

Installation Guide

Wiser Air™ Thermostat



Safety information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this installation guide or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result** in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result** in death or serious injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel only. No responsibility is assumed by Schneider Electric for any consequences arising out of the misuse of this product.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Before You Start

Read the information in this section in its entirety before you begin the installation of Wiser Air.

TOOLS	PROVIDED MATERIALS
<ul style="list-style-type: none"> • Wire stripper • Drill with 3/16in (4.8mm) drill bit • Screwdriver • Level • Voltmeter 	<ul style="list-style-type: none"> • Wiser Air front • Wiser Air back plate • Wiser Air trim plate • Screws (x2) and anchors (x2) • Wire extender • Installation guide • Wire labels

Preparation

- Make sure that your existing thermostat is in off mode.
- Switch your air conditioning and/or heating system breaker to the off position.
- We recommend that you use a properly isolated voltmeter to confirm power is off.
- Wiring must conform to all building codes, regulations, and ordinances as required by local and national code and regulation authorities.
- Ensure all electrical loads (air conditioners, heating elements, etc.) that will be controlled by Wiser Air are connected to appropriate fuses to prevent overload.
- Ensure Wiser Air is suitable for the environment. Check the voltage compatibility (~24V).
- Wiser Air outputs are rated at 1A maximum.
- Security is a top priority for Wiser Air. Wi-Fi must be at least WPA2 password protected.

Location

- If this is a new installation, install Wiser Air 5ft (1.52m) above the floor surface in accordance with applicable building codes.
- Install Wiser Air in areas with frequent occupancy and airflow.
- Avoid installing Wiser Air in locations near heating/cooling devices.
- Avoid installing Wiser Air in areas with direct sunlight. The screen may become unreadable due to direct sunlight or reflection from windows, and temperature regulation may be affected.
- Avoid installing Wiser Air behind doors, near corners, near air vents, or in areas with high dust concentration.

Mounting

1. Keep the front of Wiser Air separate from the back plate before mounting.
2. Align the Wiser Air back plate against a wall using a level and mark the placement of the mounting holes.
3. Using a 3/16in (4.8mm) drill bit, drill a hole to a depth of 1in (25.4mm) and install wall anchors at the marked locations. If a stud is present, no anchors are necessary.

Cleaning and care

- Use a soft, lint-free dry cloth for cleaning.
- Avoid getting moisture in openings.
- Do not use cleaning products or compressed air.
- Never use tools directly on the touchscreen.
- Never use paint on Wisier Air.
- Do not drop or crush Wisier Air, or allow Wisier Air to come into contact with liquids.
- Do not use a damaged device (such as one with a cracked screen).
- Functionality guarantees are no longer valid if the glass on the screen is broken.

Wisier Air product support

The Customer Care Center (CCC) is your single point of contact for information about your Wisier Air. Qualified personnel are available to answer your customer service and technical support questions.






PHONE: **1-855-55WISER (1-855-559-4737)**

E-Mail: wisier_support@schneider-electric.com

Web: www.wisierair.com/support

Wiring at a Glance



Connections	Typically used for:
 RH, RC, C	This supplies power to your thermostat
 G	This controls the fan
 W, W2, U	This controls heating
 Y, Y2	This controls air conditioning
HP O/B	Mainly used by heat pump and geothermal systems
 W, U	This controls auxiliary/emergency heating

Common system configurations

In all applications: **RC** and **C** provide power to the thermostat; **G** controls the fan.

Single Stage Heat/Cool

Connections: **RC, C, G, W, Y**

W - Heating

Y - Cooling

Single Stage Heat Pump

Connections: **RC, C, G, W, Y, O/B**

Y - Compressor **O/B** - Reversing Valve

W - Auxiliary Heat

Two Stage Heat/Two Stage Cool

Connections: **RC, C, G, W, Y, W2, Y2**

Y - Stage 1 Cooling

W - Stage 1 Heating

Y2 - Stage 2 Cooling

W2 - Stage 2 Heating

Two Speed Heat Pump

Connections: **RC, C, G, W, Y, Y2, O/B**

Y - Compressor Stage 1

Y2 - Compressor Stage 2

Single Stage Dual Fuel Heat Pump

Connections: **RC, C, G, W, Y, O/B, S1, S2**

Y - Compressor Stage 1

W - Auxiliary Heat

O/B - Reversing Valve

S1, S2 - Exterior temperature sensor

Zone Control

Connections: **RC, C, G, W, Y, W2, Y2**

Y - Zone Cooling

W - Zone Heating

Y2, W2 - In a Zone Control Application with multiple thermostats, one of the thermostats serves as the primary thermostat controlling the System Mode. The Y2 and W2 terminals on the primary thermostat control System Heat and System Cool.

