

ecobee₃

Quick Start Guide

Installation Guide

DRAFT



what's in the box?



ecobee3
thermostat



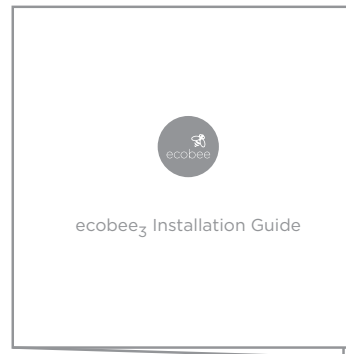
remote sensor
(and stand)



power
extender kit



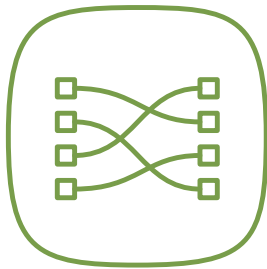
optional trim plate



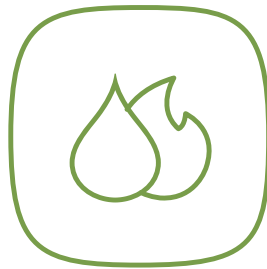
installation materials

first run

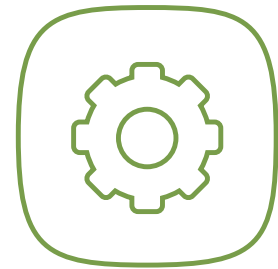
The first time your ecobee3 powers on, it will begin the first run process. This ensures everything is connected, working properly, and it shows you where to find these settings in the menu.



wiring
configuration



equipment
configuration



set your
preferences



Wi-Fi
configuration



register
your ecobee

get to know your ecobee₃



- A. indoor temperature
- B. adjust temperature
- C. system mode
- D. schedule
- E. menu

- F. savings
- G. live weather
- H. quick changes
- I. indoor humidity
- J. motion sensor

remote sensors

Pull the plastic tab to power on the device. It will connect to your ecobee3 automatically.

- place at thermostat height; on a shelf or mounted to a wall
- avoid placing in areas with direct sunlight
- mount on an interior wall for more accurate temp reading

Follow me

ecobee optimizes settings to where you are in the home.

Auto-away


ecobee will detect when you're away and auto-adjust your schedule for you.



quick tips



How do I control my fan?

Press the quick changes button  and easily customize fan runtime.



How do I switch between heat and cool?

Press the menu button  , select system  , select HVAC and easily switch between heat and cool.




How do I change my schedule?

Press the menu button  , select schedule  and customize your schedule.



How to switch between home and away?

Press the quick changes button  and easily switch between home and away.

a few more tips



Control from your phone

ecobee3 supports both iOS and Android devices. Visit your device's app store to download the free application for your phone or your tablet.



Accessing Web Portal

Log in to your personal web portal at ecobee.com to customize the operation of your ecobee3 and learn how to use it to save energy and money.



Alerts and reminders

When alerts and reminders are sent to your thermostat your menu button will appear like this, press the button to view them.



User guide

Looking for more info on your ecobee3? Visit our online user guide at ecobee.com/support/ecobee3.

Welcome!

If you have any questions, we have answers. Contact us by email or telephone for help. Or, visit our web page for tutorials, how-to videos, and answers to frequently asked questions (FAQs).

www.ecobee.com

1.877.932.6233 (North America)

1.647.428.2220 (International)

support@ecobee.com

Compatible systems

ecobee₃ works with most centralized residential heating and cooling systems.

Heating: 1 or 2 stages + fan

Cooling: 1 or 2 stages + fan

Heat pumps: 1 or 2 stages + auxiliary heat + fan

Accessories: Dehumidifier, humidifier or ventilation device

Terminal descriptions

G	Fan
R _c	Cool transformer
R _H	Heat transformer
O/B	Heat pump reversing value
Y	Y1, Y2: Used for 1 - 2 stages of conventional A/C or 1 - 2 stages of heat pump compressor
W	W1, W2: Used for 1 - 2 stages of conventional heat or 1 - 2 stages of heat pump auxiliary heat
C	24VAC common
ACC	Accessory (+/-): Used for dehumidifiers, humidifiers, ventilators, HRVs or ERVs

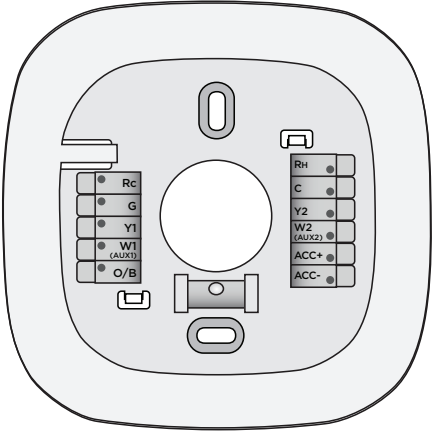


ecobee₃ is designed for 24VAC with a 2A maximum current. Do not connect it to line-voltage or high-voltage systems.

