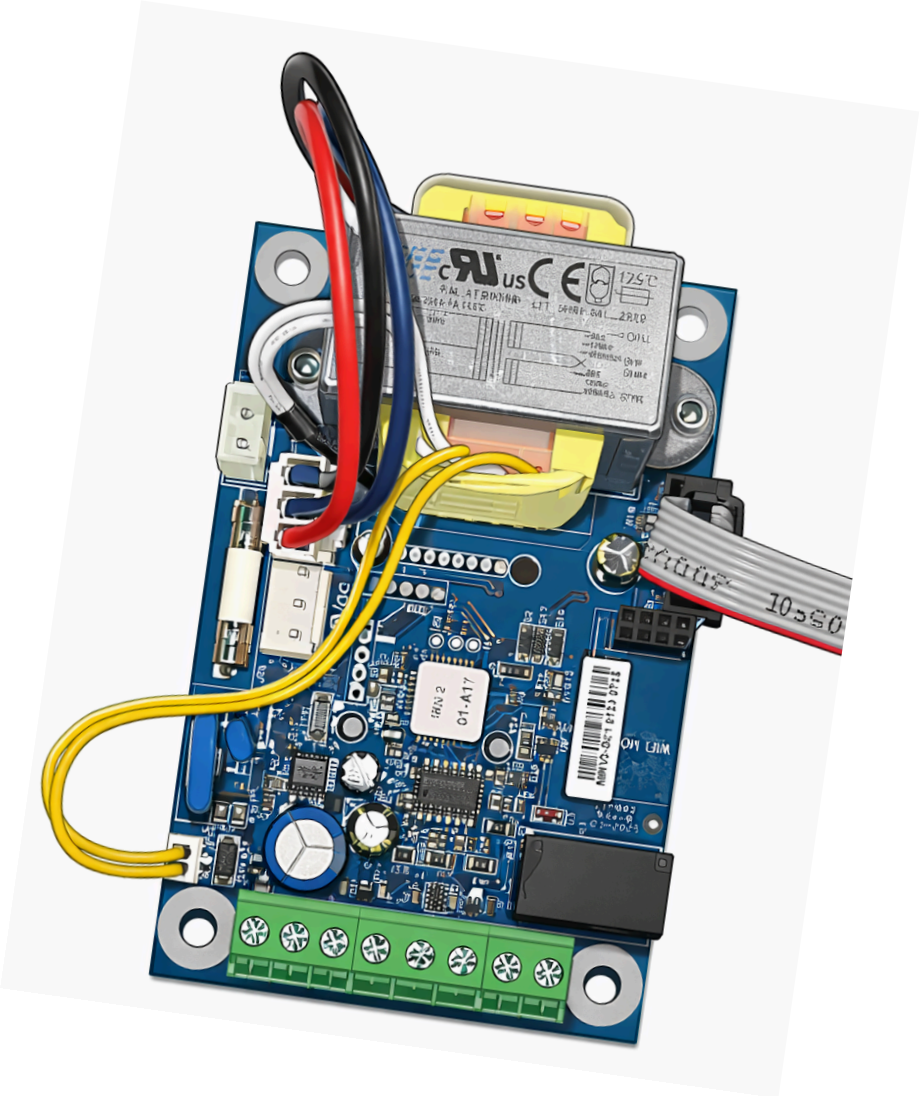
AIO® Third Party Thermostat Gateway (TPG015) for AIO® Heat Pumps

Installation Guide



innova

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DISCLAIMER

IMPORTANT - TRAINING IS REQUIRED PRIOR TO PERFORMING ANY INSTALLATION.

While this guide outlines the general installation requirements for the unit, it does not replace required installer training. Before commencing installation, the project manager must contact the INNOVA VIP Department at (212) 204-2700 to coordinate training for the installer.

Failure to ensure that installation is performed by INNOVA-trained personnel may result in improper operation or equipment damage, and may void the warranty.

Training may be conducted in person or remotely (online).

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INNOVA is constantly innovating and improving its products and reserves the right to modify product design and specifications without notice and without incurring any obligations.

REVISION HISTORY

Rev	Date	Revised By	Changes
A	2026-03-30	Leah Kuber	Create a single document for all AIO® units.
B	2026-08-03	Leah Kuber	Minor technical corrections
C	2026-09-06	Leah Kuber	Clarify hardwiring procedure and add Caution for setting voltage.

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1. ABOUT THIS GUIDE

This guide outlines the required procedures for safely installing the TPG015 gateway in an AIO® heat pump unit and connecting it to a third-party thermostat. Following these instructions reduces the risk of equipment damage, improper installation, and potential safety hazards.

Important: Read the entire installation guide before beginning any installation tasks. Pay close attention to all safety warnings and notices.

Note: This guide is shipped with the gateway and is the property of the customer. Make sure this guide is left in the customer's possession.

1.1 Specific language

Some language and symbols in this guide have specific meanings.

Reference to the product
Any reference to "the unit" or "the AIO® unit" is meant to refer to the specific AIO® heat pump unit described in that section of the document.

Unit orientation
All directions in this guide (left, right, top, and bottom) are given from the perspective of facing the unit.

Role definitions
This guide is primarily intended for installers. The roles of end users and service technicians are also defined here for reference.

- **User:** A nonexpert who can safely operate the unit and perform basic diagnostics and maintenance.
- **Installer:** A trained and certified HVAC installation technician responsible for the correct installation of the unit as indicated in the installation guide and in accordance with all local and national codes.
- **Service technician:** An INNOVA-trained and qualified HVAC professional who performs service or maintenance in compliance with OSHA safety requirements, recognized industry best practices, and all applicable federal, state, and local codes and standards.
- **Trained HVAC technicians:** A group term for both installation and service technicians.

1.2 Safety notices, icons, and symbols

Warnings, Cautions, and Annotations are included throughout this guide. Read each carefully and follow the stated instructions.

Safety notices
Each safety notice represents the level and immediacy of risk. Each warning panel displays a background color and a signal word, and includes an icon to specify the topic.

DANGER

A red notice with the **DANGER** title indicates an imminently hazardous situation that could result in death or serious injury if not avoided.

WARNING

The orange notice with the **WARNING** title indicates a potential hazard that, if not avoided, could result in death or serious injury.

CAUTION

The yellow notice with the **CAUTION** title indicates a hazardous situation that, if not avoided, could result in minor to moderate injury or property damage.

Warning icons
The warning icons indicate the type of risk and are used in conjunction with the safety notice panels.

	The flame icon indicates information related to a hot surface or explosion hazard.
	The lightning-bolt icon indicates a warning related to electrical hazards.
	The hand icon indicates information related to a hazard involving moving parts and sharp surfaces.
	The exclamation mark icon indicates general hazards (environmental, lifting, and other categories).

Annotation icons
Annotations are provided throughout this guide. It is important to read each one carefully and follow the stated instructions.



Indicates instructions or information that is important to note to ensure optimal installation or operation of the unit.



Indicates supplemental information, tips, or useful background information.

2. QUICK GUIDE - INSTALLING THE TPG015 GATEWAY IN AIO® UNITS

⚠ WARNING

IMPORTANT! Before beginning any installation, read the Safety Guidelines in Section 4.

This Quick Guide provides links to the sections in this document that describe how to install a TPG015 gateway control board in each compatible type of AIO® heat pump unit.

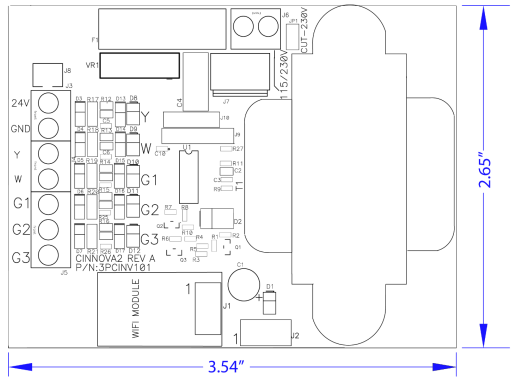
To install in an AIO® Wall Mounted (Standard/Pro) unit (Gen 1)
To install in an AIO® Ceiling Ducted unit (with or without ERV)
To install in an AIO® Ceiling Suspended unit (with ERV option)
To install in an AIO® Ceiling Suspended unit (without ERV option)
To install in an AIO® Vertical Stack unit
To install in an AIO® Vertical Stack XL unit

3. TPG015 THIRD PARTY THERMOSTAT GATEWAY OVERVIEW

The third-party thermostat gateway TPG015 enables the user to control AIO® units with any standard or smart thermostat. The AIO®'s BLDC inverter compressor cannot be controlled by a regular or smart thermostat, which only sends an on/off signal. The Third-Party Gateway (TPG) sends signals from the connected standard or smart thermostat to the AIO®'s processor, which then controls the inverter compressor.

Figure 1 shows the TPG015 gateway layout:

Figure 1. TPG015 gateway layout



3.1 AIO® unit compatibility

The TPG015 gateway can be installed in the following AIO® units:

- AIO® Wall Mounted Standard/Pro (Gen 1 only)
- AIO® Ceiling Ducted (with or without ERV)
- AIO® Ceiling Suspended (with or without ERV option)
- AIO® Vertical Stack (Gen 3 only)
- AIO® Vertical Stack XL

- All references to the AIO® Wall Mounted unit refer to both the Wall Mounted Standard and the Wall Mounted Pro units.
- The TPG015 gateway is not used with Wall Mounted Gen 2 and Gen 3 units. For these units, install the MOD-TPG third-party thermostat gateway. Refer to the AIO® Third-Party Thermostat Gateway MOD-TPG Installation Guide for more information.
- The TPG015 gateway cannot be used with Gen 1 or 2 of the Vertical Stack unit. See Section 9.

3.2 TPG015 gateway specifications

The following are the specifications of the TPG015 gateway:

- Relay Rating: Dry Contact - 1 amp.
- Third-party thermostat inputs via seven screw terminals.
- Operating temperature: 40°F (4.4°C) - 158°F (70°C).
- Storage temperature: 0°F (-17.8°C) - 158°F (70°C), 90% relative humidity, non-condensing.
- Power supply: Operates on either 115V or 230V AC, 50/60 Hz, selected via a connector on the gateway board.
- Power consumption: 4.8 watts.
- Fuse: 0.315 amp ceramic fuse.
- Dimensions: 3.54" x 2.65" x 1.5" (89.9 mm x 67.3 mm x 38.1 mm)
- Weight: 0.5 lb (0.2 kg)

The TPG015 gateway is an optional component for the AIO® unit. It must only be used for this purpose.

4. SAFETY GUIDELINES - READ BEFORE INSTALLING

This guide details the steps required to safely install a TPG015 gateway in an AIO® heat pump unit and connect it to a third-party thermostat. By following these instructions, the risk of equipment damage and personal injury can be significantly reduced.

Read the entire installation guide before installing the gateway. Pay careful attention to all safety notices and warnings.

Failure to apply the indicated rules may cause malfunctions in the appliances and relieve the manufacturer of any warranty and of any liability for damage to persons, animals, or property.

All safety regulations in force at the installation site, as well as common-sense precautions, must be followed.

The precautions listed in this installation guide are intended to supplement accepted safe practices. In case of a direct conflict between accepted safety practices and this guide, the more stringent precaution takes precedence.

Failure to follow the instructions in this guide can result in property damage, serious injury, or death.

4.1 Fire/explosion hazards

⚠ WARNING

- In the event of abnormal conditions (such as a strange or burning smell, noise, or smoke), turn off the unit and disconnect it from its power source immediately. Report the issue immediately to your INNOVA representative or distributor.
- Servicing shall be performed only as recommended by the manufacturer.

4.2 Electrical hazards

⚠ DANGER

- Only trained HVAC technicians may install this gateway. Improper modifications by an unqualified person can result in serious injury or death.
- When working on the equipment, observe all precautions in the guide and on labels attached to the equipment.
- Before installation, maintenance, or servicing, disconnect power to the entire system. Verify that power to the entire system is down, including any remote disconnects, peripherals, third-party devices, and devices operating on the unit's network.
- Follow all OSHA-compliant Lockout/Tagout (LOTO) procedures.

⚠ WARNING

- All electrical connections, wiring, and grounding must be performed by a qualified electrician and must comply with the National Electrical Code (NEC/NFPA-70) and all local codes that hold jurisdiction. Improper wiring or loose connections may cause overheating, fire, or electric shock.
- Use only the supplied installation-specific components. Using different components could lead to water leakage, electric shock, or fire.
- Do not open access panels to the interior of the unit without first disconnecting the power and/or turning off the breaker.
- The unit contains capacitors that may retain an electrical charge after the power is

⚠ WARNING

disconnected. Thus, before beginning any installation or servicing, to avoid electrical shock or serious injury, be sure to:

  - Discharge all motor start-run capacitors.
  - Verify (using a voltmeter) that no power is running into the unit.
  - Wait at least five minutes for the AIO® unit to cool down and for the capacitors inside the unit to discharge.

⚠ CAUTION

- In the event of a blackout or thunderstorm, turn the unit off and disconnect it from the power source immediately.

4.3 Moving parts hazards

⚠ DANGER

- Do not operate the equipment with panels, guards, or covers removed, except when specifically instructed by the procedures below (to test the installation).
- Ensure power is disconnected and components have come to a complete stop before accessing the interior. Internal fans, motors, and other moving components may start automatically when power is supplied.

⚠ WARNING

- Keep hands, hair, tools, and loose clothing away from fans and moving components. Contact with moving parts can cause serious injury.
- Do not remove, bypass, or disable protective covers, guards, or safety interlocks.

4.4 General safety guidelines

⚠ WARNING

- Do not modify or tamper with the gateway or controller. Unauthorized alterations may compromise safety, create hazardous conditions, and void the warranty.
- Wear appropriate personal protective equipment (PPE) such as gloves and safety glasses during the installation process.
- Only a qualified HVAC professional may install this unit. The installer must be licensed, insured, or bonded, as required by local regulations.



Installation by anyone other than an INNOVA-trained and qualified HVAC professional voids the warranty on the unit.

4.5 Installer responsibilities

- Install the unit safely and in accordance with all applicable local and national codes and regulations.
- Ensure that you fully understand the product and the installation procedures before beginning installation. Installation activities involve greater risk than normal system operation.
- Provide the customer with the information necessary to operate the system safely after installation.

The safety precautions in this guide are intended to supplement recognized best practices. In the event of a conflict, the more stringent safety measure always takes precedence.

5. PREPARING FOR INSTALLATION

5.1 Location considerations

The thermostat must be mounted indoors, where it is not exposed to the elements, on a wall that represents the average temperature of the space.

The thermostat should NOT be mounted in any of the following locations:

- Where it may be exposed to wind, rain, or mist, such as near doors or windows that are frequently opened.
- Near any heat source or heating vent.
- In direct sunlight.
- In areas prone to being dusty or dirty.
- Where it is not easily accessible.
- In areas where the temperature may be outside the range of 15°F (-9.4°C) - 120°F (48.9°C).
- In areas where the humidity can exceed 95%.
- Near machinery that produces electromagnetic interference (EMI).



The presence of EMI can disrupt the normal operation of the thermostat.

5.2 Shipping configuration

The TPG015 third-party thermostat gateway board is shipped in a single package containing the TPG015 gateway board with the black power cable and flat gray communication cable preconnected, and two double-sided adhesive foam strips preattached to the back of the board.

5.3 Inspecting the package

When the shipment is received, inspect it thoroughly before proceeding to installation:

1. Ensure that the contents match the order and shipping documents.
2. Inspect the entire gateway board and any accessories for any damage that may have occurred during shipping.
3. If the package or contents appear damaged:
    a. Photograph all damage and all sides of the component to support a damage claim.
    b. Clearly document the damage on the freight bill.
    c. Notify your INNOVA representative or distributor.



Report all damage within two weeks of delivery to be eligible for a claim.

5.4 Required tools and supplies

- #2 Phillips-head screwdriver
- Mini (⅛" [3.2 mm]) flathead screwdriver
- Alcohol pad
- Four or five white plastic spacer (stand-up) clips (optional)
- Thermostat from a third-party manufacturer
- Multi-conductor (5 or 7, see below) control cable with solid copper conductors, of sufficient length to run between the unit and the thermostat:
    - For cable lengths of less than 30 feet (9 m), an unshielded twisted-pair cable may be used in low-noise environments.
    - For cable lengths of 30 ft (9 m) or more, an overall 18 AWG shielded twisted-pair cable is required.



Note: The total wire run may not exceed 40 feet. (12.1 meters)



Multi-Conductor cable:
The TPG015 gateway supports three fan speeds (high, medium, and low). For third-party thermostats that support all three speeds, seven wires are needed in the control cable. For thermostats that support only one fan speed, five wires are needed. Refer to the sections below on "Connecting the thermostat".

6. INSTALLING THE TPG015 GATEWAY IN THE AIO® WALL MOUNTED (GEN 1) UNIT

To install the TPG015 gateway in an AIO® Wall Mounted (Gen 1) unit and connect it to a third-party thermostat:

1. Open the unit.
2. Attach the gateway to the unit.
3. Connect the power and communication cables between the gateway and the unit.
4. Connect the gateway to the thermostat.
5. Close the unit.



The instructions and illustrations in this section refer to Gen 1 only of the AIO® Wall Mounted units.
For Wall Mounted Gen 2 and Gen 3 units, use the MOD-TPG third-party thermostat gateway. Refer to the AIO® Third Party Thermostat Gateway MOD-TPG Installation Guide for more information.