W - Auxiliary Heat

O/B - Reversing Valve

Wiring connections in detail

RC, RH

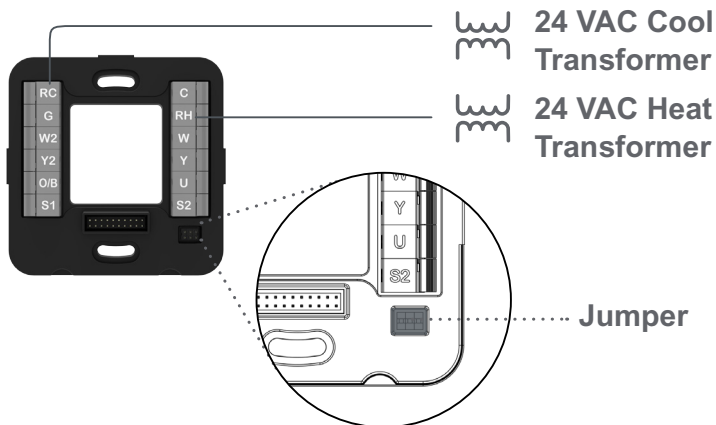
Wiser Air thermostats require 24VAC power from the Heating, Ventilating and Air Conditioning (HVAC) system in order to function.

In most modern homes, a single HVAC unit provides both heating and cooling

- In these cases, the RC/RH jumper shall be left in place.
- 24V R wire may be landed on either the RH or RC terminal.

If your home has 2 different sets of equipment for heating and cooling

- The R wire from each HVAC unit must be wired separately.
- The RH/RC jumper shall be removed.
- The R wire from the heating unit should be connected to RH.
- The R wire from the cooling unit should be connected to RC.
- The C wire from the cooling unit should be connected to C.



TIP: For more information, please visit <https://www.wiserhome.com/support/>

C

Wiser Air also requires a connection to the common side of the 24V transformer.

If you are replacing a thermostat that also had a C wire

- Move that wire to the C terminal.

If you are replacing a thermostat that did not have a C wire

- If there are spare conductors that were not connected to your old thermostat, one of these can possibly be used as the C conductor. Before connecting the spare wire to C on the thermostat, verify that that the conductor is connected to the 24VAC Transformer common terminal in the HVAC wiring compartment. Connect the conductor at the HVAC equipment if necessary and then connect it to the C terminal on the thermostat.
- If no spare conductors are available, then use the Wire Extender as described in the Appendix.

G

In all applications, the G terminal engages the fan of the HVAC equipment.

W, W2

In a conventional system

- The W terminal engages the first stage of heating.

In a heat pump system

- The W terminal engages the auxiliary heat or emergency heat.

In advanced, multi-stage systems

- The W2 terminal engages the second stage of heating.

Y, Y2

In a conventional system

- The Y terminal engages the first stage of air conditioning.

In a heat pump system

- The Y terminal engages the compressor in both heating and cooling modes.

In advanced, multi-stage systems

- The Y2 terminal engages the second stage of cooling.

O/B

By default, the thermostat operates per Orange Wire Mode. It can be changed to Blue Wire Mode in the settings.

In a heat pump system

- The O/B terminal engages the reversing valve.

U

This is a universal terminal. It has a few different functions depending on configuration.

In 3-stage heat systems

- The U terminal is used to engage the third stage of heating.

S1, S2**In advanced systems with exterior temperature measurement**

- S1 and S2 can be used to connect an exterior temperature sensor.
- Use Schneider Electric part number EER57200 or another 10K based thermistor.

Installation Procedure

▲ WARNING
<p>MERCURY HAZARD</p> <p>If replacing an existing thermostat that uses a sealed tube of mercury, do not dispose of the tube in the trash. Contact local waste management authorities for information on the safe disposal or recycling of the mercury.</p> <p>Failure to safely dispose of the mercury can result in exposure leading to serious health damage.</p>

Optional trim plate mounting

If you are replacing an existing thermostat, you have the option of using the provided Wisier Air trim plate. If the hole left by the removal of the existing unit is larger than the back plate of the Wisier Air thermostat, use the optional trim plate. Run the wires and anchor the mounting screws through it while attaching the back plate to the wall (Fig. 2). Make sure to attach the trim plate with the central hole oriented upward.

