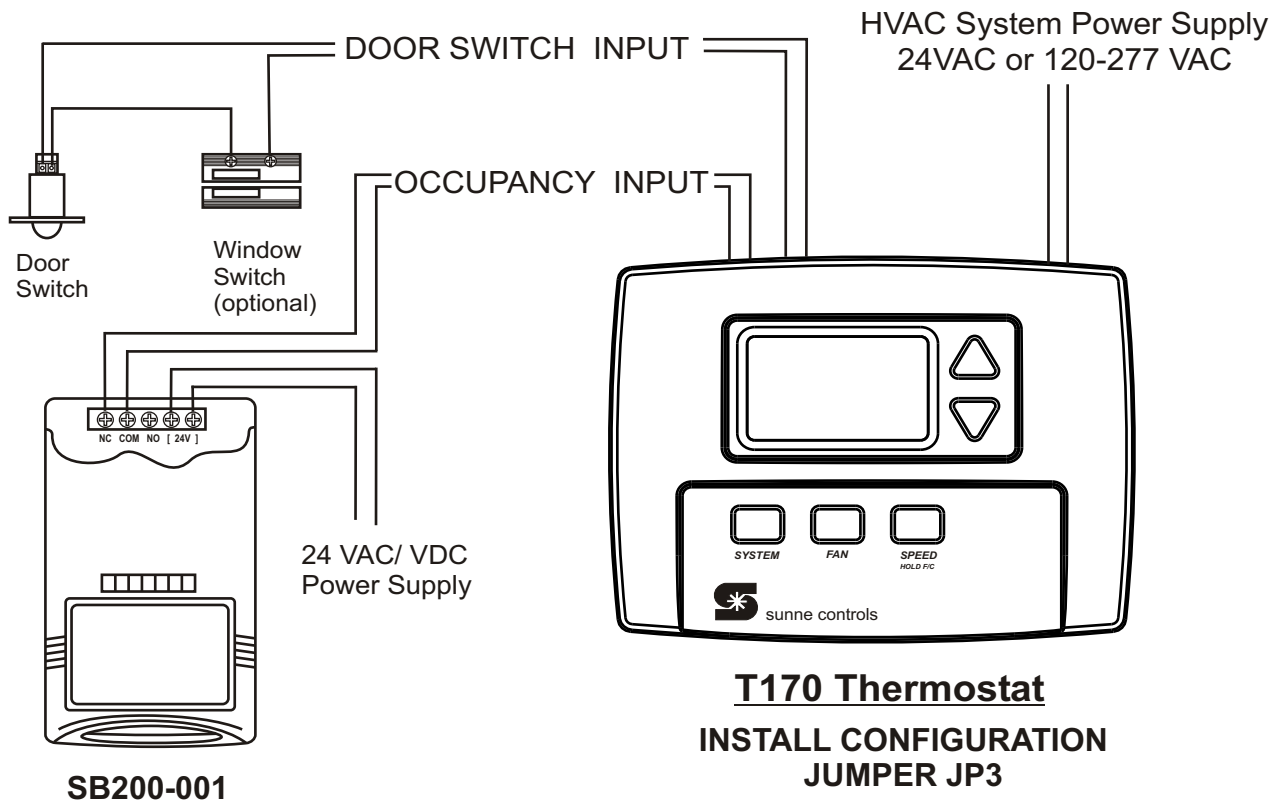




HEM System / T170 Thermostat Application Guide

The HEM sensor system captures energy savings by setting back HVAC operation. Internal High and Low temperature setback limits can be set to assure adequate recovery times, assuring occupant comfort. Applications include hotel guest rooms, meeting rooms, vacation rentals, military lodging and dormitories.



T170 Occupancy Operation

The Occupancy sensor is a low-level switch that is open when there is occupancy and closed when unoccupied. The Door Switch is a low-level switch that is open when the door is open and closed when the door is closed.

In an Occupied State the thermostat operates normally and looks for a door open. On a door open signal the thermostat waits for a door close. If door is open for more than 2 minutes the thermostat turns the HVAC system outputs to OFF. During this two minute period, if a button is pressed on the keypad, the time delay is extended to 10 minutes. The time delay can only be extended once. Once the HVAC outputs are transitioned to off, a door closure is required to re-enable the outputs.

On a Door Close the thermostat starts a two minute timer in which to look for occupancy. If the occupancy sensor transitions to unoccupied and the timer expires, the thermostat enters into the Unoccupied State. If the occupancy sensor transitions from unoccupied to occupied while the timer is running the thermostat will remain in Occupied State.

