Battell Hall HVAC System Operation

Thermostat components.

Room temperature

Occupancy Light

Set point Adjustment

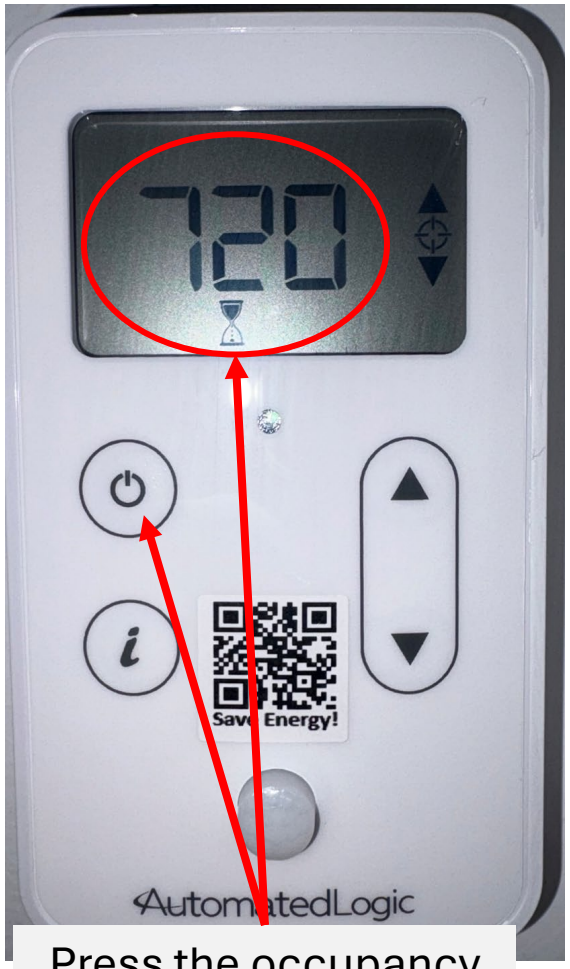
Occupancy Button

Information button scrolls through outdoor air temperature and room temperature set points.
(Notice the cloud/sun icon)

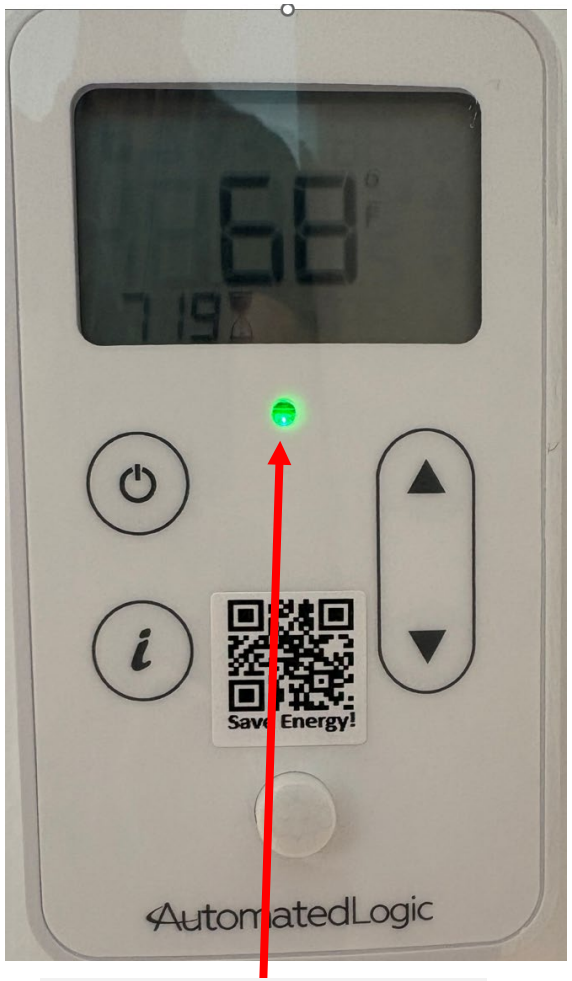
For lounges, classrooms, study rooms, CO2 levels are also on the display.

Motion sensor for turning on outdoor air ventilation

For living spaces, follow these steps to enable temperature control.



Press the occupancy button once to show the minutes the room will be occupied for temperature control.