Installing Wiser Air

1. Disconnect power to the HVAC system by turning off the breaker.
2. Remove the existing thermostat's panel from the wall without disconnecting the wiring.
3. Take a picture of the wiring of the terminal connections (Fig. 1). To prevent confusion, label the wires.

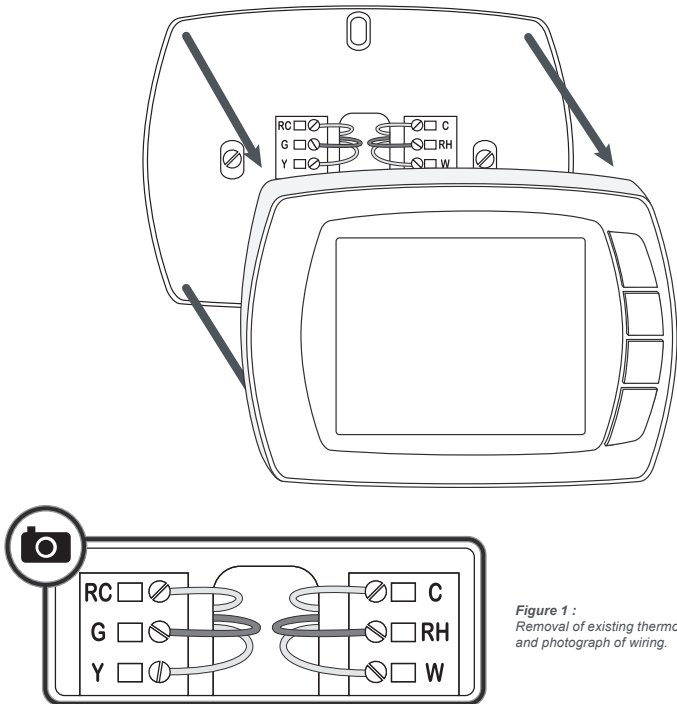


Figure 1 :
Removal of existing thermostat
and photograph of wiring.

TIP: To verify the compatibility of your unit, please visit www.wiserair.com/compatibility

TIP: Before proceeding further determine if you require the optional trim plate.

TIP: Before proceeding further check if you require a wire extender (see Appendix).

4. Disconnect the wiring of the existing thermostat and remove the back plate.

TIP: Acceptable wire gauge for use with Wisir Air is solid 18 to 22 AWG (0.33 to 0.82mm²).

5. Pull the wires 6in (15cm) out of the wall if they are not already pulled out.
6. Insert the wires through the central hole in the Wisir Air back plate.
7. If required, strip each wire 0.25in (0.6cm) from the end (does not apply to replacing pre-existing units).
8. Gently push the wiring back into the hole.

TIP: See the Wiring terminals section (p.11) in this guide before proceeding further.

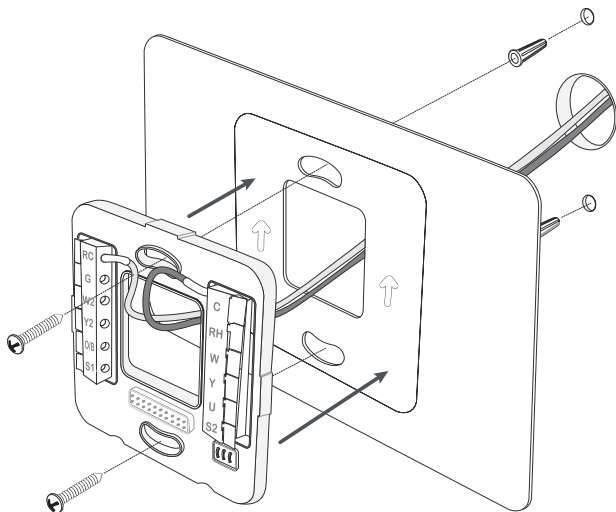


Figure 2 : Wiring connection and back plate attachment (optional trim plate shown).

9. Connect the wiring to the Wiser Air back plate, matching the terminal connections to those in the photograph of the existing thermostat's wiring or according to the wiring requirements of your HVAC system. See wiring instructions on page 11.
10. Attach the Wiser Air back plate to the wall using the provided screws in the mounting holes in the top and bottom (Fig. 2).
11. Attach the front of Wiser Air to the back plate, making sure that the front is oriented correctly so that the terminal pins on the front panel match the pins on the back plate. Do not use excessive force on the Wiser Air as this can damage the terminal pins (Fig. 3).