6.1 Opening the unit

To open the AIO® Wall Mounted (Gen 1) unit:

1. **Disconnect the power supply.**
   Disconnect the unit from the power supply and wait at least five minutes after it was last operated.
2. **Remove the return air filter and grille.**
   Lift the top grille off the unit, and then gently pull up on the plastic around the return air filter and carefully lift the filter to remove it.

Figure 2. Lift off the top grille

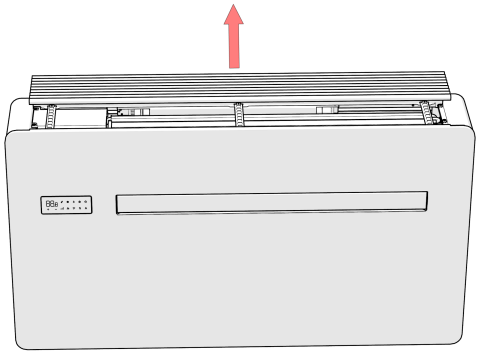
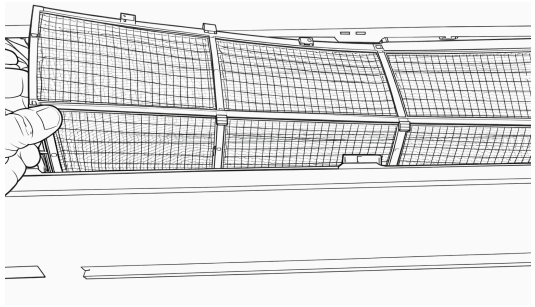


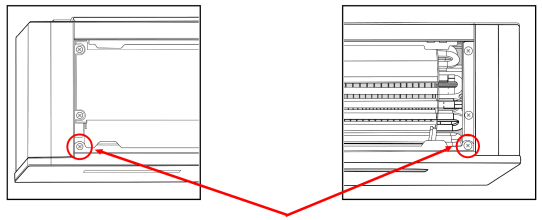
Figure 3. Remove the filter



3. **Remove the front panel.**
   Remove the two front screws on the top of the unit, and gently lift and pull the front panel forward to remove it.

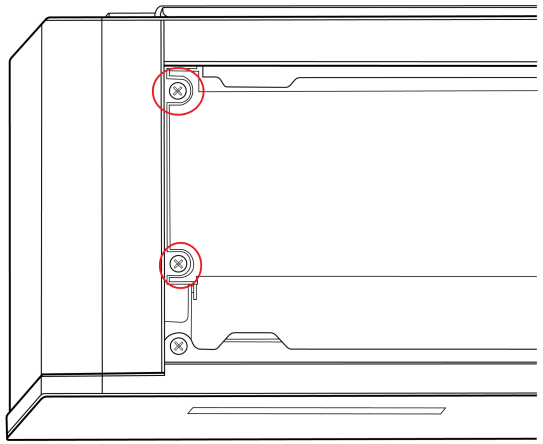
Keep the screws removed in each step separate.

Figure 4. Remove the front top screws



4. **Remove the electrical protective cover.**
   a. Remove the two screws on the top left that hold the black plastic electrical protective cover in place on the frame.

Figure 5. Remove the left screws from the electrical cover



   b. Remove the two lower screws that secure the black plastic electrical protective cover to the onboard touch controller cover and the unit, and remove the protective cover.

Figure 6. Remove the electrical protective cover

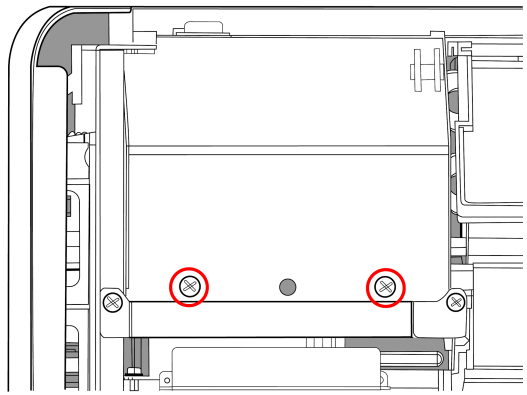


Figure 7. Inside of the electrical protective cover



6.2 Attaching the TPG015 gateway to the unit

⚠CAUTION

Handle the control board and all electronic components with care to avoid damage.

To attach the TPG015 third-party thermostat gateway to the AIO® Wall Mounted (Gen 1) unit:

1. **Mount the TPG015 gateway to the unit.**
   a. Clean the mounting location on the underside of the black plastic electrical protective cover with an alcohol pad to ensure proper adhesion. The mounting location is shown in Figure 9 below.
   b. Remove the backing from the two adhesive foam strips that are attached to the back of the gateway board.

The foam in the adhesive strips provides insulation to prevent short circuits.

Figure 8. Adhesive strips on the TPG015 gateway board



c. Mount the TPG015 gateway board on the underside of the electrical protective cover, placing it one inch (2.5 cm) from the right side, as shown. Press firmly to ensure it is securely attached.

⚠CAUTION

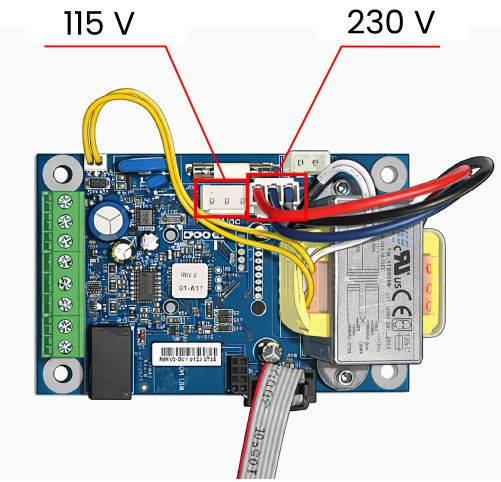
Make sure there is no direct contact between the gateway board and the metal panel.

Figure 9. Mount the gateway board



2. **Set the correct voltage.**
   The TPG015 gateway board is set at the factory to 230V. If the AIO® Wall Mounted unit uses 115V, remove the connector from the 230V socket and place it into the 115V socket as shown below.

Figure 10. Set the gateway board voltage



⚠CAUTION

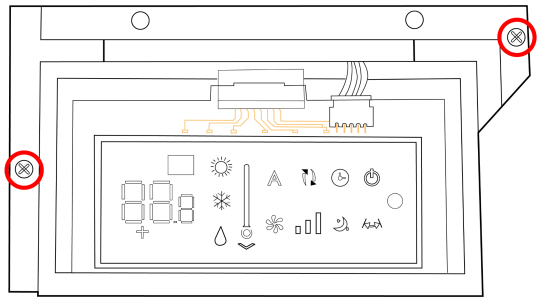
Make sure the TPG015 gateway is set to the same voltage as the AIO unit. Connecting a 115 V gateway to a 230 V unit will destroy the gateway.

6.3 Connecting the gateway cables

To connect the power and communication cables between the TPG015 gateway and the AIO® Wall Mounted (Gen 1) unit:

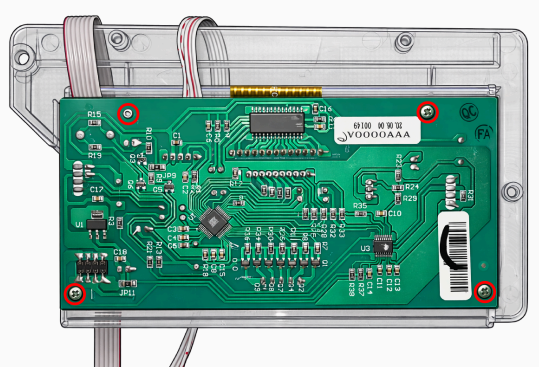
1. **Access the onboard touch controller.**
   a. Remove the two screws from the plastic cover of the onboard touch controller.

Figure 11. Remove the cover of the controller



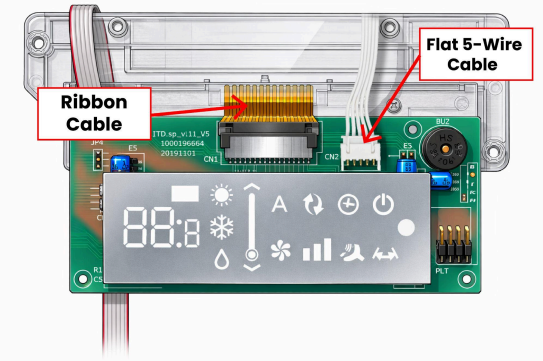
   b. Remove the four screws that secure the controller circuit board to its clear plastic housing.

Figure 12. Remove the screws from the controller housing



   c. Carefully open the controller housing and remove the controller circuit board from the housing.
   d. Gently remove the white, flat, 5-wire cable connector from the controller circuit board.

Figure 13. Remove the 5-wire cable connector



⚠CAUTION

The ribbon cable connecting the touchscreen controller to the housing is fragile and must be handled with extreme care to avoid damage.

2. **Remove the Wi-Fi module (if present) from the unit.**
   If a Wi-Fi module is installed in the Wi-Fi socket on the right side of the controller, gently pry the module out of the socket and put it aside.

Do not install any Wi-Fi module on the TPG015 gateway, as this can interfere with its correct operation.

Figure 14. Locate the Wi-Fi module

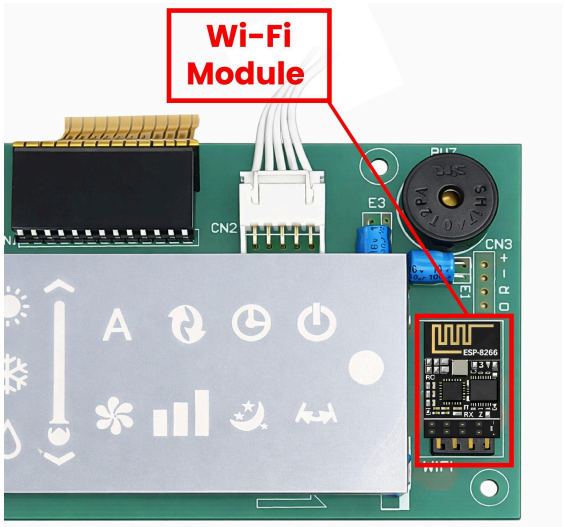
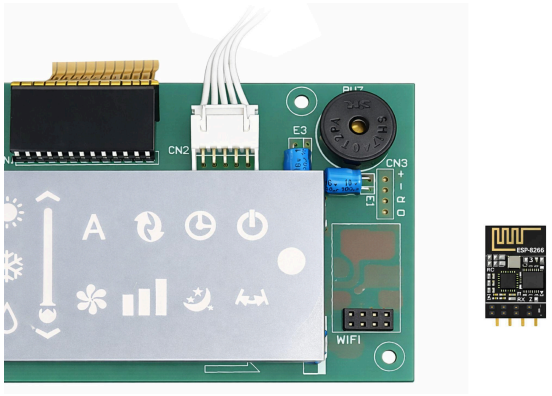


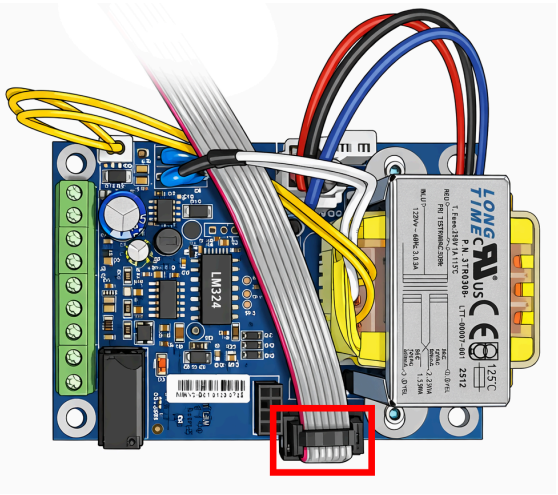
Figure 15. Remove the Wi-Fi module from its socket



3. Connect the communication cable.

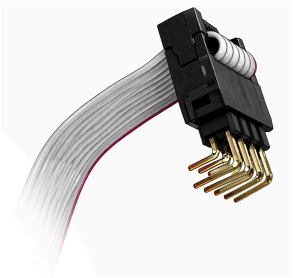
a. On the TPG015 gateway board, the flat grey communication cable is preconnected to the communication port.

Figure 16. TPG015 gateway communication cable connection



The free end of the communication cable has an eight-pin right-angle pin header in the black connector.

Figure 17. Communication cable connector with right-angle pin header

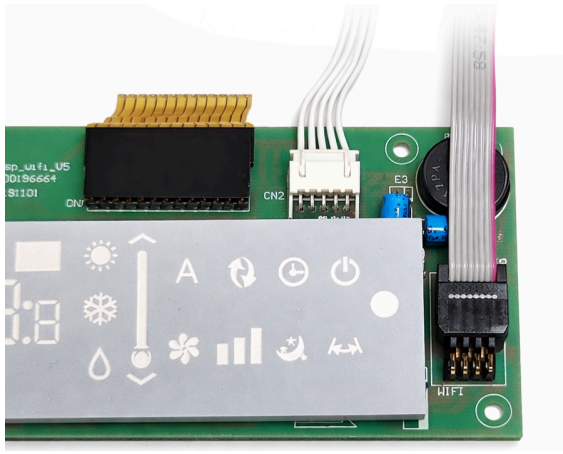


b. Connect the cable to the Wi-Fi socket as follows:

Ensure that the communication cable is inserted with the red stripe on the cable facing away from the display.

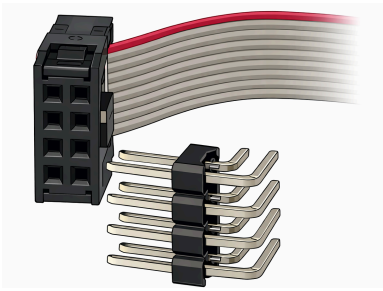
- If the Wi-Fi socket is empty:
  Insert the eight pins on the cable connector securely into the Wi-Fi socket as shown.

Figure 18. Connect the communication cable to the unit



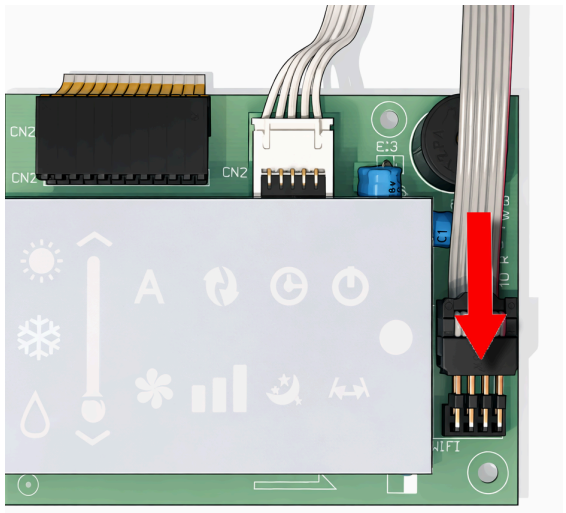
- If there is already a right-angle pin header in the Wi-Fi socket:
  i. Remove the right-angle pin header from the cable connector.

Figure 19. Remove the pin header from the connector



ii. Push the cable connector securely onto the pins in the Wi-Fi socket as shown.

Figure 20. Connect the cable to the pin header in the Wi-Fi socket



4. **Reattach the onboard touch controller.**
    a. Gently reconnect the flat, white 5-wire cable connector to the controller circuit board (see Step 1d above).
    b. Carefully replace the touch controller in the clear plastic housing and close the housing (see Step 1c above).
    c. Reattach the controller circuit board to its housing using the four screws removed in Step 1b above.
    d. Reattach the plastic cover of the controller to the unit using the two screws removed in Step 1a above.
5. **Connect the power cable.**
    On the TPG015 gateway board, the black power cable is preconnected to the power connector as shown below.
    The wiring has the following configuration:
    - Black is Live
    - Blue is Neutral.

    Make sure the wires are connected as specified — black (live on the gateway) to brown (live on the unit) and blue to blue — and that they are securely fastened.

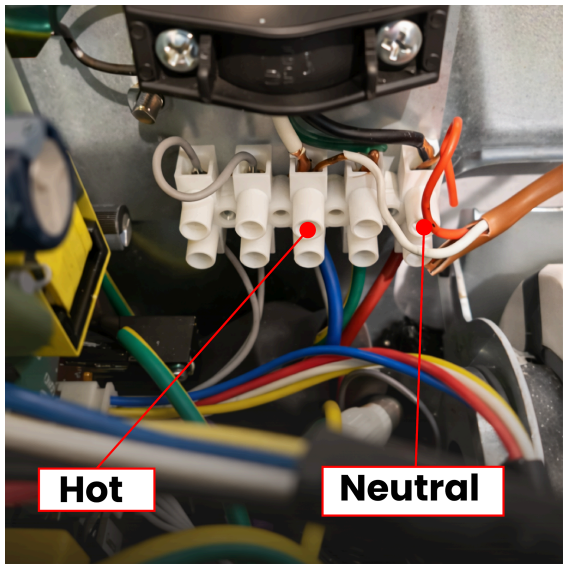
Figure 21. TPG015 gateway board power connection



Hardwire the power cable to the power supply terminal block (CONN1) that is located on the back left side of the electrical compartment of the unit.

The wiring should be connected to the locations shown below.

Figure 22. Wiring locations on the Wall Mounted unit



For 230 V units, the wiring locations are L1 (instead of Hot) and L2 (instead of Neutral).

