ADVISE Guys

Smart Thermostats Can Help You Save

Did you know that 48 percent of the average monthly residential energy bill is heating and cooling costs? Decreasing the runtime of your heating, cooling, and ventilation system (HVAC) is the key to lower energy bills.

The amount of time your HVAC system runs during the month depends on the weather. To lower your energy use, it's important to address insulation and weatherization issues in your home. However, did you know that your thermostat plays a big role? The thermostat is the brain of the HVAC system. The type of thermostat you have, and how you operate it, makes all the difference when it comes to energy savings. Advances in technology have made it easier than ever to customize your heating and cooling schedule, thereby limiting the amount of time your HVAC system operates when you're away from home.

There are four types of thermostats on the market: mechanical, electronic, connected, and smart. Mechanical thermostats operate with bimetal coils and either mercury bulbs or magnets. These are found on older systems and, over time, can become inaccurate. For the last 15 years, the majority of thermostats installed have been electronic. These thermostats are highly accurate and often have a programmable feature that allows the user to build a five- or seven-day schedule. This programmability allows the homeowner to automatically increase or decrease temperature during times when they are normally away. This limits HVAC runtime and saves money. A connected thermostat offers the same features, with the added bonus of being Wi-Fi connected. Wi-Fi connectivity allows the user to adjust the temperature setting remotely. A smart thermostat is electronic, programmable, Wi-Fi connected, and has the ability to "learn" or alter its operation based on the activity of the homeowner.

There are many smart thermostat brands, but Nest and Ecobee are the most recognizable. Both have the goal of saving the customer money on heating and cooling costs, but each brand does it in a different way. The Nest is primarily a "learning" thermostat. For the first two weeks, the homeowner sets the device to whatever comfort level they desire during the day. After this initial period, the thermostat uses that temperature information, and information from motion sensors, to determine when the home is occupied or unoccupied. The thermostat then adjusts the temperature accordingly. The Ecobee on the other hand, allows the user to build a seven-day schedule and uses the provided motion and temperature sensors to detect occu-



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pancy in the home. If someone happens to come home during a part of the day when the thermostat is scheduled to be in "Away" mode, it switches to the "Home" mode temperature setting. Both brands are controllable via a smartphone app or website and both offer the customer information on how their HVAC system is operating. The Ecobee for example, records HVAC system activity including the time the unit starts, the duration of the run, the temperature inside the home, and the outdoor temperature. Information like this allows a homeowner to really "dial in" their HVAC settings for maximum comfort and maximum energy savings.

South River EMC offers a \$20 one-time rebate for the purchase and installation of a smart thermostat, and I'll be happy to help you take advantage of that offer.



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