



Residential Programs Thermostat Specifications

Applicability- This document outlines the equipment and installation requirements for thermostats. Installation must follow manufacturer's specifications and meet local building, electrical and mechanical codes. The Tacoma Power Thermostat Specifications are required in addition to the manufacturer specifications and code requirements.

SMART THERMOSTAT

1. EQUIPMENT SELECTION

- a. Smart Thermostat must be new.
- b. Smart Thermostat must meet BPA's standards and be listed on BPA's Qualified Products (QPL) list.
- c. Smart Thermostat must, at a minimum, include the following features:
 - 7-day programmable or learning-based scheduling
 - Wi-Fi enabled, with remote access
 - Occupancy detection (e.g., motion sensor, geo-locating) which results in automatic HVAC reduction when home is unoccupied
 - Heat pump auxiliary heat control and optimization
- d. Must be compatible with heating system.

2. INSTALLATION

- a. Must be installed per manufacturer instructions
- b. Occupancy detection must be set to "On".
- c. Installations with a central heat pump:
 - Compressor controls: If a "low-ambient temperature compressor cutout option" is installed, it must be configured NOT to cut out the compressor at temperatures above 5 degrees F.
 - Auxiliary heat: Must be configured so it does NOT engage when the outdoor air temperature is above 35° F, except when supplemental heating is required during a defrost cycle or when emergency heating is required during a refrigeration cycle failure.
 - Outdoor compressor temperature: Recommended temperature for outdoor compressor lockout is 5° F.

- Recommended minimum temperature difference: To operate at optimal efficiency and avoid short cycling, the **recommended minimum** difference in temperature before heat is engaged should be as follow:

$$\left((Current\ temperature) - (set\ temperature) \right) \geq 2^{\circ}$$

3. CUSTOMER EDUCATION

- a. Refer to manufacturer operation manual during operation walk-through/training
- b. Demonstrate how to set and operate the thermostat
- c. Provide homeowner the manufacturer's operation manual or online website

LINE VOLTAGE THERMOSTAT (LVT):

1. EQUIPMENT SELECTION

- a. Thermostat must be new
- b. Be programmable
- c. Have a digital display
- d. Be electronically line-voltage type
- e. Have a thermistor temperature sensing element that is accurate to within 1.5 degrees or better
- f. Be UL- or CSA-listed for use with their application (i.e. fan-forced, baseboard, wall or ceiling radiant)

2. INSTALLATION

Must be installed per manufacturer instructions

3. CUSTOMER EDUCATION

- a. Refer to manufacturer operation manual during walk-through/training
- b. Demonstrate how to set and operate the thermostat
- c. Provide homeowner the manufacturer operation manual or online website