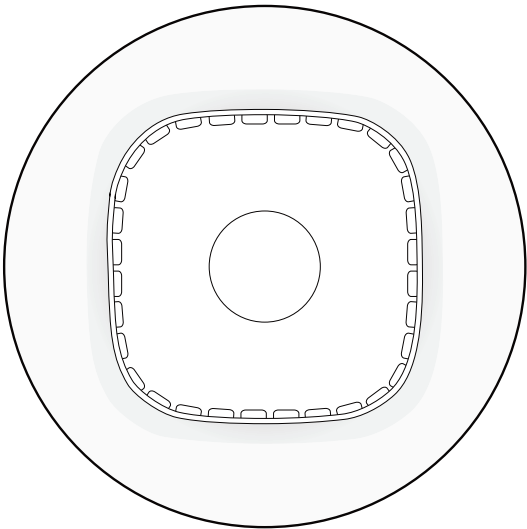
Items included in box



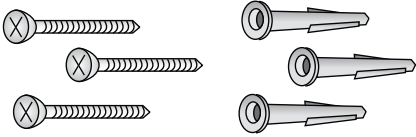
ecobee₃ thermostat



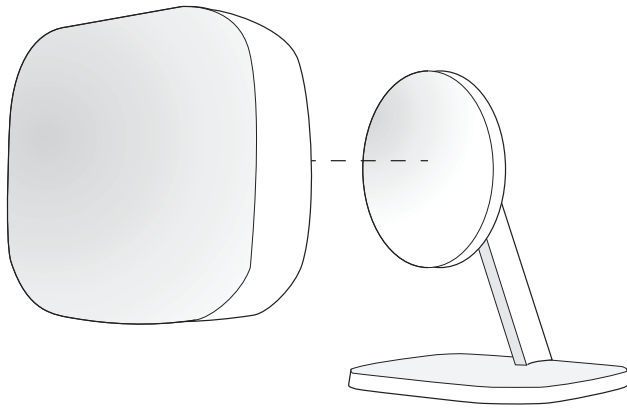
ecobee₃ base with small trim plate



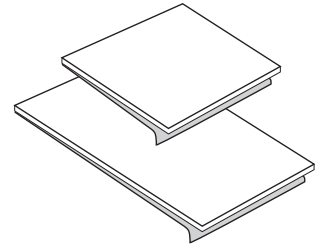
Large trim plate



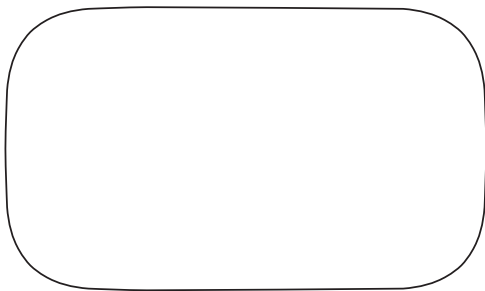
Mounting screws & anchors



**ecobee₃ sensor with
optional stand**



**Double-sided
adhesive**



Power Extender Kit (PEK)



**Installation and
Quick Start guides**

Items you'll need



Phillips screwdriver

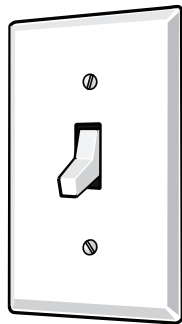
Before you start

Review the all the instructions before you start to ensure that there are no surprises during installation.

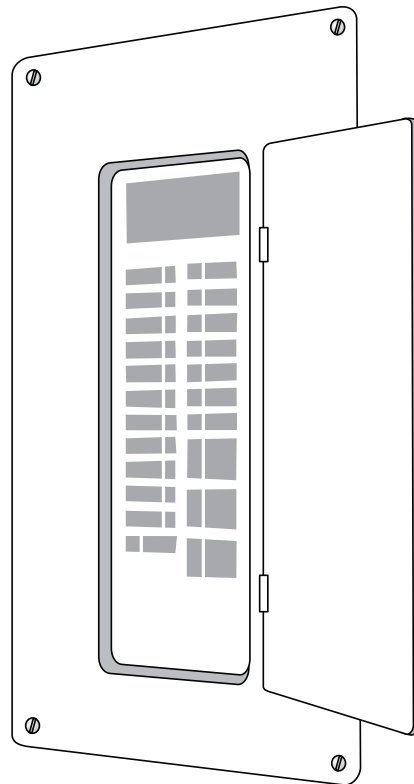
Step 1. Power off your HVAC system

Before doing anything else, power off your system. If your HVAC equipment doesn't have a master switch, go to your circuit breaker box and turn off the breaker.

Verify that the equipment is off by attempting to adjust the temperature with the existing thermostat.



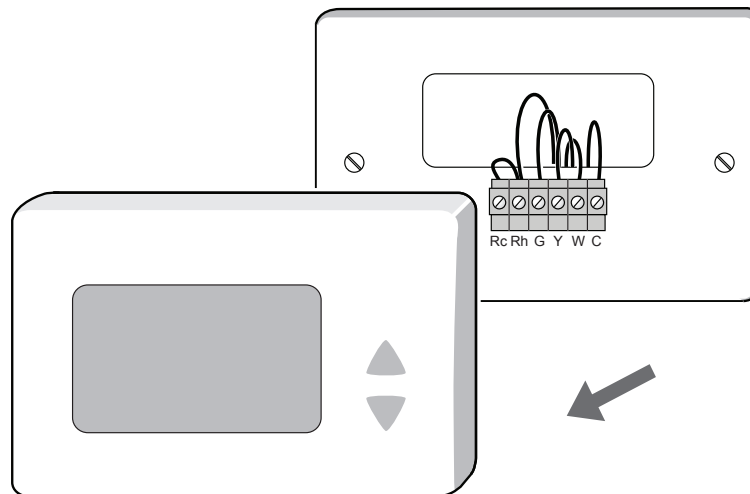
Power off your system



Step 2. Remove old thermostat

If you don't have an existing thermostat, skip to step 3.

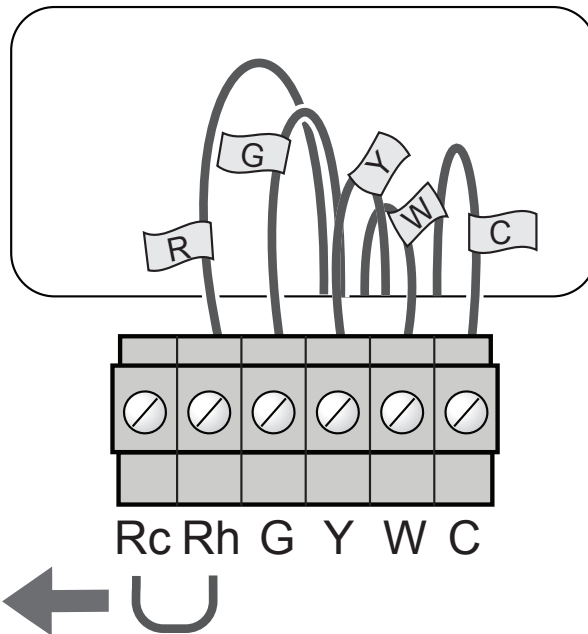
Remove the cover from your old thermostat. Most snap off easily but some may be attached by screws.



Warning! *If your old thermostat has 110/120V wires connected to the thermostat, it is a high voltage system and is not compatible with your ecobee₃.*



Look at the wires coming out of the wall. Take a picture for reference.



Discard any jumper wires between Rh, Rc, or R. Your ecobee₃ does not need them. They are jumpered automatically.

Using the old thermostat base as a guide, label each wire coming out of the wall with the provided stickers.

When done, remove the old thermostat base by unscrewing it from the wall.

Be careful not to let any wires fall back into the wall! Tip: Leave the wires attached to the base until you are ready to install your ecobee₃.

Step 3. Install Power Extender Kit (PEK)

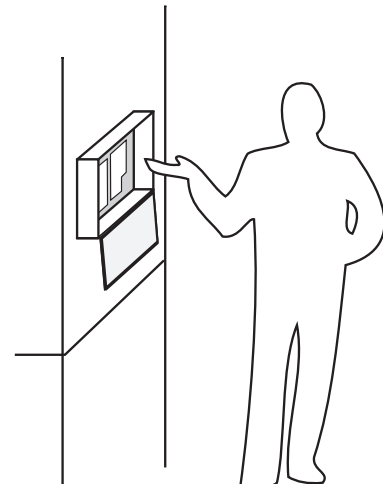
If you have a wire labelled “C” or “common”, skip this step.