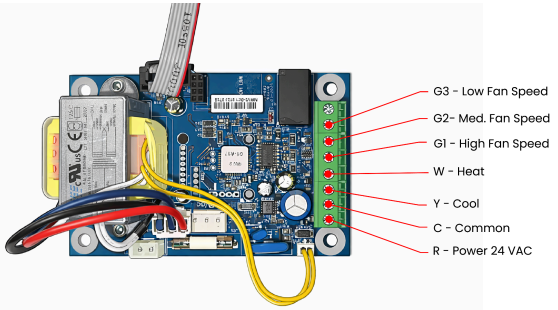
6.4 Connecting the thermostat

To connect the third-party thermostat to the TPG015 gateway:

1. **Connect the control cable to the gateway.**
   With the power remaining disconnected, connect the seven* wires of the control cable through the back of the AIO® Wall Mounted unit to the following terminals on the MOD-TPG gateway board:
   - R - Power 24 VAC
   - C - Common
   - Y - Cool
   - W - Heat
   - G1 - High Fan Speed
   - G2 - Medium Fan Speed
   - G3 - Low Fan Speed

* If using a thermostat that has only a single fan speed, use only five wires. In this case, you must choose the fan speed at which you want the AIO® unit to operate by attaching the wire for the fan to either G1 for high fan, G2 for medium fan, or G3 for low fan. We recommend using G2 for medium fan speed.

Figure 23. Terminals on the gateway for connecting the wires



⚠CAUTION

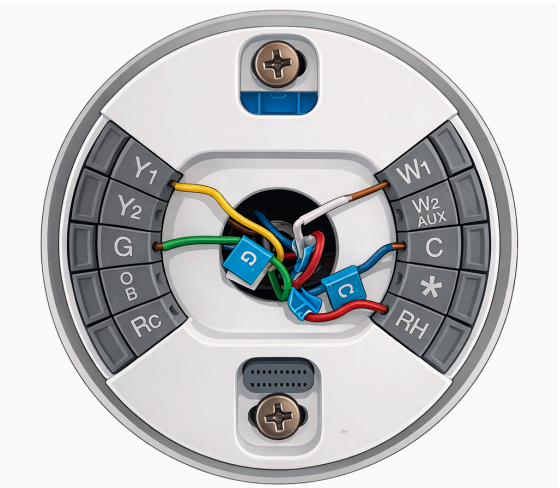
When using a third-party thermostat with this gateway, you must use both the R and C wires, even if it is a smart thermostat. Do not use any workarounds to the C-wire that steal or bleed power from the R or the Y1 wire.

2. **Connect the control cable to the thermostat.**
   Follow the manufacturer's instructions for the thermostat you are using to connect the wires of the control cable from the TPG015 gateway board to the corresponding inputs on the thermostat.

Where the inputs do not match the terminal labels exactly, refer to the following table:

If the thermostat has:	Connect this gateway wire:	To this thermostat input:
RC and RH	R	Either one (RC and RH use the same transformer)
Y1 and Y2	Y	Y1
W1 and W2	W	W1
Only one G	G2	G
	G1, G3	Not used

Figure 24. Connect the wires to the thermostat (for reference only)



The image above illustrates a particular type of third-party thermostat for reference only. The appearance of the thermostat and the connections required may vary from the illustration.

⚠CAUTION

Ensure that all wire insulation is intact and that there are no exposed conductive parts that could cause short circuits or other electrical issues.

6.5 Closing the unit

To close the AIO® Wall Mounted Gen 1 unit:

1. **Position the electrical cover in place.**
   Put the black electrical protective cover in place to cover the electrical connections while the unit is being tested.

Do not secure the cover with screws until after the unit has been tested.

2. **Test the onboard touch controller.**
   a. Reconnect the power supply to the unit and power it on.
   b. Test the onboard touch controller to verify that it changes the temperature setting and modes of operation as selected. Refer to the AIO® Wall Mounted (Gen 1) User Guide for more information.
      - If the controller works as expected, power off the unit and wait at least five minutes for the capacitors inside the unit to discharge.
      - If the test fails, repeat the applicable steps in sections 6.1 through 6.3 to verify that all connections are secure, and then repeat the test. If the test still fails, contact an INNOVA-trained service technician.

The thermostat is powered by the AIO® unit. Whenever power is supplied to the unit, the controller is also powered. If, after closing the unit, the controller does not appear to be energized, check the electrical supply to the unit.

3. **Close the unit.**
   a. Secure the bottom of the black electrical protective cover to the plastic cover of the onboard touch controller and to the unit using the two screws removed in section 6.1, Step 4b.
   b. Secure the top of the electrical cover to the frame of the unit using the two screws removed in section 6.1, Step 4a.
   c. Replace the front panel and secure it to the unit using the two screws removed in section 6.1, Step 3.
   d. Reinstall the return air filter and the grille into the unit (see section 6.1, Step 2).
4. **Reconnect the power supply to the unit.**

7. INSTALLING THE TPG015 GATEWAY IN THE AIO® CEILING DUCTED / CEILING SUSPENDED (WITH ERV OPTION) UNIT

To install the TPG015 gateway in an AIO® Ceiling Ducted / Ceiling Suspended (with ERV option) unit and connect it to a third-party thermostat:

1. Open the unit.
2. Attach the gateway to the unit.
3. Connect the power and communication cables between the gateway and the unit.
4. Connect the gateway to the thermostat.
5. Close the unit.

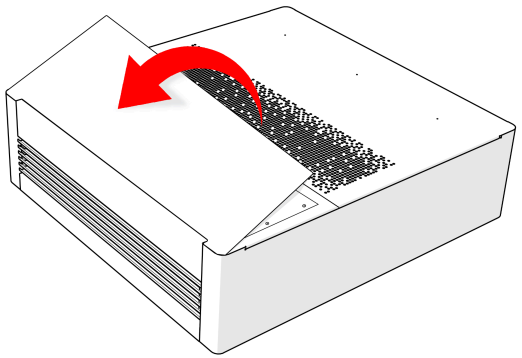
- The instructions in this section describe Gen 3 of the AIO® Ceiling Ducted (with and without ERV) and the Ceiling Suspended (with ERV option), but the procedure is similar for Gen 1 and Gen 2 of both unit types.
- The illustrations in this section show the AIO® Ceiling Suspended (with ERV option) unit, but the installation is very similar for the Ceiling Ducted units.

7.1 Opening the unit

To open the AIO® Ceiling Ducted / Ceiling Suspended (with ERV option) unit:

1. **Disconnect the power supply.**
   Disconnect the unit from the power supply and wait at least five minutes after it was last operated.
2. **For Ceiling Suspended units only: Open the decorative bottom panel.**
   The Ceiling Suspended units have a decorative bottom panel. Pull this panel open as shown to expose the metal panel that covers the electrical panel.

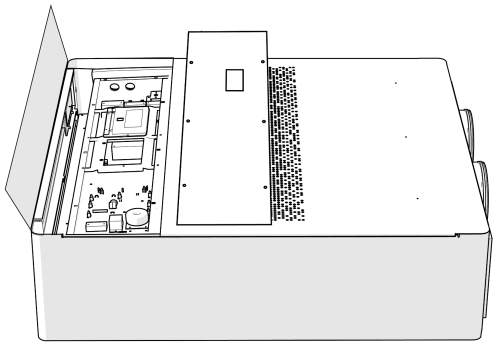
Figure 25. Open the decorative bottom panel



3. **Open the electrical panel.**
   Remove all the screws that secure the metal panel, and remove the metal panel to access the electrical panel.

Keep the screws removed in each step separate.

Figure 26. Access the electrical panel



7.2 Attaching the TPG015 gateway to the unit

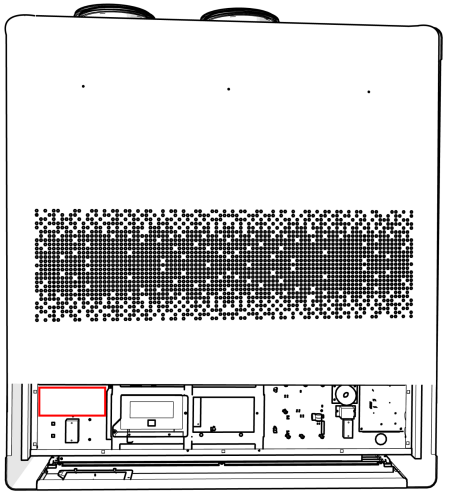
⚠CAUTION

Handle the control board and all electronic components with care to avoid damage.

To attach the TPG015 third-party thermostat gateway to the AIO® Ceiling Ducted / Ceiling Suspended (with ERV option) unit:

1. **Mount the TPG015 gateway to the unit.**
   The electrical panel has a space near the terminal block for mounting the gateway.

Figure 27. Mounting location for gateway on the electrical panel



Mount the gateway board as follows:

- If there are mounting holes on the inner metal panel:
  a. Insert four or five LCD-6 plastic spacer (stand-up) clips into the holes.
  b. Mount the gateway board on top of the clips.

- It is recommended to use spacer clips if there are holes, since the spacers raise the gateway board ¼" (6.4 mm) above the metal chassis, preventing contact and ensuring safe clearance.
- If the lower row of holes does not line up with the holes in the panel, or is covered by the foam strip, use spacer clips in the upper holes and a thick foam strip (or several layers of double-sided tape) at the lower end.

- If there are no mounting holes on the panel:
  a. Clean the mounting location with an alcohol pad to ensure proper adhesion.
  b. Remove the backing from the two adhesive foam strips that are attached to the back of the gateway board.

The foam in the adhesive strips provides insulation to prevent short circuits.

Figure 28. Adhesive strips on the TPG015 gateway board



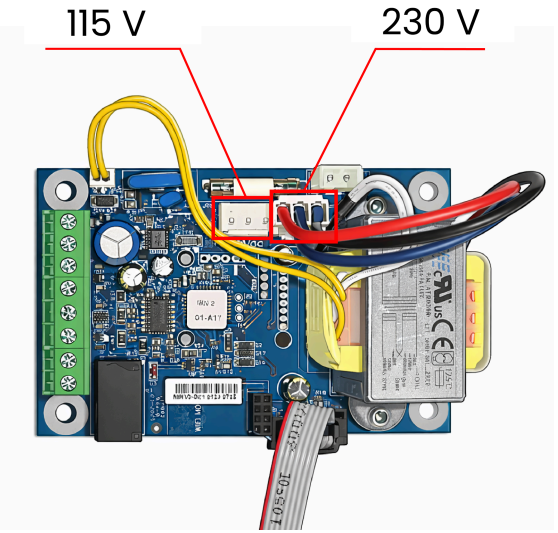
c. Mount the TPG015 gateway board in the indicated location, and press firmly to ensure it is securely attached.

⚠CAUTION

Make sure there is no direct contact between the gateway board and the metal panel.

2. **Set the correct voltage.**
   The TPG015 gateway board is set at the factory to 230V. If the AIO® unit uses 115V, remove the connector from the 230V socket and place it into the 115V socket as shown below.

Figure 29. Set the gateway board voltage



⚠CAUTION

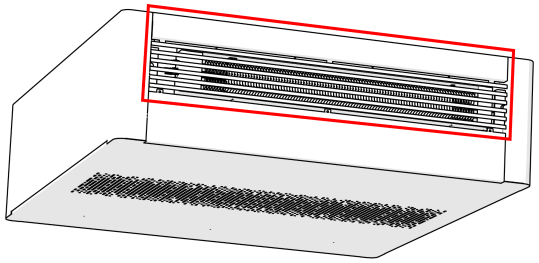
Make sure the TPG015 gateway is set to the same voltage as the AIO unit. Connecting a 115 V gateway to a 230 V unit will destroy the gateway.

7.3 Connecting the gateway cables

To connect the power and communication cables between the TPG015 gateway and the AIO® Ceiling Ducted / Ceiling Suspended (with ERV option) unit:

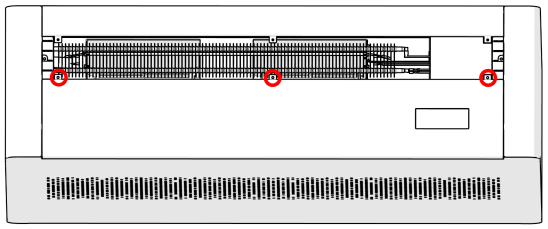
1. **Access the onboard touch controller.**
   a. Remove the supply grille on the front panel.

Figure 30 Grille on front panel



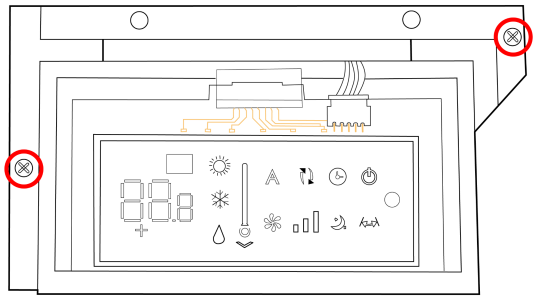
   b. **For Ceiling Suspended units only:** Remove the three screws from the decorative front panel to access the onboard touch controller.

Figure 31. Remove the front panel



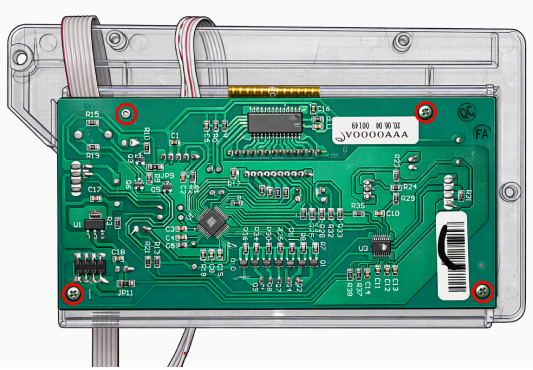
   c. Remove the two screws to detach the onboard touch controller housing from the unit.

Figure 32. Detach the controller housing



   d. Remove the four screws to remove the controller from the housing.

Figure 33. Open the controller housing



2. **Remove the Wi-Fi module (if present) from the unit.**
   If a Wi-Fi module is installed in the Wi-Fi socket on the right side of the controller, gently pry the module out of the socket and put it aside.



Do not install any Wi-Fi module on the TPG015 gateway, as this can interfere with its correct operation.

Figure 34. Locate the Wi-Fi module

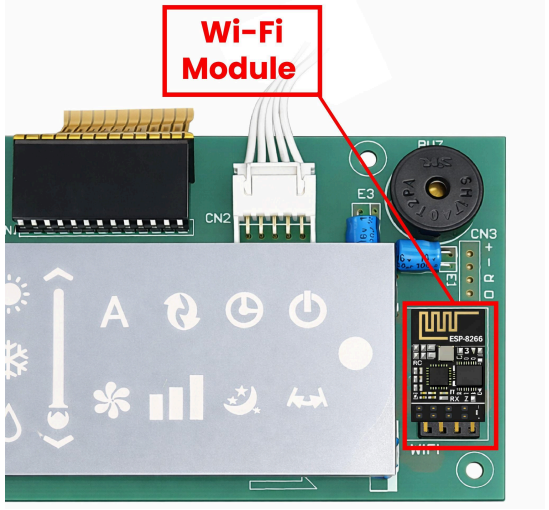
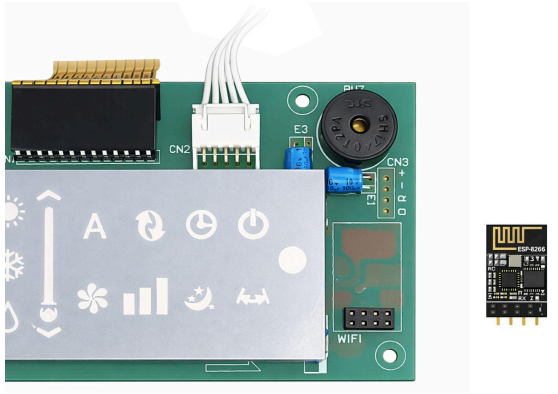
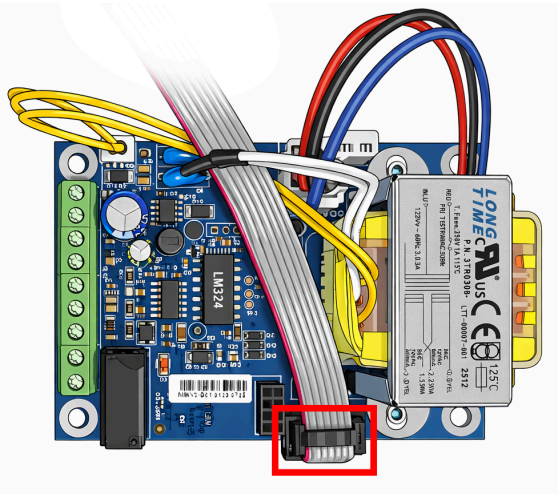


Figure 35. Remove the Wi-Fi module from its socket



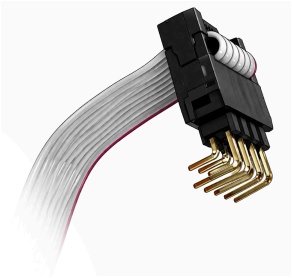
3. **Connect the communication cable.**
   a. On the TPG015 gateway board, the flat grey communication cable is preconnected to the communication port.

Figure 36. TPG015 gateway communication cable connection



The free end of the communication cable has an eight-pin right-angle pin header in the black connector.

