



WiFi THERMOSTAT

Welcome to your LUX/GEO quick-start guide

Your LUX/GEO internet connected thermostat puts the control of your comfort in your hands and you are only 10 easy steps away from completion.



IF AT ANY TIME DURING THE INSTALLATION AND SET-UP PROCESS YOU NEED ADDITIONAL SUPPORT, VISIT LUXGEO.COM OR CALL 856.234.8803



Step 1: Getting started

For Use On:

- Most 24-volt heating and cooling systems
- 1 or 2 stage heat / 1 or 2 stage cool: gas, oil, or electric furnace and a/c systems
- 1 or 2 stage heat / 1 stage cool: heat-pump style systems
- 2-wire hydronic (hot water) zone valves
- Gas Millivolt wall / floor heaters

Not For Use On:

- 120/240 VAC line-voltage systems (without a transformer)
- Heat pumps that have (Y2) two compressor stages

Locate and gather the following items for ease of installation

Included:



2 mounting screws



2 wall anchors



2-AA Lithium batteries



Lux Power Bridge

Items needed:



Phillips & flat head screwdriver



wire stripper & cutter



WiFi enabled mobile device



WiFi router

Download App and Create Your Account

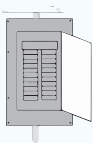
Download your LUX Products App

Depending on device type, search the App store for "LUX Products" and create your LUX user account



IF YOU DO NOT HAVE AN iOS OR ANDROID DEVICE, PLEASE VISIT LUXGEO.COM OR CONTACT LUX SUPPORT

Step 2: Switch power off and take photo of existing wiring



IMPORTANT: Turn off the power at circuit breaker to both your heating & cooling systems before performing any wiring.



**TAKE
PHOTO OF
CURRENT
WIRING**

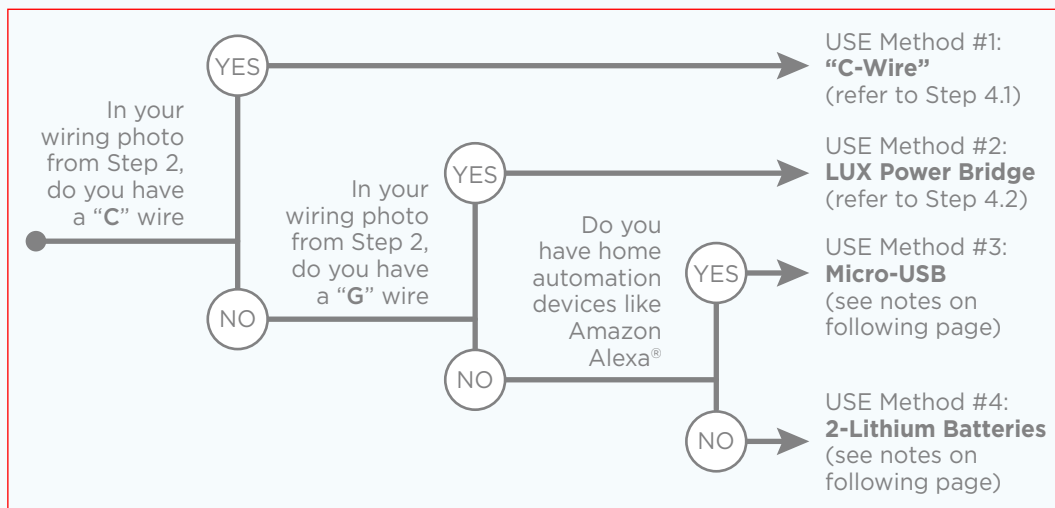
Step 3: Determine how your LUX/GEO will be powered

LUX/GEO can be powered by one of four methods (in order of best performance):

Method #1 & #2 (Preferred): 24V System Power “C-wire” (this powers GEO from your heating/cooling equipment and provides the best performance when using WiFi)

Method #3: USB micro-port on GEO (wall adapter & cord not included - use 1A wall adapter)

Method #4: Battery Powered* (2-AA Lithium batteries included)



Notes for Method #3: Micro-USB

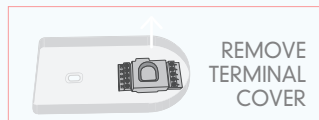
- You can use any standard USB wall adapter and Micro-USB cable, however the wall adapter must be rated for 1 Amp (1000 mA) or higher.
- A Micro-USB kit with extra long power cable is available from LUX through our www.luxproducts.com website.
- Refer to Step 4.1 for wiring method.

