



SC5010

1 Heat/1 Cool
Auto Changeover
Battery or Hardwire
Programmable Electronic Thermostat

- 7-Day, 5-2-Day or 5-1-1-Day Programmable
- Configurable
- Single Stage Heat/Cool Systems
- Single Stage Heat Pump Systems
- Large Display With Backlight
- Selectable Fahrenheit or Celsius
- Compatible with Gas, Oil, or Electric
- SimpleSet™ Field Programming
- Status Indicator Light
- Relay Outputs (minimum voltage drop in thermostat)
- Remote Sensor Compatible
- Ideally Suited for:
 - Residential (New Construction/Replacement)
 - Light Commercial

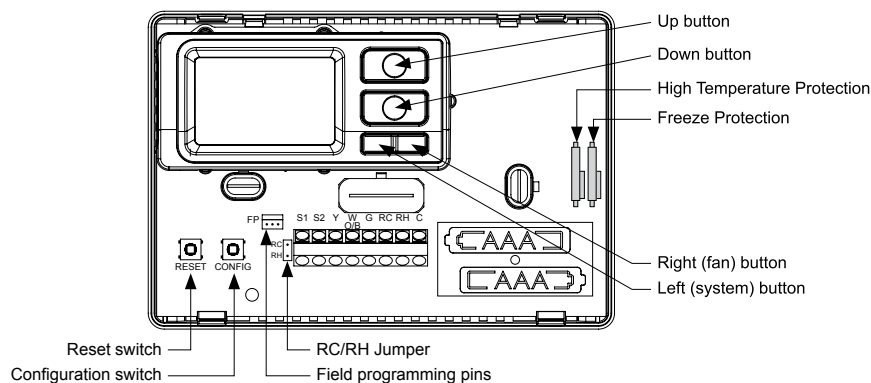


Installation, Operation & Application Guide

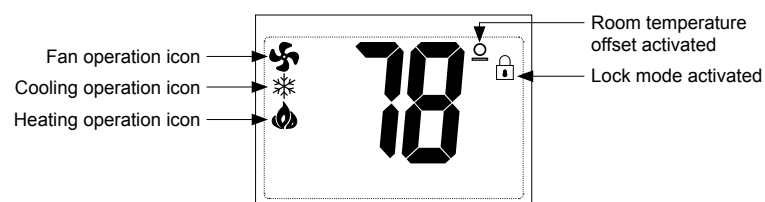
For more information on our complete range of American-made products - plus wiring diagrams, troubleshooting tips and more, visit us at www.icmcontrols.com



Parts Diagram



Icon Descriptions



Specifications

- Electrical rating:** • 24 VAC (18-30 VAC)
• 3.0 VDC (2 "AAA" batteries)
• 1 amp maximum per terminal
• 3 amp maximum total load
- Temperature control range:** 45°F to 90°F (7°C to 32°C) **Accuracy:** ± 1°F (± 0.5°C)
- System configurations:** 1-stage heat, 1-stage cool, heat pump, gas, oil, electric
- Timing:** *Anti-short Cycle:* 4 minutes
Backlight Operation: 5 seconds when configured ON
- Terminations:** S1, S2, Y, W/O/B, G, RC, RH, C

Important Safety Information

- WARNING!** Always turn off power at the main power supply before installing, cleaning, or removing thermostat.
- This thermostat is for 24 VAC applications only; do not use on voltages over 30 VAC
 - Do not short across terminals of gas valve or system control to test operation; this will damage your thermostat and void your warranty
 - All wiring must conform to local and national electrical and building codes
 - Do not use air conditioning when the outdoor temperature is below 50 degrees; this can damage your A/C system and cause personal injuries
 - Use this thermostat only as described in this manual

Package Contents/Tools Required

Package includes: SC5010 PRO thermostat on base, thermostat cover, wiring labels, screws and wall anchors, 2 "AAA" batteries, Installation, Operation and Application Guide

Tools required for installation: Drill with 3/16" bit, hammer, screwdriver

To Remove Existing Thermostat

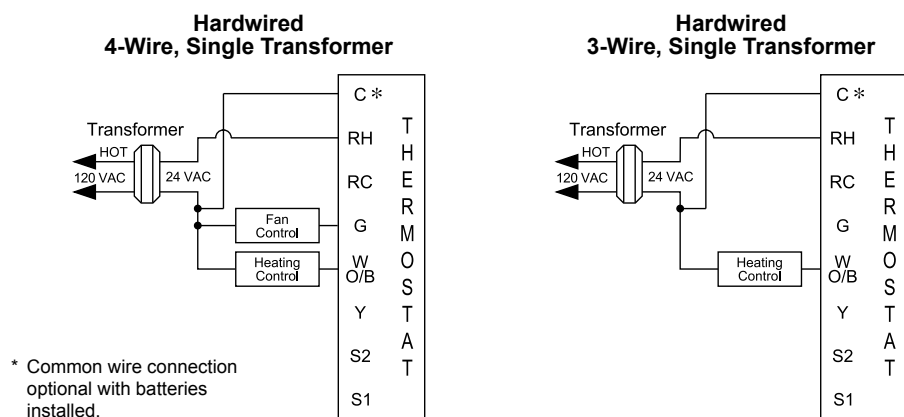
- ELECTRICAL SHOCK HAZARD** – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to the OFF position before removing the existing thermostat.
1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.
 2. Remove cover of old thermostat. This should expose the wires.
 3. Label the existing wires with the enclosed wire labels before removing wires.
 4. After labeling wires, remove wires from wire terminals.
 5. Remove existing thermostat base from wall.
 6. Refer to the following section for instructions on how to install this thermostat.

