EcoInsight

Thermostat Installation Guide

12.12

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Warning: Before beginning, remove power from all relevant electrical outlets by turning off any appropriate circuit breakers. Lockout and label all circuits in accordance with local code and always test with appropriate meter that power is off.

Section 1: Tools Needed

- Security screw wrench provided by Telkonet
- Phillips head screwdriver
- Minimum of two wall anchors, two wall dogs (four anchors recommended)

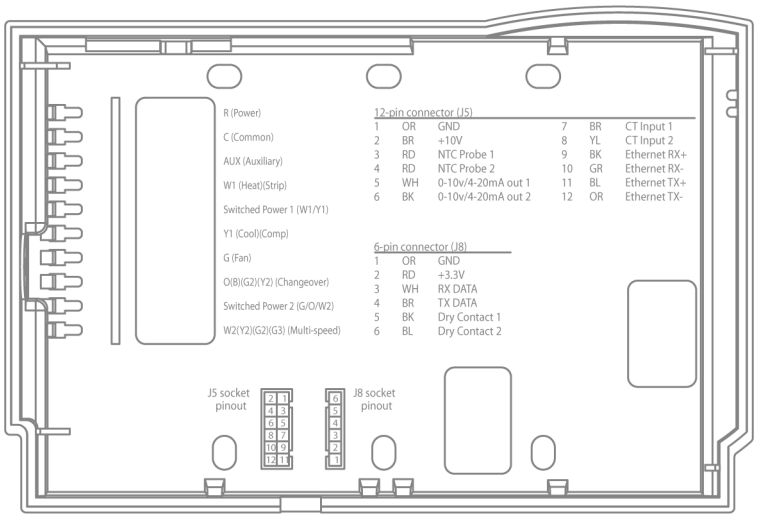
Section 2: Thermostat Installation

Open the EcoInsight by removing the security screw from the left side of the product using the security screw wrench. Then press the lever next to the security screw and open the faceplate.

When mounting the EcoInsight, be sure the placement allows wiring to come through the large rectangular hole on the left side of the backplate.

Mark placement for wall anchors or wall dogs (minimum of two anchors required, four recommended). Attach the backplate to the wall by inserting the wall anchors in the marked areas, and screwing the backplate into the wall anchors. Do not overtighten the screws in order to avoid bowing the backplate

Section 3: Wiring



Thermostat Backplate

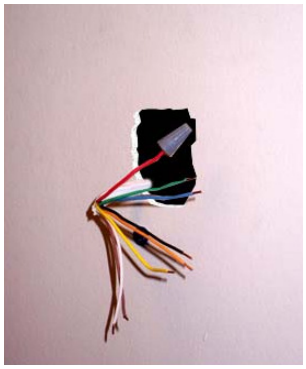
- R (Power) is used for the main power supply.
  - For high voltage installations, be sure to follow high-voltage safety procedures such as making sure that the thermostat is inside an electrical box.
- C (Common) is used to connect the common wire.
- AUX (Auxiliary) connector can be used for several purposes, such as lighting control or a third fan speed.
- W1 (Heat)(Strip) is used for the Heat control.
- Switched Power 1 (W1/Y1) will connect to R as a same-voltage power supply, but is available as an alternate voltage power supply if needed.
- Y1 (Cool)(Comp) will be used for cooling.
- G (Fan) will be used for the first fan speed, or the only speed when there is a single fan speed.
- (B)(G2)(Y2)(Changeover) is most often the second fan speed, but occasionally used to power a heat pump.
- Switched Power 2 (G/O/W2) is usually jumped to Switched power and/or R, but can be another alternate power supply voltage.
- W2 (Y2)(G2)(G3)(Multi-speed) can be used for a second or third fan speed.

If this is a new installation:

1) Locate the wiring in the wall.
2) Identify the red (power) wire, strip to ~0.25" and cap with a wire nut or electrical tape.
3) Strip the ends of all remaining wires, except the common (blue) leads, to ~0.25". The insulation on the common wire will provide additional protection against a short circuit during installation.
4) Continue with step 5 below.

If replacing a previous thermostat model:

1) Document the existing wiring arrangement before removing the existing thermostat.
2) Disconnect the existing wiring. Remove the red (power) wire first, and cap it using a wire nut or electrical tape.
3) Remove the blue (common) wire and cut the copper flush with the insulation. The insulation on the common wire will provide additional protection against a short circuit during installation.
4) Remove the old thermostat.
5) Remove the security screw from the left side of the new EcoInsight using the security screw wrench provided by Telkonet. Detach the backplate.



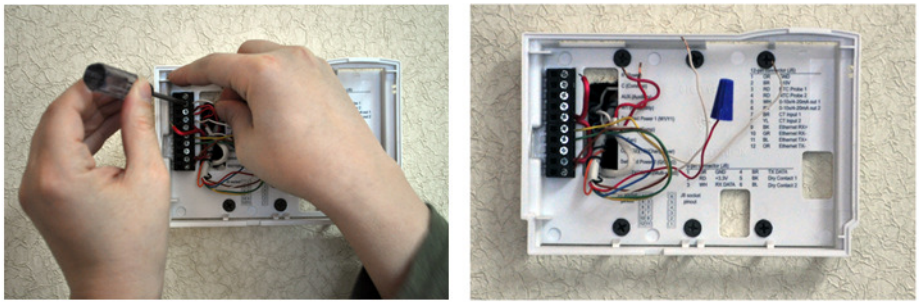
Wiring emerging from wall

6) Mount the backplate on the wall (see Step 2).
   - For EcoInsight thermostats, place a section of Armaflex foam insulating tape on the backplate to cover the wall opening and prevent drafts from reaching the thermostat.

