



Smart thermostat

HVAC

# Installation and Configuration Guide

TH6500WF



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# Included in the box

Inside the box, you will find:



TH6500WF thermostat



Mounting plate



TB6500 connection module



4 screws  
4 anchors



Welcome guide

## Installation requirements

- **Flathead or Phillips screwdriver** for wall installation of the mounting plate and connection module - Phillips #2/slot M7.0
- **Screwdriver for connectors** (TH6500WF model only)
  - Flathead screwdriver for the connection module wires - Slot M3.5 or 9/64", wire stripping length: 8-9mm
  - Flathead or Phillips screwdriver for thermostat wall plate wires - Phillips #1/slot M2.5, wire stripping length: 8-9mm
- **Optional** for easier setup:
  - Wi-Fi connection
  - Smartphone or tablet
  - Sinopé app account

# Connections

| LED | Connection         | Description                                                                              |
|-----|--------------------|------------------------------------------------------------------------------------------|
|     | <b>Th-Th</b>       | Communication with the thermostat (non-polarized)                                        |
|     | <b>C</b>           | 24 Vac common power supply                                                               |
|     | <b>R</b>           | 24 Vac power supply from the heat pump                                                   |
|     | <b>Rh</b>          | 24 Vac power supply from the furnace                                                     |
| X   | <b>G</b>           | Circulation fan                                                                          |
| X   | <b>W1</b>          | First stage of heating or first stage of auxiliary heating                               |
| X   | <b>W2</b>          | Second stage of heating or auxiliary heating                                             |
| X   | <b>O/B</b>         | Reversing valve                                                                          |
| X   | <b>Y1</b>          | First stage of the heat pump or air conditioner                                          |
| X   | <b>Y2</b>          | Second stage of the heat pump or air conditioner                                         |
| X   | <b>ACC<br/>ACC</b> | Connection for accessories. Used to connect additional accessories or external equipment |
| X   | <b>DE / L</b>      | Dual energy signal input / "L" Heat Pump                                                 |
| X   | <b>C</b>           | 24 Vac common power supply                                                               |
| X   | <b>HRV</b>         | Signal input indicating the air exchanger is running                                     |

# System compatibility

| #                          | Output / Input                                | Rh <sup>1</sup>    | G | W1 | W2 | Y1 | Y2 | O/B | ACC | DE | HRV |
|----------------------------|-----------------------------------------------|--------------------|---|----|----|----|----|-----|-----|----|-----|
| <b>Conventional system</b> |                                               |                    |   |    |    |    |    |     |     |    |     |
| 1                          | 1H                                            |                    |   | X  |    |    |    |     |     |    |     |
| 2                          | 1H                                            |                    | X | X  |    |    |    |     |     |    |     |
| 3                          | 2H                                            |                    | X | X  | X  |    |    |     |     |    |     |
| 4                          | 1C                                            |                    | X |    |    | X  |    |     |     |    |     |
| 5                          | 2C                                            |                    | X |    |    | X  | X  |     |     |    |     |
| 6                          | 1H1C                                          |                    | X | X  |    | X  |    |     |     |    |     |
| 7                          | 1H1C                                          | X                  | X | X  |    | X  |    |     |     |    |     |
| 8                          | 1H2C                                          |                    | X | X  |    | X  | X  |     |     |    |     |
| 9                          | 1H2C                                          | X                  | X | X  |    | X  | X  |     |     |    |     |
| 10                         | 2H1C                                          |                    | X | X  | X  | X  |    |     |     |    |     |
| 11                         | 2H1C                                          | X                  | X | X  | X  | X  |    |     |     |    |     |
| 12                         | 2H2C                                          |                    | X | X  | X  | X  | X  |     |     |    |     |
| 13                         | 2H2C                                          | X                  | X | X  | X  | X  | X  |     |     |    |     |
| <b>Heat Pump</b>           |                                               |                    |   |    |    |    |    |     |     |    |     |
| 14                         | 1H1C                                          |                    | X |    |    | X  |    | X   |     |    |     |
| 15                         | 2H1C                                          |                    | X | X  |    | X  |    | X   |     |    |     |
| 16                         | 2H1C                                          | X                  | X | X  |    | X  |    | X   |     |    |     |
| 17                         | 2H2C                                          |                    | X |    |    | X  | X  | X   |     |    |     |
| 18                         | 3H1C                                          |                    | X | X  | X  | X  |    | X   |     |    |     |
| 19                         | 3H1C                                          | X                  | X | X  | X  | X  |    | X   |     |    |     |
| 20                         | 3H2C                                          |                    | X | X  |    | X  | X  | X   |     |    |     |
| 21                         | 3H2C                                          | X                  | X | X  |    | X  | X  | X   |     |    |     |
| 22                         | 4H2C                                          |                    | X | X  | X  | X  | X  | X   |     |    |     |
| 23                         | 4H2C                                          | X                  | X | X  | X  | X  | X  | X   |     |    |     |
| <b>Additional system</b>   |                                               |                    |   |    |    |    |    |     |     |    |     |
| 24                         | Humidifier, Dehumidifier, and Thermal storage |                    |   |    |    |    |    |     | X   |    |     |
| 25                         | Air exchanger                                 |                    |   |    |    |    |    |     | X   |    | X   |
| 26                         | Dual energy                                   |                    |   |    |    |    |    |     |     | X  |     |
| 27                         | Electric SSR                                  | See wiring diagram |   |    |    |    |    |     |     |    |     |
| 28                         | "L" Heat Pump                                 | See wiring diagram |   |    |    |    |    |     |     |    |     |

<sup>1</sup> System with two transformers

# Installation and configuration

## Recommendations

It is highly recommended that you hire a qualified professional to ensure the safe and effective installation of the HVAC thermostat and the connection module to the HVAC system. Installing these components requires technical expertise and a thorough understanding of the applicable standards in your region.

- **Hire a qualified professional to install the HVAC system.**
- **Ensure system compatibility:** Before any installation, check that the components to be installed are compatible with your existing HVAC system. If in doubt, consult a professional for appropriate advice.
- **Follow applicable standards:** Ensure the installation complies with electrical and plumbing codes and regulations.

By following these recommendations and avoiding potential risks, you can ensure the safe and efficient installation of the HVAC thermostat and the connection module to your HVAC system. For your safety and the safety of those around you, hire a qualified professional.