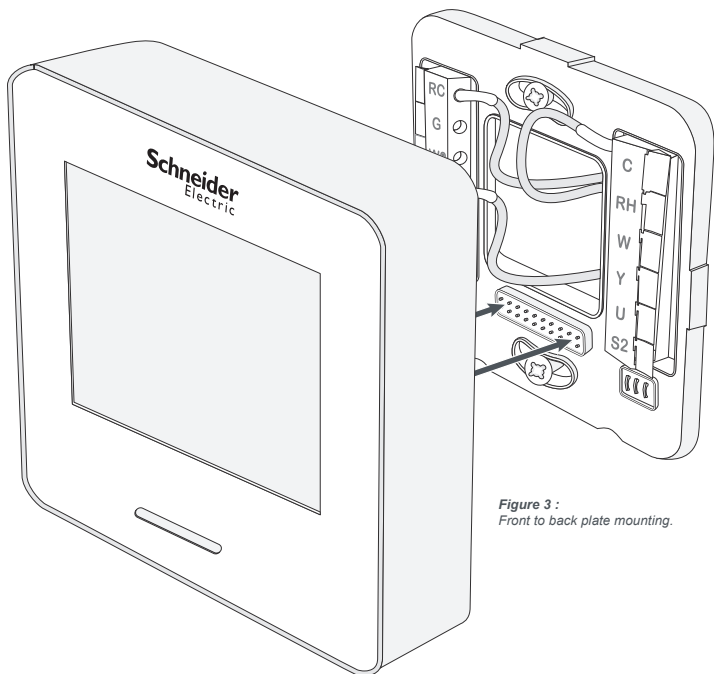


Figure 3 :
Front to back plate mounting.

12. Remove the protective plastic cover from the LCD touchscreen.
13. Reconnect power to the HVAC system.

Wiring terminals

This section describes the procedure for connecting the wiring to the back plate. (Fig. 4) shows the Wiser Air backplate configuration.

When replacing an older thermostat, refer to the photograph of the original wiring taken in **Step 3** of the installation procedure to connect the wiring to the correct terminals. See the caution below.

For a new installation, consult the documentation for your HVAC system to determine the correct wiring terminal connections. Match the wiring labels to the terminal labels. For more information or assistance in determining the correct wiring for your HVAC system, see the HVAC wiring help sections on the Wiser Air website (www.wiserair.com/support).

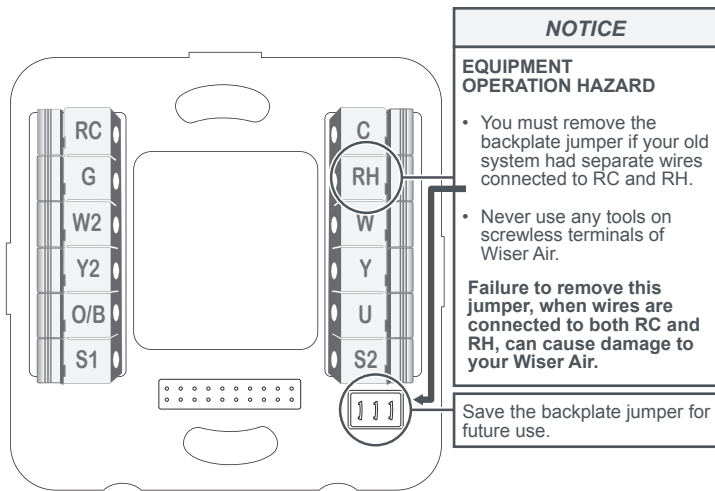


Figure 4 : Wiring terminals and jumper.

TIP: To ensure that Wiser Air is wired correctly. Place the thermostat in either heating or cooling mode. Set the set point 2 degrees above or below the current temperature. Confirm that your system engages in either heating or cooling. For heat pumps, an additional step is required to check auxiliary heating. Set the set point 5 degrees below the current set point. The air should feel noticeably warmer than the 2 degree check.

Troubleshooting

If you experience difficulties with your Wiser Air thermostat setup, proceed as follows:

- Disconnect power.
- Check that the front plate of Wiser Air is properly connected to the back plate.
- Check that the wires connected to the terminals on the back plate are properly attached.
- Contact the Customer Care Center 1-855-559-4737.