     Note: For illustration clarity, this tape is not shown in the photos in this document, but is essential in order to prevent thermal leakage from the between-wall space from affecting the in-room temperature.

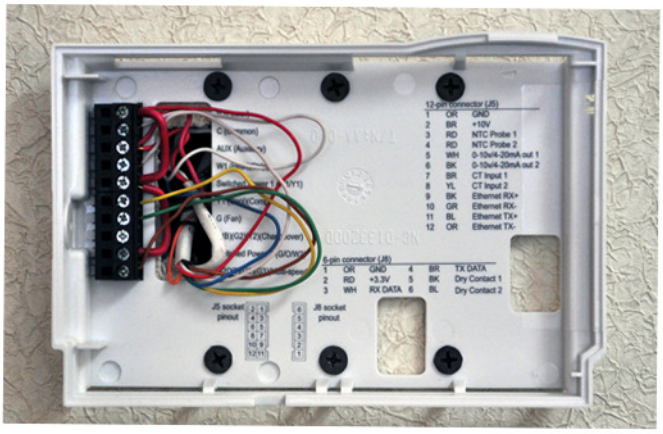
7) Begin making the wiring connections. Refer to the wiring map on the backplate, the custom wiring specifications if provided by Telkonet Integration Engineering, or the Wiring Guide.
   a) Connect the red (power) wire last.
   b) Begin working with the lowest wires on the terminal block, moving upwards (excluding the red (power) wire).
   c) Use a small screwdriver to tighten the terminals against the wire, and verify a good physical connection by gently tugging on the wire after it is attached.

   Note that not all terminal connections will be used in every installation. The specifics of the site and proposed deployment will determine the number of wires and their placement.



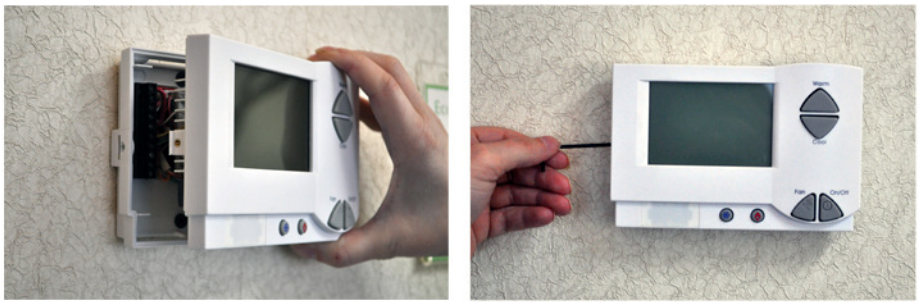
Making the wiring connections

8) Remove the cap or electrical tape from the red power wire, and attach the wire to the terminal block.



Finished wiring

9) With the backplate connections completed, double-check your wiring and the security of the wire connections to the terminal block.
10) If any additional connections are needed for hard-wiring sensors, etc., make these connections now.



Affixing the thermostat and tightening the safety screw

Step 4: Close the Thermostat

1. Hook the right side of the thermostat into the three hinges on the backplate and swing the unit closed. Gentle, firm pressure on the left side should lock the thermostat into position. If you encounter resistance, ensure wiring is in place. Carefully press the lever on the left side to allow it to slide into place.
2. Engage the safety screw using the security screw wrench provided by Telkonet.
3. For PTAC units, verify that the GFI (if equipped) has not been tripped.
4. Verify that the PTAC has been set to Class II (remote thermostat) operation (if applicable). Consult PTAC manual for proper procedure.
5. Remove lockouts/tags from the power panel, and return the electrical circuit to operation.
6. Monitor the thermostat. The display should become active within a few seconds of power being applied. If no display is seen within this period, switch the electrical circuit back off, re-affix lockouts and safety tags, and evaluate the installation.
7. Test all components to confirm operation of heat, air conditioning, and all fan settings (high, low), etc.

Using the Buttons:

- The Up and Down arrows adjust the setpoint, or desired temperature.
- The On/Off button, in most cases, turns the unit off, or back on into the previous mode (heat or cool).
- The Fan button either changes the fan speed or simply turns the fan on and off, depending on the configuration desired by your property.

The two buttons on the EcoInsight can be programmed to perform many different operations depending on the preferences of the individual property. Common functions assigned to these buttons include:

- Heat button: Sends the thermostat into Heating mode.
- Cool button: Sends the thermostat into Cooling mode.
- Combination Heat/Cool button: Toggles between Heating mode and Cooling mode.
- Fahrenheit/Celsius button: Toggles between displaying the temperature in Fahrenheit or Celsius.
- Backlight button: Turns the backlight for the thermostat on or off.
- Green button: Changes the thermostat profile to a property-specific energy saving profile.

Regulatory Compliance

FCC 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.

In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of the manufacturer could void the user's authority to operate the equipment.

To satisfy RF exposure requirements, this device and its antennas must operate with a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.