Figure 37. Communication cable connector with right-angle pin header

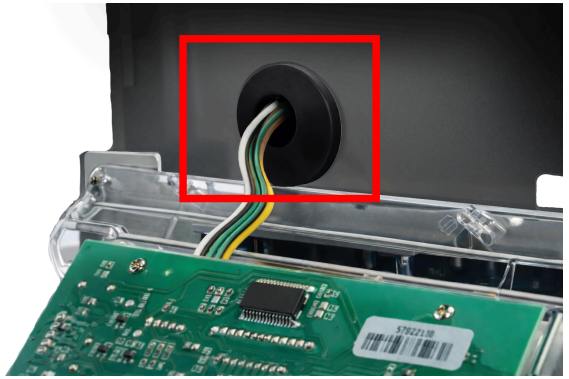


b. Route the free end of the communication cable through the rubber grommet behind the controller housing to enable it to reach the controller board.

⚠CAUTION

Be careful not to damage the colored wires (shown below) that are already routed through the grommet.

Figure 38. Rubber grommet in the controller housing

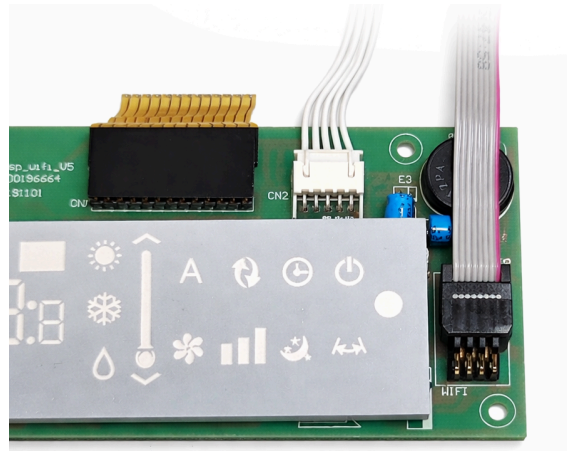


c. Connect the cable to the Wi-Fi socket as follows:

Ensure that the communication cable is inserted with the red stripe on the cable facing away from the display.

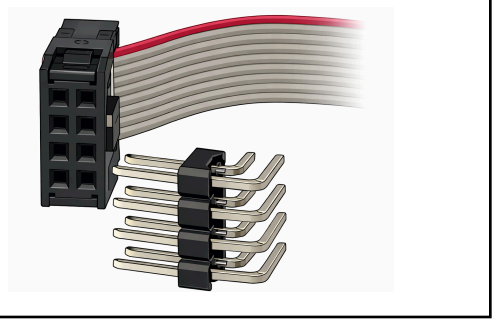
- If the Wi-Fi socket is empty:
  Insert the eight pins on the cable connector securely into the Wi-Fi socket as shown.

Figure 39. Connect the communication cable to the unit



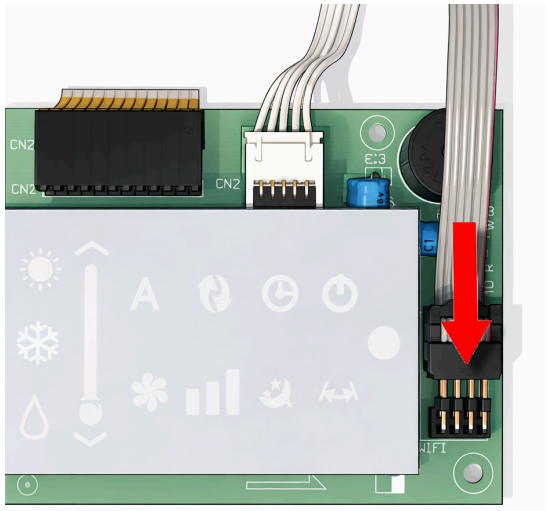
- If there is already a right-angle pin header in the Wi-Fi socket:
  i. Remove the right-angle pin header from the cable connector.

Figure 40. Remove the pin header from the connector



  ii. Push the cable connector securely onto the pins in the Wi-Fi socket as shown.

Figure 41. Connect the cable to the pin header in the Wi-Fi socket



4. Reattach the onboard touch controller.

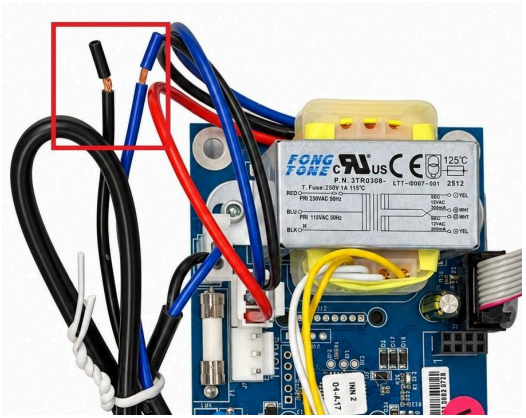
a. Replace the controller in its housing and secure it using the four screws removed in Step 1d above.

b. Reattach the controller housing to the unit using the two screws removed in Step 1c above.

5. Connect the power cable.

a. On the TPG015 gateway board, the black power cable is preconnected to the power terminal as shown below. The power cable contains two wires, one black and one blue.

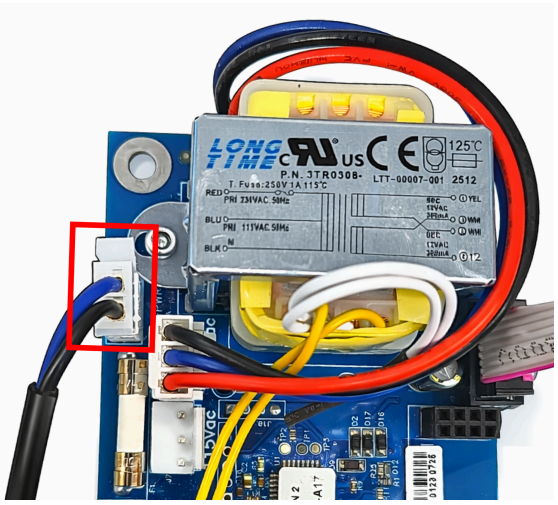
Figure 42. TPG015 gateway board power cable wires



b. The Ceiling Ducted/Suspended unit may come with a black power cable pre-installed.

- If the unit has a pre-installed power cable, disconnect the gateway's power cable connector and insert the unit's power cable into the gateway instead.

Figure 43. TPG015 gateway board power cable connection



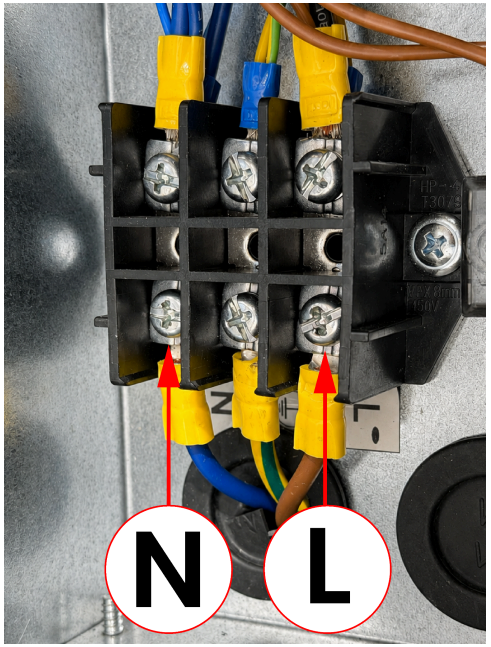
- If the unit does not have a pre-installed power cable, the power cable on the gateway must be hard-wired to the screw terminal block on the unit.

  To hard-wire the power cable to the unit's screw terminal block:

  i. The black wire in this cable is Live (Hot). Connect this wire to the L or L1 terminal on the unit.

  ii. The blue wire in this cable is Neutral. Connect this wire to the N terminal on the unit.

Figure 44. L and N terminals on screw terminal block



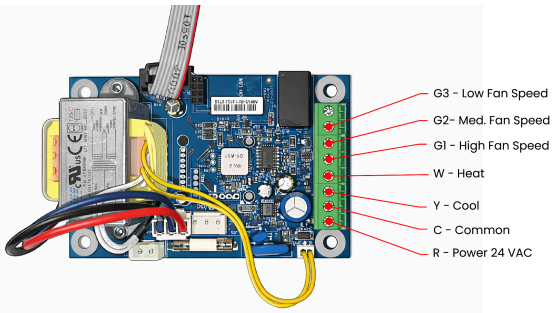
7.4 Connecting the thermostat

To connect the third-party thermostat to the TPG015 gateway:

1. **Connect the control cable to the gateway.**
   With the power remaining disconnected, connect the seven* wires of the control cable through the back of the AIO® Wall Mounted unit to the following terminals on the MOD-TPG gateway board:
   - R - Power 24 VAC
   - C - Common
   - Y - Cool
   - W - Heat
   - G1 - High Fan Speed
   - G2 - Medium Fan Speed
   - G3 - Low Fan Speed

* If using a thermostat that has only a single fan speed, use only five wires. In this case, you must choose the fan speed at which you want the AIO® unit to operate by attaching the wire for the fan to either G1 for high fan, G2 for medium fan, or G3 for low fan. We recommend using G2 for medium fan speed.

Figure 45. Terminals on the gateway for connecting the wires



⚠CAUTION

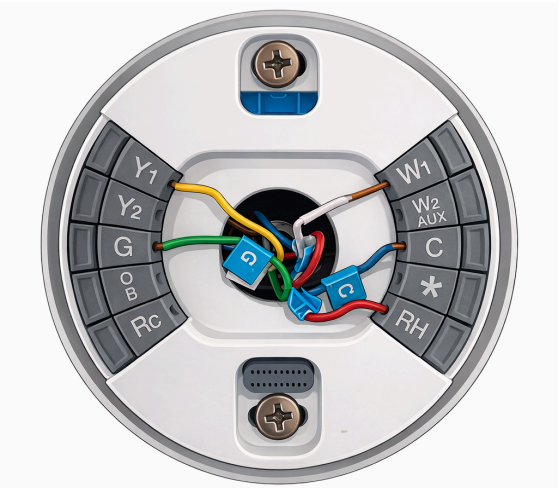
When using a third-party thermostat with this gateway, you must use both the R and C wires, even if it is a smart thermostat. Do not use any workarounds to the C-wire that steal or bleed power from the R or the Y1 wire.

2. **Connect the control cable to the thermostat.**
   Follow the manufacturer's instructions for the thermostat you are using to connect the wires of the control cable from the TPG015 gateway board to the corresponding inputs on the thermostat.

   Where the inputs do not match the terminal labels exactly, refer to the following table:

If the thermostat has:	Connect this gateway wire:	To this thermostat input:
RC and RH	R	Either one (RC and RH use the same transformer)
Y1 and Y2	Y	Y1
W1 and W2	W	W1
Only one G	G2	G
	G1, G3	Not used

Figure 46. Connect the wires to the thermostat (for reference only)



The image above illustrates a particular type of third-party thermostat for reference only. The appearance of the thermostat and the connections required may vary from the illustration.

⚠CAUTION

Ensure that all wire insulation is intact and that there are no exposed conductive parts that could cause short circuits or other electrical issues.

7.5 Closing the unit

To close the AIO® Ceiling Ducted / Ceiling Suspended (with ERV option) unit:

1. **Test the onboard touch controller.**
    a. Reconnect the power supply to the unit and power it on.
    b. Test the onboard touch controller to verify that it changes the temperature setting and modes of operation as selected. Refer to the AIO® Ceiling Ducted User Guide for more information (since the Ceiling Suspended units use the same controller).
        - If the controller works as expected, power off the unit and wait at least five minutes for the capacitors inside the unit to discharge.
        - If the test fails, repeat the applicable steps in sections 7.1 through 7.3 to verify that all connections are secure, and then repeat the test. If the test still fails, contact an INNOVA-trained service technician.

The thermostat is powered by the AIO® unit. Whenever power is supplied to the unit, the controller is also powered. If, after closing the unit, the controller does not appear to be energized, check the electrical supply to the unit.

2. **Close the unit.**
    a. **For Ceiling Suspended units only:** Replace the front panel using the three screws removed in Section 7.3, Step 1b.
    b. Replace the supply grille (see Section 7.3, Step 1a).
    c. Replace the metal panel that covers the electrical panel, and secure it using all of the screws removed in Section 7.1, Step 3.
    d. **For Ceiling Suspended units only:** Close the decorative bottom panel (see Section 7.1, Step 2).
3. **Reconnect the power supply to the unit.**

8. INSTALLING THE TPG015 GATEWAY IN THE AIO® CEILING SUSPENDED (WITHOUT ERV OPTION) UNIT

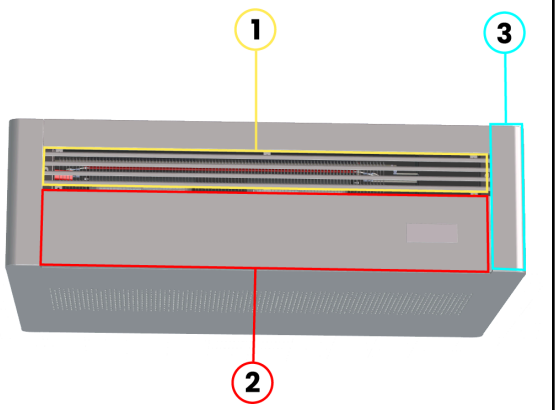
To install the TPG015 gateway in an AIO® Ceiling Suspended (without ERV option) unit and connect it to a third-party thermostat:

1. Open the unit.
2. Attach the gateway to the unit.
3. Connect the power and communication cables between the gateway and the unit.
4. Connect the gateway to the thermostat.
5. Close the unit.

The instructions and illustrations in this section refer to Gen 3 of the AIO® Ceiling Suspended (without ERV option), but the procedure is similar for Gen 1 and Gen 2.

8.1 Opening the unit

Figure 47. Open the Ceiling Suspended (without ERV) unit

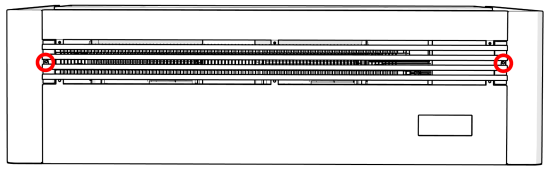


1	Supply grille	3	Right Panel
2	Front panel		

To open the AIO® Ceiling Suspended (without ERV option) unit:

1. **Disconnect the power supply.**
   Disconnect the unit from the power supply and wait at least five minutes after it was last operated.
2. **Remove the supply grille, front panel, and right panel.**
   a. Remove the two screws from the supply grille, and remove the supply grille.

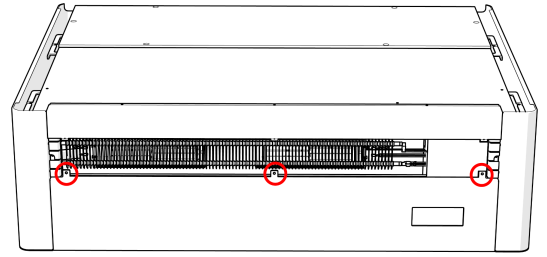
Figure 48. Remove the supply grille



Keep the screws removed in each step separate.

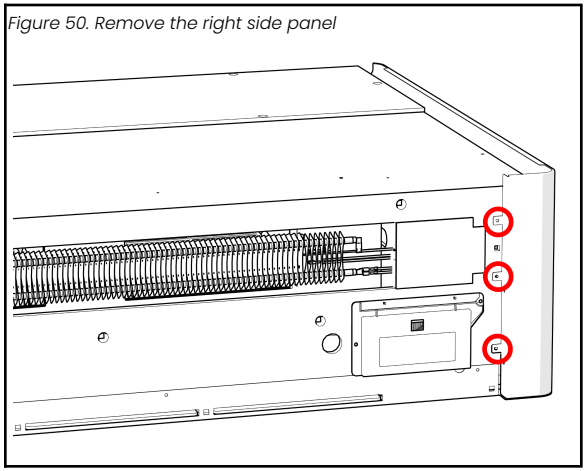
b. Remove the three screws from the front panel, and remove the front panel.

Figure 49. Remove the front panel



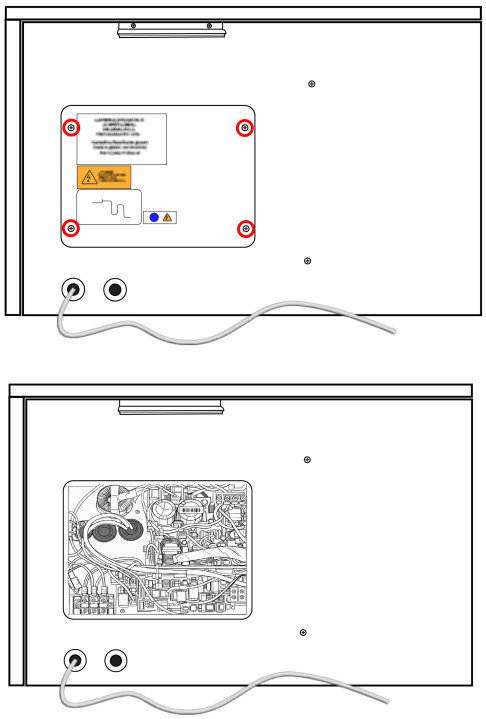
c. Remove the three screws from the right side panel, and remove the right side panel (the side next to the display).