# Installation – TB6500 Connection module

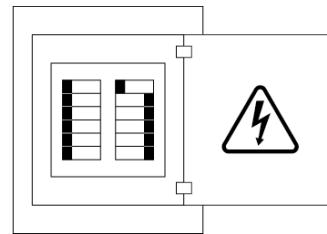
## Replacing an existing installation

The following steps describe how to upgrade an existing installation to improve efficiency and performance.

**1 Evaluate the existing system.**  
Assess the current HVAC system to understand its configuration and specifics.

**2 Verify system compatibility**  
Ensure the existing system is compatible with the available connections on the TB6500. If necessary, refer to the [connections](#) table.

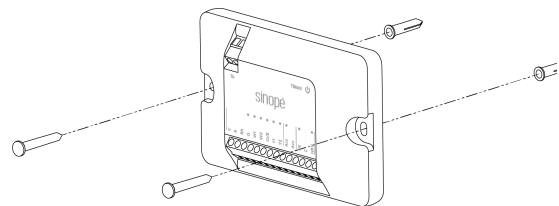
**3 Switch off the power supply.**  
Before beginning the thermostat installation, make sure to power off the circuit from the electrical panel to avoid any risk of electrical shock.



**4 Attach the connection module** to the HVAC equipment frame or nearby wall.

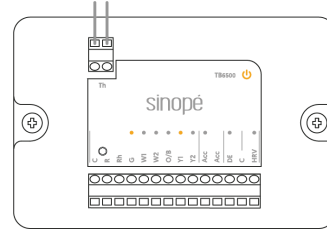
Ensure the wires are long enough to reach the desired location.

Disconnect and/or cut the necessary wires to make the new connection to the connection module.



5

**Select and connect 2 of the existing wires** at the top of the connection module for communication with the thermostat.

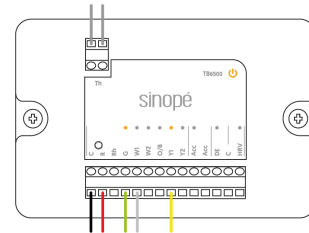


**Note:** Cable lengths should not exceed **30 meters (100 feet)** to ensure optimum communication between the **TH6500WF** and **TB6500**.

6

**Connect the wires of your HVAC system to the connection module.** Please refer to the wiring diagrams in the [Appendices](#) if needed.

Wire range Min/Max (Solid): 18-22 AWG  
Wire range Min/Max (Stranded): 18-22 AWG



**Tip**

Take a photo of your wiring setup as a reference to simplify the installation and configuration of your thermostat.

7

**Proceed with the installation of the TH6500WF thermostat**

Continue with the next steps to install the [TH6500WF thermostat](#).



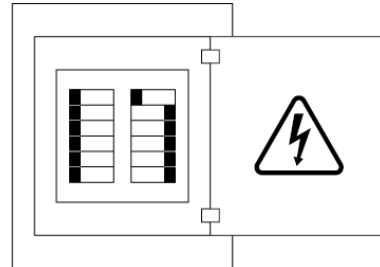
# Installation – Smart Wi-Fi thermostat TH6500WF

## Preparation steps

1

### Switch off the power supply.

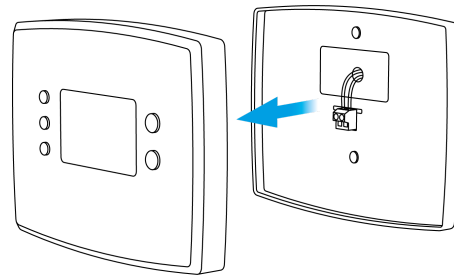
Before installing the thermostat, make sure that the breakers for your heating system are off at the electrical panel to avoid any risk of electric shock.



2

### Remove the cover of your old thermostat.

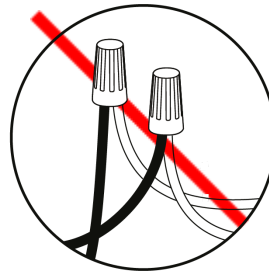
Some covers can be removed by hand, while others may need to be unscrewed.



### Warning

#### Check your system's compatibility.

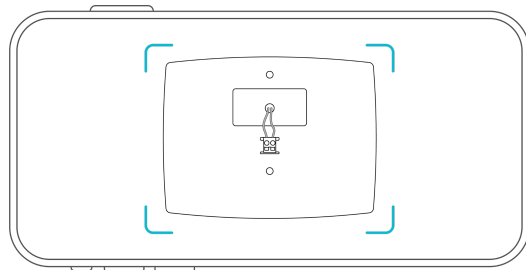
If your old thermostat has a 120 V or 240 V label or features **thick wires with wire nuts**, it is a **high-voltage system**. Your system **is not compatible** with the TH6500WF thermostat.



3

### Take a photo of the wiring of your old thermostat.

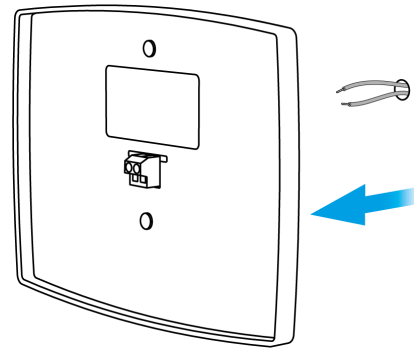
This photo can be handy when installing your new thermostat, especially if it is installed before the TB6500 connection module.



4

#### Disconnect the wires and remove the base.

After removing the base, we recommend gently wrapping the wires around a pen or pencil to prevent them from falling into the wall hole.



## TH6500WF installation

1

#### Mark screw locations.

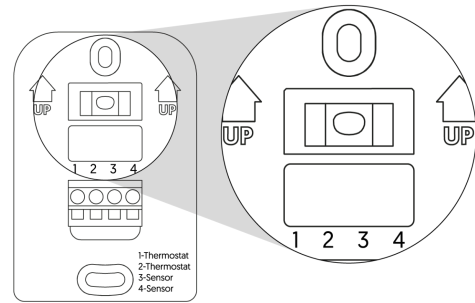
Use the spirit level on the mounting plate to ensure the thermostat is straight.

#### Installation Tip

When using the decorative mounting plate ([AC6500-01](#) or [AC6500-02](#)) to cover holes or marks left by a previous thermostat, install the decorative plate on the wall first. Then, attach the thermostat's wall plate on top.

#### ⚠ Important note

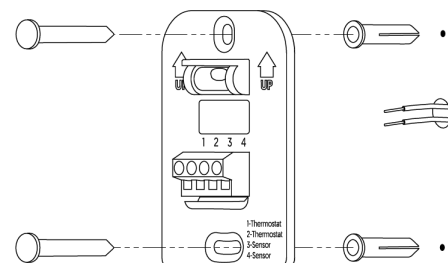
If the installation includes a junction box, the decorative plate is **mandatory** to ensure **proper and safe coverage**.