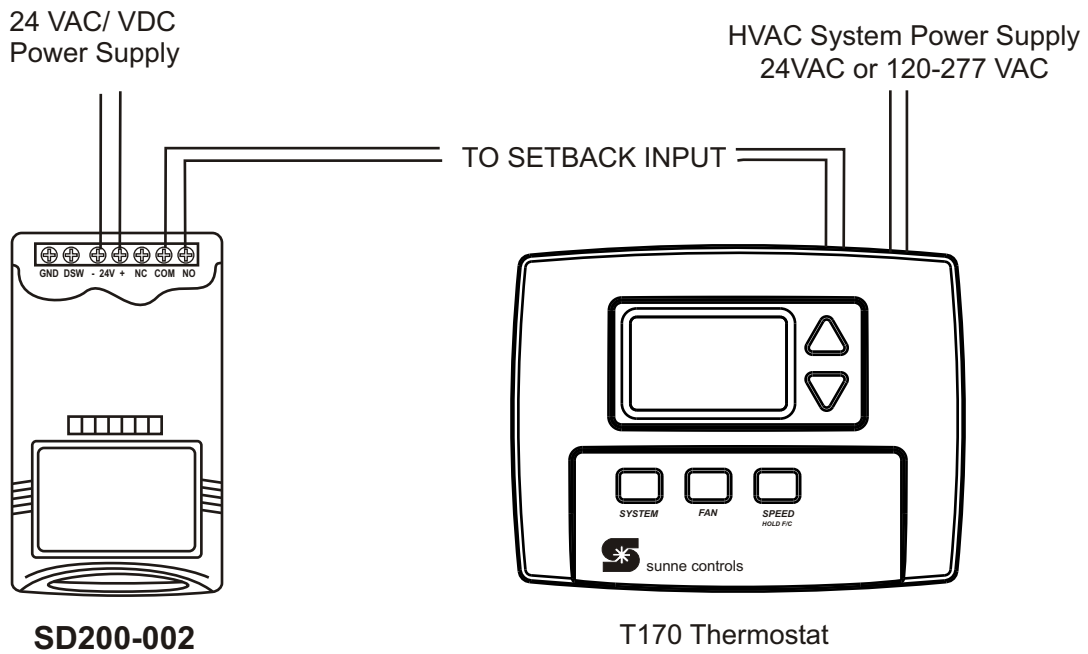
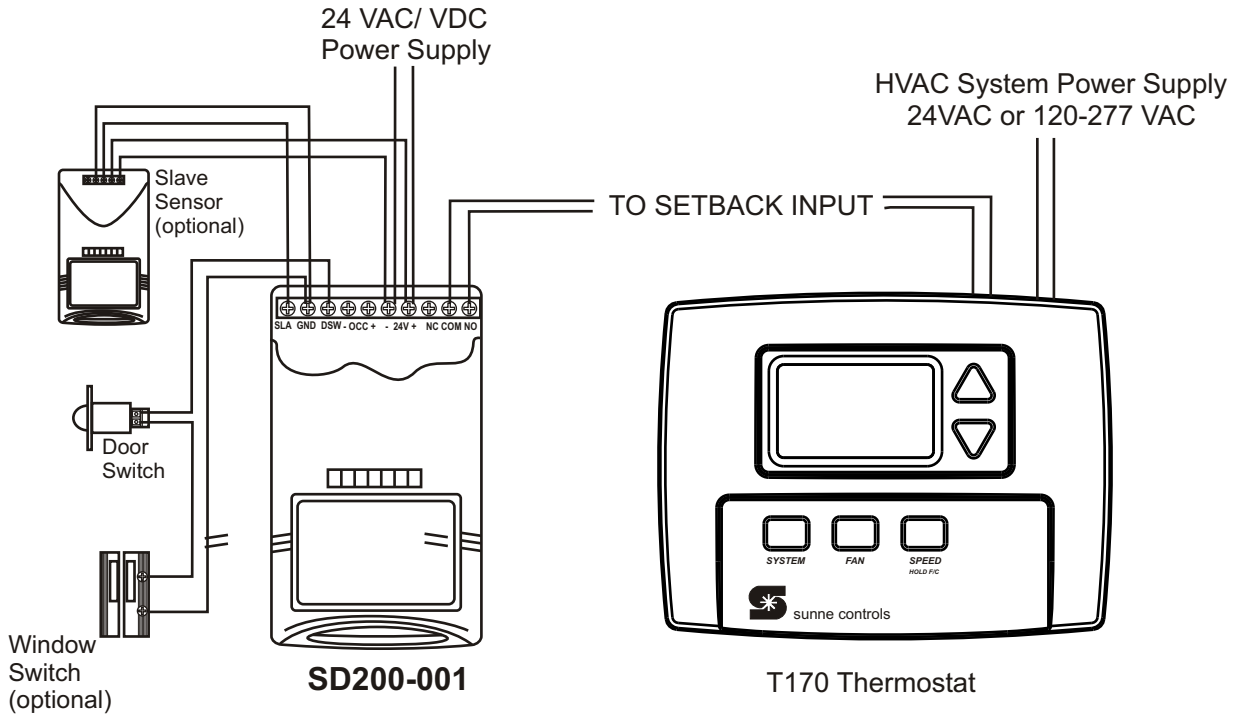
In the Unoccupied State the thermostat sets heating and cooling setpoints to setback values, as determined by factory or user settings. In this mode the fan is automatically set to cycle with demand. Thermostat continues to monitor the occupancy sensor and will go to the Occupied State if it sees occupancy.

If the installation is only using a Door/ Window Switch the thermostat will disable the HVAC outputs if this output is open for longer than 2 minutes.

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HEM-1 AND HEM-2 SYSTEM APPLICATION

INSTALL CONFIGURATION JUMPER JP3



HEM System Operation

The HEM 1 system uses the SD200-001 and a DS-100 Door Switch to determine occupancy. A door open signal will initiate occupancy status detection. If the room sensor determines that a room is occupied it will allow normal HVAC control. It waits for another door open signal before determining occupancy again. If the system is set to unoccupied, the sensor continually monitors the room. Any occupancy detection will set the operation to occupied. The window switch and slave sensor are optional.

The SD200-002 is a stand alone sensor. An OFF delay is started with each occupancy detection. This delay can be set for up to 30 minutes. This system provides basic room setback and is ideal for control of HVAC in commercial spaces. Programmable high-low setback limits can be set to assure adequate HVAC recovery.

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