Figure 50. Remove the right side panel



3. **Open the electrical panel.**
   On the side of the unit next to the display, remove the four screws from the electrical panel cover, and remove the cover to expose the electrical panel.

Figure 51. Open the electrical panel



8.2 Attaching the TPG015 gateway to the unit

⚠CAUTION

Handle the control board and all electronic components with care to avoid damage.

To attach the TPG015 third-party thermostat gateway to the AIO® Ceiling Suspended (without ERV option) unit:

1. **Mount the TPG015 gateway to the unit.**
   The electrical panel has a space on the side wall for mounting the gateway, as shown in Figure 53 below.

   Mount the gateway board as follows:

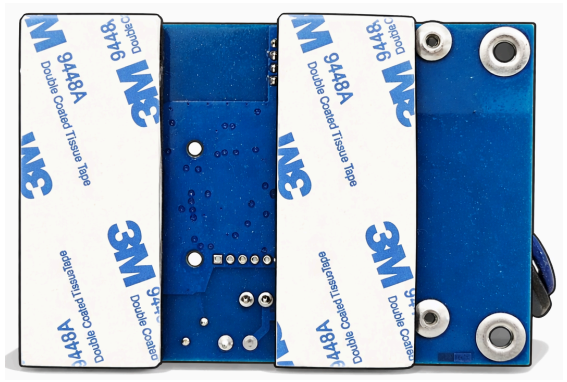
   - If there are mounting holes on the inner metal panel:
     a. Insert four or five LCD-6 plastic spacer (stand-up) clips into the holes.
     b. Mount the gateway board on top of the clips.

   - It is recommended to use spacer clips if there are holes, since the spacers raise the gateway board ¼" (6.4 mm) above the metal chassis, preventing contact and ensuring safe clearance.
   - If the lower row of holes does not line up with the holes in the panel, or is covered by the foam strip, use spacer clips in the upper holes and a thick foam strip (or several layers of double-sided tape) at the lower end.

   - If there are no mounting holes on the panel:
     a. Clean the mounting location with an alcohol pad to ensure proper adhesion.
     b. Remove the backing from the two adhesive foam strips that are attached to the back of the gateway board.

   The foam in the adhesive strips provides insulation to prevent short circuits.

Figure 52. Adhesive strips on the TPG015 gateway board

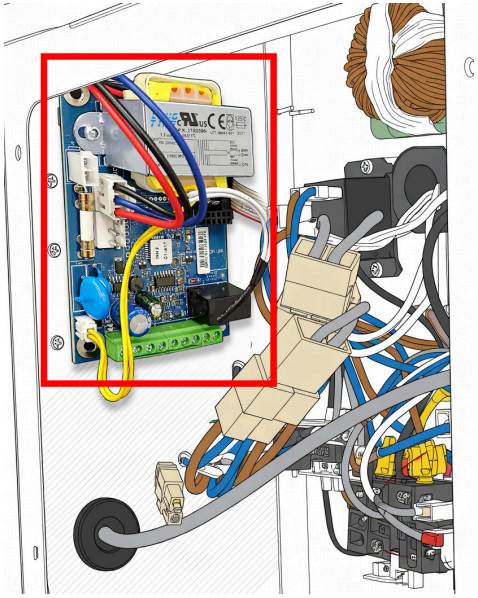


   c. Mount the TPG015 gateway board in the indicated location, and press firmly to ensure it is securely attached.

⚠CAUTION

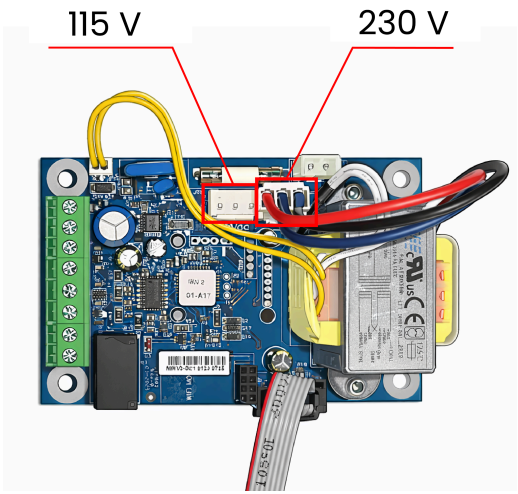
Make sure there is no direct contact between the gateway board and the metal panel.

Figure 53. Mount the gateway board



2. **Set the correct voltage.**
   The TPG015 gateway board is set at the factory to 230V. If the AIO® unit uses 115V, remove the connector from the 230V socket and place it into the 115V socket as shown below.

Figure 54. Set the gateway board voltage



⚠CAUTION

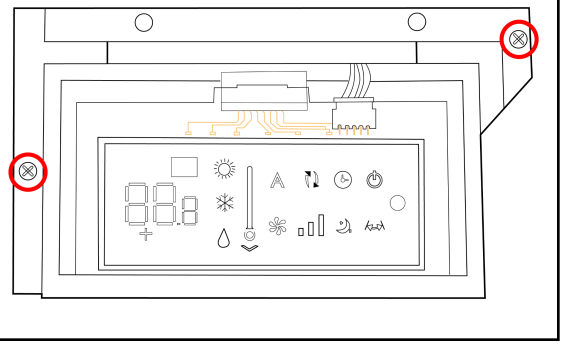
Make sure the TPG015 gateway is set to the same voltage as the AIO unit. Connecting a 115 V gateway to a 230 V unit will destroy the gateway.

8.3 Connecting the gateway cables

To connect the power and communication cables between the TPG015 gateway and the AIO® Ceiling Suspended (without ERV option) unit:

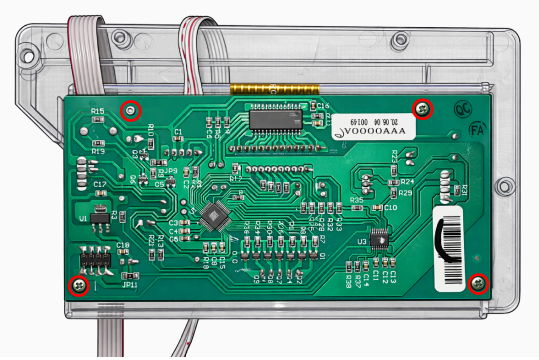
1. **Access the onboard touch controller.**
   a. Remove the two screws to detach the onboard touch controller housing from the unit.

Figure 55. Detach the controller housing



   b. Remove the four screws to remove the controller from the housing.

Figure 56. Open the controller housing



⚠CAUTION

Handle the control board and all electronic components with care to avoid damage.

2. **Remove the Wi-Fi module (if present) from the unit.**

   If a Wi-Fi module is installed in the Wi-Fi socket on the right side of the controller, gently pry the module out of the socket and put it aside.

Do not install any Wi-Fi module on the TPG015 gateway, as this can interfere with its correct operation.

Figure 57. Locate the Wi-Fi module

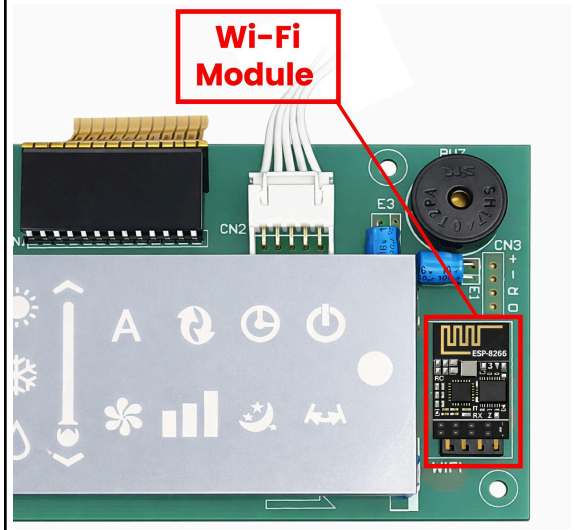
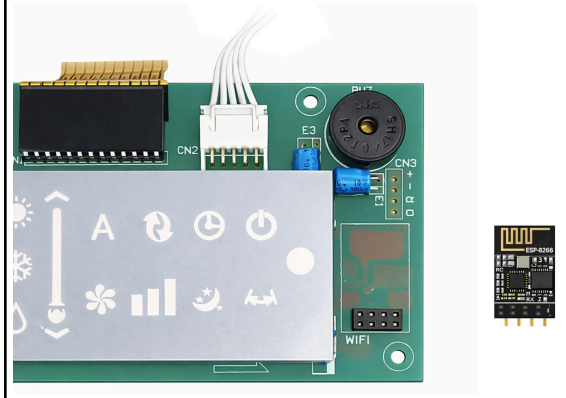


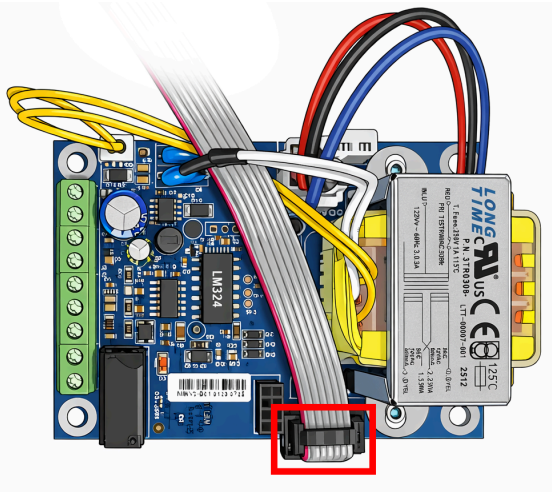
Figure 58. Remove the Wi-Fi module from its socket



3. **Connect the communication cable.**

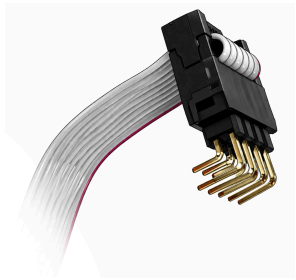
   a. On the TPG015 gateway board, the flat grey communication cable is preconnected to the communication port.

Figure 59. TPG015 gateway communication cable connection



The free end of the communication cable has an eight-pin right-angle pin header in the black connector.

Figure 60. Communication cable connector with right-angle pin header

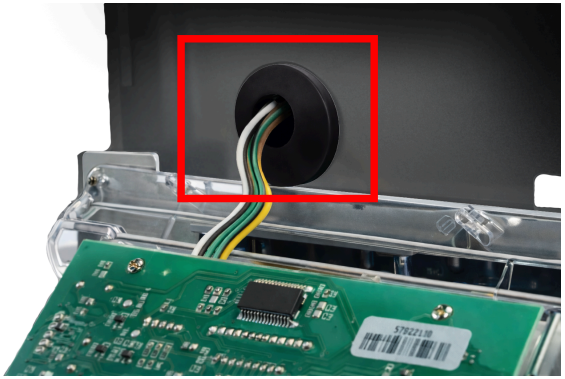


b. Route the free end of the communication cable through the rubber grommet behind the controller housing to enable it to reach the controller board.

⚠CAUTION

Be careful not to damage the colored wires (shown below) that are already routed through the grommet.

Figure 61. Rubber grommet in the controller housing

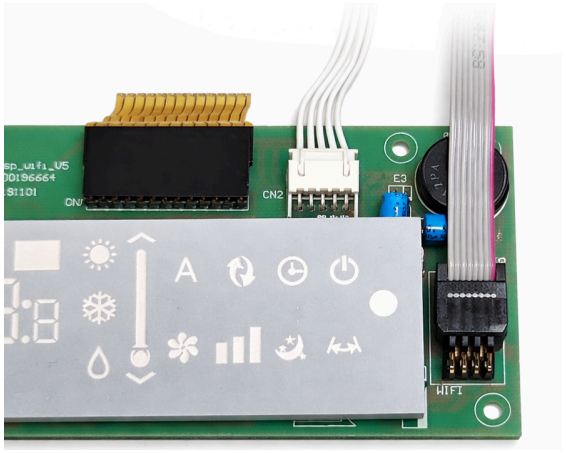


c. Connect the cable to the Wi-Fi socket as follows:

Ensure that the communication cable is inserted with the red stripe on the cable facing away from the display.

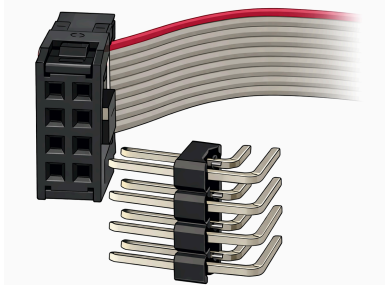
- If the Wi-Fi socket is empty:
  Insert the eight pins on the cable connector securely into the Wi-Fi socket as shown.

Figure 62. Connect the communication cable to the unit



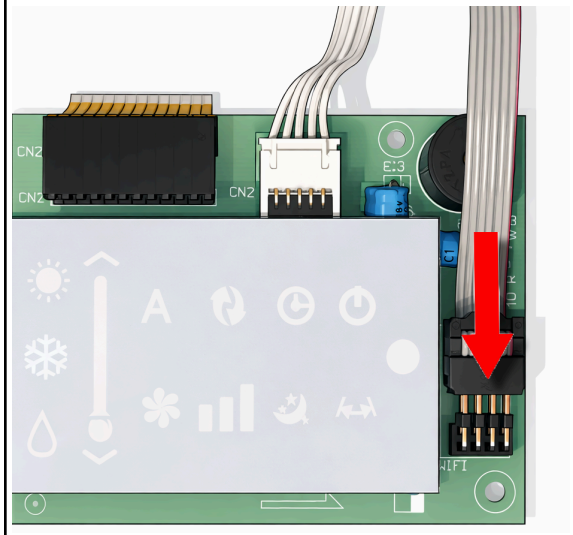
- If there is already a right-angle pin header in the Wi-Fi socket:
  i. Remove the right-angle pin header from the cable connector.

Figure 63. Remove the pin header from the connector



ii. Push the cable connector securely onto the pins in the Wi-Fi socket as shown.

Figure 64. Connect the cable to the pin header in the Wi-Fi socket



4. Reattach the onboard touch controller.

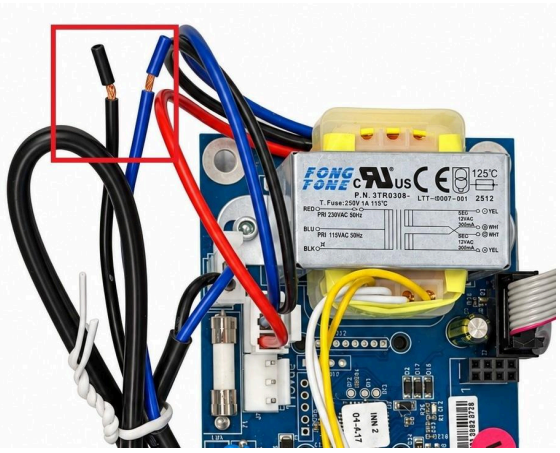
a. Replace the controller in its housing and secure it using the four screws removed in Step 1b above.

b. Reattach the controller housing to the unit using the two screws removed in Step 1a above.

5. **Connect the power cable.**

a. On the TPG015 gateway board, the black power cable is preconnected to the power terminal as shown below. The power cable contains two wires, one black and one blue.

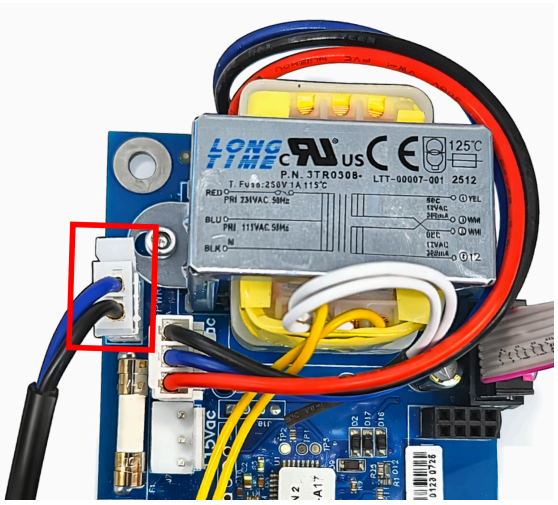
Figure 65. TPG015 gateway board power cable wires



b. The Ceiling Suspended unit may come with a black power cable pre-installed.

- If the unit has a pre-installed power cable, disconnect the gateway's power cable connector and insert the unit's power cable into the gateway instead.

Figure 66. TPG015 gateway board power cable connection



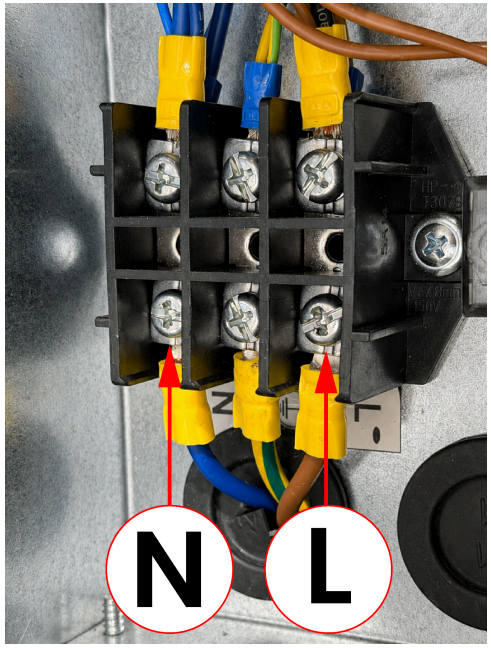
- If the unit does not have a pre-installed power cable, the power cable on the gateway must be hard-wired to the screw terminal block on the unit.