! *Warning: If you are not comfortable with working with your HVAC wiring, contact ecobee customer support or hire a professional installer.*

Some thermostats do not have a C-wire. The C-wire is used to provide power to the thermostat. In this case, the PEK can use the existing wires to power your thermostat. The PEK requires your system to have the following wires:

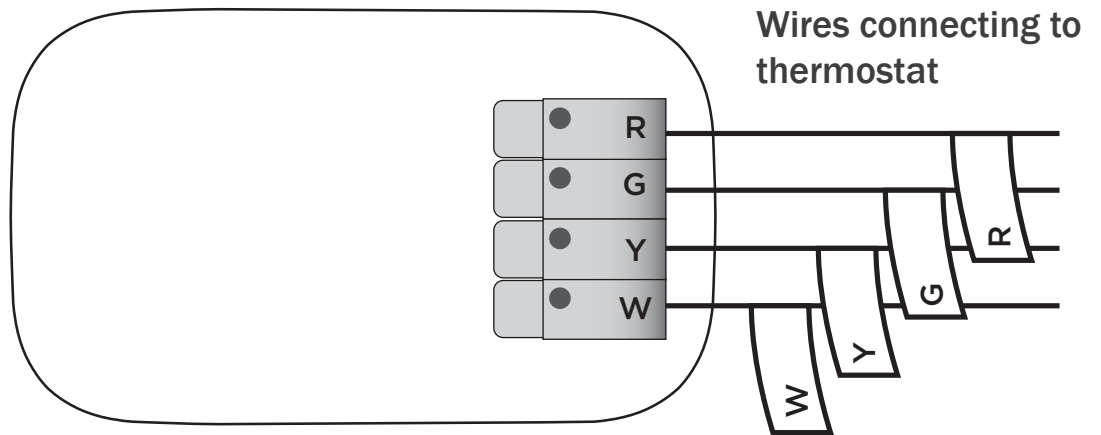
- 4 wires: W, Y, G, and R (or Rc or Rh)
- 3 wires: Y, G, and R (or Rc or Rh)

1. Make sure that your HVAC equipment is off.
2. Open your HVAC equipment’s control panel. Take a picture for reference.



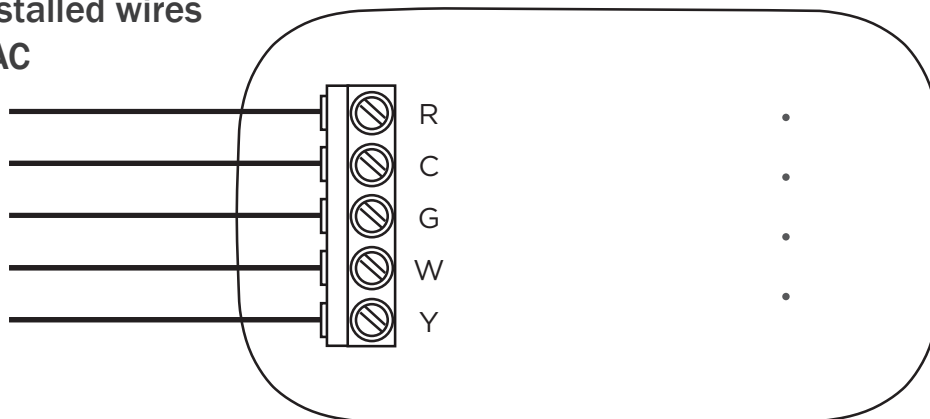
- Using the stickers provided with the PEK, label the wires in the control panel leading to the thermostat.
- Open up the PEK. It has two rows of terminals (one side is for thermostat connections, the other side, pre-wired, is for the equipment panel connections).

PEK Cover



PEK Base

Pre-installed wires to HVAC



5. Disconnect the wires from the control panel and reconnect them to the corresponding terminals on the thermostat side of the PEK.
6. Using the wires provided with the PEK, connect the terminals on the equipment side of the PEK to the corresponding terminals in the control panel. Make sure to connect the R/Rh/Rc wire to the same terminal on the control panel that was previously connected
7. Close the PEK and use the provided double-sided tape or screws to mount it in a dry location that doesn't strain the wires.
8. Close the door to your HVAC equipment's control panel.

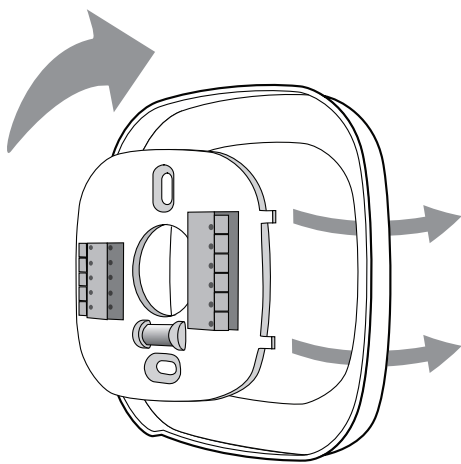
Step 4. Attach base to wall

Be careful that the existing wires don't fall back into the wall.

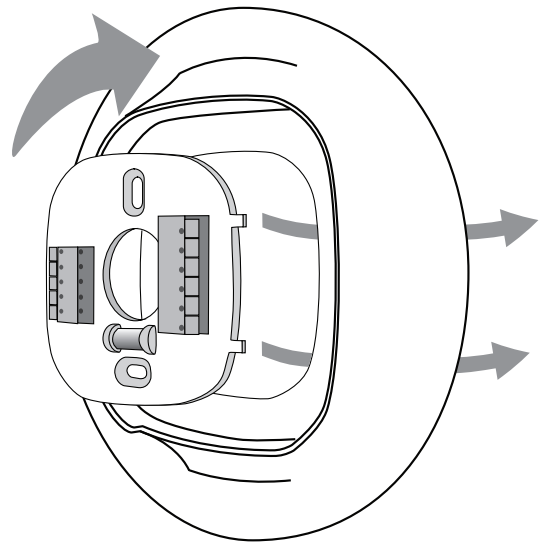
Position the base of your ecobee₃ and mark the mounting holes on your wall with a pencil.

Attaching the trim plate

If the smaller trim plate doesn't cover the marks left by the previous thermostat, attach the larger trim plate instead.



