



# SC3010 N/L

1 Heat/1 Cool  
Manual 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 (SC3010L)
- Selectable Fahrenheit or Celsius
- Compatible with Gas, Oil, or Electric
- SimpleSet™ Field Programming
- Relay Outputs (minimum voltage drop in thermostat)
- Ideally Suited for:
  - Residential (New Construction/Replacement)
  - Light Commercial

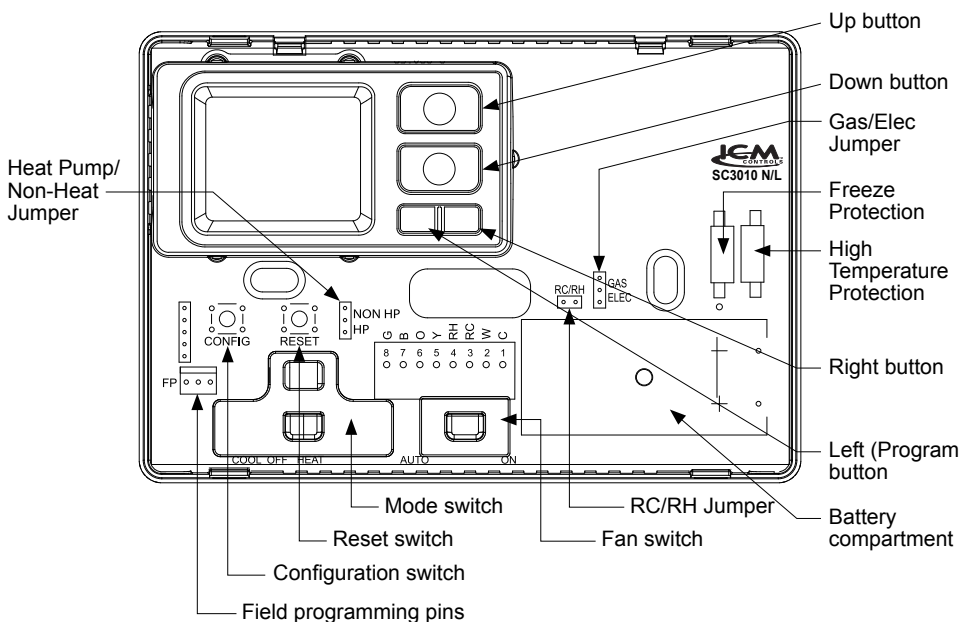


## Installation, Operation & Application Guide

For more information on our complete range of American-made products – plus wiring diagrams, troubleshooting tips and more, visit us at [www.icmcontrols.com](http://www.icmcontrols.com)



## Parts Diagram



## 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 (**Note:** with SC3010L only)
- Terminations:** G, B, O, Y, RH, RC, W, 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:** SC3010 N/L 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. Place gas/elec jumper in correct position.
    - gas = gas/oil systems
    - elec = electric heat or heat pump systems
  13. Remove RC/RH jumper for 2-transformer systems.
  14. Non-heat pump jumper must be in Non-HP unless the system is a heat pump.
  15. Insert 2 "AAA" batteries into battery holder. Orient them in the proper direction.
  16. Turn on power to the system at the main service panel.
  17. Configure thermostat to match the type of system you have.
  18. Replace cover on thermostat by snapping it in place.
  19. Test thermostat operation as described in "Testing the Thermostat".

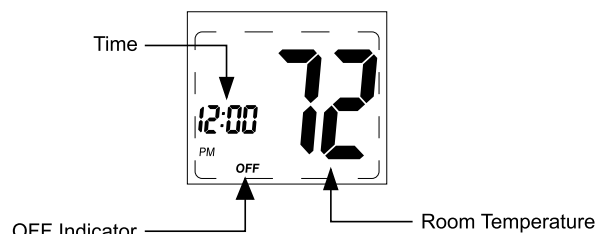
## Installing and Changing Batteries

**For Battery Thermostat Operation**  
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.

**For Hardwired Thermostat Operation**  
Batteries are not required when a common wire is connected to the C terminal of the SC3010 N/L thermostat.