Notice for battery powered installations

- GEO® should only be used with lithium batteries.
- Battery failure could leave property without controlled heating or cooling. Reliance on battery power is not recommended with prolonged absence from property.
- Battery life will vary depending on your settings. After installation you can choose to adjust the “energy profile” for your GEO. This energy profile will determine the delay in GEO responding to changes from the App, but can increase battery life.
- Refer to Step 4.1 for wiring method.

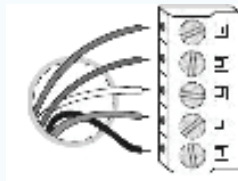
Step 4: Remove existing thermostat and wire your LUX/GEO

- Release wires and mounting screws from old thermostat and remove base from wall.
- Open GEO from base, pull up on plastic “cover” between terminal blocks to access and pull wires through.
- Secure GEO base to wall (mounting hardware & optional wall plate included)



AS AN ADDED RESOURCE, A GLOSSARY OF TERMS IS AVAILABLE ON LUXGEO.COM, ALONG WITH VIDEO DEMOS

- On the following pages, there are several different methods of wiring the GEO thermostat depending upon system type and the power method selected in Step 3. Follow the scenario most appropriate for your system type, and please contact LUX support if there are any questions.



WIRES INSERT INTO SIDE OF
TERMINAL, UNDER SCREWS.

Wiring for methods: #1 C-wire, #3 Micro-USB, and #4 Battery Power

4.1a Wiring Terminal Reference: Conventional Furnace - gas/oil/electric & air-conditioning (without LUX Power Bridge)

Referencing your wiring photo & terminal guide below, wire to GEO.

GAS / OIL / ELECTRIC FURNACE and/or AIR CONDITIONING

RH (or R)	=	24(+) VAC Power, Heat
W1	=	1st Stage Heat
G	=	Blower Fan
C	=	24(-) VAC Common
Y1	=	1st Stage Cool

[typical wire color used]

[RED]
[WHITE]
[GREEN]
[BLUE]
[YELLOW]

(other)

RC	=	24(+) VAC Power, Cool
B	=	Heat Mode Damper
O	=	Cool Mode Damper
W2	=	2nd Stage Heat
Y2	=	2nd Stage Cool

[can vary per each installation]
[can vary per each installation]
[can vary per each installation]
[can vary per each installation]
[can vary per each installation]

IMPORTANT: If you have both an RC and RH wire present, remove the RED shorting cap inside of GEO (the YELLOW shorting cap must only be on one pin, not both).

- Wiring is complete - you may return “cover” between terminal blocks.

4.1b Wiring Terminal Reference: Heat Pump Systems (without LUX Power Bridge)

Referencing your wiring photo, attach your thermostat wires to the LUX/GEO using your original wiring letters and the following terminal reference as a guide based upon your system type.

HEAT-PUMP (COMPRESSOR) STYLE HEAT/COOL SYSTEM

R (or RC/RH)	=	24(+) VAC Power, Cool
O	=	Reversing Valve
Y1	=	Heat Pump Outdoor Unit
G	=	Blower Fan
W2	=	Auxiliary/Emergency Heat
C	=	24(-) VAC Common
B**	=	Reversing Valve (only if no “O” wire- ie: Rheem/Ruud/Bard systems)

[typical wire color used]

[RED]
[ORANGE]
[YELLOW]
[GREEN]
[WHITE]
[BLUE]
[can vary per each installation]

Note: There should NOT be a wire used on the W1 wire connection at terminal.