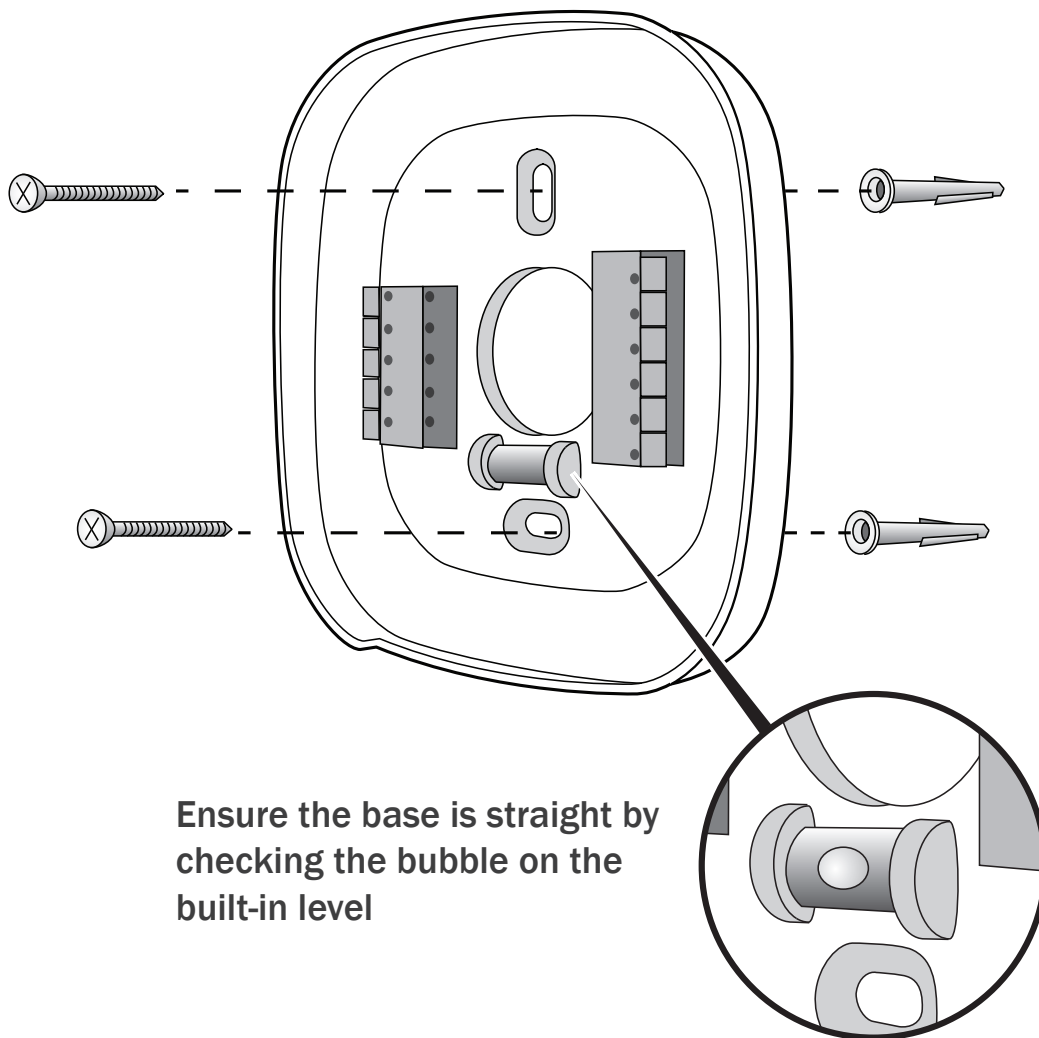
Remove the center piece by gently pushing its left side towards you.



Insert the center piece using the tabs on the right as a guide. It will snap into place when correctly inserted.

Secure the base

Use the drywall anchors and screws provided to secure the base to the wall.

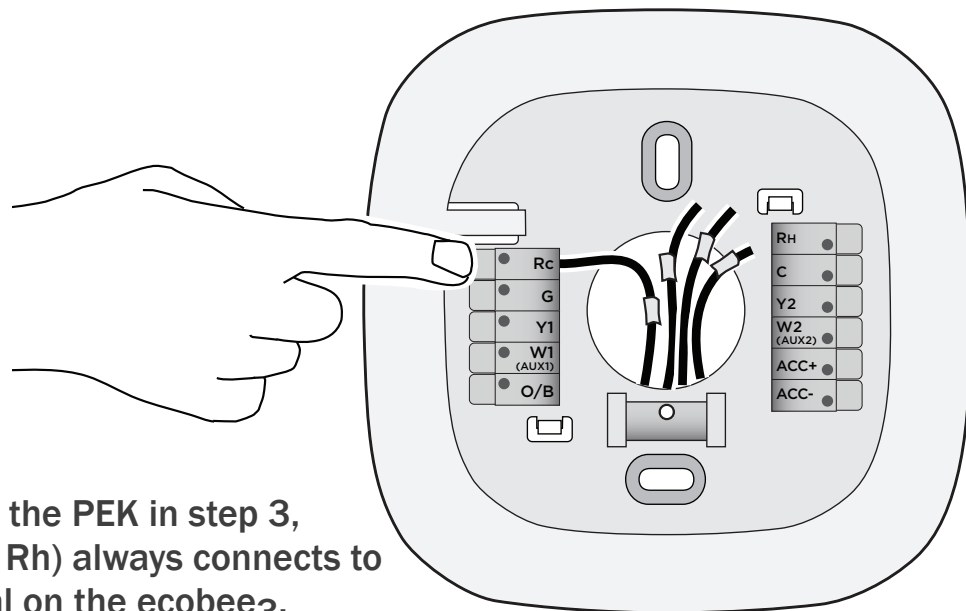


Step 5. Connect wires to ecobee₃

If you are replacing an existing thermostat, use the stickers as a guide when inserting the wires into ecobee₃ terminal blocks.

The wires from the wall should plug easily into the terminal blocks. To release a wire, press down on the lever.

When installed correctly, the back of the terminal block will be down. Give each wire a little tug to ensure it is secured.



If you installed the PEK in step 3, the R (or Rc or Rh) always connects to the Rc terminal on the ecobee₃.

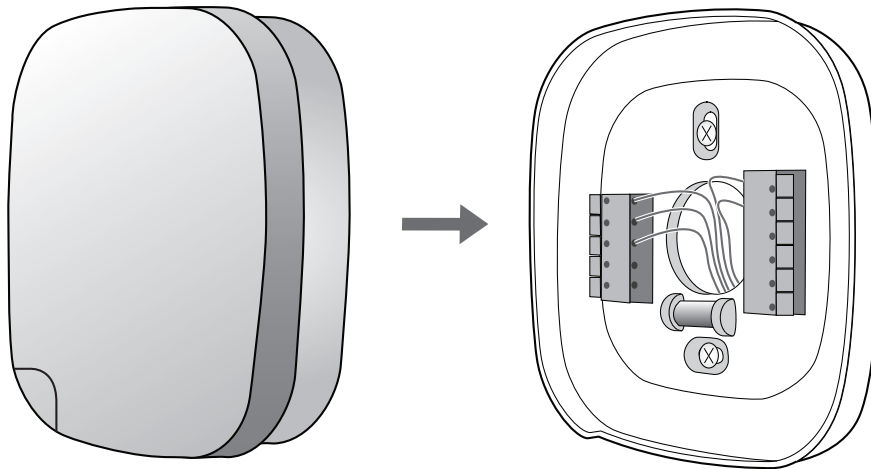
You do not need to jumper Rh or Rc – ecobee₃ does it automatically.

