changeover	Adjustable temperature calibration	Adjustable setpoint limits	Minimum compressor run time	Compressor delay—short-cycling prevention	Filter change reminder	WiFi/smart phone accessible	24V Hardwire (C Terminal)	DC 2 x AAA 1.5V Alkaline Batteries (Included)	Terminals
RS8110			1	1	*		*	*	*		*		*	*		*			*	*	Rh, Rc, C, Y, W, G, O, B	
RS8210			2	1	*	*	*	*	*		*		*	*		*	*		*	*	R, C, Y, W2, W/E, G, O, B	
RS9110	*	*	1	1	*		*	*	*		*		*	*		*	*		*	*	Rh, Rc, C, Y, W, G, O, B	
RS9210	*	*	2	1	*	*	*	*	*		*		*	*		*	*		*	*	R, C, Y, W2, W/E, G, O, B	
RS9220	*	*	2	2	*		*	*	*		*		*	*		*	*		*	*	Rh, Rc, C, Y, Y2, W, W2, G, O, B	
RS9110T	*	*	1	1	*		*	*	*	*	*	*	*	*	*	*	*		*	*	Rh, Rc, C, Y, W, G, O, B	
RS9320T	*	*	3 ^a	2 ^a	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	Rh, Rc, C, Y, Y2, W/E, W2, G, O, B	
RS10420T	*	*	4 ^b	2 ^b	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Rh, Rc, C, Y, Y2, W/E, W2, G, O, B	

^a With heat pump; 2-stage conventional without heat pump



Customer Service 800.304.6563

Robertshaw.com

Figure 5: Product packaging and included manuals.