To Install Thermostat

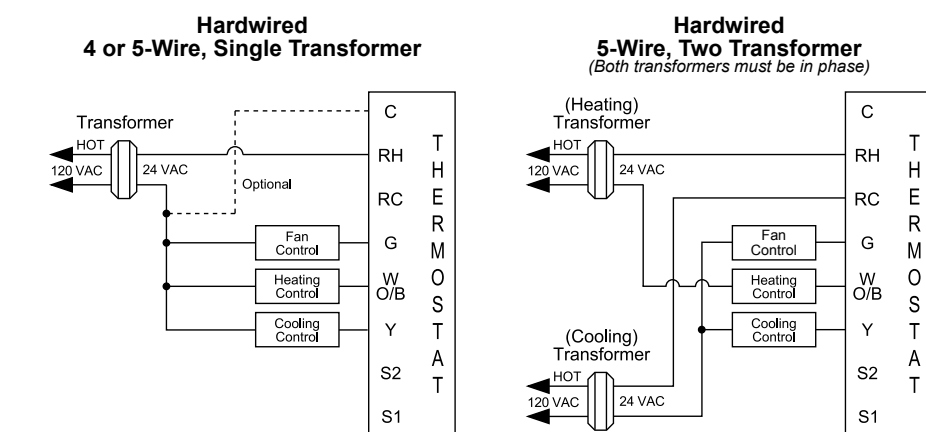
- ELECTRICAL SHOCK HAZARD** – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to the OFF position before removing the existing thermostat.
- IMPORTANT:** Thermostat installation must conform to local and national building and electrical codes and ordinances.
- ✱ **Note:** Mount the thermostat about five feet above the floor. Do not mount the thermostat on an outside wall, in direct sunlight, behind a door, or in an area affected by a vent or duct.
1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.
 2. To remove cover, pull gently at the seam at the top.
 3. Put thermostat base against the wall where you plan to mount it (Be sure wires will feed through the wire opening in the base of the thermostat).
 4. Mark the placement of the mounting holes.
 5. Set thermostat base and cover away from working area.
 6. Using a 3/16" drill bit, drill holes in the places you have marked for mounting.
 7. Use a hammer to tap supplied anchors in mounting holes.
 8. Align thermostat base with mounting holes and feed the control wires through slit in thermal intrusion barrier and into wire opening.
 9. Use supplied screws to mount thermostat base to wall.
 10. Insert stripped, labeled wires in matching wire terminals.
- CAUTION!** Be sure exposed portion of wires does not touch other wires.
11. Gently tug wire to be sure of proper connection. Double check that each wire is connected to the proper terminal.
 12. Insert 2 "AAA" batteries into battery holder. Orient them in the proper direction.
 13. Turn on power to the system at the main service panel.
 14. Configure thermostat to match the type of system you have.
 15. Replace cover on thermostat by snapping it in place.
 16. Test thermostat operation as described in "Testing the Thermostat".

Wiring Diagrams

Heating Only

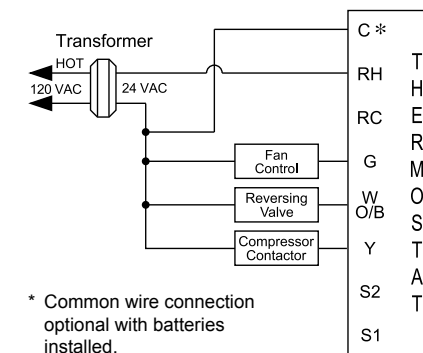


Heating/Cooling



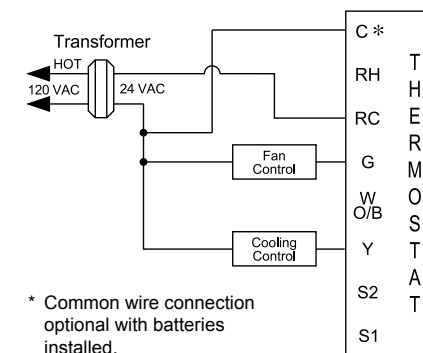
Heat Pump

Hardwired – Cool or Heat Active Reversing Valve



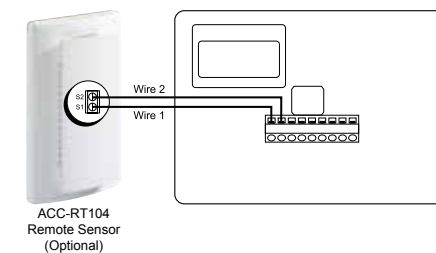
Cooling Only

Hardwired – 4-Wire, Single Transformer



Remote or Outdoor Sensor Installation (Optional)