If you need help with the wiring, refer to the reference diagrams at the back of this guide:

- For conventional heating and cooling systems, see page 29.
- For heat pumps (air or geothermal), see page 30.
- For boilers or radiant heat systems, see page 31.
- For accessory devices like dehumidifiers, humidifiers, or ventilators, see page 32.
- For PEK installations, see page page 33.

Attach thermostat

Push any excess wires back into the wall, and connect your ecobee3 thermostat to the base.



Step 6. Power on ecobee₃

Power back on your HVAC equipment. Your ecobee₃ will automatically power on.

Follow the on-screen instructions. ecobee₃ will guide you through the setup, which includes:

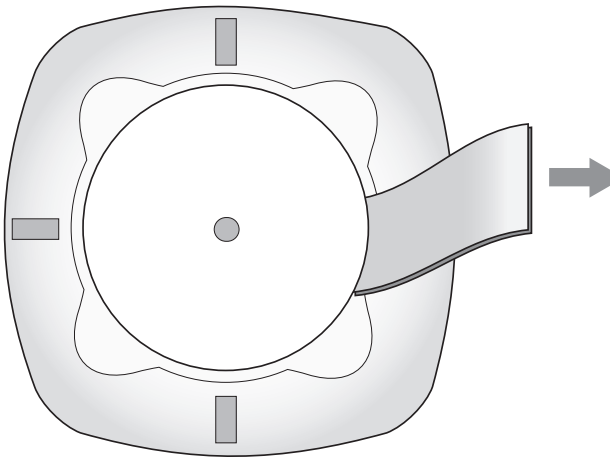
- Configuring your HVAC equipment settings (e.g. type, stages of heating/cooling, thresholds, etc)
- Setting up WiFi and connecting to your online portal
- Setting up your weekly schedule

Note that the settings can be changed at any time from the ecobee₃ menu.



Step 7. Install remote sensor

The remote sensor detects when you are home and improves in-home temperature accuracy by providing another measurement point.

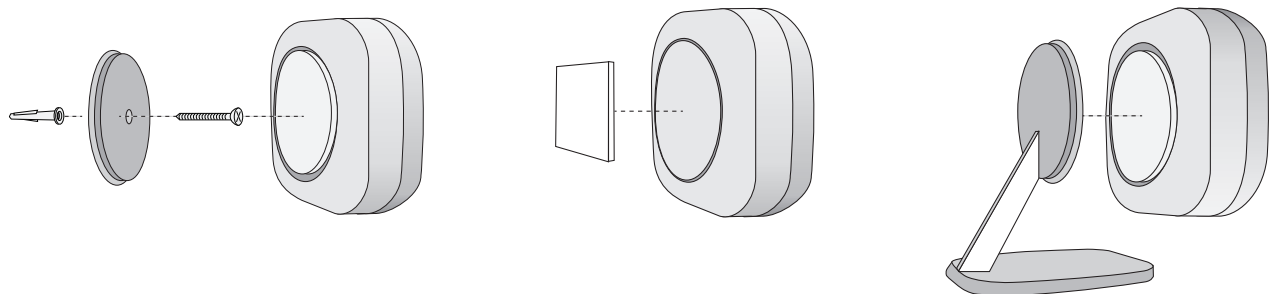
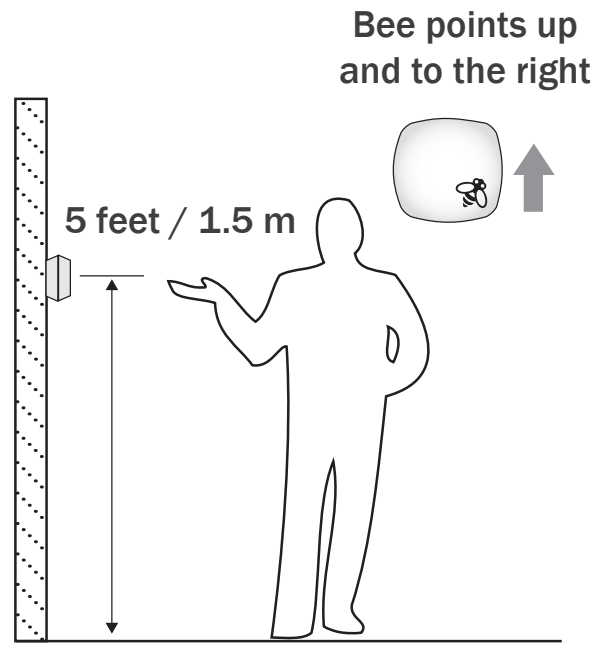


To activate the remote sensor, pull its plastic tab while near your ecobee₃.

Your ecobee₃ will detect the sensor and ask you to name it. Verify on the thermostat that this occurs. If your sensor did not connect with the ecobee₃, simply re-insert the battery to restart the detection process.

Place the remote sensor in an open, high-traffic area like a living room or upstairs hallway. The thermostat will warn you if the sensor is too far away.

Using the provided double-sided adhesive or screw, attach the sensor to an interior wall at the same height as your thermostat. You may also use the stand to simply place the sensor on a flat surface like a bookshelf.



Do not place the sensor in direct sunlight or near vents or window openings as this may affect the temperature readings.

Congratulations, you're done!

Your ecobee₃ has a touch screen and interface similar to that used in smart phones. For help, see our online user guide at ecobee.com.

Accessing your web portal

Log in to your personal web portal at ecobee.com to customize the operation of your ecobee₃ and learn how to use it to save energy and money.

Downloading the app


Control your ecobee₃ from your smart phone or tablet. ecobee₃ supports both iOS and Android devices.










Visit your device's app store to download the free application.



Menu options

To access the thermostat menu, touch the screen and press 

- | | | |
|------------------|---|---|
| System |  | Turns heat, cool, and fan on/off |
| Schedule |  | Configures temperature according to time and day |
| Comfort Settings |  | Configures temperature for different occupancy states (away, home, sleeping) |
| Vacation |  | Configures temperature for a specific future time period |
| Settings |  | Configures display preferences (°F/°C, date, brightness), WiFi, and equipment operating parameters (thresholds, sensors, alerts, etc) |
| Reminders |  | Displays any reminder or alert messages |
| About |  | Displays technical information about your thermostat. |