2

#### Attach the mounting plate.

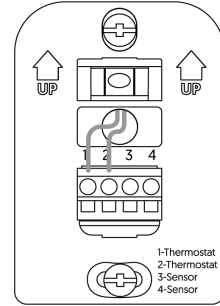
Feed the wires through the center of the base and secure it to the wall using the provided screws. Use anchors if needed.



3

**Connect the wires.**

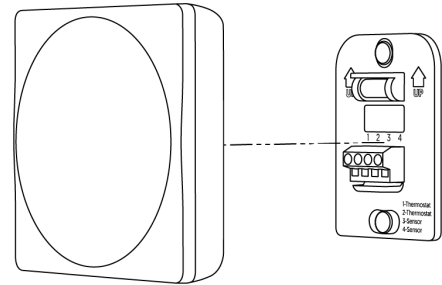
Insert each wire fully into the connector openings, then tighten the screws firmly to ensure a secure and stable connection.



4

**Attach the thermostat.**

Align the thermostat with the wall plate and press it firmly until it clicks into place.



5

**Restore power**

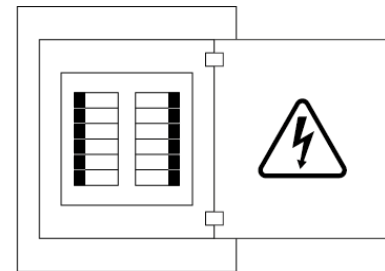
Turn the circuit breaker back **ON** to power up the thermostat.

**TB6500**

The power light will turn on to confirm that the connection module is powered. Depending on your system's state, the LEDs of some activated outputs may also light up.

**TH6500WF**

The start-up screen will appear for a few moments.



# TH6500WF REV: 01 installation

1

## Mark the screw locations.

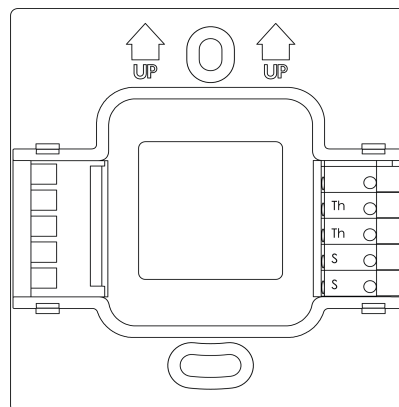
Use a level to ensure the thermostat is properly aligned.

### Installation Tip

When using the decorative mounting plate ([AC6500-03](#) or [AC6500-04](#)) to cover holes or marks left by a previous thermostat, install the decorative plate on the wall first. Then, attach the thermostat's wall plate on top.

### ⚠ Important note

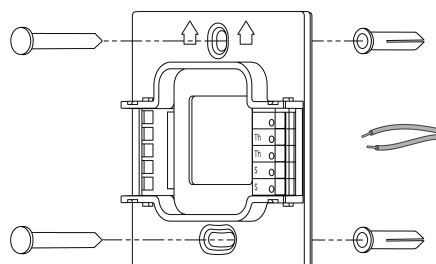
If the installation includes a junction box, the decorative plate is **mandatory** to ensure **proper and safe coverage**.



2

## Attach the mounting plate.

Feed the wires through the center of the base and secure it to the wall using the provided screws. Use anchors if needed.

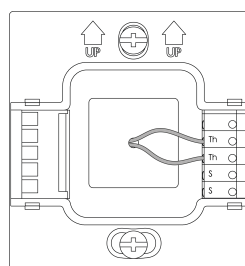


3

## Connect the wires

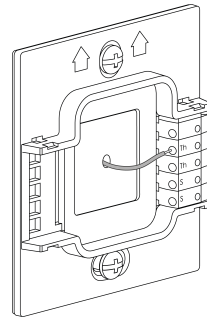
Insert each wire fully into the connector.

Once all wires are properly connected, carefully tuck them into the wall cavity.

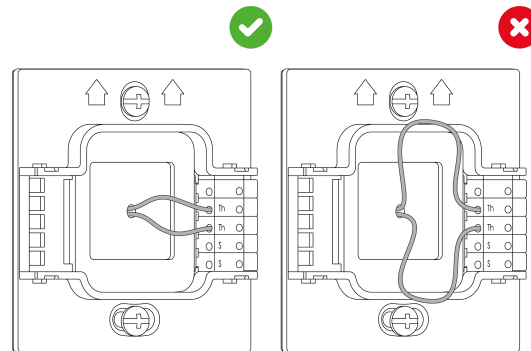


### IMPORTANT

1. Insert the wires **through the sides** of the terminals, **not from the top**.



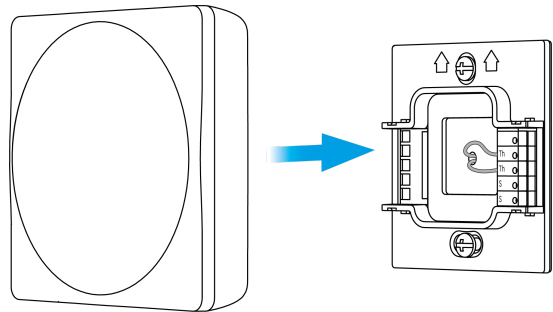
2. Carefully arrange the wires inside the wall so that they do not extend beyond the terminal block.



## 4

### Attach the thermostat

Align the thermostat with the wall plate and press it firmly until it clicks into place.



## 5

### Restore power

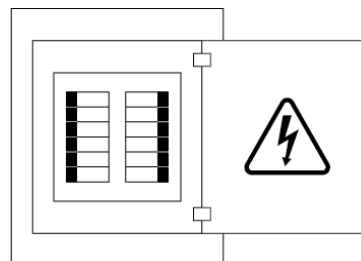
Turn the circuit breaker back **ON** to power up the thermostat.

#### TB6500

The power light will turn on to confirm that the connection module is powered. Depending on your system's state, the LEDs of some activated outputs may also light up.

#### TH6500WF

The start-up screen will appear for a few moments.