  To hard-wire the power cable to the unit's screw terminal block:

  i. The black wire in this cable is Live (Hot). Connect this wire to the L or L1 terminal on the unit.

  ii. The blue wire in this cable is Neutral. Connect this wire to the N terminal on the unit.

Figure 67. L and N terminals on screw terminal block



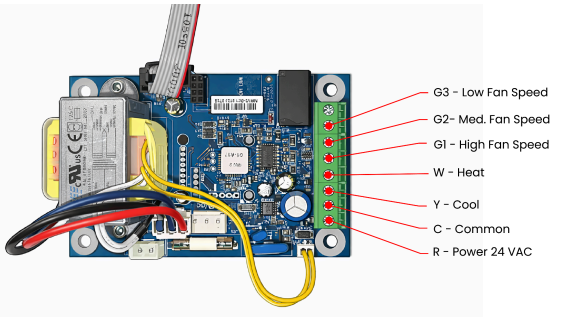
8.4 Connecting the thermostat

To connect the third-party thermostat to the TPG015 gateway:

1. **Connect the control cable to the gateway.**
   With the power remaining disconnected, connect the seven* wires of the control cable through the back of the AIO® Wall Mounted unit to the following terminals on the MOD-TPG gateway board:
   - R - Power 24 VAC
   - C - Common
   - Y - Cool
   - W - Heat
   - G1 - High Fan Speed
   - G2 - Medium Fan Speed
   - G3 - Low Fan Speed

* If using a thermostat that has only a single fan speed, use only five wires. In this case, you must choose the fan speed at which you want the AIO® unit to operate by attaching the wire for the fan to either G1 for high fan, G2 for medium fan, or G3 for low fan. We recommend using G2 for medium fan speed.

Figure 68. Terminals on the gateway for connecting the wires



⚠CAUTION

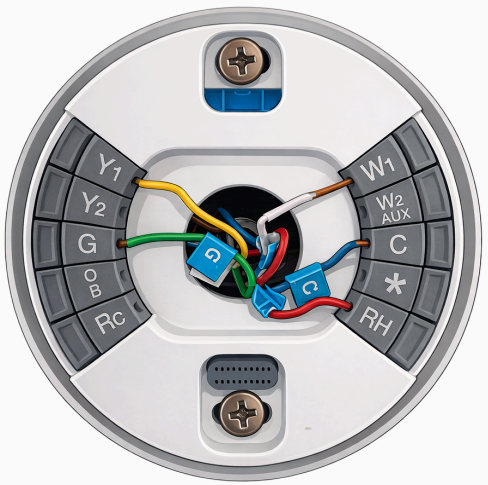
When using a third-party thermostat with this gateway, you must use both the R and C wires, even if it is a smart thermostat. Do not use any workarounds to the C-wire that steal or bleed power from the R or the Y1 wire.

2. **Connect the control cable to the thermostat.**
   Follow the manufacturer's instructions for the thermostat you are using to connect the wires of the control cable from the TPG015 gateway board to the corresponding inputs on the thermostat.

   Where the inputs do not match the terminal labels exactly, refer to the following table:

If the thermostat has:	Connect this gateway wire:	To this thermostat input:
RC and RH	R	Either one (RC and RH use the same transformer)
Y1 and Y2	Y	Y1
W1 and W2	W	W1
Only one G	G2	G
	G1, G3	Not used

Figure 69. Connect the wires to the thermostat (for reference only)



The image above illustrates a particular type of third-party thermostat for reference only. The appearance of the thermostat and the connections required may vary from the illustration.

⚠CAUTION

Ensure that all wire insulation is intact and that there are no exposed conductive parts that could cause short circuits or other electrical issues.

8.5 Closing the unit

To close the AIO® Ceiling Suspended (without ERV option) unit:

1. **Test the onboard touch controller.**
   a. Reconnect the power supply to the unit and power it on.
   b. Test the onboard touch controller to verify that it changes the temperature setting and modes of operation as selected. Refer to the AIO® Ceiling Ducted User Guide for more information (since the Ceiling Suspended units use the same controller).
      - If the controller works as expected, power off the unit and wait at least five minutes for the capacitors inside the unit to discharge.
      - If the test fails, repeat the applicable steps in sections 8.1 through 8.3 to verify that all connections are secure, and then repeat the test. If the test still fails, contact an INNOVA-trained service technician.

The thermostat is powered by the AIO® unit. Whenever power is supplied to the unit, the controller is also powered. If, after closing the unit, the controller does not appear to be energized, check the electrical supply to the unit.

2. **Close the unit.**
   a. Replace the electrical panel cover using the four screws removed in Section 8.1, Step 3.
   b. Replace the right side panel using the three screws removed in Section 8.1, Step 2c.
   c. Replace the front panel using the three screws removed in Section 8.1, Step 2b.
   d. Replace the supply grille using the two screws removed in section 8.1, Step 2a.

⚠CAUTION

Ensure that all wire insulation is intact and that there are no exposed conductive parts that could cause short circuits or other electrical issues.

3. **Reconnect the power supply to the unit.**

9. INSTALLING THE TPG015 GATEWAY IN THE AIO® VERTICAL STACK UNIT

The TPG015 gateway can only be installed in a Vertical Stack unit if it is Gen 3 or later, since in Gen 1 and 2, the display is located near the top of the Vertical Stack unit and cannot be connected to a gateway.

To install the TPG015 gateway in an AIO® Vertical Stack (Gen 3) unit and connect it to a third-party thermostat:

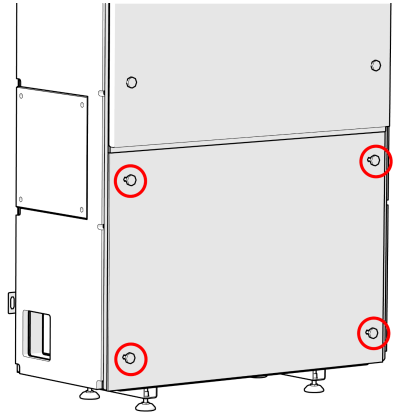
1. Open the unit.
2. Attach the gateway to the unit.
3. Connect the power and communication cables between the gateway and the unit.
4. Connect the gateway to the thermostat.
5. Close the unit.

9.1 Opening the unit

To open the AIO® Vertical Stack unit:

1. **Disconnect the power supply.**
   Disconnect the unit from the power supply and wait at least five minutes after it was last operated.
2. **Open the electrical panel.**
   Open the electrical panel by removing the four knobs.

Figure 70. Remove the knobs to open the electrical panel



9.2 Attaching the TPG015 gateway to the unit

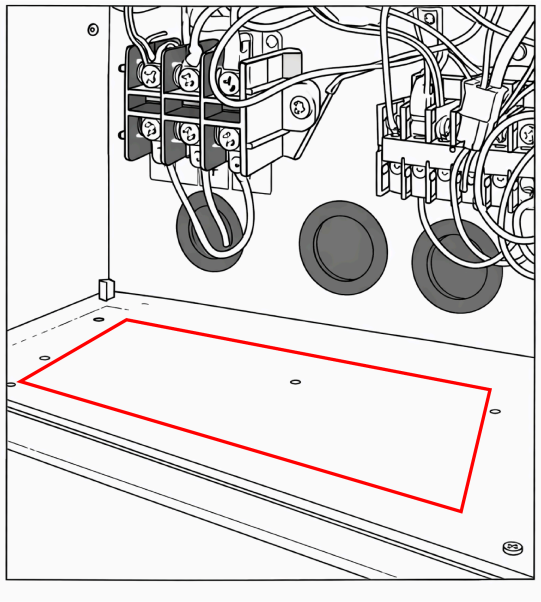
⚠CAUTION

Handle the control board and all electronic components with care to avoid damage.

To attach the TPG015 third-party thermostat gateway to the AIO® Vertical Stack unit:

1. **Mount the TPG015 gateway to the unit.**
   The electrical panel has a space at the bottom, near the terminal block, for mounting a gateway.

Figure 71. Gateway board mounting location



Mount the gateway board as follows:

- If there are mounting holes on the inner metal panel:
  a. Insert four or five LCD-6 plastic spacer (stand-up) clips into the holes.
  b. Mount the gateway board on top of the clips.

- It is recommended to use spacer clips if there are holes, since the spacers raise the gateway board ¼" (6.4 mm) above the metal chassis, preventing contact and ensuring safe clearance.
- If the lower row of holes does not line up with the holes in the panel, or is covered by the foam strip, use spacer clips in the upper holes and a thick foam strip (or several layers of double-sided tape) at the lower end.

- If there are no mounting holes on the panel:
  a. Clean the mounting location with an alcohol pad to ensure proper adhesion.
  b. Remove the backing from the two adhesive foam strips that are attached to the back of the gateway board.

The foam in the adhesive strips provides insulation to prevent short circuits.

Figure 72. Adhesive strips on the TPG015 gateway board

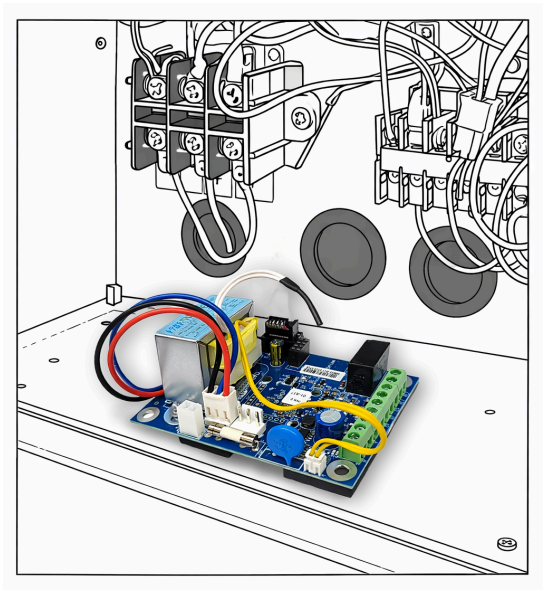


  c. Mount the TPG015 gateway board in the indicated location, and press firmly to ensure it is securely attached.

⚠CAUTION

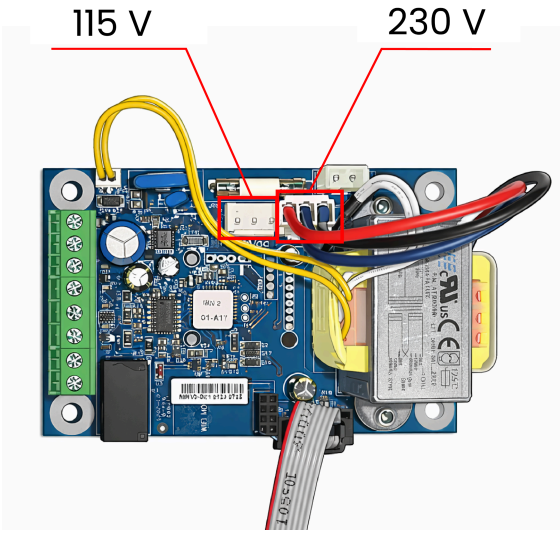
Make sure there is no direct contact between the gateway board and the metal panel.

Figure 73. Mount the gateway



2. **Set the correct voltage.**
   The TPG015 gateway board is set at the factory to 230V. If the AIO® unit uses 115V, remove the connector from the 230V socket and place it into the 115V socket as shown below.

Figure 74. Set the gateway board voltage



⚠CAUTION

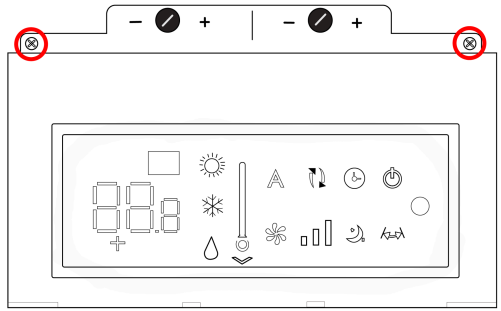
Make sure the TPG015 gateway is set to the same voltage as the AIO unit. Connecting a 115 V gateway to a 230 V unit will destroy the gateway.

9.3 Connecting the gateway cables

To connect the power and communication cables between the TPG015 gateway and the AIO® Vertical Stack unit:

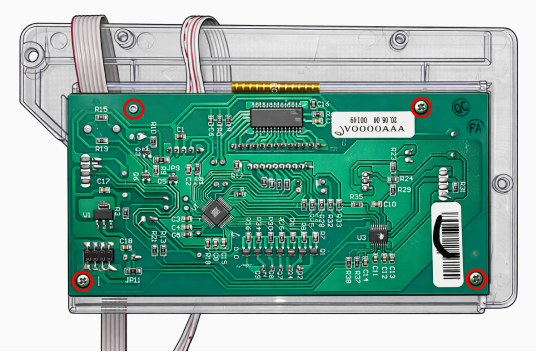
1. **Access the onboard touch controller.**
   a. Remove the two screws to detach the onboard touch controller housing from the unit.

Figure 75. Access the onboard touch controller



   b. Remove the four screws to remove the controller from the housing.

Figure 76. Open the controller housing



⚠CAUTION

Handle the control board and all electronic components with care to avoid damage.

2. **Remove the Wi-Fi module (if present) from the unit.**

   If a Wi-Fi module is installed in the Wi-Fi socket on the right side of the controller, gently pry the module out of the socket and put it aside.

Do not install any Wi-Fi module on the TPG015 gateway, as this can interfere with its correct operation.

Figure 77. Locate the Wi-Fi module

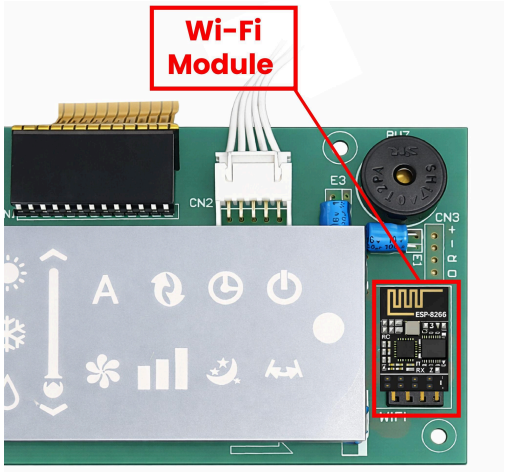
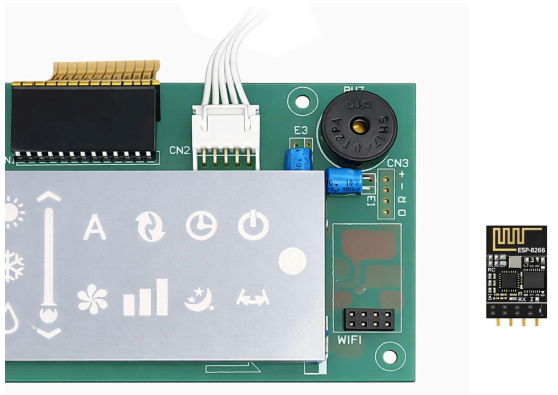


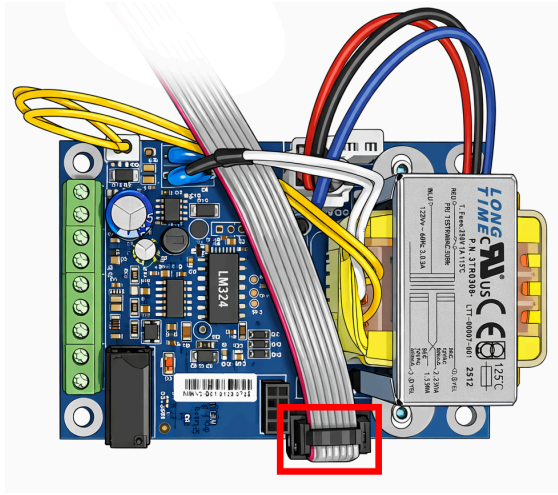
Figure 78. Remove the Wi-Fi module from its socket



3. **Connect the communication cable.**

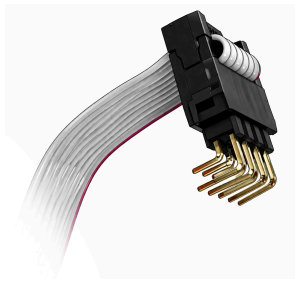
   a. On the TPG015 gateway board, the flat grey communication cable is preconnected to the communication port.

Figure 79. TPG015 gateway communication cable connection



The free end of the communication cable has an eight-pin right-angle pin header in the black connector.

Figure 80. Communication cable connector with right-angle pin header

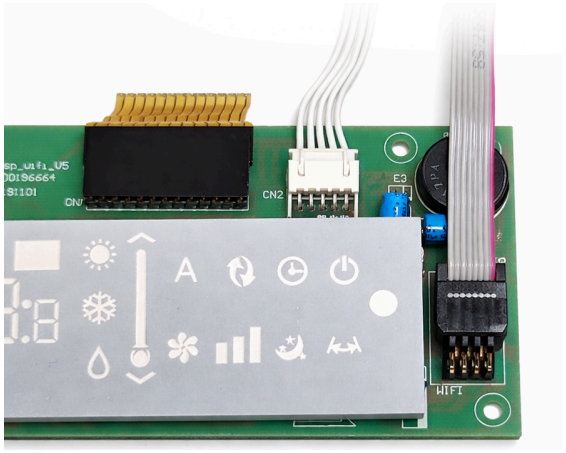


b. Connect the cable to the Wi-Fi socket as follows:

Ensure that the communication cable is inserted with the red stripe on the cable facing away from the display.