Terminal descriptions

Wiser Air Terminal	Description	Notes	Other brand terminal equivalents
RC	Cool 24V power supply	Required	R, RC
G	Fan relay		G, F
W2	Heating relay (Stage 2)		W2 (if W, W1 or Aux is selected)
Y2	Compressor relay (Stage 2)		Y2
O/B	Cool/Heat active reversing valve		O/B, O, B
S1	Outside air sensor		S1
C	Common	Required	C, X, B
RH	Heat 24V power supply	Only if RC is connected	RH
W	Heating relay		W, W1, W2, AUX
Y	Compressor relay		Y, Y1
U	Universal (W3)		W3, D, H, E, X2
S2	Outside air sensor		S2

Touchscreen Display

Installation wizard

When installing Wiser Air for the first time, an installation wizard will launch to guide you through the initial configuration and registration of the device as soon as the device is connected. You will also be prompted to create an account on the Wiser Air website or in the mobile app. Follow the instructions shown. For more information, visit: www.wiserair.com/support.

TIP: For on-the-go control of your thermostat, download the Wiser Air application from the App Store, Google Play or Microsoft Store.



Figure 5 : Wiser Air welcome screen.

Smart Sense display

Wiser Air has a built-in advanced motion sensor. When it detects a person in proximity, it will show a limited display.

In order to conserve energy, the display is inactive when no presence is detected by the sensor.

Interactive display

When a user interacts with Wisier Air's touchscreen, the display will change to show the following information.

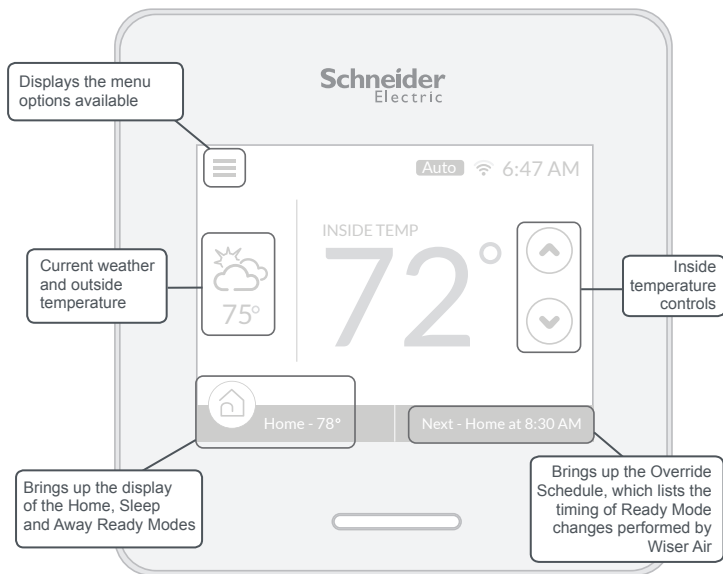


Figure 6 : Interactive display.

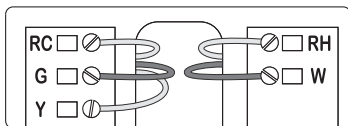
For more information on Wisier Air's functionality, and for advanced HVAC instructions go to: <https://www.wiserair.com/support>.

Appendix

Wiser Wire Extender Kit

Do I need to use the wire extender?

If there is no common wire (C) on your existing thermostat (see illustration below), and there is no spare wire available, the wire extender is needed or a new wire may be installed from the equipment to Wiser Air.



Typical battery powered thermostat without common (C) terminal.

The wire extender kit contains a diode pair and a Printed Circuit Board (PCB) assembly. To open the board, pinch and pull (Fig. 7).

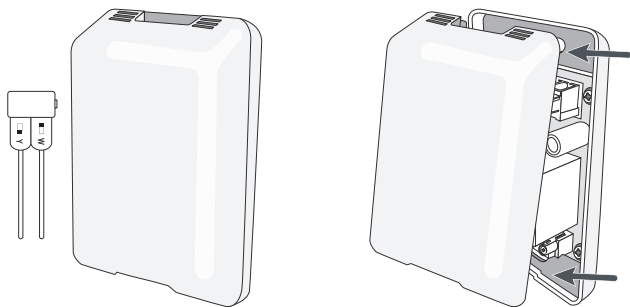


Figure 7 : Wire Extender Kit.