**** IMPORTANT:** If you have both an O wire and B wire (ie: Trane system), please install B to the “C” terminal

IMPORTANT: For Heat Pump applications, the YELLOW shorting cap must be across both metal pins instead of the default of just one. Also, there will NOT be a wire connected to the “W1” terminal.

- Wiring is complete - you may return “cover” between terminal blocks.

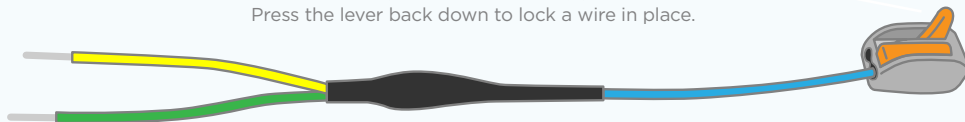
Wiring for method: #2 using LUX Power Bridge

4.2 Wiring Terminal Reference: Installing GEO with the LUX PowerBridge

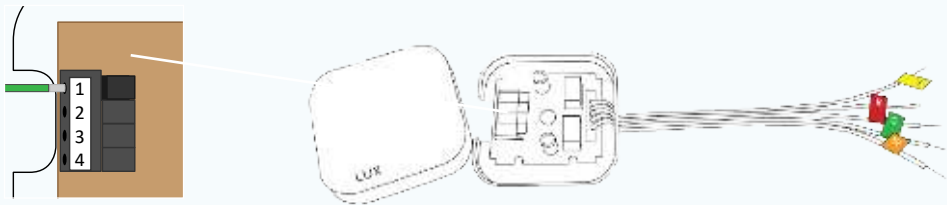
The LUX PowerBridge is for applications that do not have a C-wire at the thermostat:

- Take a photo of the wiring at both your thermostat and your furnace. The Power Bridge cannot be used with 2-wire applications, and requires at least cooling or heating wires and a fan “G” wire at the thermostat. If you have more wires (multi-stage systems) than are needed for installing the Power Bridge, leave them attached as they are.
- AT YOUR THERMOSTAT - Use the thermostat wire labels to identify each thermostat wire with its current terminal letter. If any of your thermostat wiring connections are unclear, please call LUX Technical Support.

NOTE: When using the Y-Splitter, pull the orange lever all the way up before inserting your wire. Press the lever back down to lock a wire in place.



- AT YOUR FURNACE (AIR HANDLER) - Remove the door panel and locate your control board. Use the additional wire labels to identify each wire from your thermostat with its terminal letter on the control board. If any of your furnace wiring is unclear, please call LUX Technical Support. Depending upon your application, some wires attached to the control board will remain in place and will not be used with the LUX Power Bridge.



NOTE: When installing the Power Bridge, press the terminal levers before inserting wires into the holes. Once the wire is fully inserted, gently pull on the wire to confirm that it is securely installed. Press all the way down on the lever to release a wire.

4.3a Installing the LUX Power Bridge on Conventional Systems

Thermostat

Current Wiring:

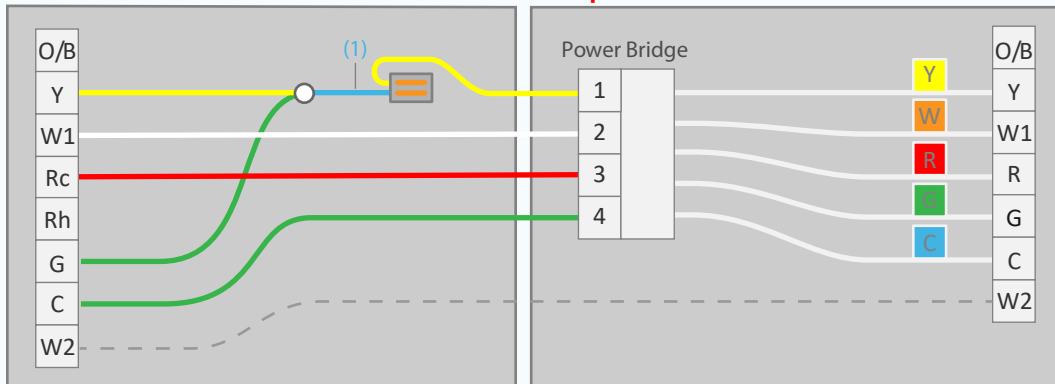
Furnace



Thermostat

After Set Up:

Furnace



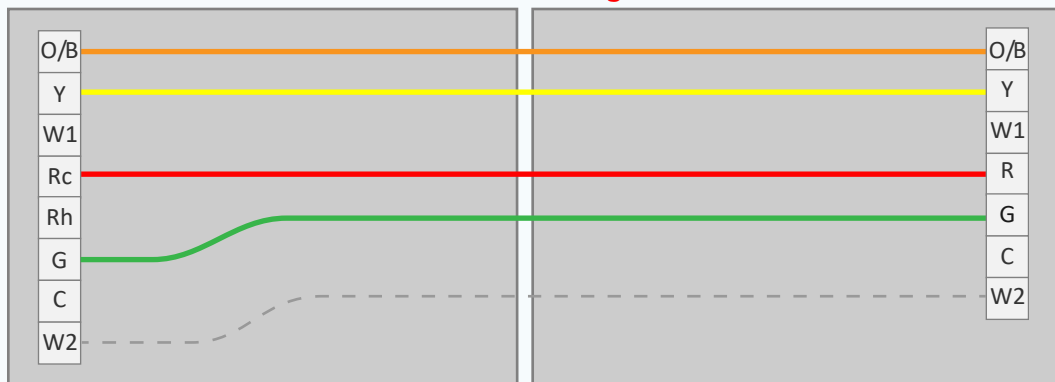
- If your system provides a second stage of heating, you may have a W2 wire. You can leave this wire as-is in your furnace and connect it to the W2 block on your new thermostat.
- If you have two R wires (R, Rc, or Rh), please call LUX Technical Support for assistance with your installation.
- Connect your old Y wire to the empty hole next to the blue end of the y-splitter (1). Snap the orange lever shut to secure the wire in its place. Insert the yellow end of the y-splitter into the thermostat's Y terminal and the green wire into the G terminal.
- Move your old G wire to the C terminal on your thermostat.

4.3b Installing the LUX Power Bridge on Heat Pump Systems

Thermostat

Current Wiring:

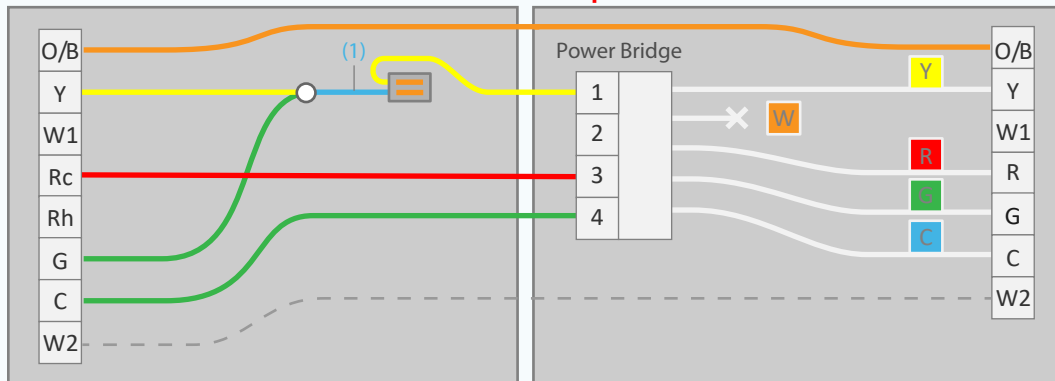
Air Handler



Thermostat

After Set Up:

Air Handler



- If your system provides a second stage of heating, you may have a W2 wire. You can leave this wire as-is in your furnace and connect it to the W2 block on your new thermostat.
- You may or may not have a W1 terminal block on your control board. Do not connect the Power Bridge's "W" wire to any terminal block on your control board.
- Connect your old Y wire next to the blue end of the y-splitter (1). Snap the orange lever shut to secure the wire in its place. Insert the yellow end of the y-splitter into the thermostat's Y terminal and the green wire into the G terminal.
- Move your old G wire to the C terminal on your thermostat.