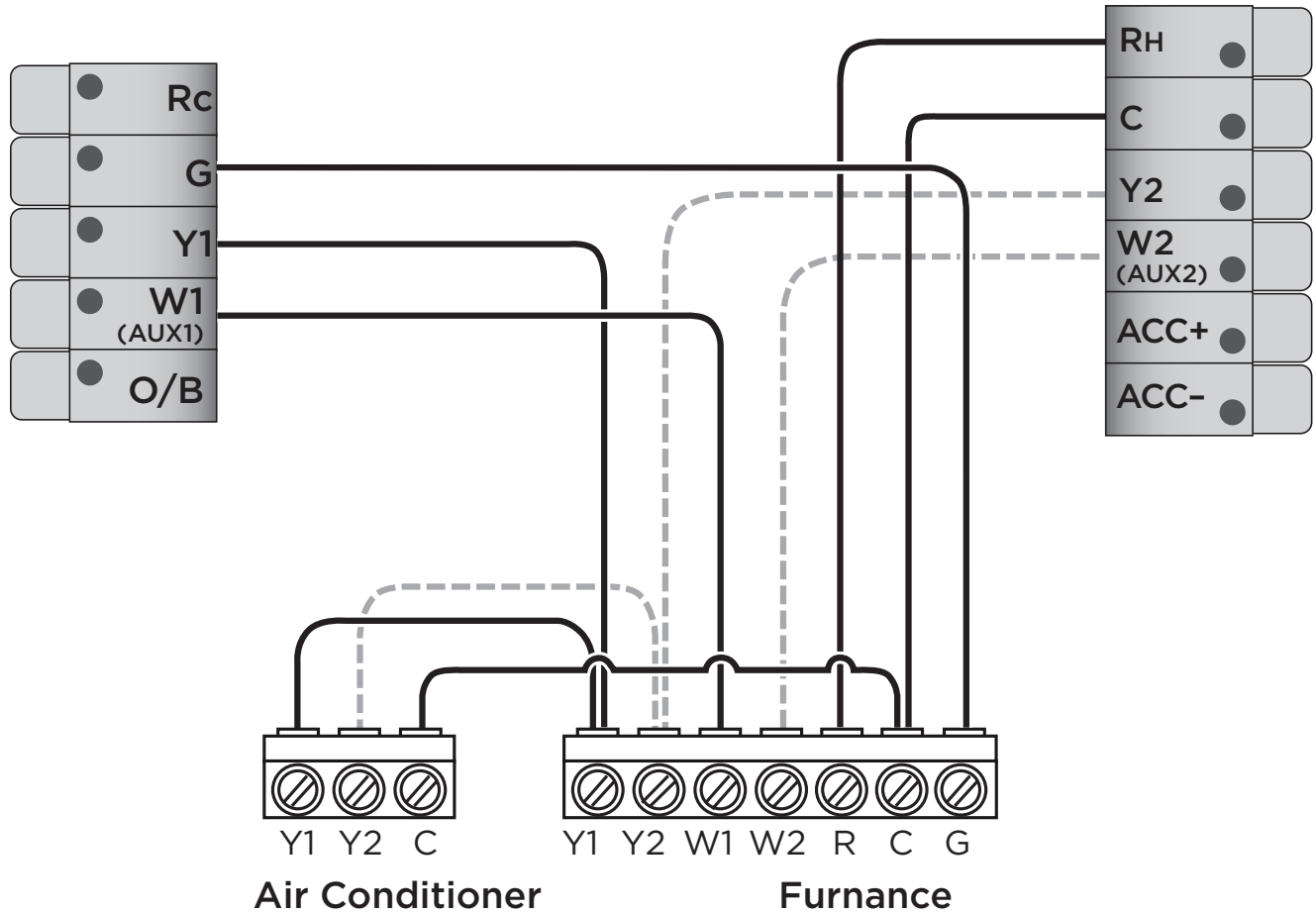
Wiring diagrams

The following pages provide wiring diagrams for common HVAC equipment configurations.

If you need help with your ecobee₃ wiring, visit our website. It includes how-to videos and tutorials to assist you.

www.ecobee.com

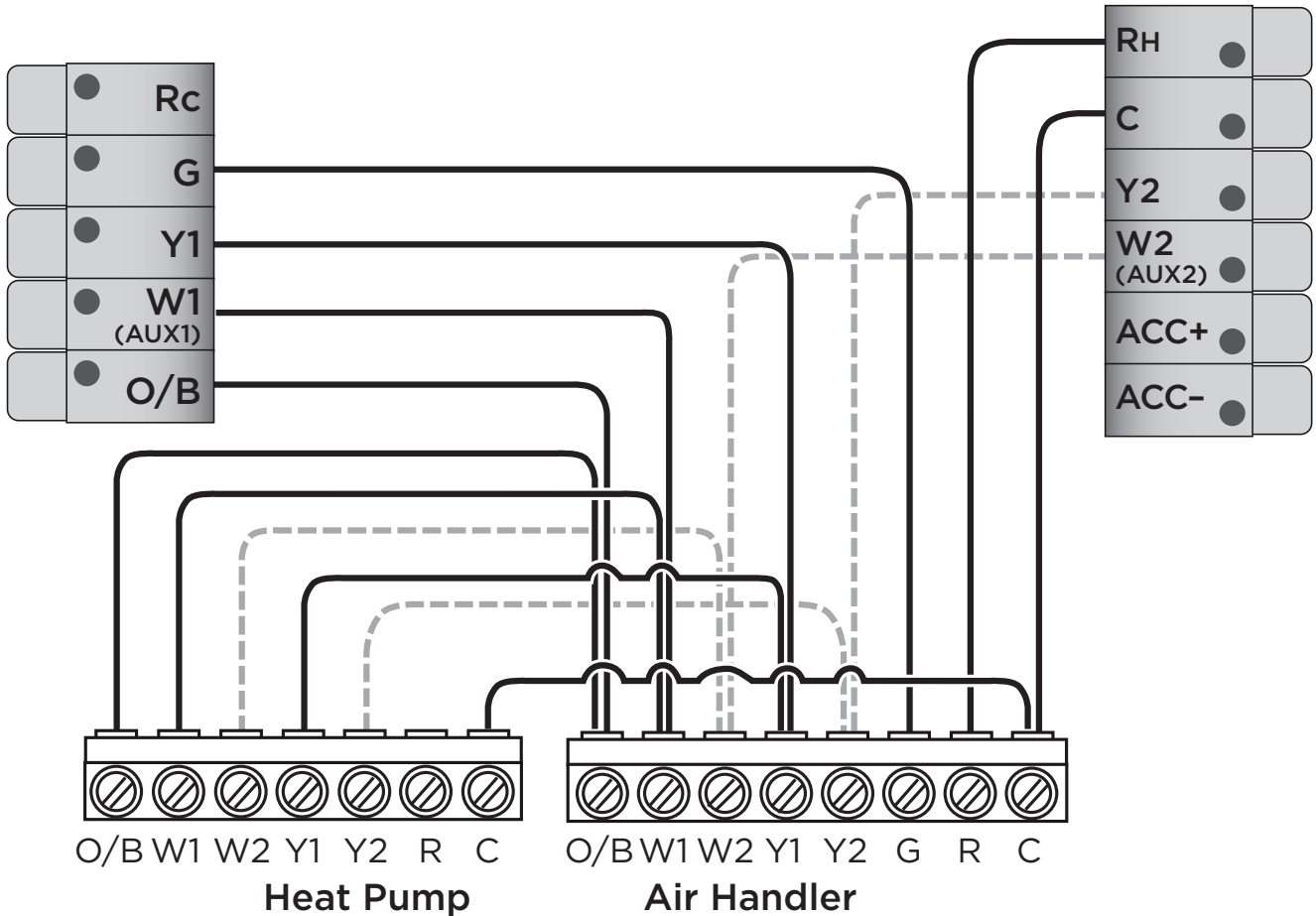
Conventional heating and cooling (up to 2 stages each)



Do not jumper Rc or Rh ecobee₃ does this automatically. R can go into either Rc or Rh terminals on your ecobee₃.