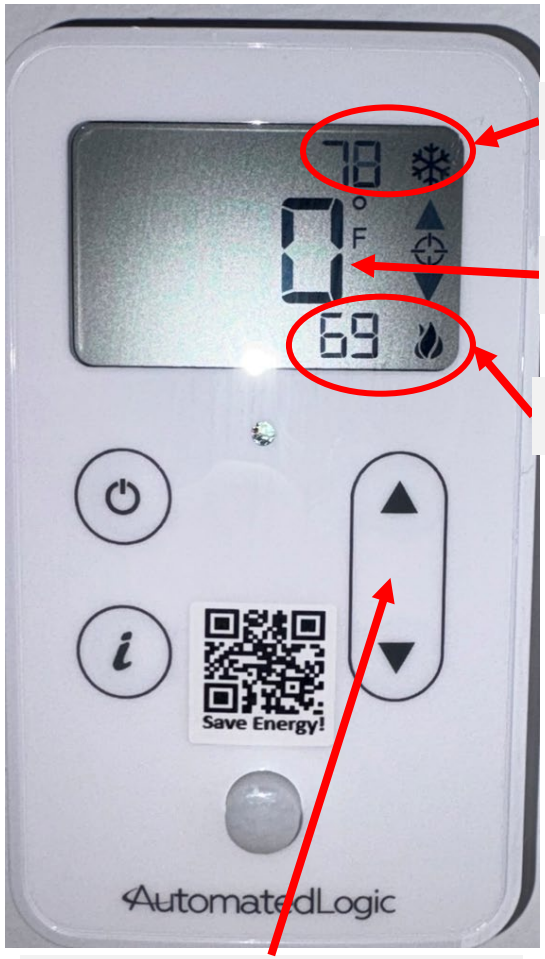


The occupancy LED will then be lit.

The time will continue to show as it counts down.

Pressing the button twice will cycle the timer to zero. Pressing once at any time, will reset to 720 minutes (12-hours).

For living spaces, follow these steps to adjust the temperature set point.



Cooling set point

Current offset

Heating set point

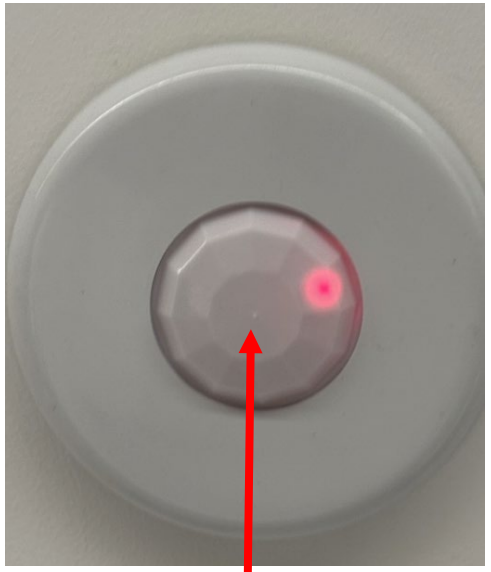
Pressing the up or down arrows will bring up the current set points.

For occupied times, cooling set point will be adjustable from a low of 75 to 81 degrees and heating set point will be adjustable from a low of 66 to 72 degrees .

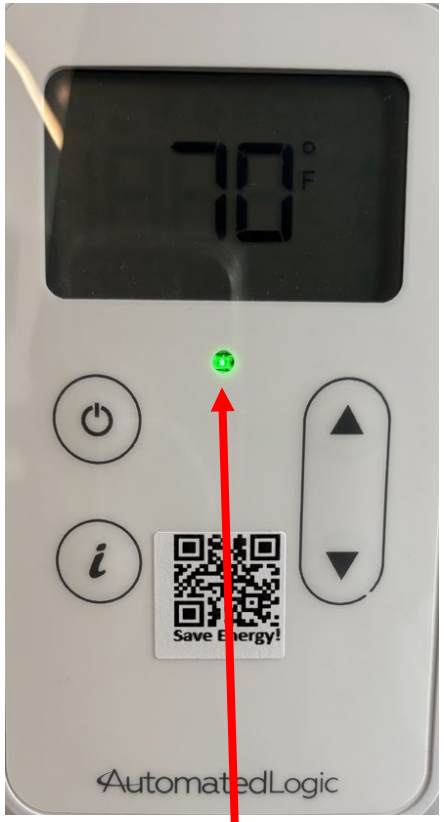
You can adjust the offset up or down by 3 degrees.

For unoccupied times, cooling set point will be 88 degrees and heating set point will be 58 degrees.