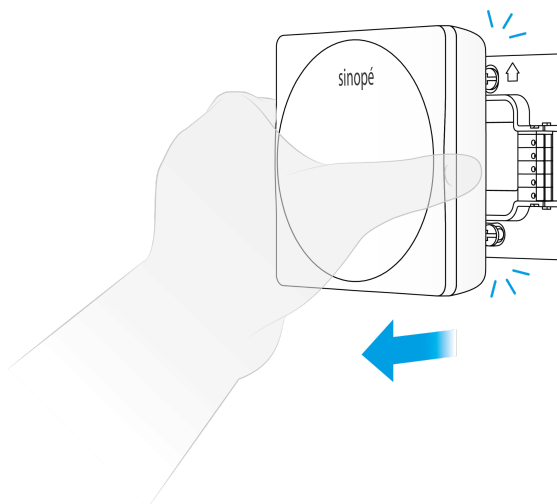
## Removing the thermostat from the wall

To remove the thermostat from its wall base, follow these steps:

1. **Preparation:** Ensure you have a firm grip on both sides of the device.
2. **Removal:** Gently but firmly pull the thermostat toward you. The unit should snap off from the wall-mounted base.

### Warning

**Never insert any object** (screwdriver, knife, or other tool) into the slots located under the thermostat to pry it off. This may cause serious damage to the device's internal components.



# Configuration – Smart Wi-Fi thermostat TH6500WF

Once the thermostat is powered, the startup screen will briefly appear. Then, follow the steps below to configure it.

## Startup screen



1

### Language selection

Select the language for the thermostat display.



2

### Temperature unit

Select the temperature format displayed on the thermostat screen.



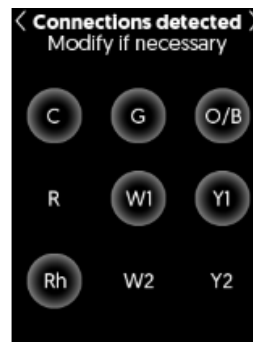
3

**Connections detected**

Select the wires connected to the TB6500 connection module.

If the  symbol appears on a tile, click it to view error code details and learn how to fix the problem. If necessary, contact our [Support team](#).

**Tip:** Refer to the photo taken during the thermostat's installation.

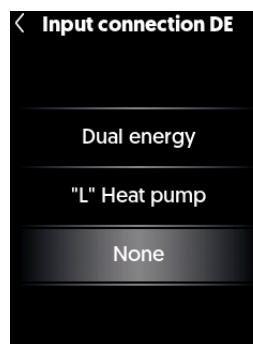


4

**Input connection DE**

Select your input connection DE, if applicable.

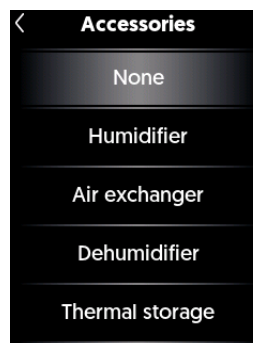
**IMPORTANT:** An external relay must be installed between the TB6500 and the heat pump to enable communication with the heat pump's "L" output. Refer to [wiring diagram 28](#).



5

**Accessories**

Select your accessory, if applicable.

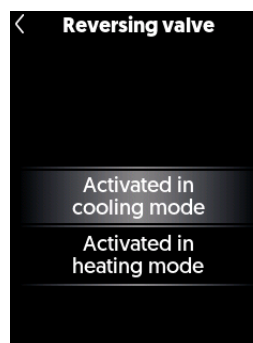


6

**Reversing valve\***

Determine whether the heat pump reversing valve is activated in cooling or heating mode.

\* This screen is only available if the O/B wire is connected.



7

**Balance point**

Select the outdoor temperature below which your heat pump becomes ineffective.



8

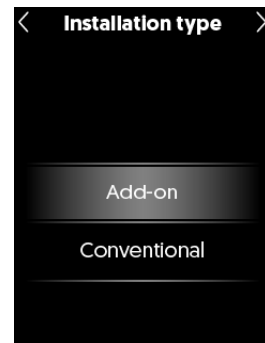
**Installation type \***

Select the type of installation for your equipment

**Add-On:** If the auxiliary system is activated, the heat pump will be deactivated.

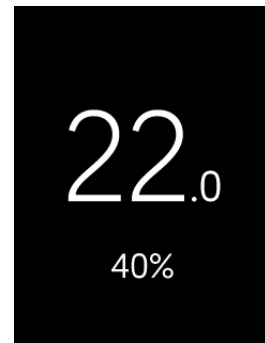
**Conventional:** The auxiliary system and heat pump can operate simultaneously.

\* This screen is only available if the O/B wire is connected.



9

**Your thermostat's basic configuration is now complete.**



**Two options are available for the next steps:**

- A. Download the Sinopé app to complete the configuration of your thermostat using your smartphone.



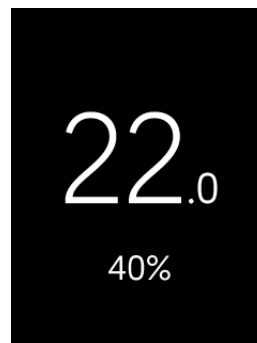
- B. Navigate the various equipment configuration menu settings to complete the installation.

## Option A - Configuration with the Sinopé app

The **Sinopé** app lets you access all your smart thermostat's features and easily configure it from your smartphone.

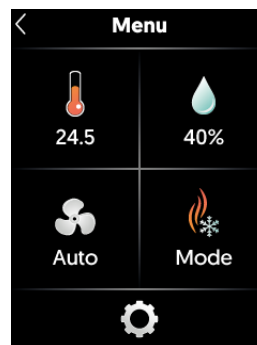
1

Tap the thermostat screen to begin.



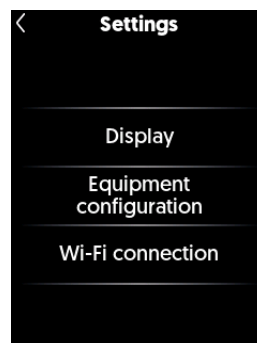
2

Tap the **Settings** icon (⚙️) to access the thermostat settings.



3

In the **Settings** menu, select **Wi-Fi connection**.



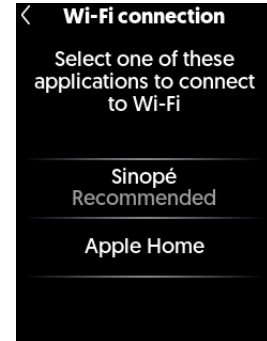
## 4

### Select Sinopé as the configuration platform.

By choosing the **Sinopé app**, you will be able to:

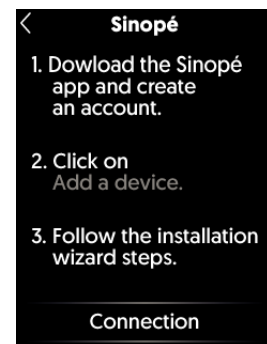
- Configure all your thermostat settings from your smartphone
- Display weather information directly on the thermostat screen
- Access advanced features within the Sinopé platform

You can also add your device to **Apple Home** later, if desired.