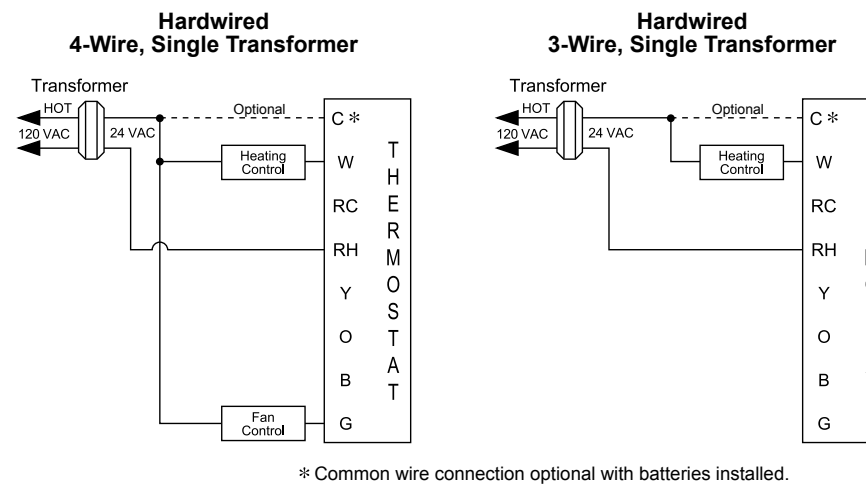
## Starting the Thermostat

- CAUTION!** Do not use air conditioning when the outdoor temperature is below 50 degrees. This can damage your air conditioning system and cause personal injuries.
1. Move the **Fan Auto/On** switch to the **Auto** position.
  2. Move the **Cool/Off/Heat** switch to **Cool** or **Heat**, depending on the season.

