

# How to install your Nest thermostat

In most homes, installing a Google Nest thermostat is an easy DIY project that takes about 20-30 min. The Nest app's step-by-step instructions make it easy to install and wire your thermostat, so use it as your main guide. Refer to this article if you need extra help.


To get started using your Nest thermostat, you'll need to complete all the steps below

Before you open the box

Make sure you've checked that your system will work with the Nest thermostat you've purchased.

## Install your thermostat on the wall

The Nest app will guide you through thermostat installation, but here are some more detailed instructions to walk you through everything you need to do to install your Nest thermostat on the wall.

Begin installation with the app	<p>The Nest app's step-by-step instructions make it easy to install and wire your thermostat, so use it as your main guide Refer to this article if you need extra help</p> <ul style="list-style-type: none"><li>It's essential to have the latest version of the app to complete setup. Download it from the Apple App Store or from Google Play. If you don't already have an account, the app will ask you to create one.</li><li>2. Tap Settings  on the app home screen.</li><li>3. Scroll down and select Add product to start the setup instructions.</li><li>4. To tell the app which thermostat you're installing, scan the QR code on the back of the display Or choose "continue without scanning" and select your thermostat model.</li><li>5. The app will show you how to install your thermostat. It will ask you some questions about your thermostat wires. Answer them as accurately as possible. You'll get a custom wiring diagram for your system after you've installed the thermostat base</li></ul>
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<p>1. Switch off power to your system</p> <p>(You may have already completed this step.)</p>	<div data-bbox="451 226 820 424" data-label="Image"> </div> <p>It's important to protect your thermostat and your system. Turn off the power to our system and thermostat before exposing any wiring.</p> <p>Your HVAC system can have multiple breakers so make sure to turn them all off before moving on. Check that the power to your system is off by changing the temperature on your thermostat by at least 5 degrees</p> <ul style="list-style-type: none"> <li>if it's winter, turn up the temperature to turn on heating.</li> <li>if it's summer and you have system cooling, turn down the temperature to activate your central air conditioning.</li> </ul> <p>Wait at least 5 minutes to see if your system turns on (you'll need to wait because many systems have a built-in delay).</p> <p>You can listen for your system to turn on, or put your hand near a vent to feel if there's warm or cool air coming through. For more detailed instructions, see the article linked below.</p> <p><a href="#">How to turn the power off to my heating and cooling system</a></p>
<p>2 Remove your thermostat's cover and take a picture</p> <p>(You may have already completed this step.)</p>	<div data-bbox="438 1150 634 1302" data-label="Image"> </div> <p>Once you're sure the power is off, remove your thermostat's cover.</p> <p>Some thermostat covers pop off, while others need to be unscrewed. If you haven't already, now's a good time to take a picture of your current wiring</p>
<p>3. Get a wiring diagram from the app</p> <p>(You may have already completed this step.)</p>	<div data-bbox="440 1570 699 1722" data-label="Image"> </div> <p>To get a custom wiring diagram for installation, simply follow Nest app's thermostat installation instructions</p>

Important: This illustration is only an example. Each system's wiring is different. You must get your own custom wiring diagram with our Compatibility Checker.

Incompatible wiring

High voltage wires



If your thermostat is labeled 120V or 240V or has thick wires with wire nuts, your system is high voltage and isn't compatible with the Nest thermostat. Do not connect the Nest thermostat to high-voltage wires.

[Learn more about high voltage wires](#)

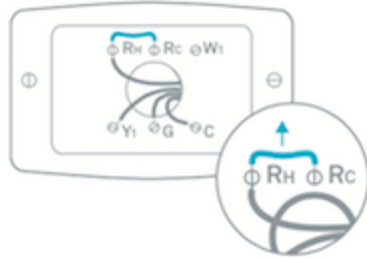
Stranded wires



Nest thermostats are not compatible with stranded wires. Do not connect the Nest Thermostat to stranded wires.

[Learn more about stranded wires](#)

4. Remove jumper wires and save them



Jumper wires are short wires between two connectors. The Nest thermostat doesn't need them.

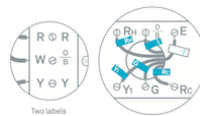
Keep your current thermostat, the photo of your wiring, and any jumper wires your current thermostat uses in a safe place.

That way if you ever decide to move and you want to take your Nest thermostat with you, you'll have everything you need to reinstall your current thermostat.

5. Label the wires

If you see two sets of labels on each connector on your old thermostat's backplate, visit the following article for help:

[My old thermostat has two labels for each connector](#)



Peel off the labels from the quick start card that came with your Nest thermostat and attach them to the matching wires on your thermostat. You can also use the white labels for additional wires if needed.