1. Remove cover from remote sensor housing.
2. Select an appropriate location for mounting the remote sensor.
3. Mount remote sensor unit using hardware provided.
4. Install two strand shielded wire between remote sensor and thermostat. Shielded wire must be used. **Do not** run remote sensor wire in conduit with other wires.
 - **Wire 1** should run between the S1 terminal on the thermostat and the S1 terminal on the remote sensor
 - **Wire 2** should run between the S2 terminal on the thermostat and the S2 terminal on the remote sensor
 - Connect the shielding of the wire to the S2 terminal on the thermostat
5. Configure the thermostat to operate with the remote sensor (see Configuration Mode setting 10).



✱ **Note:** Remote or outdoor sensor reading can be displayed by simultaneously pressing the **Down** and **SYS** buttons.

Installing and Changing Batteries

If your LCD is blank, or displaying **LO BAT**, the batteries are not installed or need to be changed. We suggest you change the batteries at least once a year, or whenever the **LO BAT** warning displays.

Remove the cover, and install the two "AAA" alkaline batteries into the battery compartment. Proper battery installation is important! Make sure the positive ends of the batteries match the positive terminals in the battery compartment.

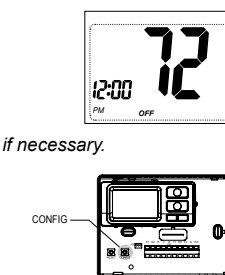
Batteries will provide power to maintain the clock during a power loss.

Configuration Mode

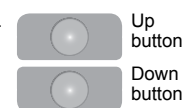
The configuration mode is used to set the SC5010 to match your heating/cooling system. The SC5010 functions with heat pump, air conditioning, gas, oil or electric heat systems.

To configure the SC5010, perform the following steps:

1. Verify the SC5010 is in the OFF mode.
Press the **SYS** (left) button until off mode displays.
2. Remove the cover of the thermostat by gently pulling near one of the corners at the top of the thermostat.
✱ **Note:** Do not force open. Use a small coin or slotted screwdriver to release tabs if necessary.
3. Press the **CONFIG** button for 1 second while the SC5010 is in OFF mode.

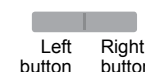


Press the **up** or **down** button to change settings within each screen.



Press the **right** button to advance to the next screen.

✱ **Note:** Pressing the **left** button will return you to the previous screen.



To exit configuration mode, press the **CONFIG** switch for 1 second.

Configuration Mode Settings

The setup screens for Configuration Mode are as follows:

1. **Temperature Scale (F or C)** – Choose Fahrenheit or Celsius.
Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.
2. **Temperature Differential (1°F to 5°F) (0.5°C to 2.5°C)** – Set the number of degrees between your "setpoint" temperature and your "turn on" temperature.
Press the **up** or **down** button to set differential value.
Press the **right** button to advance to the next screen.
3. **Deadband (1°F - 9°F) (1°C - 5°C)** – Set the minimum number of degrees between your heat set temperature and your cool set temperature in Auto changeover mode.
Press the **up** or **down** button to set deadband value.
Press the **right** button to advance to the next screen.
4. **System** – Set for heat pump, non-heat pump, reversing valve operation and number of compressor in your system

Choose	System	Reversing Valve Active	Number of Compressors	Type of Heat
Heat Pump	HP	O	1	
	HP	b	1	
Non-Heat Pump	Heat			Gas
	Heat			Electric

Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.

5. **Lockout (0-8°, NITE, COOL-HEAT)** – Select the number of degrees set temperature can be changed during keypad lockout or select to lockout during NITE period only. COOL-HEAT lockout allows adjustment of the set temperatures to the maximum heat set temperature selected in Step 6 and minimum cool set temperature selected in Step 7.
✱ **Note:** The mode cannot be changed when the thermostat is locked.
Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.

6. **Maximum Heat Setpoint (45°F to 90°F) (7°C to 32°C)**
Adjust to control the maximum heat set temperature allowed.
Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.

7. **Minimum Cool Setpoint (45°F to 90°F) (7°C to 32°C)**
Adjust to control the minimum cool set temperature allowed.
Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.

8. **Room Temperature Offset (+9°F to -9°F) (+4.5°C to -4.5°C)**
Adjust to calibrate displayed room temperature to match actual room temperature.
✱ **Note:** When not set to 0, it will display
Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.

9. **Maximum Cycles Allowed Per Hour (-, 2-6)**
-- = as many as needed, 2-6 = maximum cycles/hour
Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.

10. **Temperature Sensor (1-4)**
 1. Only on-board sensor determines room temperature.
 2. Only remote sensor determines room temperature.
 3. Average temperature of on-board and remote sensor.
 4. Only on-board sensor will be used until NITE period, and then only remote sensor is used.
 Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.

11. **Cooling Fan Delay Off Time (0, 30, 60, 90 seconds)**
Select the fan purge time for cooling.
Press the **up** or **down** button to select.
Press the **right** button to advance to the next screen.