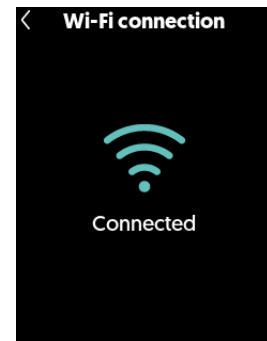
## 5

Follow the on-screen instructions to complete the Wi-Fi connection.



## 6

Once the Wi-Fi connection is complete, **tap the thermostat tile** in the Sinopé app.

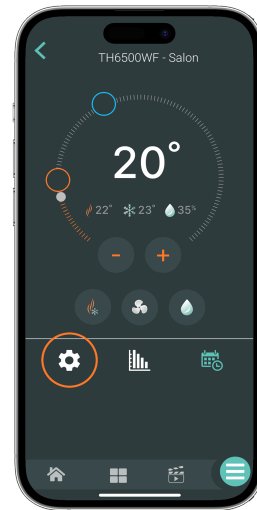


# 7

## Configuring Settings in the App

In the app, tap the **Settings** icon (⚙️) to access the device settings.

Continue configuring your system by adjusting your preferences in the various menus.

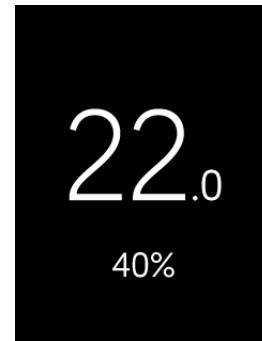


## Option B – Configuration without Wi-Fi

Several settings of your new thermostat can be configured directly from its interface.

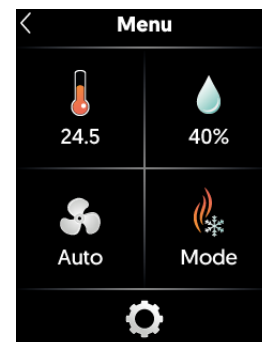
# 1

Tap the thermostat screen to begin.



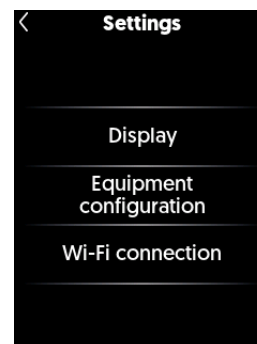
# 2

Tap the **Settings** icon (⚙️) to access the thermostat settings.



3

In the **Settings** menu, select a submenu to customize the device.



## Settings

### Display options

Default value in **bold**.

| Settings         | Description                                         | Options                      |
|------------------|-----------------------------------------------------|------------------------------|
| Temperature unit | The temperature format displayed on the thermostat. | <b>Celsius</b><br>Fahrenheit |
| Language         | Language displayed on your thermostat.              | Français<br><b>English</b>   |

### Equipment configuration option

Some settings may not be available on your thermostat. Access to these settings varies depending on your system.

**Warning:** We recommend that the configuration be performed by a professional.

Default value in **bold**.

| Settings          | Description                                                                                                                                                                                                                                                                                                                         | Options                          |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Heating source W1 | Type of energy used for heating source W1. <ul style="list-style-type: none"> <li>• <b>Electric</b>: System powered by electricity.</li> <li>• <b>Fossil</b>: System powered by a fossil fuel, such as gas or fuel oil.</li> <li>• <b>VRF</b>: A heating, fan, and cooling system that uses a variable speed compressor.</li> </ul> | <b>Electric</b><br>Fossil<br>VRF |

| Settings                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        | Options                                                                       |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <b>Heating source W2*</b>        | <p>Type of energy used for heating source W2.</p> <ul style="list-style-type: none"> <li><b>Electric:</b> System powered by electricity.</li> <li><b>Fossil:</b> System powered by a fossil fuel, such as gas or fuel oil.</li> <li><b>SSR:</b> Heating system using a semiconductor relay.</li> </ul> <p>*If you have an electric baseboard heater equipped with a non-SSR relay, select the "Fossil" option instead of "Electric."</p>           | <b>Electric</b><br>Fossil<br>Electric SSR                                     |
| <b>Auxiliary heating source*</b> | <p>Type of energy used for the auxiliary heating source</p> <ul style="list-style-type: none"> <li><b>Electric:</b> System powered by electricity.</li> <li><b>Fossil:</b> System powered by a fossil fuel, such as gas or fuel oil.</li> <li><b>SSR:</b> Heating system using a semiconductor relay.</li> </ul> <p>*If you have an electric baseboard heater equipped with a non-SSR relay, select the "Fossil" option instead of "Electric."</p> | <b>Electric</b><br>Fossil<br>Electric SSR                                     |
| <b>Reversing valve</b>           | Determine if the heat pump reversing valve is activated in cooling or heating mode.                                                                                                                                                                                                                                                                                                                                                                | <b>Activated in cooling mode</b><br>Activated in heating mode                 |
| <b>Accessories</b>               | Select your accessory, if applicable.                                                                                                                                                                                                                                                                                                                                                                                                              | <b>None</b><br>Humidifier<br>Air exchanger<br>Dehumidifier<br>Thermal storage |
| <b>Input connection DE</b>       | Select your input connection DE, if applicable. Refer to wiring diagram <a href="#">26</a> or <a href="#">28</a> .                                                                                                                                                                                                                                                                                                                                 | <b>Dual energy</b><br>"L" Heat pump<br>None                                   |
| <b>Heating plenum purge time</b> | A delay that allows hot air remaining in the plenum to be evacuated after the system has been shut down.                                                                                                                                                                                                                                                                                                                                           | Disabled<br><b>1 min</b><br>2 min<br>3 min<br>4 min<br>5 min                  |
| <b>Cooling plenum purge time</b> | A delay that allows cold air remaining in the plenum to be evacuated after the system has been shut down.                                                                                                                                                                                                                                                                                                                                          | Disabled<br><b>1 min</b><br>2 min<br>3 min<br>4 min<br>5 min                  |
| <b>Heat pump cycle length</b>    | The thermostat adjusts the control band to achieve the desired cycle length of your heat pump. A shorter cycle increases your comfort but accelerates wear and tear on your equipment.                                                                                                                                                                                                                                                             | 25 min<br><b>20 min</b><br>15 min<br>10 min                                   |