**Troubleshooting wire labels**

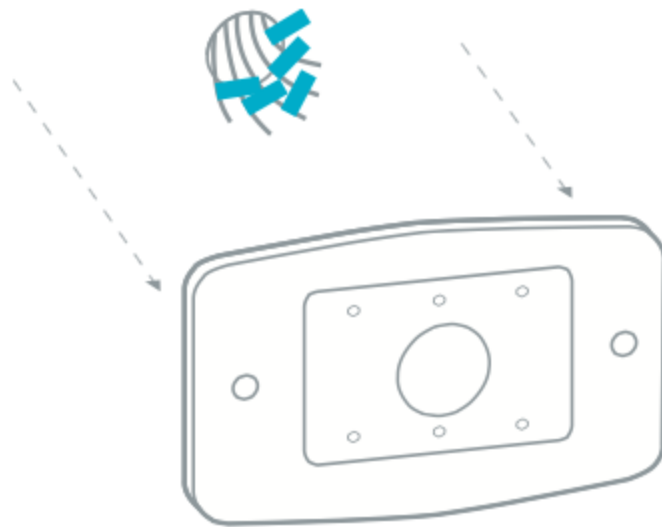
If you have labels like W, Y, or R, use the wiring diagram that you created earlier to choose which labels to attach to these wires

If you have different wire labels not covered here, read this article to learn more about thermostat wire labels:

[Learn more about what thermostat wire labels mean](#)

If you removed your old thermostat without labeling your wires first, check the picture you took in step 2. If you don't have a picture you can [check your system](#) to try to determine your wires, or contact a [Nest Pro](#)

6. Disconnect the wires and remove the base

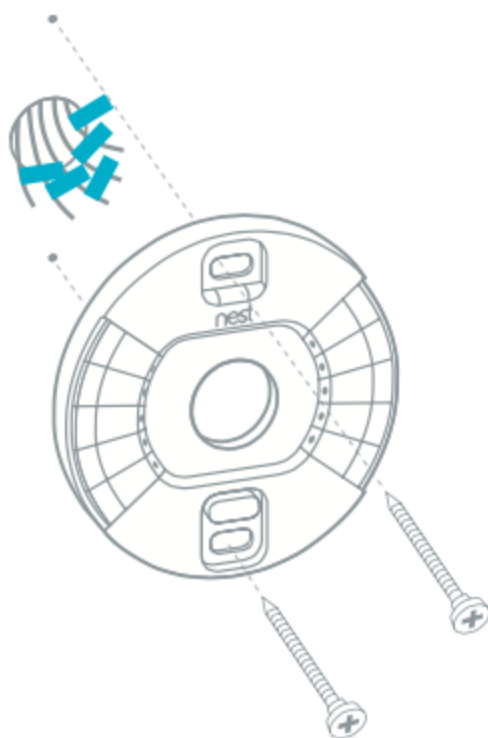


**Important** It's important that the power to your system is off to avoid blowing a fuse in your equipment. If you blow a fuse, your Nest thermostat won't turn on, or may display a power error after installation.

After removing the base, we recommend gently wrapping the wires around a pen or pencil to ensure they don't fall back into the hole in the wall.

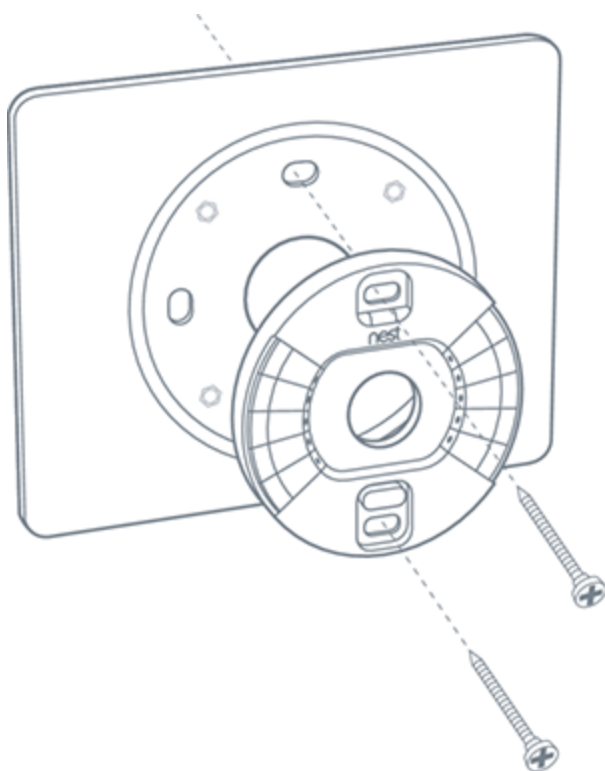
Now is a good time to patch and paint over any holes in your wall. You can also use the included trim plate to help hide scratches or screw holes on your wall.

7. Mark where  
screws will  
go



se the bubble level to make sure the Nest thermostat is level

8. Attach the Nest  
base



If you're going to use the optional trim plate, place it on the wall before installing the Nest base.

Tip: You can paint the Nest trim plate to match the color of your wall. If you'd like to paint your trim plate, make sure to paint it before it's installed. Make sure not to get any paint on your wiring, the Nest base, or your thermostat's display.

