

Robertshaw®

INTEGRATED COMFORT SOLUTIONS™

9200

MERCURY-FREE
MECHANICAL
THERMOSTAT



ELECTRIC



GAS

1 Heat / 1 Cool

User's Manual Quick Start Installation



110-956B



WARNING: THIS THERMOSTAT MUST BE INSTALLED ONLY BY A PROFESSIONAL CONTRACTOR FAMILIAR WITH AIR CONDITIONING AND HEATING SYSTEMS CONTROLS AND WIRING. INSTALL ONLY ON 24V AC SYSTEMS. PLEASE READ THIS MANUAL CAREFULLY BEFORE INSTALLING.

IMPORTANT SAFETY INFORMATION

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 thermostat.
- Read all of the information in this manual before installing this thermostat.
- This is a 24V AC low-voltage thermostat. Do not install on voltages higher than 30V AC.
- All wiring must conform to local and national building and electrical codes and ordinances.
- Do not short (jumper) across terminals on the gas valve or at the system control to test installation. This will damage the thermostat and void the warranty.

FEATURES

- Adjustable from 50°F (10°C) to 90°F (32°C)
- Accuracy within ± 2 degrees Fahrenheit
- Heavy duty heat anticipator
- Hermetically sealed contacts
- No separate subbase

SPECIFICATIONS

- Electrical rating:
24 volt AC (18-30 VAC) 2 amps max.
250-750 millivolts
- 0.2 to 1.6 amp heat anticipation
- 4700 ohms fixed cooling anticipation

REPLACING EXISTING THERMOSTAT

1. Turn off power to heating and cooling system.
2. Remove cover of old thermostat to expose wires. Do not disconnect wires. (Figure 1)
3. Label wires per Table 1.

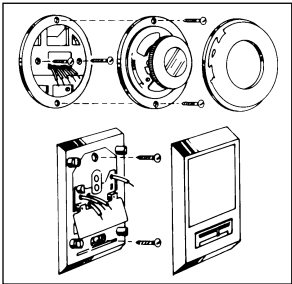
TABLE 1

Old Label	New label**	Description
M, 4, RH, R5 or R	RH	Heat transformer, hot side
V or RC	RC	Cooling transformer, hot side
Y or Y6	Y	Cooling control
H, W or 4	W	Heating control
F or G	G	Fan control relay
B	B	Reversing valve heating mode
O	O	Reversing valve cooling mode

***NOTE:** ON SOME OLDER MODELS, THE C TERMINAL CAN BE EITHER THE COOLING CONTROL OR THE COMMON SIDE OF THE TRANSFORMER. CHECK FURNACE WIRING DIAGRAM TO VERIFY C TERMINAL. IF IT IS THE COMMON SIDE OF THE TRANSFORMER, CAP THE WIRE AND TUCK INTO THE WALL. IF IT IS THE COOLING CONTROL, CONNECT TO THE Y TERMINAL.

****NOT ALL MODELS OF THE 9200 SERIES WILL CARRY THESE DESIGNATIONS.**

4. After labeling wires, remove wires from terminals.
5. Remove existing thermostat base from wall.
6. Refer to the following section for instructions on how to install thermostat.



INSTALLING MODEL 9200 THERMOSTAT

NOTE: FOR NEW INSTALLATIONS, MOUNT THERMOSTAT ON INSIDE WALL, 5 FEET ABOVE THE FLOOR. DO NOT INSTALL BEHIND A DOOR, IN A CORNER, NEAR AIR VENTS, IN DIRECT SUNLIGHT, OR NEAR ANY HEAT OR STEAM GENERATING FIXTURES. INSTALLATION AT THESE PLACES WILL AFFECT THERMOSTAT OPERATION.

1. Turn power off to the heating and cooling systems.
2. Remove cover by grasping side and gently pulling outward (Figure 2).
3. Place thermostat against the wall at desired location. Make sure wires will feed through opening on base of thermostat.
4. Mark placement of mounting holes (Figure 3). Set base aside.