----- Stage 2 heat and cool if applicable

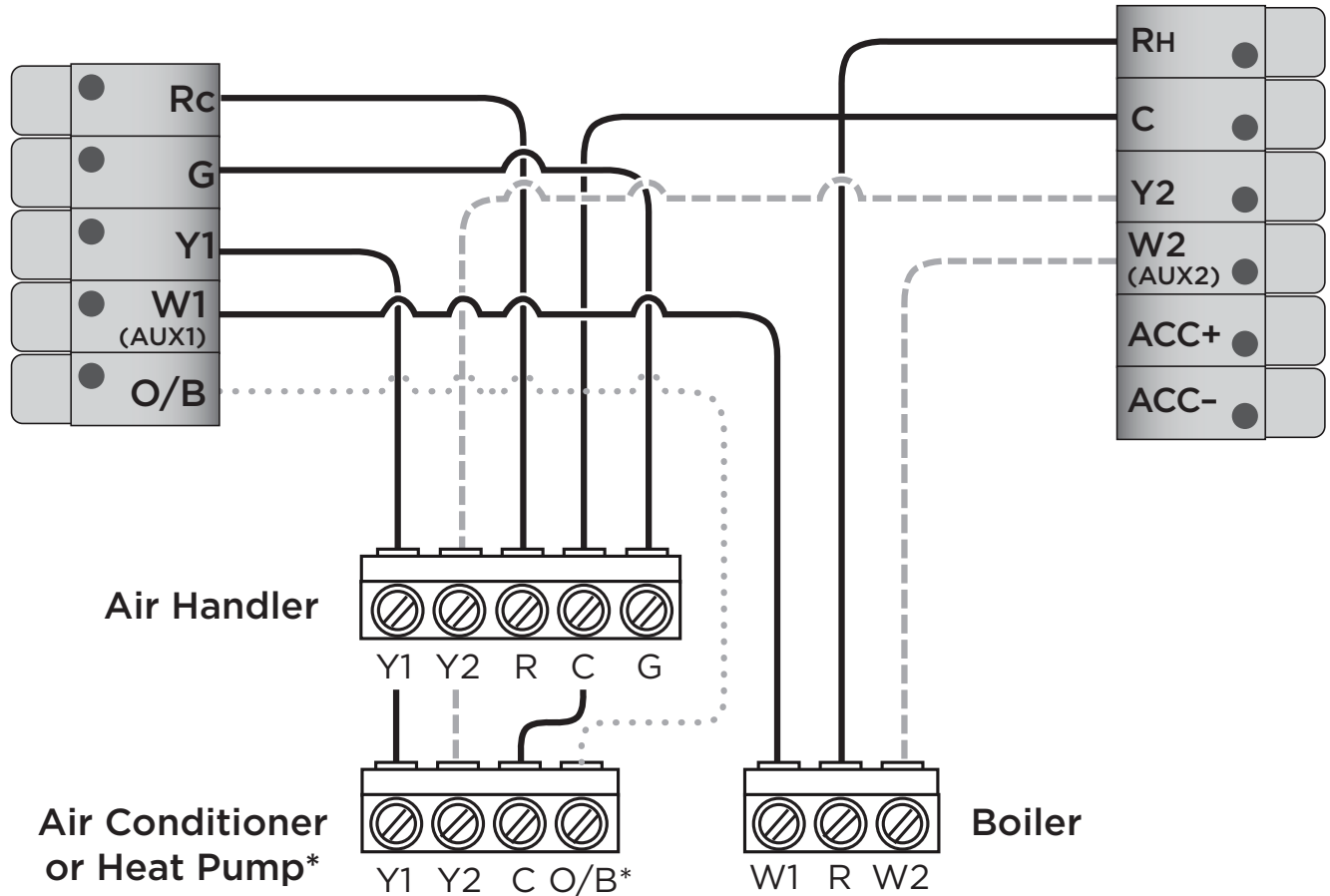
Heat pump (air or geothermal) with auxiliary heat



Do not jumper Rc or Rh ecobee₃ does this automatically. R can go into either Rc or Rh terminals on your ecobee₃.

----- Stage 2 compressor and auxiliary heat if applicable

Boiler or radiant system with air handler and conventional cooling or heat pump



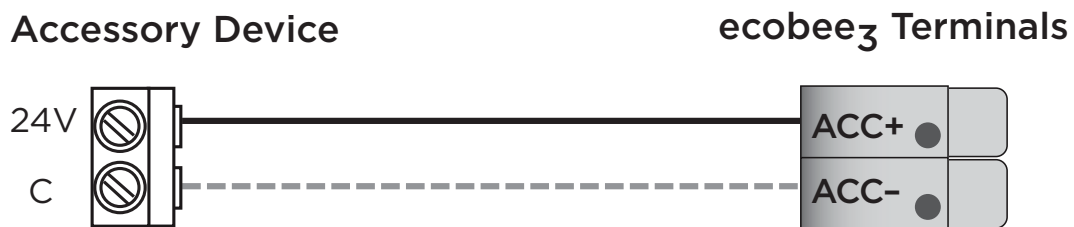
Do not jumper Rc or Rh ecobee₃ does this automatically. R can go into either Rc or Rh terminals on your ecobee₃.