For lounges, study rooms, classrooms, entering the room enables heating/cooling.



A ceiling mounted motion sensor will enable heating/cooling.



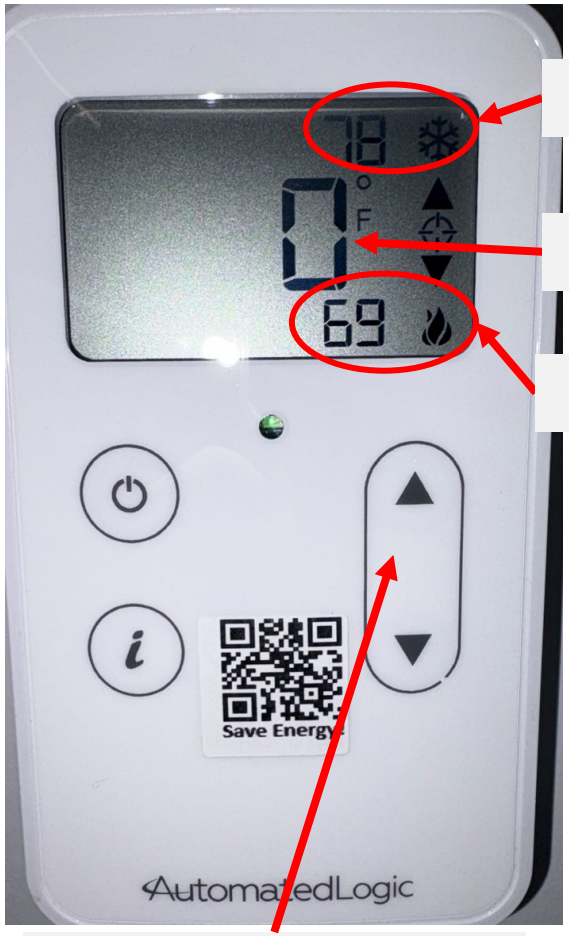
The occupancy LED will then be lit.

If for whatever reason the green LED does not light within several minutes, you can push the occupancy button.

Once pushed, you can adjust the occupancy time in 30-minute increments to a maximum of 90-minutes.

The time remaining will be visible.

For lounges, study rooms, classrooms, follow these steps to adjust the temperature set point.



Cooling set point

Current offset

Heating set point

Pressing the up or down arrows will bring up the current set points.

For occupied times, cooling set point will be adjustable from a low of 75 to 81 degrees and heating set point will be adjustable from a low of 66 to 72 degrees .

You can adjust the offset up or down by 3 degrees.

For unoccupied times, cooling set point will be 88 degrees and heating set point will be 58 degrees.

An in-depth explanation of how the system operates.

Building Equipment-

The building utilizes an air-sourced heat pump system for both heating and cooling. A steam converter is also available for heating when outside air conditions are cold enough for the air-sourced heat pump system to be less efficient than using steam. Three ERV's (Energy Recovery Ventilator) bring 100% fresh air into the building while exhausting stale air. The air systems use MERV-13 filtration. Motion sensors are used as a means of energy savings to determine occupancy in spaces and user interaction is required to get cooling/heating to sleeping spaces.