▲ WARNING

HAZARD OF ELECTRICAL SHOCK

The following installation procedure should be performed by qualified personnel:

- Knowledgeable about and licensed in accordance with local electrical installation code requirements.
- Able to read, interpret, and follow the instructions and precautions provided.
- Trained on the operation and fundamentals of residential HVAC apparatus, and familiar with the associated hazards.

Failure to follow these instructions can result in personal injury and/or damage to Wiser Air.

Installation

⚠ ⚠ DANGER



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Disconnect all power before working on equipment.

Failure to follow these instructions will result in death or serious injury.

TIP: Take a photograph of the initial wiring of the HVAC system to use as a reference and to help prevent wiring mishaps during the installation process.

1. Disconnect the wires from the Y and W terminals on the thermostat.
2. Connect the diode pair to the Y and W terminals (Fig. 8). Ensure that the diode pair's Y terminal is connected to the thermostat's Y terminal and the diode pair's W terminal is connected to the thermostat's W terminal.
3. Connect the wire that was on W to the diode pair; connect the wire that was on Y to C.
4. Connect the other wire that was disconnected from the thermostat base to the C terminal on the thermostat.

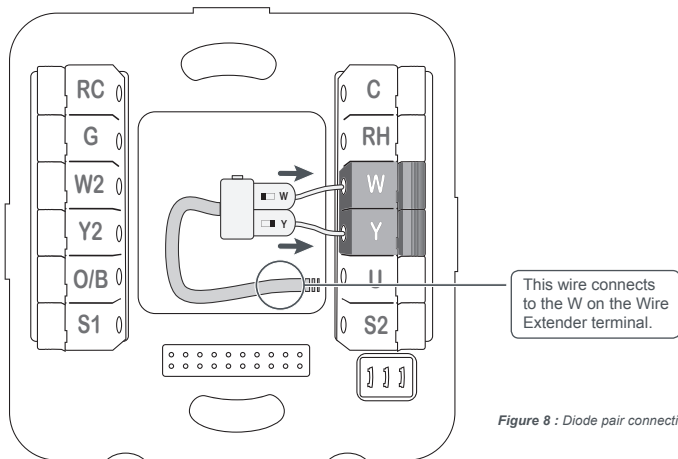


Figure 8 : Diode pair connection.

TIP: Use the picture taken in Step 3 of the Installation procedure for Wiser Air to help you determine whether you have a 4 or 5-wire system.

Installing the wire extender kit in a 4-wire system

1. Isolate power from the HVAC system.
2. Familiarize yourself with the HVAC control board located inside the air handler system.
3. Relocate the wire from the R terminal on the HVAC control board to the RC or RH terminal on the STAT side of the PCB assembly. Ensure that the jumper between the RC and RH terminals is installed.
4. Relocate the wire from the G terminal on the HVAC control board to the G terminal on the STAT side of the PCB assembly.
5. Connect the wire at the C terminal of the thermostat to the C terminal on the STAT side of the PCB assembly.
6. Connect the wire from the common point of the diode pair to either the W or Y terminal on the STAT side of the PCB assembly. Ensure that the jumper between the W and Y terminals is installed.
7. Connect the wires between terminals RC, Y, W, C, and G on the HVAC control board and the EQUIP side of the PCB assembly.
8. Connect RC, Y, W, C, and G on the HVAC control board to RC, Y, W, C, and G on the EQUIP side of the wire extender respectively.
9. Mount the PCB assembly near the HVAC control board.

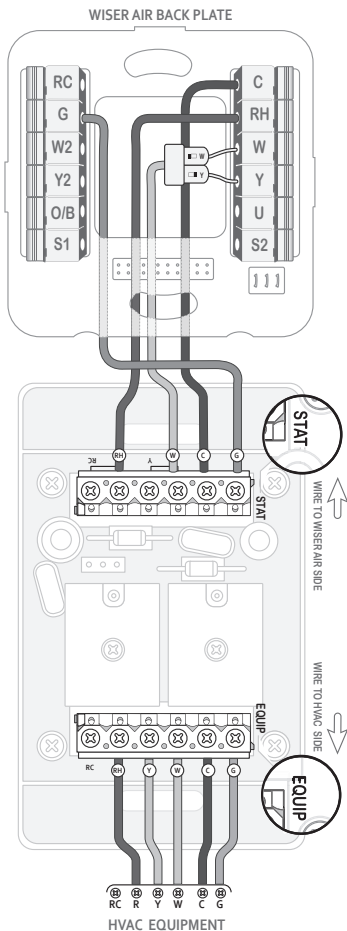


Figure 9 : PCB assembly installation in a 4-wire system.

