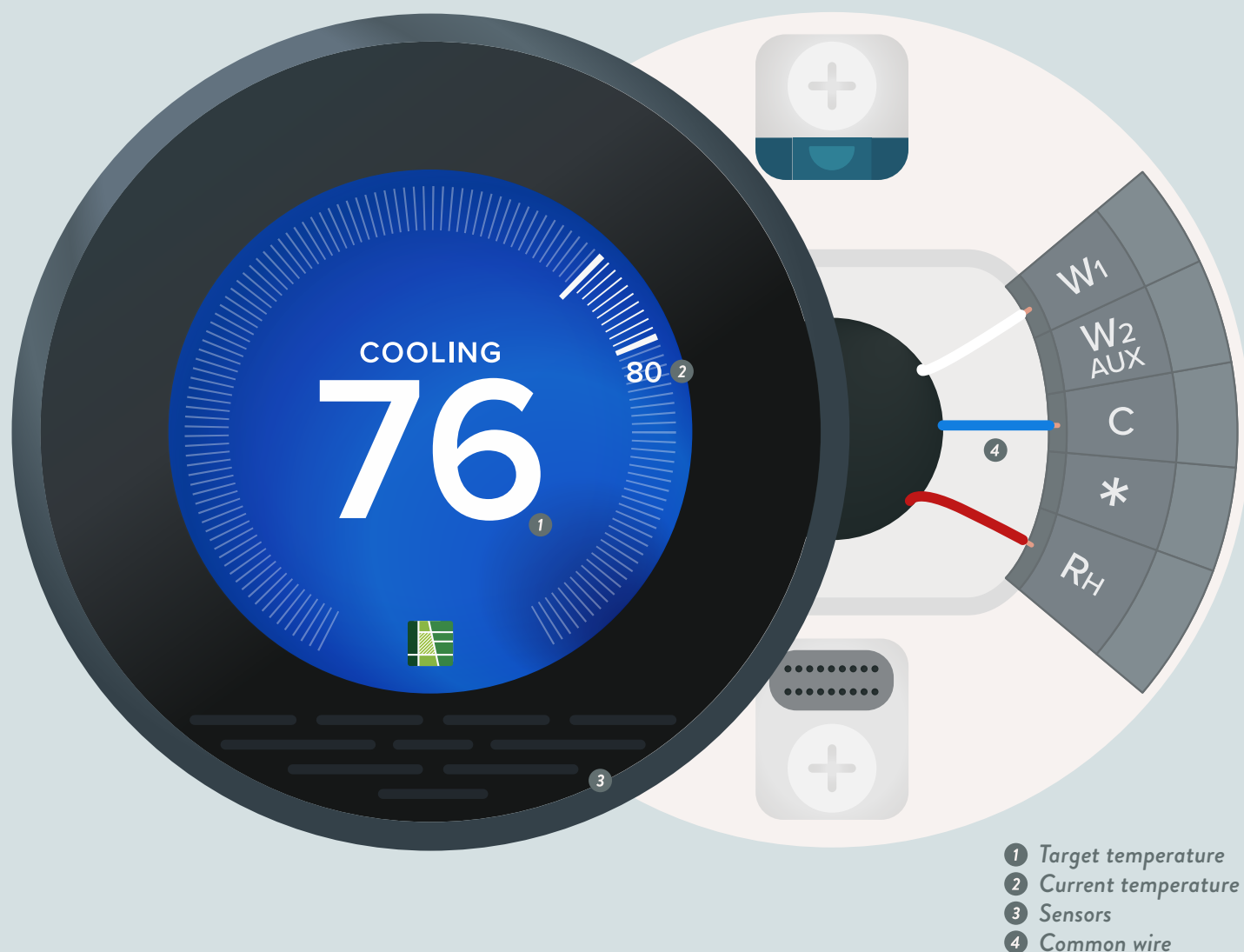


# KNOW YOUR SMART THERMOSTATS



## 01 WHAT ARE SMART THERMOSTATS?

Smart thermostats are **networked devices** that **automatically monitor and control** a household's **heating, ventilation, and air conditioning** to optimize energy performance and improve occupant comfort.

Like manual and programmable thermostats, smart models enable users to set the temperature throughout the day. However, they may offer additional features like **remote sensing** and **energy tracking**. ENERGY STAR-certified smart thermostats deliver additional energy and cost savings.

## 02 HOW DO THEY WORK?

Smart thermostats are installed like standard models and may require **manual adjustments** for the first couple weeks. Unlike programmable thermostats, which run on a preset schedule, some smart models learn to **automatically adjust heating and cooling** based on user temperature preferences and behavior; others have **remote sensors** that can adjust the temperature based on indoor occupancy levels. Users can use a **companion mobile app** to program the temperature settings, which are transmitted to the thermostat then to a home's HVAC (heating, ventilation, and air conditioning) system.

## 03 COMMON FEATURES



### **Network connectivity & remote control**

Smart thermostats connect to a home's network, allowing the user to remotely control the HVAC system through a mobile app.



### **Geofencing**

Geofencing thermostats adjust the temperature based on a user's location (at/away from home). Using a smartphone's GPS, the mobile app creates a geofence, or electronic boundary, around the home and regulates heating and cooling based on the user's proximity to that virtual border.



### **Smart home device integration**

Smart thermostats can pair with other smart devices (phone, tablet, and computer) and integrate with voice assistants like Google Home and Amazon Alexa to control a home's HVAC system.



### **Optimized temperature pattern recognition**

Smart thermostats are able to recognize household temperature preferences, occupancy patterns, and weather conditions in order to establish a temperature-setting schedule that optimizes energy use.



### **Remote sensors**

Wireless remote sensors detect the temperature or occupancy of specific rooms and relay that data to the main thermostat, allowing it to calibrate the temperature of underserved spaces based on the sensor's location.



### **Energy tracking & reports**

Smart thermostats allow users to track and manage energy usage. ENERGY STAR-certified models provide monthly reports of equipment use and temperature data, and can save energy based on field data gathered from over one thousand homes over the course of a year.

## 04 MAJOR BRANDS

nest

WYZE

Honeywell

ecobee

EMERSON

## 05 WHY SMART THERMOSTATS?

### **Pros**

- + Significant **energy & utility savings**
- + Integration with **home energy management (HEM) systems**
- + Pattern recognition **optimizes temperature settings & scheduling**
- + Improved **indoor comfort**
- + Remote, Wi-Fi enabled **monitoring & control**
- + Provides weekly & monthly **energy reports**
- + Eligible for **rebates**

### **Cons**

- + Potentially **high initial cost & learning curve**
- + **Installation** may be costly
- + Must be **compatible** with HVAC & electrical systems
- + Older homes may not have a **common wire (C-wire)**, requiring a separate **power adapter** to supply energy to the thermostat
- + Reported savings often apply to homes with **low occupancy levels**