

Thermostat



Equipment Description

A thermostat is simply a temperature sensitive switch. It shows the current ambient temperature at the location of the thermostat, and also shows the user-chosen temperature setting. The thermostat is electrically connected to the heating and cooling systems and automatically turns those systems on and off to achieve the desired temperature. Thermostats that control gas and oil heating systems run on low voltage and are often located in a central hallway or central area on the floor where the temperature is being controlled. Thermostats that control electric heat are generally located in each room, on the opposite wall from where the electric heating element is located. These are referred to as line voltage thermostats, and are connected to 120 or 240 volts.

Loss Scenario

Thermostats are simple devices and rarely fail. When there appears to be a problem with the thermostat, it usually turns out to be a problem with the heating or cooling system it is controlling. However, a thermostat cover that's improperly installed or inadvertently bumped can cause the heater or air conditioner to fail to start. Dirt can also affect a thermostat's calibration and interfere with its operation, resulting in excessive heating or cooling of your home and wasted energy and money.

Size and Carbon Footprint

A thermostat does not consume much energy. It does control the most significant energy-consuming equipment in your home. The temperature settings for your thermostat drive the energy use of heating and cooling systems. Electronic programmable thermostats enable varying temperatures to be set for different times of day and for specific days of the week. This optimizes energy use and improves energy savings. For every degree reduced in heating temperature, or increased in cooling temperature, over an eight-hour duration, heating and cooling energy use and cost is reduced by approximately one percent.

Maintenance Tips

- Every couple of years, give the thermostat's interior a light dusting with a small, soft paintbrush to eliminate erratic operation. Be sure to clean the contacts, which are small metal plates within the unit. Energized wires coming from the transformer are attached to these contacts. Do not touch any of the interior parts with fingers.
- For a wireless thermostat system, make sure the correct size and type of batteries (usually AA lithium) are used. If the system is running at inconsistent times, then the system may inadvertently be running on alkaline batteries. Regular batteries will run out of power quickly in a wireless system, especially if the backlight is on or used frequently to check the readings.

Loss Prevention Tips

- Programmable thermostats typically have two types of hold features: "temporary" and "hold/permanent/vacation." Avoid using the hold/permanent/vacation feature to manage day-to-day temperature settings. "Hold" or "vacation" features are designed to be used when away for an extended period of time.
- A thermostat can have switches on its base and wires near its bimetallic element (temperature sensor) that loosen and become corroded. Tighten loose connections with a screwdriver, and use a cotton swab to clean away corrosion.