Installing the wire extender kit in a 5-wire system

In order to complete this procedure, ensure that the RC/RH jumper on the STAT side of the PCB is unscrewed and removed.

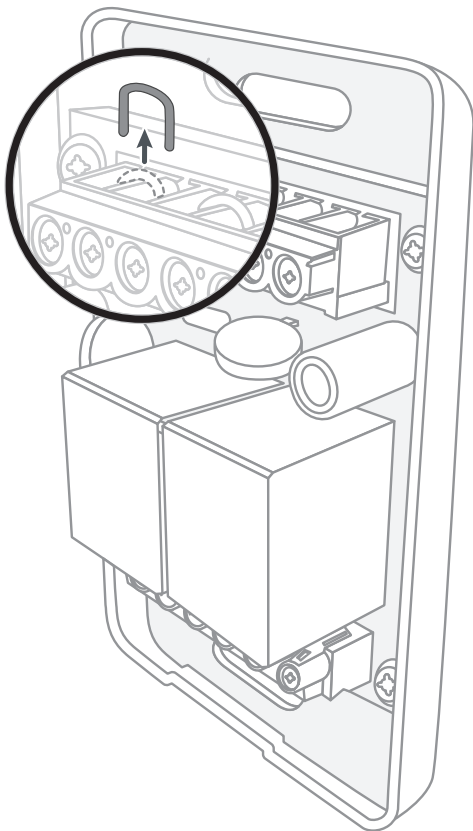


Figure 10 : Wire extender jumper removal.

Installing the wire extender kit in a 5-wire system

1. Isolate power from the HVAC system.
2. Familiarize yourself with the HVAC control board located inside the air handler system.
3. Relocate the wire from the RC terminal on the HVAC control board to the RC terminal on the STAT side of the PCB assembly.
4. Connect the wire relocated from terminal RH on the HVAC control board to terminal RH on the STAT side of the PCB assembly.
5. Relocate the wire from the G terminal on the HVAC control board to the G terminal on the STAT side of the PCB assembly.
6. Connect the wire at the C terminal of the thermostat to the C terminal on the STAT side of the PCB assembly.
7. Mount the PCB assembly near the HVAC control board.
8. Connect the wire from the common point of the diode pair to either the W or Y terminal on the STAT side of the PCB assembly. Ensure that the jumper between the W and Y terminals is installed.
9. Connect the wires between the RC, RH, Y, W, C, and G terminals on the HVAC control board to RC, RH, Y, W, C and G on the EQUIP side of the wire extender respectively.

TIP: If no C terminal is present, connect to the 24V side of the transformer powering the control board.

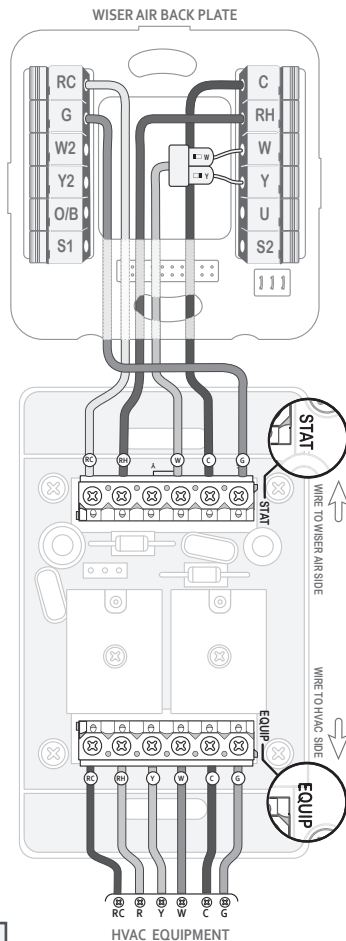


Figure 11 : PCB assembly installation in a 5-wire system.

REGULATORY COMPLIANCE

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

- this device may not cause harmful interference
- this device must accept any interference received, including interference that may cause undesired operation.

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

- this device may not cause interference
- 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 applicables aux appareils radio exempts de licence. L'exploitation est

autorisée aux deux conditions suivantes :

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

Changes or modifications not approved by the manufacturer could void the user's authority to operate the equipment.

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.

Check with your local government for instruction on disposal of these products.

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