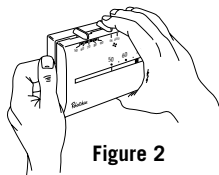


Figure 2

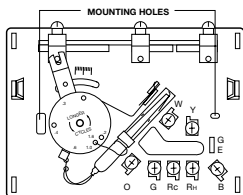


Figure 3

5. Drill the marked holes using a 3/16" drill bit.
6. Tap plastic anchors into the holes.
7. Align base with plastic anchors and feed wires through opening.
8. Secure base to wall with supplied screws.
9. Connect wires to proper terminal screws. Refer to wiring diagrams on other side of this sheet. Make sure wire connections are secure.
10. Set the adjustable heat anticipator as outlined in the next section **SETTING HEAT ANTICIPATOR**. For millivolt applications, set anticipator to highest setting.
11. Place fan option jumper plug to G (gas) or E (electric) position depending on heating system.
12. Replace cover on thermostat by snapping into place.
13. Turn on power to system. Test thermostat as described in the following section.

HEAT PUMP APPLICATIONS

For single stage heat pump applications (no auxiliary or emergency heat), install a short jumper across W and Y terminals and make sure the jumper plug is in the E position.

Connect the reversing valve wire to the O terminal if the reversing valve is energized in the cooling mode. If the reversing valve is energized in the heating mode, connect the wire to the B terminal.

DUAL TRANSFORMER APPLICATIONS

When two transformers are being used, remove the factory installed jumper between Rh and Rc.

OTHER APPLICATIONS

To power a damper motor or auxiliary circuit that requires continuous power, O and B terminals are provided. (For example, the damper needs to be opened whenever the thermostat is being used for cooling.) When the system switch is in the cool position, the O terminal is energized.

SETTING HEAT ANTICIPATOR

NOTE: SOME HEATING SYSTEMS REQUIRE A LONGER OR SHORTER ON/OFF PERIOD TO MAINTAIN COMFORT. SET THE HEAT ANTICIPATOR TO ONE OF THE FOLLOWING CONDITIONS. (REFER TO FIGURE 4)

1. For replacement installations, match the anticipator setting with that of the thermostat being replaced.

OR

2. Match current draw (amperage) of the heating control or relay. This can be done by checking the rating label on the control within the heating system. If the label cannot be found, the circuit amperage can be determined as follows:
 - a. Turn HEAT-OFF-COOL switch to OFF, or set temperature to lowest setting so that the contacts are open.
 - b. Set an AC ammeter to the 0 to 1 amperage range. Place probes on W and R terminals. On heating only models probe both wires. On models with a positive off lever, make sure the lever is in the OFF position. The heating valve or relay must then turn ON and a reading will appear on the meter. **DO NOT USE A VOLTMETER OR A DC AMMETER.**
 - c. Set the heat anticipator to the meter reading. This is the normal setting.
3. The anticipator adjustment must be made so that the thermostat is in balance with the rest of the system. It will determine how often the system turns on and off.

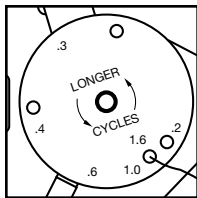


Figure 4

Allow the heating system to operate for a full day or more. A correct anticipator setting should maintain the temperature within 1°F. Too frequent cycling of the heating system can result in lower life expectancy for the heating system. Make anticipator adjustments in 0.1 amp increments at a time.

WARNING: THE ADJUSTABLE HEAT ANTICIPATOR WILL BURN OUT IF 25V ARE APPLIED DIRECTLY TO THE THERMOSTAT BY SHORTING OUT THE GAS VALVE OR PRIMARY CONTROL DURING TESTING OR BY INCORRECT WIRING.

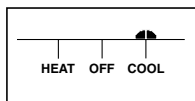
NOTE: FOR MILLIVOLT HEATING APPLICATIONS (9204H AND 9204V ONLY) THE ANTICIPATOR MUST BE SET TO ITS HIGHEST LEVEL.

TO TEST THERMOSTAT

WARNING: DO NOT SHORT (JUMPER) ACROSS TERMINALS OF GAS VALVE OR SYSTEM CONTROL TO TEST OPERATION. THIS WILL DAMAGE THE THERMOSTAT AND VOID YOUR WARRANTY.

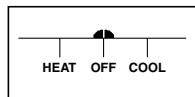
CAUTION: DO NOT SWITCH SYSTEM TO COOL IF THE TEMPERATURE IS BELOW 50°F (10°C). THIS CAN DAMAGE THE AIR CONDITIONING SYSTEM AND CAUSE PERSONAL INJURY.

1. Place the HEAT-OFF-COOL switch into the COOL position



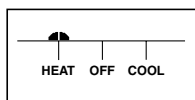
2. Adjust the temperature lever until the indicator is at least 3° below the room temperature. The air conditioning system should turn on within a few seconds.