4.3c Installing the LUX Power Bridge on Cool Only Systems

Thermostat

Current Wiring:

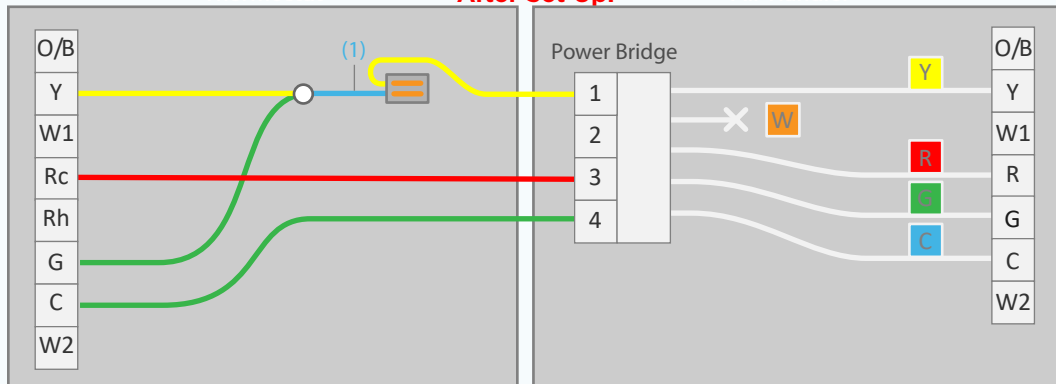
Air Handler



Thermostat

After Set Up:

Air Handler



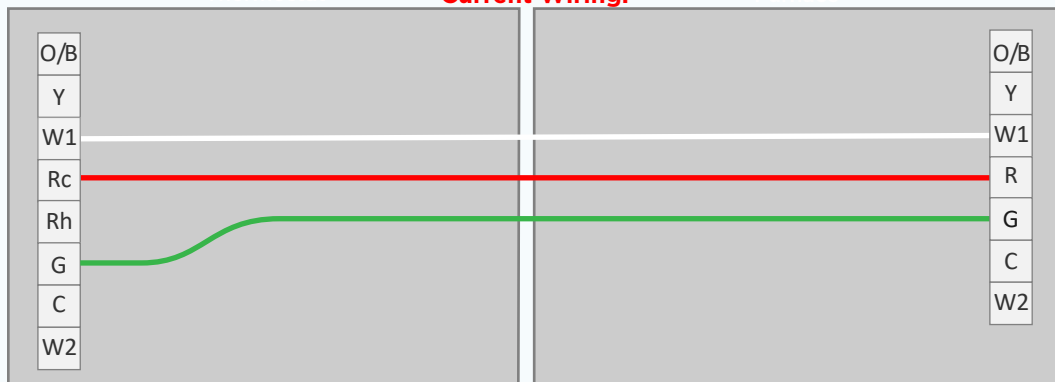
- The Power Bridge's "W" wire is not used for this system - do not connect it to your control board.
- Connect your old Y wire to the empty hole next to the blue end of the y-splitter (1). Snap the orange lever shut to secure the wire in its place. Insert the yellow end of the y-splitter into the thermostat's Y terminal and the green wire into the G terminal.
- Move your old G wire to the C terminal on your thermostat.