| Settings                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                      | Options                                                                            |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Cooling cycle length Y</b>      | The thermostat adjusts the control band to achieve the desired cooling cycle length. A shorter cycle will increase your comfort but will also increase the wear of your equipment.                                                                                                                                                                                                                                               | 25 min<br><b>20 min</b><br>15 min<br>10 min                                        |
| <b>Heating cycle length W1</b>     | The thermostat adjusts the control band to achieve the desired heating cycle length. A shorter cycle will increase your comfort but will also increase the wear of your equipment.                                                                                                                                                                                                                                               | 25 min<br><b>20 min</b><br>15 min<br>10 min <sup>2*</sup>                          |
| <b>Heating cycle length W2</b>     | The thermostat adjusts the control band to achieve the desired heating cycle length. A shorter cycle will increase your comfort but will also increase the wear of your equipment.<br><br>If you use an SSR heating source and select a 15-second delay, ventilation will not be activated (e.g., baseboard). If you select a 1-second delay, ventilation will be activated according to the requested mode (e.g., duct heater). | 25 min<br><b>20 min</b><br>15 min<br>10 min <sup>2*</sup><br>1 sec **<br>15 sec ** |
| <b>Aux. cycle length</b>           | The thermostat adjusts the control band to achieve the desired heating cycle length. A shorter cycle will increase your comfort but will also increase the wear of your equipment.<br><br>If you use an SSR heating source and select a 15-second delay, ventilation will not be activated (e.g., baseboard). If you select a 1-second delay, ventilation will be activated according to the requested mode (e.g., duct heater). | 25 min<br><b>20 min</b><br>15 min<br>10 min <sup>3</sup><br>1 sec **<br>15 sec **  |
| <b>Heat/Cool setpoint Delta T°</b> | The minimum temperature Delta authorized between the heating and cooling setpoints. Only applies in AUTO mode.                                                                                                                                                                                                                                                                                                                   | 1 °C<br><b>2 °C</b><br>3 °C<br>4 °C<br>5 °C                                        |
| <b>Balance point</b>               | The outdoor temperature at which the heat pump becomes inefficient.<br><br><i>Note that this setting is also available if you have 2 stages of conventional heating, to support a VRF installation with an auxiliary heating stage.</i>                                                                                                                                                                                          | -30 °C to 0 °C<br>Off<br>Default: <b>-15 °C</b>                                    |

<sup>2\*</sup>Not available when the heating source is set to Fossil.

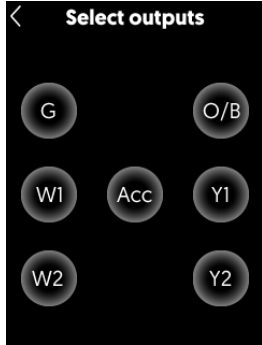
\*\* Available for SSR heating source only

<sup>3</sup> Available only when the selected heating source is electric

| Settings                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Options                                                                                                                                                  |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Air curtain<sup>4</sup></b>     | <p>Adjusts the output of SSR heating systems (e.g., electric baseboards) based on the outdoor temperature. As outdoor temperatures decrease, the heating output increases to improve comfort near windows.</p> <p><b>Outdoor temperature Activation:</b> The outdoor temperature at which the SSR heating source activates at minimum output.</p> <p><b>Outdoor temperature - Maximum power:</b> The outdoor temperature at which the SSR heating source reaches full power.</p> | <p><b>Deactivated / Activated</b></p> <p>Outdoor T° Activation:<br/>0 °C</p> <p>Outdoor T° Max. power:<br/>-50 °C</p> <p>Option:<br/>10 °C to -50 °C</p> |
| <b>Installation type</b>           | <p>The installation type of your equipment</p> <p><b>Add-on:</b> If the auxiliary system is activated, the heat pump will be deactivated.</p> <p><b>Conventional:</b> The auxiliary system and heat pump can operate simultaneously.</p>                                                                                                                                                                                                                                         | <p><b>Add-on</b><br/>Conventional</p>                                                                                                                    |
| <b>Temperature calibration</b>     | <p>Temperature offset needed to compensate for the inaccuracies between the thermostat temperature reading and the ambient temperature.</p>                                                                                                                                                                                                                                                                                                                                      | <p>2 °C<br/>1.5 °C<br/>1 °C<br/>0.5 °C<br/><b>0 °C</b><br/>-0.5 °C<br/>-1 °C<br/>-1.5 °C<br/>-2 °C</p>                                                   |
| <b>Compressor minimum run time</b> | <p>Minimum time for which the compressor will be active before it can be switched off.</p>                                                                                                                                                                                                                                                                                                                                                                                       | <p>2 min<br/>3 min<br/><b>4 min</b><br/>5 min<br/>10 min</p>                                                                                             |
| <b>Compressor minimum off time</b> | <p>Minimum time the compressor must be switched off before restarting.</p>                                                                                                                                                                                                                                                                                                                                                                                                       | <p>2 min<br/>3 min<br/><b>4 min</b><br/>5 min<br/>10 min</p>                                                                                             |
| <b>Heating minimum run time</b>    | <p>Minimum time the heater will run before it can be switched off.</p>                                                                                                                                                                                                                                                                                                                                                                                                           | <p>2 min<br/>3 min<br/><b>4 min</b><br/>5 min<br/>10 min</p>                                                                                             |

<sup>4</sup> Available if an SSR heating source is selected.