ERV Zones and control-

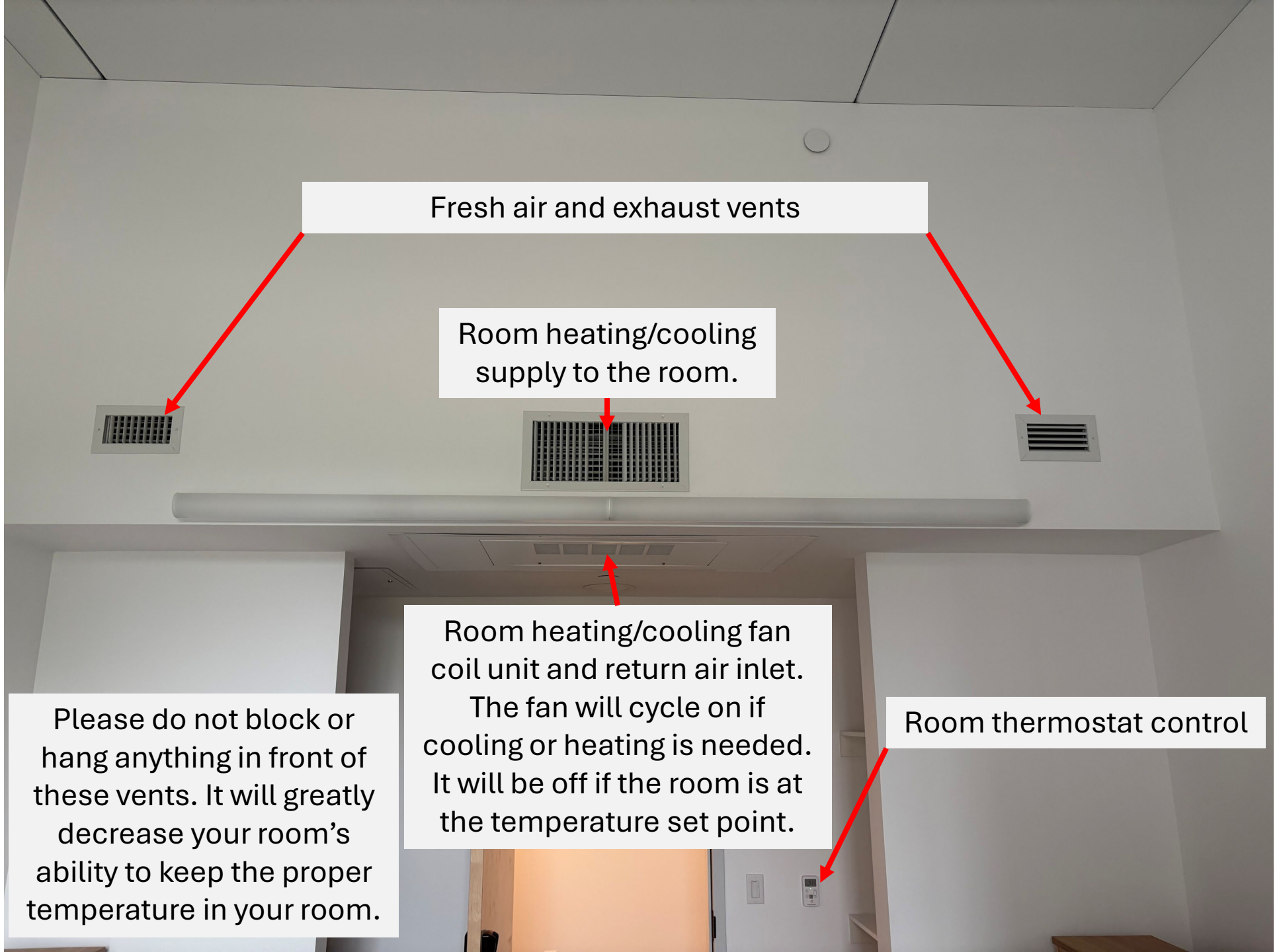
The ERVs are turned on by **ANY** one motion sensor that it is associated with. There are also control boxes at every level of the building that controls the airflow to each space from each ERV. Motions sensors will control these VAVs (variable air volume) boxes as well. Any movement within the building will have the airflow to the building running.

Common space temperature control-

Upon entering a common space, the motion sensor will detect motion and put the space into an occupancy mode. The green LED will then be lit on the room thermostat. The space will remain in an occupied mode for 30 minutes after the last motion is sensed, then revert to an unoccupied mode. Once in occupancy mode, the system will adjust the room temperature set points from unoccupied set points (65 degrees for heating and 85 degrees for cooling), to occupied set points (69 degrees for heating and 78 degrees for cooling). Users can adjust their thermostat 3 degrees above or below the default occupied set points.

Dorm room temperature control-

Upon entering a room, the occupant will need to push the occupancy button on the thermostat if greater temperature control is desired. The green LED will then be lit on the room thermostat. The space will remain in an occupied mode for 12 hours, then revert to an unoccupied mode. Once in occupancy mode, the system will adjust the room temperature set points from unoccupied set points (58 degrees for heating and 88 degrees for cooling), to the occupied set points to where they were last left by the occupant. Users can adjust their thermostat 3 degrees above or below the default occupied set points (69 for heating, 78 for cooling).


Fresh air and exhaust vents
Room heating/cooling supply to the room.
Room heating/cooling fan coil unit and return air inlet. The fan will cycle on if cooling or heating is needed. It will be off if the room is at the temperature set point.
Please do not block or hang anything in front of these vents. It will greatly decrease your room's ability to keep the proper temperature in your room.
Room thermostat control