3. Put the HEAT-OFF-COOL switch into the OFF position. The air conditioning system should turn off.



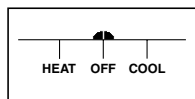
WARNING: DO NOT PLACE THE HEAT/OFF/COOL SWITCH BACK INTO THE COOL MODE. QUICK REPETITIVE CYCLES OF THE AIR CONDITIONING SYSTEM CAN LEAD TO A LOWER LIFE EXPECTANCY FOR THE COMPRESSOR.

4. Put the HEAT-OFF-COOL switch into the HEAT position.

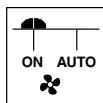


5. Adjust the temperature lever until the indicator is at least 3° above the room temperature. The heating system should turn on within a few seconds.

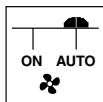
6. Put the HEAT-OFF-COOL switch into the OFF position. The heating system should turn off. The fan may continue to run for a short period of time.



7. Put the FAN AUTO-ON switch to the ON position. The blower fan should turn on.



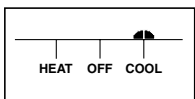
8. Put the FAN AUTO-ON switch to the AUTO position. The blower fan should turn off.



OPERATION

SETTING OR CHANGING THE SETPOINT TEMPERATURE

1. Set the HEAT-OFF-COOL lever to either HEAT or COOL.



2. Adjust the temperature lever to the desired setpoint temperature.



TROUBLESHOOTING

Symptom	Remedy
Thermostat does not turn on system.	Check wiring (see INSTALLATION).
Thermostat turns on and off too frequently.	Decrease heat anticipator (0.1 amps only).
System fan does not operate properly.	Move fan option jumper to either gas or electric, to match system (see INSTALLATION).

If problems cannot be solved, call:
Technical Support: (800) 445-8299
Monday-Friday 7:30-5:30 CST

For warranty returns, send thermostat, shipping prepaid to:

Uni-Line North America
Warranty Claims Department
515 S. Promenade
Corona, CA 92879-1736

ONE-YEAR LIMITED WARRANTY

Maple Chase Company warrants to the original contractor installer or to the original consumer user that each new Robertshaw thermostat is free from defects in materials and workmanship under normal use and service for a period of one (1) year from date of purchase.

This warranty does not cover damage resulting from improper installation, alteration, misuse or abuse of the thermostat occurring after the date of purchase.

Maple Chase Company agrees to repair or replace at its option any thermostat under warranty provided it is returned within the warranty period, postage prepaid, with proof of the date of purchase. Cost of thermostat removal or reinstallation is not the responsibility of Maple Chase Company.

Repair or replacement as provided under this warranty is the exclusive remedy of the consumer. Maple Chase Company shall not be liable for any incidental or consequential damages for breach of any express or implied warranty on this product, or under any other theory of liability. Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose on this product is limited to the duration of this warranty.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Maple Chase Company
2820 Thatcher Road
Downers Grove, IL 60515

An Invensys company

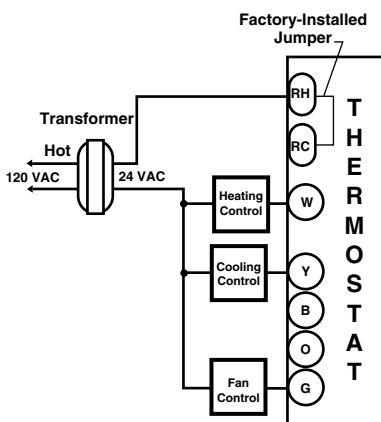
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WIRING DIAGRAMS

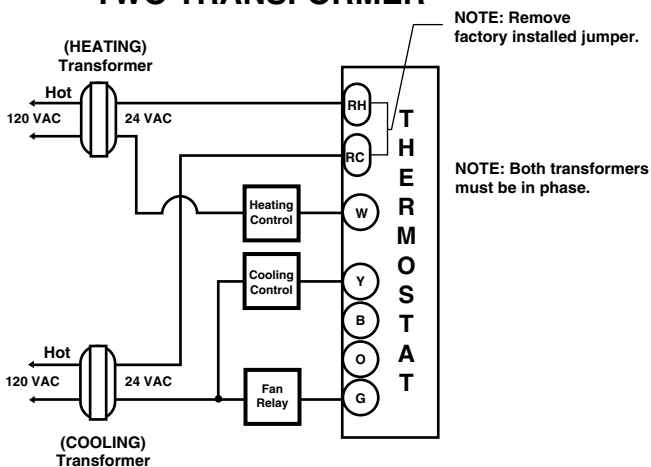
The following pages show samples of the most common types of HVAC systems. Refer to your system's installation manual for wiring information.