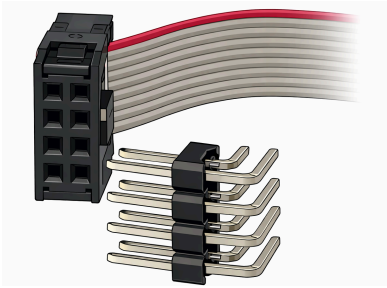
- If the Wi-Fi socket is empty:
  Insert the eight pins on the cable connector securely into the Wi-Fi socket as shown.

Figure 81. Connect the communication cable to the unit



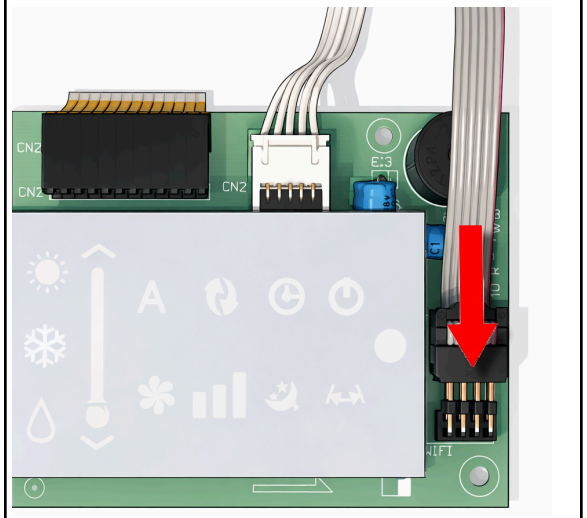
- If there is already a right-angle pin header in the Wi-Fi socket:
  i. Remove the right-angle pin header from the cable connector.

Figure 82. Remove the pin header from the connector



ii. Push the cable connector securely onto the pins in the Wi-Fi socket as shown.

Figure 83. Connect the cable to the pin header in the Wi-Fi socket



4. Reattach the onboard touch controller.

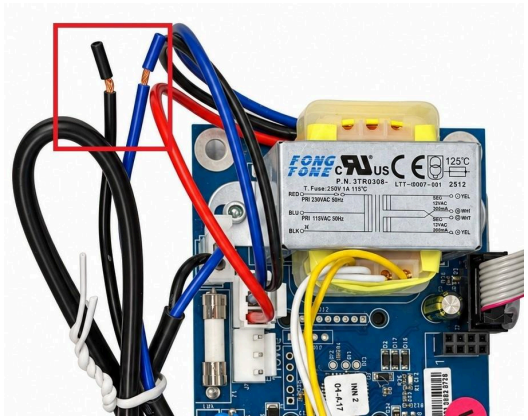
a. Replace the controller in its housing and secure it using the four screws removed in Step 1b above.

b. Reattach the controller housing to the unit using the two screws removed in Step 1a above.

5. Connect the power cable.

a. On the TPG015 gateway board, the black power cable is preconnected to the power terminal as shown below. The power cable contains two wires, one black and one blue.

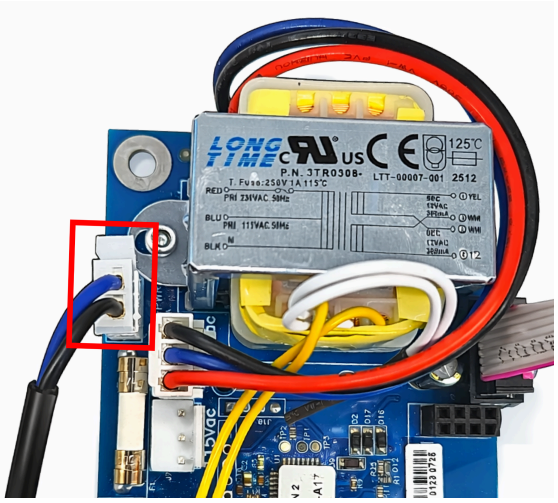
Figure 84. TPG015 gateway board power cable wires



b. The Vertical Stack unit may come with a black power cable pre-installed.

- If the unit has a pre-installed power cable, disconnect the gateway's power cable connector and insert the unit's power cable into the gateway instead.

Figure 85. TPG015 gateway board power cable connection



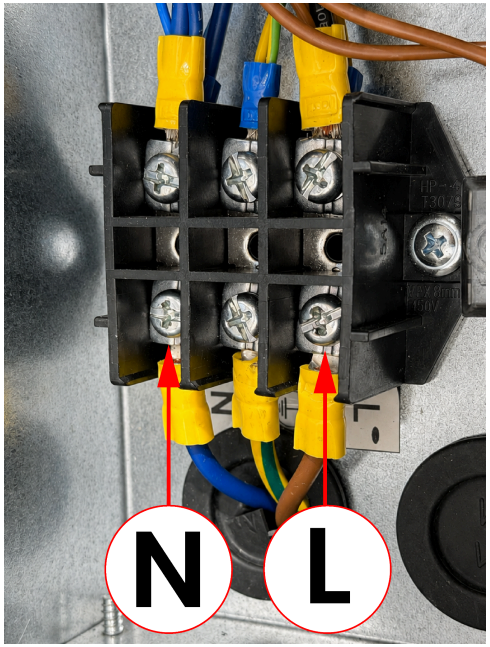
- If the unit does not have a pre-installed power cable, the power cable on the gateway must be hard-wired to the screw terminal block on the unit.

  To hard-wire the power cable to the unit's screw terminal block:

  i. The black wire in this cable is Live (Hot). Connect this wire to the L or L1 terminal on the unit.

  ii. The blue wire in this cable is Neutral. Connect this wire to the N terminal on the unit.

Figure 86. L and N terminals on screw terminal block



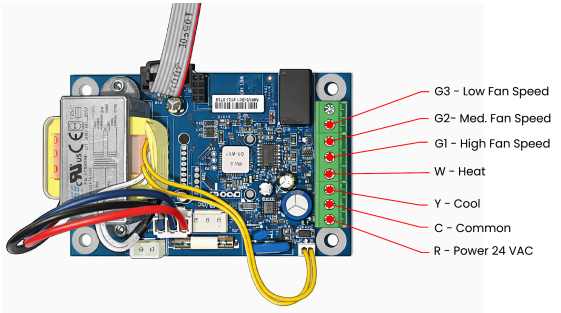
9.4 Connecting the thermostat

To connect the third-party thermostat to the TPG015 gateway:

1. **Connect the control cable to the gateway.**
   With the power remaining disconnected, connect the seven* wires of the control cable through the back of the AIO® Wall Mounted unit to the following terminals on the MOD-TPG gateway board:
   - R - Power 24 VAC
   - C - Common
   - Y - Cool
   - W - Heat
   - G1 - High Fan Speed
   - G2 - Medium Fan Speed
   - G3 - Low Fan Speed

* If using a thermostat that has only a single fan speed, use only five wires. In this case, you must choose the fan speed at which you want the AIO® unit to operate by attaching the wire for the fan to either G1 for high fan, G2 for medium fan, or G3 for low fan. We recommend using G2 for medium fan speed.

Figure 87. Terminals on the gateway for connecting the wires



⚠CAUTION

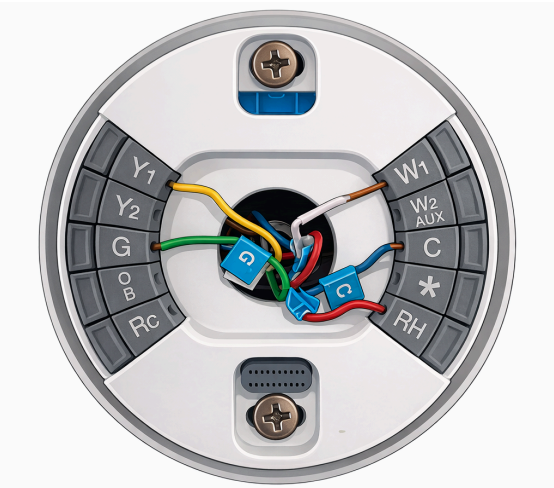
When using a third-party thermostat with this gateway, you must use both the R and C wires, even if it is a smart thermostat. Do not use any workarounds to the C-wire that steal or bleed power from the R or the Y1 wire.

2. **Connect the control cable to the thermostat.**
   Follow the manufacturer's instructions for the thermostat you are using to connect the wires of the control cable from the TPG015 gateway board to the corresponding inputs on the thermostat.

   Where the inputs do not match the terminal labels exactly, refer to the following table:

If the thermostat has:	Connect this gateway wire:	To this thermostat input:
RC and RH	R	Either one (RC and RH use the same transformer)
Y1 and Y2	Y	Y1
W1 and W2	W	W1
Only one G	G2	G
	G1, G3	Not used

Figure 88. Connect the wires to the thermostat (for reference only)



The image above illustrates a particular type of third-party thermostat for reference only. The appearance of the thermostat and the connections required may vary from the illustration.

⚠CAUTION

Ensure that all wire insulation is intact and that there are no exposed conductive parts that could cause short circuits or other electrical issues.

9.5 Closing the unit

To close the AIO® Vertical Stack unit:

1. **Test the onboard touch controller.**
   a. Reconnect the power supply to the unit and power it on.
   b. Test the onboard touch controller to verify that it changes the temperature setting and modes of operation as selected. Refer to the AIO® Vertical Stack User Guide for more information.
      - If the controller works as expected, power off the unit and wait at least five minutes for the capacitors inside the unit to discharge.
      - If the test fails, repeat the applicable steps in sections 9.1 through 9.3 to verify that all connections are secure, and then repeat the test. If the test still fails, contact an INNOVA-trained service technician.

The thermostat is powered by the AIO® unit. Whenever power is supplied to the unit, the controller is also powered. If, after closing the unit, the controller does

not appear to be energized, check the electrical supply to the unit.

2. **Close the unit.**
   Close the electrical panel by replacing and tightening the four knobs removed in section 9.1, Step 2.
3. **Reconnect the power supply to the unit.**

10. INSTALLING THE TPG015 GATEWAY IN THE AIO® VERTICAL STACK XL UNIT

To install the TPG015 gateway in an AIO® Vertical Stack XL unit and connect it to a third-party thermostat:

1. Open the unit.
2. Attach the gateway to the unit.
3. Connect the power and communication cables between the gateway and the unit.
4. Connect the gateway to the thermostat.
5. Close the unit.

The instructions and illustrations in this section refer to Gen 3 of the AIO® Vertical Stack XL, but the procedure is similar for Gen 1 and Gen 2.

10.1 Opening the unit

To open the AIO® Vertical Stack XL unit:

1. **Disconnect the power supply.**
   Disconnect the unit from the power supply and wait at least five minutes after it was last operated.
2. **Remove the decorative panel.**
   Remove the eight knobs from the decorative panel. Then remove the decorative panel.

Figure 89. Remove the knobs

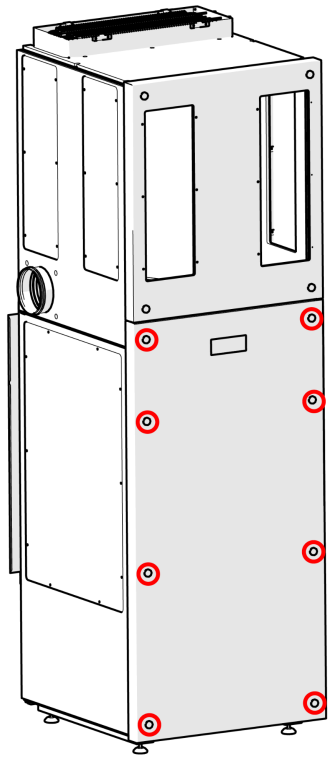
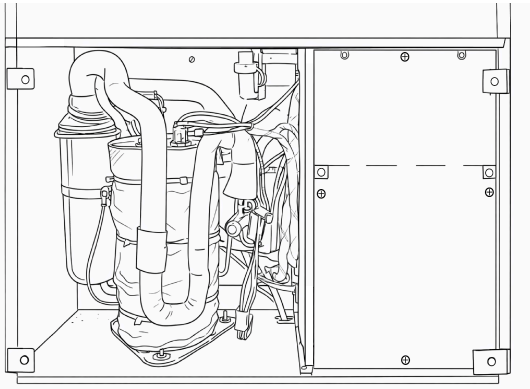


Figure 90. Remove the decorative panel



3. **Open the electrical panel.**
   Remove the four screws and the two metal panels to access the electrical panel.

Figure 91. Remove the metal panels

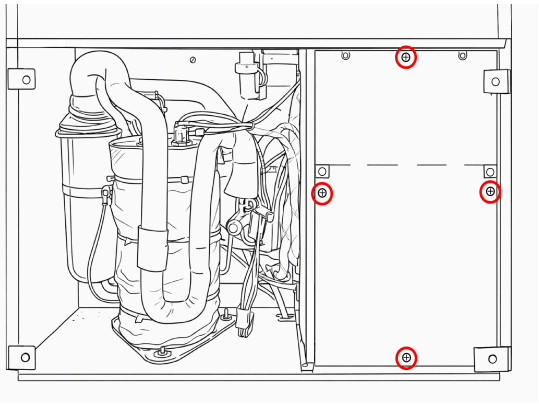
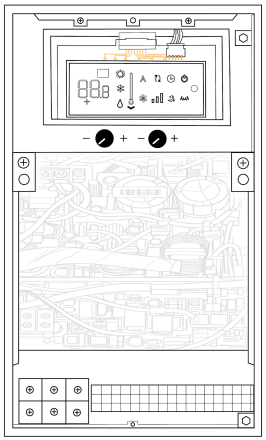


Figure 92. Open the electrical panel



10.2 Attaching the TPG015 gateway to the unit

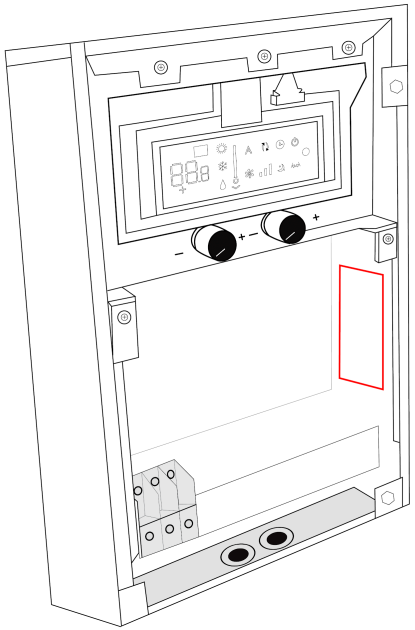
⚠CAUTION

Handle the control board and all electronic components with care to avoid damage.

To attach the TPG015 third-party thermostat gateway to the AIO® Vertical Stack XL unit:

1. **Mount the TPG015 gateway to the unit.**
   The electrical panel has a space on the side wall for mounting the gateway.

Figure 93. Gateway board mounting location



Mount the gateway board as follows:

- If there are mounting holes on the inner metal panel:
  a. Insert four or five LCD-6 plastic spacer (stand-up) clips into the holes.
  b. Mount the gateway board on top of the clips.

- It is recommended to use spacer clips if there are holes, since the spacers raise the gateway board ¼" (6.4 mm) above the metal chassis, preventing contact and ensuring safe clearance.
- If the lower row of holes does not line up with the holes in the panel, or is covered by the foam strip, use spacer clips in the upper holes and a thick foam strip (or several layers of double-sided tape) at the lower end.

- If there are no mounting holes on the panel:
  a. Clean the mounting location with an alcohol pad to ensure proper adhesion.
  b. Remove the backing from the two adhesive foam strips that are attached to the back of the gateway board.

The foam in the adhesive strips provides insulation to prevent short circuits.

Figure 94. Adhesive strips on the TPG015 gateway board

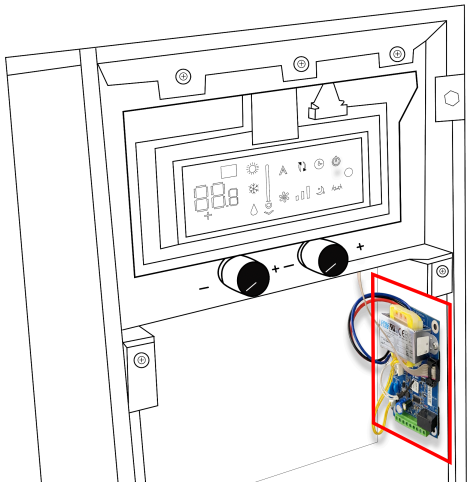


c. Mount the TPG015 gateway board in the indicated location, and press firmly to ensure it is securely attached.

⚠CAUTION

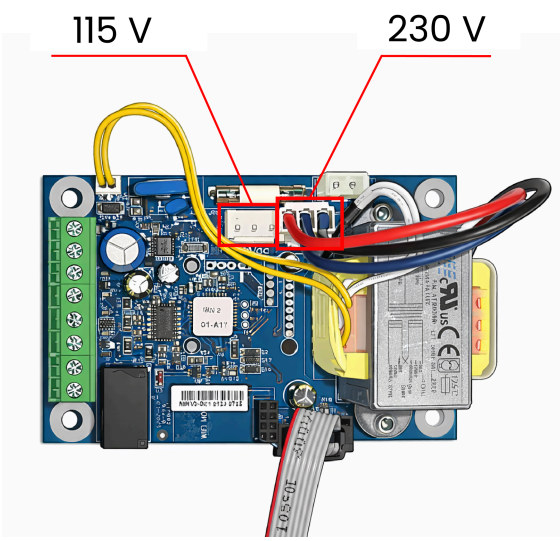
Make sure there is no direct contact between the gateway board and the metal panel.

