

Programmable Thermostats

Programmable thermostats, when used correctly, have the potential to save up to \$180 a year on your heating and cooling costs, according to ENERGYSTAR.gov. If you're considering purchasing a programmable thermostat, it's important to install and program it correctly if you wish to save the most energy and money.

Installation

First, your thermostat should be situated on an interior wall, about five feet above the floor and away from heating and cooling vents and other drafty places, such as doors and windows. Also keep it away from skylights, direct sunlight, or lamps. If your thermostat is not properly situated, consider having an electrician or heating and cooling technician move the location.



Next, shut off the electricity before you begin the replacement. Programmable thermostats require a low-voltage wiring installation and will have two to 10 wires, according to ENERGYSTAR.gov.

“As with any home-wiring project, safety should be the number one priority,” says Bryce Cramer, District Office and Member Services Manager. “Be sure to read all instructions carefully and exercise caution throughout the installation.”

And if you are replacing an old thermostat that has a mercury switch, take care not to break the tube that holds the toxic metal.

Refer to the instruction manual on how to wire your new thermostat. Two handy tips before you begin disconnecting wires: Using a piece of tape, label each wire with the letter of the wire's terminal (printed on the thermostat), as these wires are not color coded. And once your old thermostat is removed from the wall, wrap the wires around a pencil to keep them from falling back into the wall.

If the project is more complicated than a basic replacement, contact a certified HVAC technician to make sure the thermostat is installed properly and safely.

To see a start-to-finish thermostat replacement, check out this Home Depot video on YouTube: http://www.youtube.com/watch?v=owV0t_8zNpk.

Choosing the right thermostat

Programmable thermostats are not for everyone. They're best for families who are away during the day and homes with HVAC systems other than heat pumps. When a heat pump works in its heating mode, setting back the thermostat can cause the unit to operate inefficiently, thereby canceling energy savings achieved by lowering the temperature. Maintaining a moderate setting is the most cost-effective practice for homes with heat pumps.

If you decide a programmable thermostat is right for your home, consider which type best suits your lifestyle:

- **7-day** models allow you to set different programs every day and provide the most flexibility.

- **5+2-day** models follow the same schedule during the week and a different one for weekends.
- **5-1-1** models keep the same schedule during the week and different ones for Saturday and Sunday.

Many units come with multiple features, such as telling you when to change your HVAC's air filter, settings for vacations, and voice programming options.

Getting the most savings

Programmable thermostats enhance your home's efficiency only when set properly. To be sure to save, set the temperature back for at least eight hours at a time—for example, when you're at work during the day or asleep at night. You can save 5 percent to 15 percent per year on your heating bills by setting your thermostat back 10 to 15 degrees over that period.

Program the thermostat to begin warming or cooling to your desired temperature shortly before you get home or wake up, so your home is comfortable when you need it to be.

“The most important thing to do is set it, and then leave it alone,” remarks Brian Sloboda, senior program manager for energy efficiency at the Cooperative Research Network, the research arm of the Arlington, Va.-based National Rural Electric Cooperative Association. “You'll see energy savings without doing another thing to it.”

To see how much you can save by installing a programmable thermostat, use ENERGY STAR's savings calculator:
http://www.energystar.gov/ia/business/bulk_purchasing/bpsavings_calc/CalculatorProgrammableThermostat.xls.

Sources: ENERGESTAR.gov (U.S. Environmental Protection Agency), EnergySavers.gov (U.S. Department of Energy), Home Depot, Cooperative Research Network