| Settings                                  | Description                                                               | Options                                                                                                                          |
|-------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Heating minimum off time</b>           | Minimum time the main heater must remain off.                             | 2 min<br>3 min<br><b>4 min</b><br>5 min<br>10 min                                                                                |
| <b>Auxiliary heating minimum run time</b> | Minimum time the auxiliary heater will run before it can be switched off. | 2 min<br>3 min<br><b>4 min</b><br>5 min<br>10 min                                                                                |
| <b>Auxiliary heating minimum off time</b> | Minimum time the auxiliary heater must remain off.                        | 2 min<br>3 min<br><b>4 min</b><br>5 min<br>10 min                                                                                |
| <b>Min. delay between heating stages</b>  | The delay before the 2nd stage heating can be engaged.                    | 1 min<br>5 min<br>10 min<br><b>15 min</b><br>20 min<br>25 min<br>30 min<br>35 min<br>40 min<br>45 min<br>50 min<br>55 min<br>1 h |
| <b>Min. delay between cooling stages</b>  | The delay before the 2nd stage cooling can be engaged.                    | 1 min<br>5 min<br>10 min<br><b>15 min</b><br>20 min<br>25 min<br>30 min<br>35 min<br>40 min<br>45 min<br>50 min<br>55 min<br>1 h |

| Settings                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Options                                                                                   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Heat pump try time</b>    | The period for which the heat pump is used to regulate the temperature before the auxiliary heat stage can be activated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 min<br>1 h<br><b>2 h</b><br>3 h<br>4 h<br>5 h<br>6 h<br>7 h<br>8 h                     |
| <b>W1 try time</b>           | The period for which the output W1 is used to regulate the temperature before the output W2 can be activated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15 min<br>30 min<br>45 min<br>1 h<br>2 h<br>3 h<br><b>4 h</b><br>5 h<br>6 h<br>7 h<br>8 h |
| <b>Polarity of W outputs</b> | The polarity setting for the W outputs lets you specify whether the output is normally open or normally closed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Normally open</b><br>Normally closed                                                   |
| <b>Equipment testing</b>     | <p>This tool allows the installer to test the equipment. Testing should be conducted by a <b>qualified professional</b>. Improper testing could damage the equipment.</p> <p>Pressing '<b>Continue</b>' will display the available outputs. The professional can then select one or more outputs. The system will activate automatically based on the selected outputs. To end the test, press the output again to deactivate it.</p> <p>If the ⚠ symbol appears on a tile, click it to view error code details and learn how to fix the problem. If necessary, contact our <a href="#">Technical Support team</a>.</p> |      |
| <b>Device information</b>    | This page displays various information that may be useful if you need to contact our <a href="#">Technical Support team</a> . No configuration is possible from this screen.                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                           |
| <b>Factory reset</b>         | <p>Two possible options:</p> <p><b>Equipment configuration:</b> Resets equipment-specific parameters and wire configuration. Other parameters, such as temperature format, setpoints, schedules, and Wi-Fi connection, will remain unchanged.</p> <p><b>Device Reset:</b> Resets all custom data and previous settings, allowing the user to restart the installation process from scratch.</p>                                                                                                                                                                                                                         |                                                                                           |

## Summary of settings

|                                                               | TH6500WF | Sinopé app |
|---------------------------------------------------------------|----------|------------|
| <b>Display</b>                                                |          |            |
| Temperature unit                                              | X        |            |
| Language                                                      | X        |            |
| <b>Device Configuration</b>                                   |          |            |
| Temperature unit                                              | X        | X          |
| Language                                                      | X        | X          |
| Time format                                                   |          | X          |
| Screen brightness                                             |          | X          |
| Screen access                                                 |          | X          |
| Filter change reminder                                        |          | X          |
| Away heating setpoint                                         |          | X          |
| Away cooling setpoint                                         |          | X          |
| Dual energy optimization - Éco Sinopé                         |          | X          |
| Accessory optimization - Éco Sinopé                           |          | X          |
| Maximum setpoint heating                                      |          | X          |
| Minimum setpoint heating                                      |          | X          |
| Maximum setpoint cooling                                      |          | X          |
| Minimum setpoint cooling                                      |          | X          |
| Early start                                                   |          | X          |
| Do not allow heating if the outside temperature is above X°C. |          | X          |
| Do not allow cooling if the outside temperature is below X°C. |          | X          |
| <b>Equipment configuration</b>                                |          |            |
| Heating source W1                                             | X        | X          |
| Heating source W2                                             | X        | X          |
| Auxiliary heating source                                      | X        | X          |
| Reversing valve                                               | X        | X          |
| Accessories                                                   | X        | X          |
| Input connection DE                                           | X        | X          |
| Heating plenum purge time                                     | X        | X          |
| Cooling plenum purge time                                     | X        | X          |
| Heat pump cycle length                                        | X        | X          |
| Cooling cycle length Y                                        | X        | X          |
| Heating cycle length W1                                       | X        | X          |
| Heating cycle length W2                                       | X        | X          |

|                                    | TH6500WF | Sinopé app |
|------------------------------------|----------|------------|
| Aux. heating cycle length          | X        | X          |
| Heat/Cool setpoint Delta T°        | X        | X          |
| Balance point                      | X        | X          |
| Air curtain                        | X        | X          |
| Installation type                  | X        | X          |
| Temperature calibration            | X        | X          |
| Compressor minimum run time        | X        | X          |
| Compressor minimum off time        | X        | X          |
| Heating minimum run time           | X        | X          |
| Heating minimum off time           | X        | X          |
| Auxiliary heating minimum run time | X        | X          |
| Auxiliary heating minimum off time | X        | X          |
| Min. delay between heating stages  | X        | X          |
| Min. delay between cooling stages  | X        | X          |
| Heat pump try time                 | X        | X          |
| W1 try time                        | X        | X          |
| Polarity of W outputs              | X        | X          |
| Equipment testing                  | X        |            |
| Device information                 | X        |            |
| Factory reset                      | X        |            |

## System definition

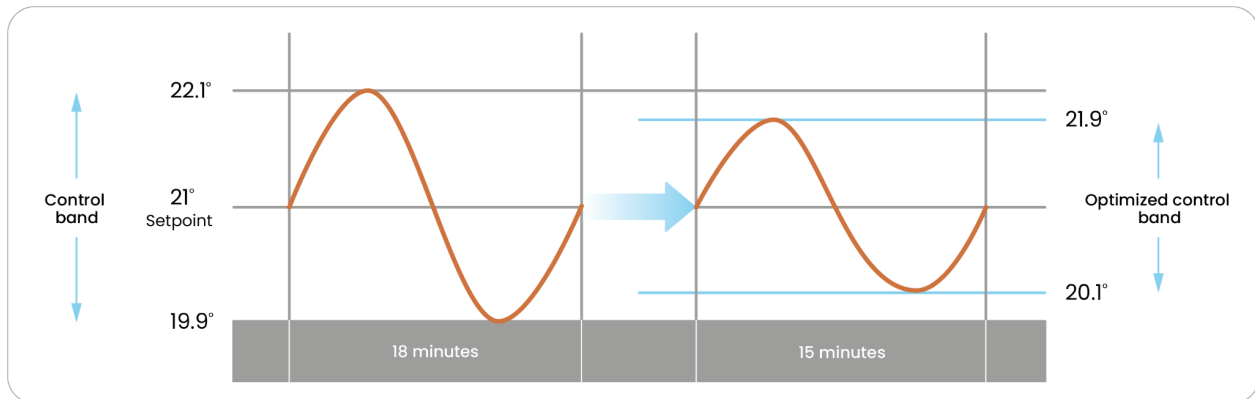
### Temperature controller

The TH6500WF uses an adaptive deadband controller with a programmable cycle length. The thermostat's control band automatically adjusts to achieve the desired cycle length for your system.

