

Energy-Saving

Easy to install, these programmable gizmos can save money and keep you comfortable

BY SEAN GROOM

It wasn't too long ago that the most common method of cutting home-heating costs involved turning down the thermostat on the way to bed and again on the way out the door.

Today's programmable thermostats can provide the same savings and ensure a comfortable temperature when you rise in the morning and when you come home from work at night. With prices beginning around \$40, basic models can store different settings for weekdays and weekends. High-end models (priced \$90 and up) can store a different program for each day of the week.

Minimize operating time to save money

Whether you adjust the thermostat manually or rely on a programmable thermostat, your savings result from the *setback*, or the reduction in temperature from the typical occupied setting. Studies by the U.S. Department of Energy have found that the energy required to raise the temperature of a house to its normal level approximately equals the energy saved as the temperature falls to the lower setting. The longer the setback, the more energy savings you enjoy.

The degree of savings you'll see is greater in a milder climate

Simple and inexpensive

M T W T F S S
Weekday and weekend modes



Hunter's most basic model has four heating or cooling periods each day. It follows the same schedule for all weekdays, but you can set a different schedule for the weekend. The thermostat's $\pm 1^\circ\text{F}$ of accuracy ensures a consistent temperature for comfortable heating and cooling.

Designed for simple installation, the device is battery-powered for broad system compatibility. A reminder light turns on when you need to replace the air filter.



Hunter Fan Company
Set & Save 44110
\$39; www.hunterfan.com

Smart and versatile

M T W T F S S
Weekday and two weekend modes



White-Rodgers
Comfort-Set 1F80R-850
\$49; www.white-rodgers.com

White-Rodgers's midlevel thermostat allows you to enter separate schedules for Saturday and Sunday, but you must use the same program for each weekday. Compared to the company's basic model, you get a larger display. Energy-Star-rated thermostats such as this one take the guesswork out of recovering from a temperature setback, automatically reaching the target temperature by the start of the heating or cooling period. This model adjusts its call for heat by five minutes for each degree of setback. (For example, the heat will come on at 6:05 if you program a 5°F change for 6:30.)



Thermostats

than in a more severe one. However, the accepted rule of thumb is that for each degree of setback over an eight-hour period, you'll reduce energy consumption by 1%. During the heating season, utility companies recommend that you set the thermostat at 68°F during the morning and evening and reduce the temperature to 55°F during the day and while you're sleeping. Similarly, you can economize on cooling costs by raising the thermostat setting from 78°F to 85°F when you're out or sleeping.

Check for compatibility

A new thermostat needs to be compatible with your home's

HVAC system, so know how many wires the system has. Homeowners with heat pumps and radiant-floor heat need to be especially careful with their selection. A temperature setback in heating mode can cause a heat pump to operate inefficiently and erase potential savings, so you need to choose a thermostat designed to work specifically with heat pumps. Because high-mass radiant floors are slow to lose and gain heat, temperature setbacks have to be timed differently.

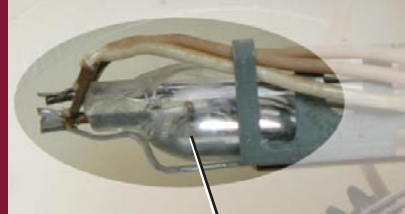
When choosing a thermostat, pay only for the features that you'll need. If you're a creature of habit who rises in the morning and returns home at night at the same

times every day, you'll need less programming flexibility than someone who has a different schedule every day of the week.

Finally, look for an Energy Star rating (www.energystar.gov) on the thermostat. This rating ensures that the thermostat is capable of four daily temperature settings and also is pre-programmed for efficient, energy-saving operation. □

Sean Groom is an associate editor at *Fine Homebuilding*. Mark Eatherton, a heating contractor in Denver, Colo., provided technical information for this article. Photos by Scott Phillips.

Don't toss your old thermostat



Mercury switch

Old mercury-switch thermostats contain enough mercury to poison a 60-acre lake. They should be recycled so that they don't end up in a landfill, where the silvery element could leach into the water table.

Manufacturers have established the Thermostat Recycling Corporation (TRC) for suppliers to collect old thermostats from contractors for recycling. (Visit www.nema.org/gov/ehs/trc for a list of participating wholesalers.) If a TRC participant won't accept thermostats from homeowners, check with your county's hazardous-material recycling program.



Easy, flexible programming



The flexibility of a high-end model like Honeywell's Vision Touch Screen allows you to enter a different schedule for each day of the week. The touch screen relies on an intuitive, menu-driven program similar to an ATM and can be removed from its base for armchair programming. Thanks to a feature called "adaptive intelligent recovery system," the thermostat tracks heating and cooling periods over time to "learn" how long it takes to bring your house to the target temperature at the programmed time, minimizing the system's run time. The "auto changeover" setting of thermostats in this price range switches between heating and cooling modes to keep your house at the desired temperature during moderate seasons. Also, a special fan setting cycles the fan on periodically to take advantage of air-cleaning equipment.



Honeywell

Vision Touch Screen RTH8500D
\$120; www.customer.honeywell.com