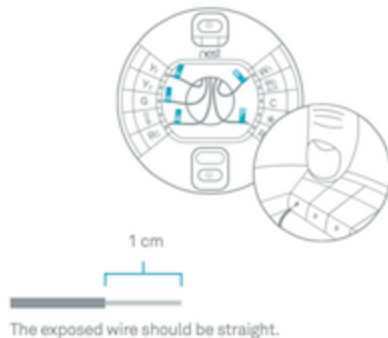
Pull the wires through the center of the base, then attach it to the wall with the screws.

Important: Use a screwdriver, not a power drill to drive in screws for the Nest base. Drills can easily over-tighten the screws and crack the base and damage its electronics.

Use the bubble level to make sure the Nest thermostat is level.

The Nest screws are self tapping, so there's no need to drill into soft materials. If you need to drill into harder things like wood, use a 3/32 or 2.5mm drill bit.

## 9. Connect the wires



Connect the wires to your Nest thermostat's base by following the wiring diagram that you got from the Nest app.

Press down on the connector button and insert the wire as far as it will go in. Then release the button.

The connector button should stay down. This confirms that the wire is properly seated.



Terminals with wires should stay pressed down.

If the button doesn't stay down, take the wire out, straighten it, and put it back in as far as it will go. You may need to strip the end of your wire to make sure enough copper is exposed.

**Important** Do not put more than one wire in each connector on the Nest base

**Important:** Do not connect any "spare" wires to your Nest thermostat that were not connected to your old thermostat.

Only use the wires on your Nest wiring diagram.

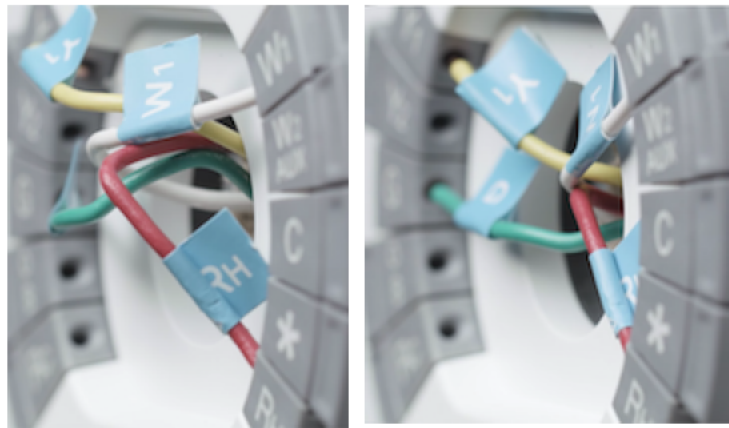
After all the wires are securely connected, push them down toward the wall to make sure they're flush with the base. If your wires stick out too far they can keep your thermostat display from connecting properly

If your wires stick out from the wall press them down

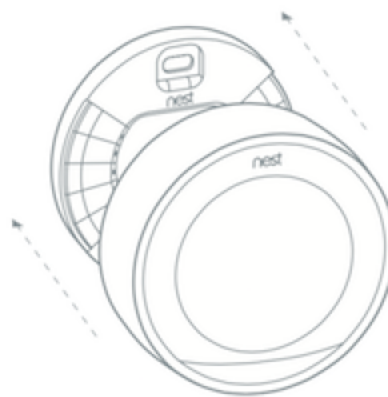
Before

After

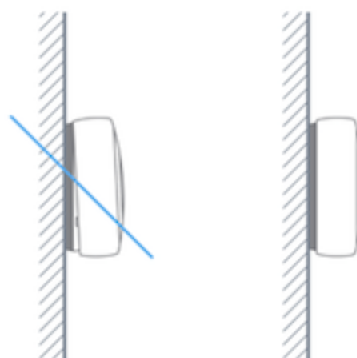




10. Attach the  
Nest display



Line up the pin connector on the back of the display and push it onto the base until it clicks into place.



	<p>Tip: If you don't hear the display click, use your thumb to push the wires further into the wall. This will make sure the wires aren't stopping the display from connecting to the base.</p>
11. Switch power back on	<div data-bbox="444 401 813 592" data-label="Image"> <p>The diagram shows two options for switching power back on. On the left is a 'Breaker box' with a blue warning triangle icon. On the right is a 'Switch' with a standard light switch icon. The word 'or' is placed between the two icons.</p> </div> <p>After turning the power back on, your Nest thermostat should power on automatically. If it doesn't turn on, you might see a blinking red light to indicate that the battery is charging.</p> <p>Wait for the battery to charge or check this article for troubleshooting steps:</p> <p><a href="#">The Nest thermostat will not turn on after installation</a></p>
12 Set up your Nest thermostat	<p>After it's finished starting up, the Nest thermostat will guide you through setup. Then you'll tell your thermostat a few basics about your home and your heating and cooling system so it can help keep you comfortable and save energy.</p> <p>You can also connect your thermostat to Wi-Fi so you can control it with the Nest app, and download important thermostat software updates.</p> <p><a href="#">Set up your thermostat</a></p>