----- Stage 2 heat and cool if applicable

..... * Reversing valve for heat pumps only

Accessory devices

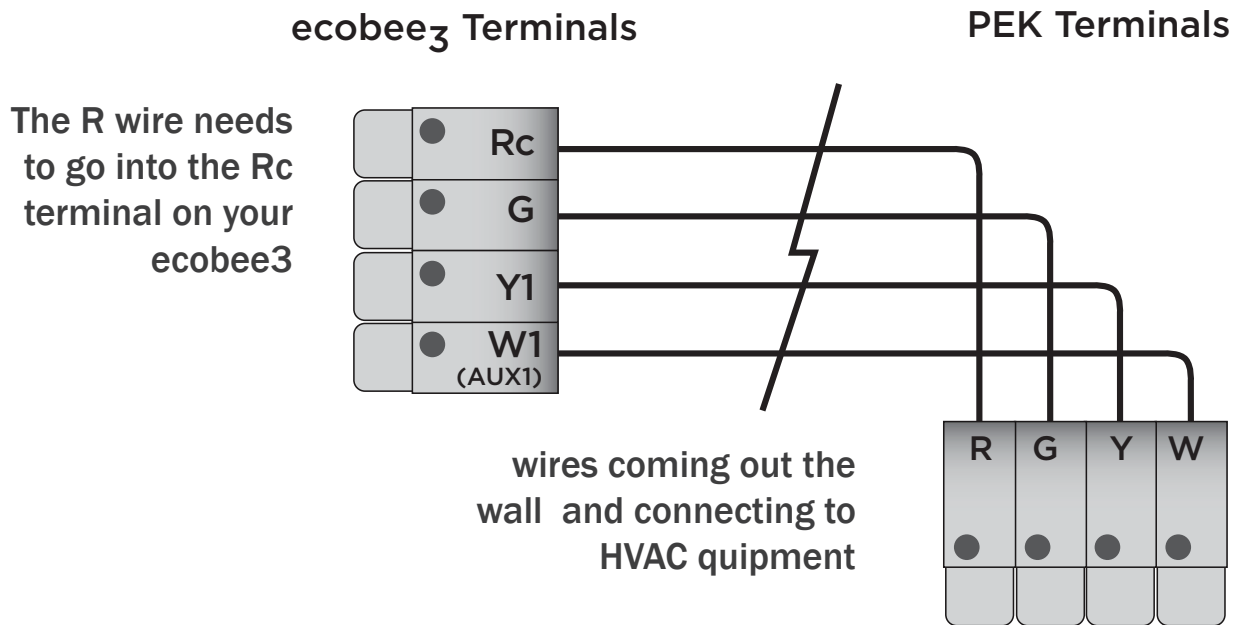
The ecobee₃ can control an accessory HVAC device like a humidifier, dehumidifier, or ventilation device from its ACC terminals.



You will need to configure the accessory device when you first power on your ecobee₃

— — — — — Only needed if your accessory device is self-powered

PEK thermostat wiring



Note there there can be up to three radio transmitters operating on board. Mentioned below are there communication specs in brief.

1- WiFi:

supported modulation types and data rates.

DSSS transmission: CCK, DQPSK, DBPSK. OFDM:64QAM, 16QAM, QPSK,

802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps

802.11n: 65/58.5/52/39/26/19.5/13/6.5 Mbps ,

Operating Frequency: 2412MHz-2462MHz , Number of Channels: 11

2- 900MHz Radio:

Modulation type FSK, GFSK. Data rate 38.4kbps.

Operating Frequency 903-926MHz

3- Zigbee Module (Optional)

Modulation OQPSK. Transmission type DSS. Data rate 256kbps max

Operating frequency 2405-2480MHz. Total # Channel 15.

Approvals

This product was designed and built in accordance to RoHS directive 2002/95/EC and contains no hazardous substances as defined by this directive.

Federal Communications Commission (FCC)

Compliance Notice:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

Change or modifications that are not expressly approved by the manufacturer could void the user's authority to operate the equipment.

RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm during normal operation.

Industry Canada (IC)

Compliance Notice:

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. this device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicable aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Industry Canada (IC)

Radiation Exposure Statement:

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

3-Year Limited Warranty

ecobee warrants that for a period of three (3) years from the date of purchase by the consumer (“Customer”), the ecobee Smart Si thermostat (the “Product”) shall be free of defects in materials and workmanship under normal use and service. During the warranty period, ecobee shall, at its option, repair or replace any defective Products, at no charge. Any replacement and/or repaired device are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer.

If the product is defective, call Customer Service at 1-877-932-6233. ecobee will make the determination whether a replacement product can be sent to you or whether the product should be returned to the following address: ecobee Customer Service, 477 Richmond St West, 2nd Floor, Toronto, Ontario, M5V 3E7, Canada,. In the event of a failure of a Product, Customer may:

(a) if Customer did not purchase the Product directly from ecobee, contact the third party contractor from whom the Product was purchased to obtain an equivalent replacement product, provided the contractor determines that the returned Product is defective and Customer is otherwise eligible to receive a replacement product;

(b) contact ecobee directly for service assistance at 1-877-932-6233 and ecobee will make the determination whether an advance equivalent replacement Product can be sent to Customer with return shipping supplies (in which case a hold shall be put on Customer’s credit card for the value of the replacement Product until ecobee has received the defective Product). Product should be returned to the following address: ecobee Customer Service, 477 Richmond St

West, 2nd Floor, Toronto, Ontario, M5V 3E7, Canada,. If the returned Product is found by ecobee to be defective and Customer is otherwise eligible to receive a replacement product, no amount shall be charged to Customer's credit card; or

(c) ship the defective Product directly to ecobee, in which case Customer shall contact ecobee directly at 1-877-932-6233, so ecobee can make the required shipping arrangements. Upon receipt of the defective Product, ecobee will ship an equivalent replacement product to Customer, provided the returned Product is found by ecobee to be defective and Customer is otherwise eligible to receive a replacement product.

This warranty does not cover removal or reinstallation costs and shall not apply if the damages were found to be caused by something other than defects in materials or workmanship, including without limitation, if the Product:

- was operated/stored in abnormal use or maintenance conditions;
- is repaired, modified or altered, unless ecobee expressly authorizes such repair, modification or alteration in writing;
- was subject to abuse, neglect, electrical fault, improper handling, accident or acts of nature;
- was not installed by a licensed Heating Ventilating and Air Conditioning (HVAC) contractor; or
- was installed improperly.

ecobee's sole responsibility shall be to repair or replace the Product within the terms stated above. ECOBEE SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT. Some US states and Canadian provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

ecobee's responsibility for malfunctions and defects in materials and workmanship is limited to repair and replacement as set forth in this warranty statement. All express and implied warranties for the product, including but not limited to any implied warranties and conditions of merchantability and fitness for a particular purpose, are limited to the three-year duration of this

limited warranty. No warranties, whether expressed or implied, will apply after the limited warranty period has expired. Some US states and Canadian provinces do not allow limitations on how long an implied warranty lasts, so this limitation may not apply.

ecobee neither assumes responsibility for nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

This warranty gives you specific rights, and you may also have other rights which vary from jurisdiction to jurisdiction. If you have any questions regarding this warranty, please write to ecobee Customer Service, 477 Richmond St West, 2nd Floor, Toronto, Ontario, M5V 3E7, Canada.

PSK,DBPSK, for DSSS transmission

64QAM,QPSK, for OFDM transmission

11/5.5/2/1 Mbps

54/48/36/24/18/12/9/6 Mbps

65/58.5/52/39/26/19.5/13/6.5 Mbps

Frequency: 2412MHz-2462MHz

Channels: 11

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