4.3d Installing the LUX Power Bridge on Heat Only Systems

Thermostat

Current Wiring:

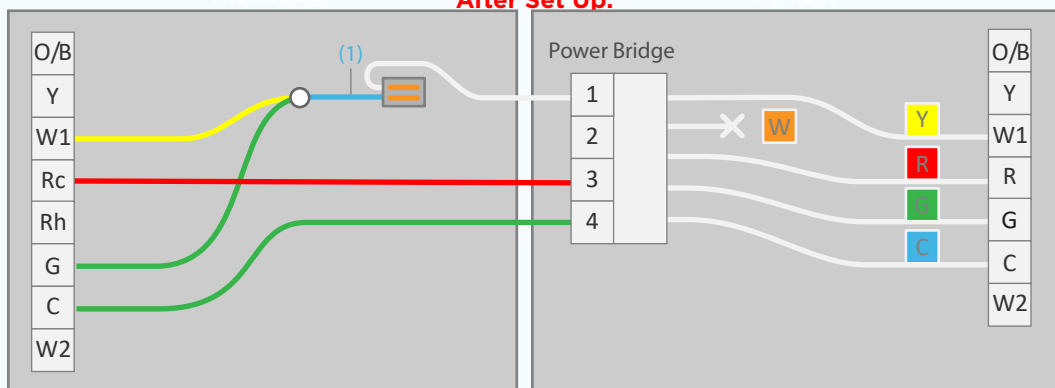
Furnace



Thermostat

After Set Up:

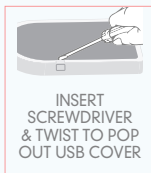
Furnace



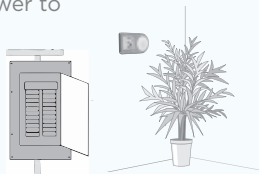
- For this system type, you will need to connect the Power Bridge's "Y" wire to the W1 terminal block on your control board. **Re-label the yellow tab on the Power Bridge's Y wire with one of the included W wire stickers.** You will not use the Power Bridge's "W" wire for this system.
- Connect your old W wire to the empty hole next to the blue end of the y-splitter (1). Snap the orange lever shut to secure the wire in its place. Insert the yellow end of the y-splitter into the thermostat's W terminal and the green wire into the G terminal.
- Move your old G wire to the C terminal on your thermostat.

Step 5: Power on

- For methods #1 with C-wire and #2 with LUX Power Bridge: secure GEO front onto base
- For method #4 Battery Power: insert 2-AA Lithium batteries & secure GEO front onto base
- For method #3 USB power: place a flathead screwdriver against port cover from inside GEO along bottom side – twist & push out. Plug in Micro USB and insert into base.
- Once GEO front has been secured to base (line up and firmly push), return power to system.



WITH GEO SECURE & POWER ON – THE DISPLAY SHOULD ILLUMINATE, IF NOT, CHECK POWER IS BACK ON.



Step 6: Configure system settings

GEO will guide you through setup

Rotate the control wheel to navigate through options and values. To make a selection, press ▲; to go back, press ✕.



GEO will prompt you to select:

- Whether heating and/or cooling are connected.
- System type (only applies if you have heat). Note if you wired per section 4.1a or 4.3a you have a furnace. If you wired per section 4.1b or 4.3b you have a heat pump.
If furnace fan is not operating properly after installation, change from furnace:gas to furnace:electric in the settings menu.
- The number of stages for heat/cool you have. Most common is 1 heat/1 cool. Not sure? refer to our online glossary to learn more.
- If you have set more than 1 stage of heat or cool, the OFFSET setting adjusts the stage-2 cut in.

Step 7: If you have not yet downloaded your LUX Products App, do so now

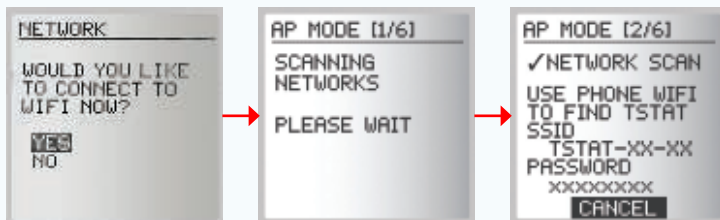
Step 8: Connecting LUX/GEO

You will need an iOS or Android device to set up your GEO. If you have a different device, visit LUXGEO.com. Set-up follows a series of screen prompts – have your GEO and mobile device ready.