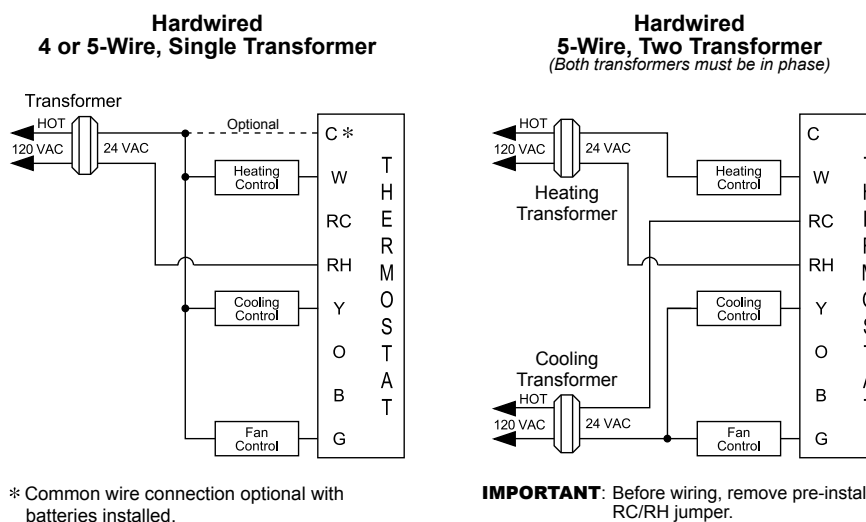


## Wiring Diagrams

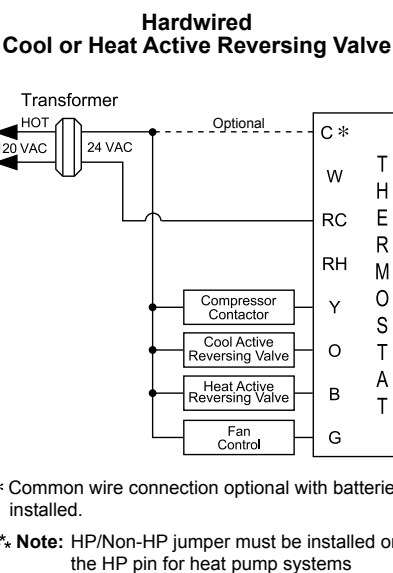
### Heating Only



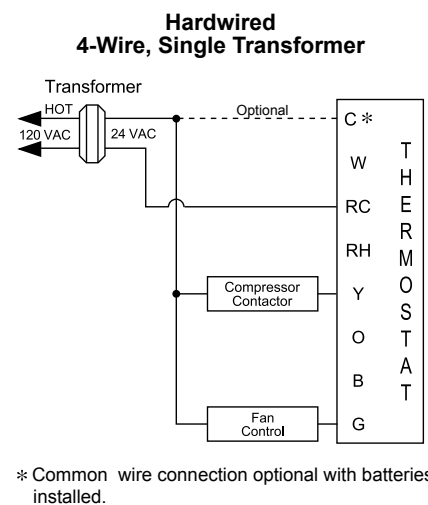
### Heating/Cooling



### Heat Pump



### Cooling Only

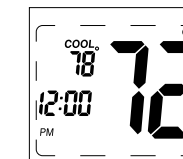


## Testing the Thermostat

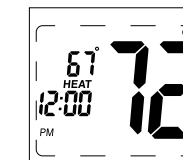
Once the thermostat is installed, it should be thoroughly tested.

**CAUTION!** Do not energize the air conditioning system when the outdoor temperature is below 50 degrees. It can result in equipment damage or personal injury.

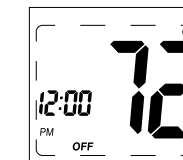
- Cool Test**
1. Slide system switch to Cool position. Cool mode screen is displayed.
  2. Adjust set temperature so it is at least 5 degrees below room temperature.
  3. Air conditioning should come on within a few seconds.
  4. Adjust the set temperature 2 degrees above the room temperature and the A/C should turn off. There may be a fan delay on your system.
- ❖ **Note:** There is a four minute delay to protect your compressor.



- Heat Test**
1. Slide system switch to Heat position. Heat mode screen is displayed.
  2. Adjust the set temperature so it is at least 5 degrees above the room temperature.
  3. Heat should come on within a few seconds.
  4. Adjust the set temperature so it is 2 degrees below the room temperature and the heat should turn off. There may be a fan delay on your system.
- ❖ **Note:** For heat pumps, there is a four minute delay to protect your compressor.



- Fan Test**
1. Slide Fan switch to **On** position.
  2. Indoor fan turns **ON**.
  3. Slide Fan switch to **Auto** position.
  4. Indoor fan turns **OFF**.



## Mode of Operation

The **SC3010 N/L** is a programmable, manual changeover, single stage heat, single stage cool thermostat. It functions with air conditioning, heat pumps, gas, oil or electric heat systems.

The thermostat activates the heating appliance when the room temperature is below the set heat temperature (by the differential temperature). The **SC3010 N/L** will stop outputting when the call for heat has been satisfied. With heat pumps, the thermostat will not let the compressor come on for 4 minutes after it turns off. This protects your compressor.

When the room temperature is greater than the set cool temperature (by the differential temperature), the cooling device is activated. The **SC3010 N/L** will stop outputting when the call for cooling is satisfied. The thermostat will not let the compressor come on for 4 minutes after it turns off. This protects your compressor.

The **SC3010 N/L** has four possible operating modes: **OFF**, **Heat**, **Cool**, and **Program** mode. In off mode, the thermostat will not turn on heating or cooling devices. The manual fan can be turned on in all operating modes using the fan button. In heat mode, the thermostat controls the heating system. In the cool mode, the thermostat controls the cooling system. In program mode, the thermostat will automatically be controlled by the set program. Program mode can function with heat mode and cool mode.

The program schedule can be overridden by changing the set temperature (**UP** or **down** button). This puts the **SC3010 N/L** thermostat into a 2-hour temporary hold. After 2 hours, it will automatically return to the program schedule.

The **SC3010 N/L** also has a button lockout feature. This enables the thermostat to be set to the proper temperature and be locked so it cannot be tampered with.

## Operating Modes

- OFF Mode**
- In this mode, the thermostat will not turn on the heating or cooling devices (manual fan can operate)
  - **OFF** mode is also used to access setup and the program schedule
- Cool Mode**
- In this mode, the thermostat controls the cooling system
  - Press the **PROG** button to enter and exit **Program Cool** mode
  - In **Program Cool** mode, the thermostat will follow the program schedule that is stored in memory
  - **PROG** displays when in Program mode
- Heat Mode**
- In this mode, the thermostat controls the heating system
  - Press the **PROG** button to enter and exit the **Program Heat** mode
  - In **Program Heat** mode, the thermostat will follow the program schedule that is stored in memory
  - **PROG** displays when in Program mode

**Hold Function**

- For a temporary hold period, raise or lower set temperature to desired set temperature. The thermostat will automatically return to programmed set temperature after 2 hours.