Figure 95. Mount the gateway board



2. **Set the correct voltage.**
   The TPG015 gateway board is set at the factory to 230V. If the AIO® unit uses 115V, remove the connector from the 230V socket and place it into the 115V socket as shown below.

Figure 96. Set the gateway board voltage



⚠CAUTION

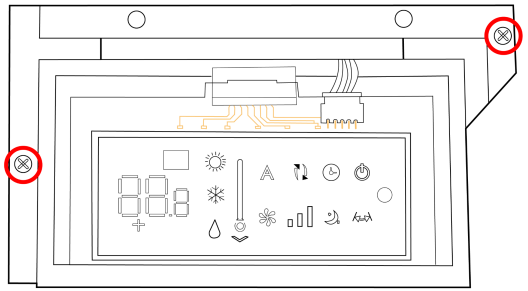
Make sure the TPG015 gateway is set to the same voltage as the AIO unit. Connecting a 115 V gateway to a 230 V unit will destroy the gateway.

10.3 Connecting the gateway cables

To connect the power and communication cables between the TPG015 gateway and the AIO® Vertical Stack XL unit:

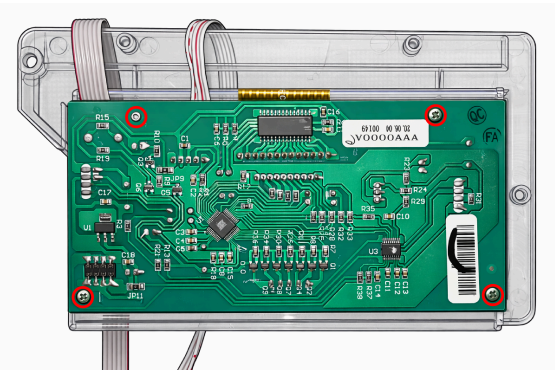
1. **Access the onboard touch controller.**
   a. Remove the two screws to detach the onboard touch controller housing from the unit.

Figure 97. Access the onboard touch controller



b. Remove the four screws to remove the controller from the housing.

Figure 98. Open the controller housing



⚠CAUTION

Handle the control board and all electronic components with care to avoid damage.

2. Remove the Wi-Fi module (if present) from the unit.

If a Wi-Fi module is installed in the Wi-Fi socket on the right side of the controller, gently pry the module out of the socket and put it aside.

Do not install any Wi-Fi module on the TPG015 gateway, as this can interfere with its correct operation.

Figure 99. Locate the Wi-Fi module

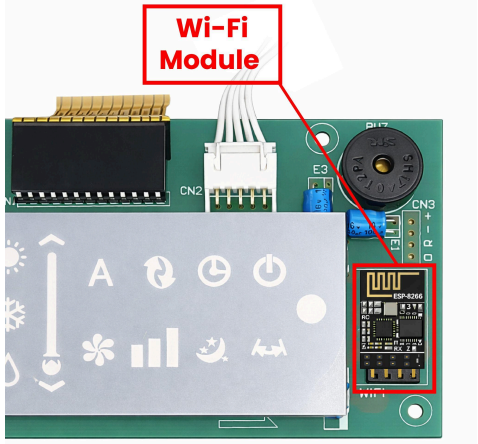
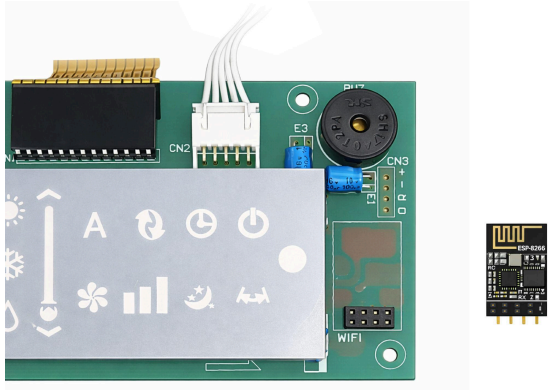


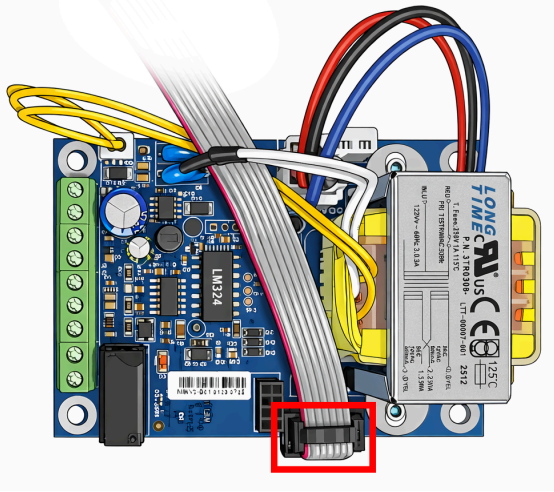
Figure 100. Remove the Wi-Fi module from its socket



3. Connect the communication cable.

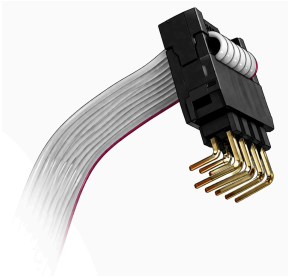
a. On the TPG015 gateway board, the flat grey communication cable is preconnected to the communication port.

Figure 101. TPG015 gateway communication cable connection



The free end of the communication cable has an eight-pin right-angle pin header in the black connector.

Figure 102. Communication cable connector with right-angle pin header

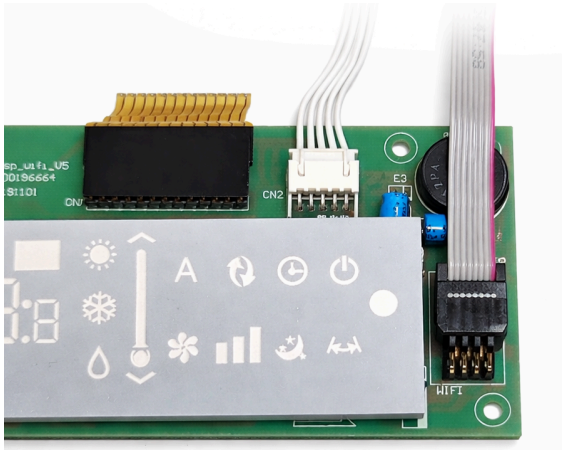


b. Connect the cable to the Wi-Fi socket as follows:

Ensure that the communication cable is inserted with the red stripe on the cable facing away from the display.

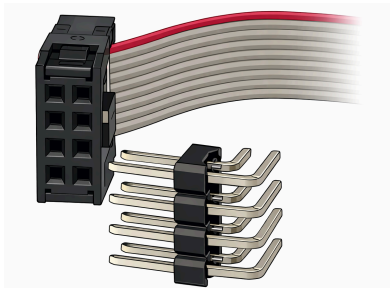
- If the Wi-Fi socket is empty:
  Insert the eight pins on the cable connector securely into the Wi-Fi socket as shown.

Figure 103. Connect the communication cable to the unit



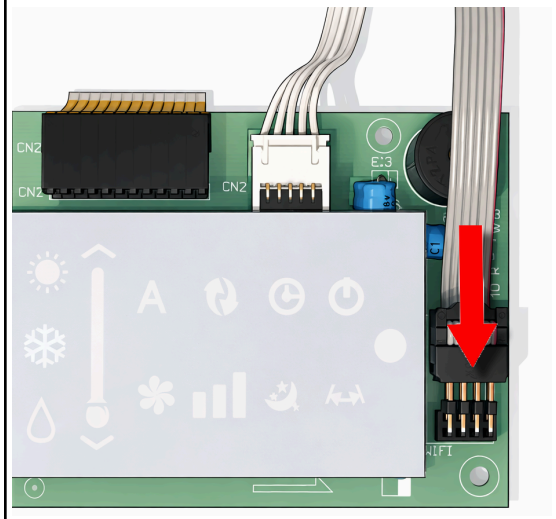
- If there is already a right-angle pin header in the Wi-Fi socket:
  i. Remove the right-angle pin header from the cable connector.

Figure 104. Remove the pin header from the connector



  ii. Push the cable connector securely onto the pins in the Wi-Fi socket as shown.

Figure 105. Connect the cable to the pin header in the Wi-Fi socket



4. Reattach the onboard touch controller.

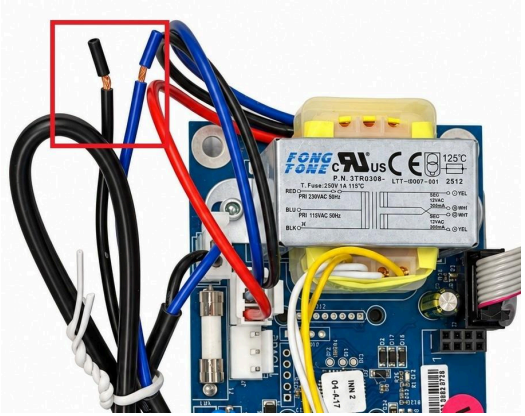
a. Replace the controller in its housing and secure it using the four screws removed in Step 1b above.

b. Reattach the controller housing to the unit using the two screws removed in Step 1a above.

5. Connect the power cable.

a. On the TPG015 gateway board, the black power cable is preconnected to the power terminal as shown below. The power cable contains two wires, one black and one blue.

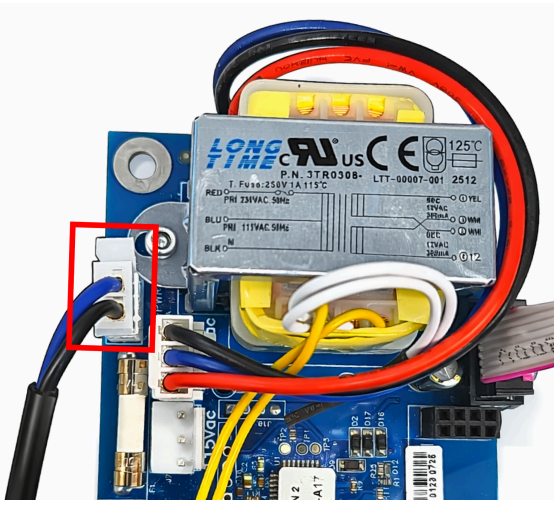
Figure 106. TPG015 gateway board power cable wires



b. The Vertical Stack XL unit may come with a black power cable pre-installed.

- If the unit has a pre-installed power cable, disconnect the gateway's power cable connector and insert the unit's power cable into the gateway instead.

Figure 107. TPG015 gateway board power cable connection



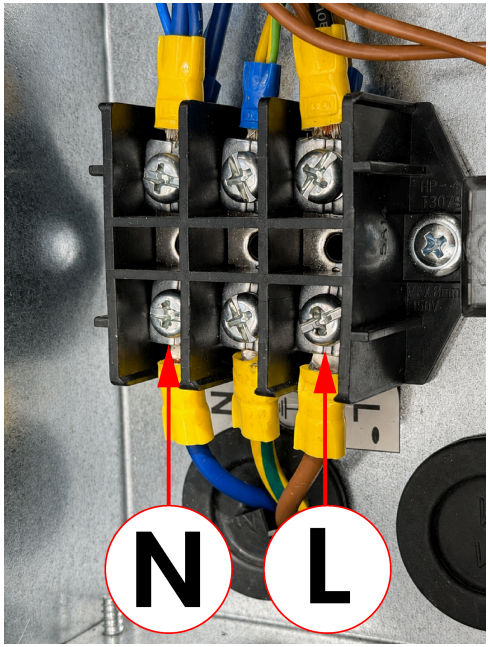
- If the unit does not have a pre-installed power cable, the power cable on the gateway must be hard-wired to the screw terminal block on the unit.

  To hard-wire the power cable to the unit's screw terminal block:

  i. The black wire in this cable is Live (Hot). Connect this wire to the L or L1 terminal on the unit.

  ii. The blue wire in this cable is Neutral. Connect this wire to the N terminal on the unit.

Figure 108. L and N terminals on screw terminal block



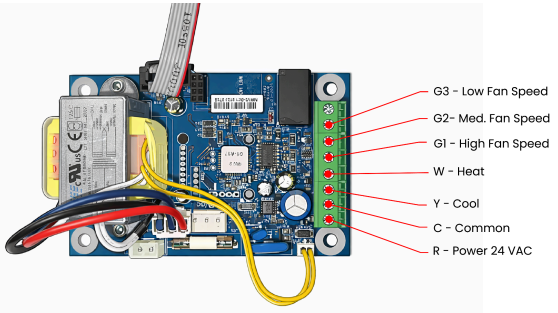
10.4 Connecting the thermostat

To connect the third-party thermostat to the TPG015 gateway:

1. **Connect the control cable to the gateway.**
   With the power remaining disconnected, connect the seven* wires of the control cable through the back of the AIO® Wall Mounted unit to the following terminals on the MOD-TPG gateway board:
   - R - Power 24 VAC
   - C - Common
   - Y - Cool
   - W - Heat
   - G1 - High Fan Speed
   - G2 - Medium Fan Speed
   - G3 - Low Fan Speed

* If using a thermostat that has only a single fan speed, use only five wires. In this case, you must choose the fan speed at which you want the AIO® unit to operate by attaching the wire for the fan to either G1 for high fan, G2 for medium fan, or G3 for low fan. We recommend using G2 for medium fan speed.

Figure 109 Terminals on the gateway for connecting the wires



⚠CAUTION

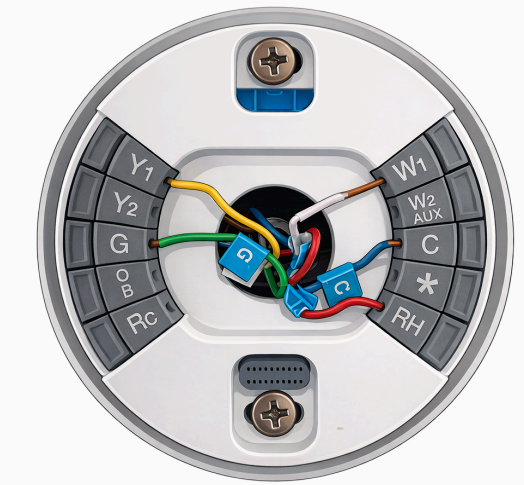
When using a third-party thermostat with this gateway, you must use both the R and C wires, even if it is a smart thermostat. Do not use any workarounds to the C-wire that steal or bleed power from the R or the Y1 wire.

2. **Connect the control cable to the thermostat.**
   Follow the manufacturer's instructions for the thermostat you are using to connect the wires of the control cable from the TPG015 gateway board to the corresponding inputs on the thermostat.

   Where the inputs do not match the terminal labels exactly, refer to the following table:

If the thermostat has:	Connect this gateway wire:	To this thermostat input:
RC and RH	R	Either one (RC and RH use the same transformer)
Y1 and Y2	Y	Y1
W1 and W2	W	W1
Only one G	G2	G
	G1, G3	Not used

Figure 110. Connect the wires to the thermostat (for reference only)



The image above illustrates a particular type of third-party thermostat for reference only. The appearance of the thermostat and the connections required may vary from the illustration.

⚠CAUTION

Ensure that all wire insulation is intact and that there are no exposed conductive parts that could cause short circuits or other electrical issues.

10.5 Closing the unit

To close the AIO® Vertical Stack XL unit:

1. **Test the onboard touch controller.**
   a. Reconnect the power supply to the unit and power it on.
   b. Test the onboard touch controller to verify that it changes the temperature setting and modes of operation as selected. Refer to the AIO® Vertical Stack User Guide for more information (since the Vertical Stack XL uses the same controller).
      - If the controller works as expected, power off the unit and wait at least five minutes for the capacitors inside the unit to discharge.
      - If the test fails, repeat the applicable steps in sections 10.1 through 10.3 to verify that all connections are secure, and then repeat the test. If the test still fails, contact an INNOVA-trained service technician.

The thermostat is powered by the AIO® unit. Whenever power is supplied to the unit, the controller is also powered. If, after closing the unit, the controller does not appear to be energized, check the electrical supply to the unit.

2. **Close the unit.**
   a. Replace the two metal panels and secure them with the four screws removed in section 10.1, Step 3.
   b. Replace the decorative panel and secure it by replacing and tightening the eight knobs removed in section 10.1, Step 2.
3. **Reconnect the power supply to the unit.**

11. WARRANTY TERMS AND CONDITIONS

Controllers and gateways carry a two-year warranty.

11.1 Exclusions and limitations

The above-noted warranty shall not cover:

- Any damage resulting from improper voltage supplied to the AIO® unit.
- Damage to a controller or gateway where there is a corrosive atmosphere containing any damaging chemical, such as chlorine or fluorine.
- Failure of the controller or gateway due to acts of God, natural disasters, power failures, interruptions, brownouts or power spikes, or due to incorrect or inadequate electrical service, or failure of internet services or home networks.
- Damages or personal injury caused directly or indirectly by failure or malfunction of the controller or gateway as a result of any cause, including natural disasters, accidents, misuse, improper wiring, or installation.

For additional information and any product inquiries, contact:

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Revised September 06, 2026

AIO® Third Party Thermostat Gateway (TPG015) for AIO® Heat Pumps **Installation Guide**