8a. Getting ready to connect

You've downloaded the LUX Products App, created a user account and now, from your GEO, select "yes" for WiFi setup

GEO will begin scanning – but you can move on to 8b.



8b. Connecting GEO to your mobile device

ios

Open App and click the + icon to add device. When prompted, leave App & go to your mobile device's WiFi settings menu.

Select the WiFi network that looks like TSTAT-xx-xx.

Enter in the password displayed on the thermostat.

After connecting to TSTAT-xx-xx return back to the App.



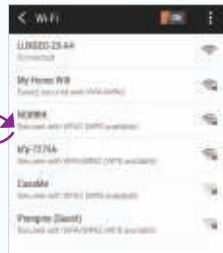
ios



Android

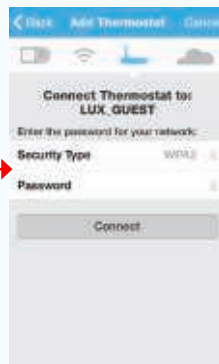


Android

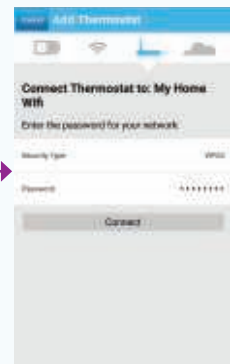


8c. Select your home WiFi network & enter password

ios



Android



Once the GEO connects to your home WiFi Network, the thermostat will automatically complete steps 3-6.

8d. When room temp appears on GEO display, continue by following prompts on App

Once you see  on app and  on GEO – your system is now successfully connected.

Troubleshooting:

You may need to manually reconnect your phone to your Wi-Fi network. If this is unsuccessful – restart GEO by going to menu/settings/network and pick up App from step 8b.

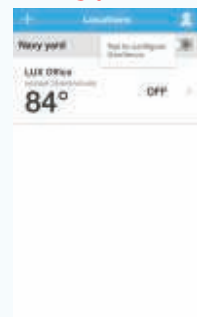


Step 9: Custom settings & Radius™ set-up

Radius™ is a geofence that allows you to set a geographic “fenced” zone via your mobile device. Using GPS, Radius™ (geofencing software) will recognize your approach into or out of the “fenced” area and trigger your thermostat to adjust to either your “at home” comfort settings or “Away” settings which provide more efficient energy use. With Radius™, geofencing can be set on multiple devices/users and to your custom needs and can work with or without a thermostat schedule to still save energy when away from home.

Please note and be assured that your GPS location is NEVER reported or known by LUX Products.

Setting your “fence”



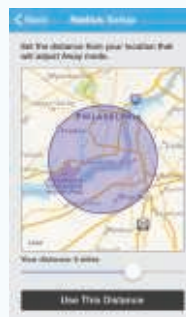
The Radius™ icon can be found in upper right of screen



Ready to set your fence



Confirm starting location



Customize your distance



Complete



TIP: IF YOU SET YOUR FENCE FURTHER FROM YOUR HOME THEN YOUR SYSTEM WILL HAVE MORE TIME TO MAKE YOUR HOME COMFORTABLE BEFORE YOU GET HOME. IF YOU SET THE FENCE CLOSER TO HOME THEN YOU WILL SAVE MORE ENERGY BUT SOMETIMES YOUR SYSTEM WILL NOT HAVE TIME TO RECOVER BEFORE YOU GET HOME. IF YOU ARE USING BATTERY POWER, WE RECOMMEND SETTING A LARGER DISTANCE.

Step 10: Enjoy the comfort, peace of mind and flexibility of your LUX/GEO thermostat.

VISIT OUR ONLINE COMMUNITY FOR INTERESTING ARTICLES AND TIPS FOR SAVING ENERGY AT LUXPRODUCTS.COM. THANK YOU.