CAUTION: Do not use this thermostat with multi-stage heating or cooling systems.

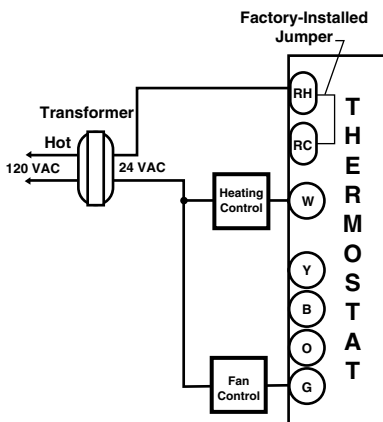
HEAT/COOL 4-WIRE SINGLE TRANSFORMER



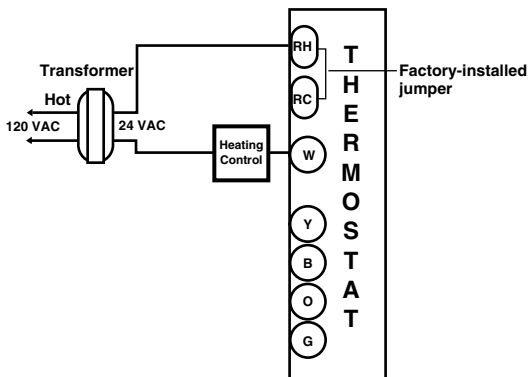
HEAT/COOL 5-WIRE TWO TRANSFORMER



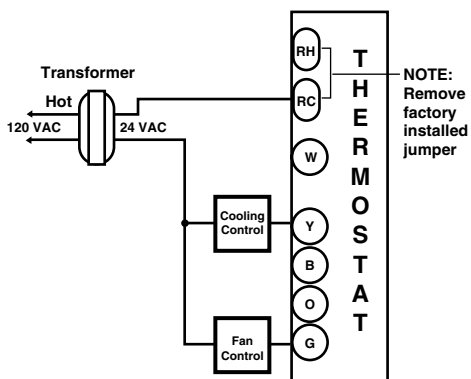
HEAT ONLY 3-WIRE SINGLE TRANSFORMER



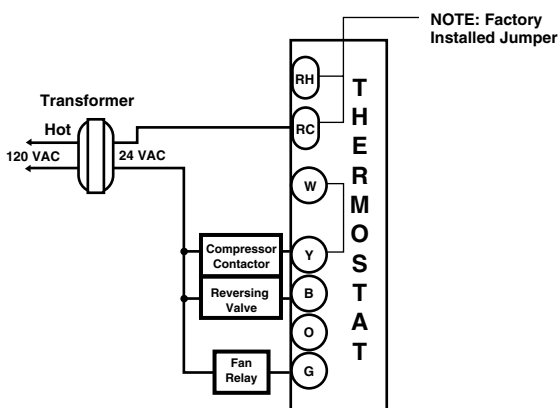
HEAT ONLY 2-WIRE TWO TRANSFORMER



COOL ONLY 3-WIRE SINGLE TRANSFORMER

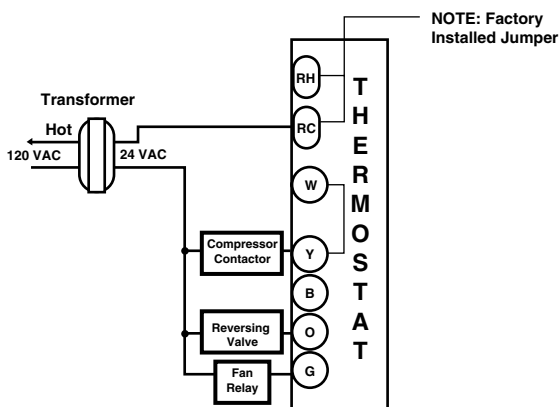


HEAT PUMP WITH HEAT ACTIVE REVERSING VALVE



NOTE: Installer must place jumper between W and Y terminals.

HEAT PUMP WITH COOL ACTIVE REVERSING VALVE



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