**Note:** The control band represents the range between the room's maximum and minimum temperatures when the system operates at 50% power, which directly affects comfort.

Since different cycle lengths can be set for primary heating, auxiliary heating, and cooling, the thermostat adjusts to optimize each mode. The thermostat may require several control cycles to reach optimal values. Once optimized, the thermostat saves the optimal value so it can immediately determine which control band to use upon a mode change or product restart. The cycle length is 15 minutes by default, but this setting can be changed in the advanced configuration menu.

For example, a thermostat set to a 15-minute cycle may initially only achieve an 18-minute cycle at startup. The thermostat will adjust the control band until the desired cycle time is reached.



While setting a very short control cycle to increase comfort may be tempting, this approach should not be prioritized. It is essential to set the control cycle according to the installed equipment. Subsequently, the thermostat will automatically optimize the control band to maximize comfort.

## Conventional heating/cooling systems

Conventional heating systems supported include furnaces (gas, oil, or electric), air conditioners, hydronic heating systems, radiant floors, fan coils, and electric heaters<sup>5</sup>.

The thermostat can control up to 2 heating stages, 2 cooling stages, a fan, and an accessory. When changing setpoints, the thermostat waits for the **'Minimum delay before activation of an additional heating stage'** before activating an additional stage.

Two different heating sources can be used. To prioritize one source over the other, connect the primary source to W1 and the auxiliary source to W2, and configure them as different heating sources. W2 will be used either in the event of a significant temperature drop or in a dual-energy system. The **'W1 try time'** setting determines how long W1 will be used before switching to W2 to bring the temperature back to the setpoint.

## Heat pump

The thermostat supports up to 4 heating stages (2 heat pumps and 2 auxiliary heating), 2 cooling stages, a fan, and an accessory.

The thermostat activates the auxiliary heating stage only if the room temperature exceeds twice the control band (calculated by the thermostat's adaptive controller; see the "Temperature controller" section) for longer than the **'Heat Pump Try Time,'** an adjustable parameter in the advanced settings. This feature prioritizes heat pump operation while providing freeze protection in the event of failure. If the

<sup>5</sup> A high-voltage relay is required to activate a load powered by a voltage higher than 24V.

outdoor temperature drops below the adjustable 'Balance Point' in advanced settings, the heating switches to auxiliary heating, and the heat pump is stopped.

If you have connected the “L” wire of your heat pump to the **DE** input, a message will appear on the thermostat in the event of a heat pump error. Refer to [wiring diagram 28](#)

## Electric heating source SSR

To avoid wide temperature variations, the thermostat can be configured with a rapid control cycle for secondary heating, either for an electric baseboard (15 seconds) or a coil (1 second). This type of installation requires an SSR-type electronic relay. Refer to the [wiring diagram 27](#).

## Dual energy

The '**DE**' dual energy input can be connected to a dry-contact from a dual-register electric meter or to any other device requiring auxiliary heating.

An auxiliary heating output is required to access this feature. When the dual energy input is activated, the thermostat will use only the heating connected to the auxiliary heating stage.

## Accessories

If you connect an accessory to the '**ACC**' output, it is important to select the thermostat's control mode correctly during installation. You can always adjust it later in the equipment configuration menu.

## Humidifier

If you have a bypass humidifier, whether pad- or drum-type, you must select '**Humidifier on Heat**' in the accessory settings. The thermostat will activate the humidifier water valve only when the heating is running and humidification is needed. This ensures proper distribution of water vapor and prevents condensation in the ducts.

If you have a steam humidifier, select '**Humidifier on Fan**' in the accessory settings. The thermostat will activate the humidifier only when ventilation is on and humidification is needed.

The thermostat offers two humidity management modes: **Automatic** and **Manual**.

- **Manual mode:** Allows you to manually select the desired humidity level (in %). The system will maintain this level regardless of the outside temperature.
- **Automatic mode:** The humidity level is automatically adjusted based on the outside temperature. This approach optimizes comfort while reducing the risk of condensation, particularly on windows during cold periods. The curve used to determine the humidity

percentage in automatic mode is based on the following reference: *ASHRAE HVAC Handbook, Chapter 22 – Table 1: Maximum Relative Humidity in a Space for No Condensation on Windows*<sup>6</sup>.

You can also apply an offset in **Auto mode** to lower the target humidity level further, helping to prevent excessive condensation. **Auto** and **Manual** mode management is also available for **dehumidification** and the **air exchanger**.

## Dehumidifier

A dehumidifier can be connected to the thermostat to control the home's humidity level. The ventilation and dehumidifier will activate automatically at the same time. The option of manual or automatic control also applies to the humidifier.

| Setting                   | Options                                     |
|---------------------------|---------------------------------------------|
| Humidity setpoint control | Manual<br>Auto                              |
| Humidity setpoint         | Off<br>10 % to 70 %<br>Default: <b>35 %</b> |

## Air exchanger

After selecting this accessory, you can force air exchange from the home menu by choosing one of the following options:

| Option                    | Description                    |
|---------------------------|--------------------------------|
| OFF                       | No air exchange                |
| <b>20 min/h</b> (default) | 20 min air exchange every hour |
| 40 min/h                  | 40 min air exchange every hour |
| Continuous                | Continuous air exchange        |

The air exchanger can also be used to **control humidity levels**. If the humidity inside the home is too high and outdoor conditions allow, the exchanger will be activated to dehumidify the air based on the set point defined in the parameters—either in automatic or manual mode, as mentioned above.

---

<sup>6</sup> [https://www.ashrae.org/file%20library/technical%20resources/covid-19/si\\_s20\\_ch22.pdf](https://www.ashrae.org/file%20library/technical%20resources/covid-19/si_s20_ch22.pdf)

## Air exchanger with integrated ventilation control

If your air exchanger includes a ventilation control output, it can be connected to the **HRV** input to activate the HVAC system's ventilation.

## Thermal storage

A thermal storage unit can be connected to participate in peak demand events. Heat is stored ahead of a peak event and used during the event to maintain optimal user comfort.

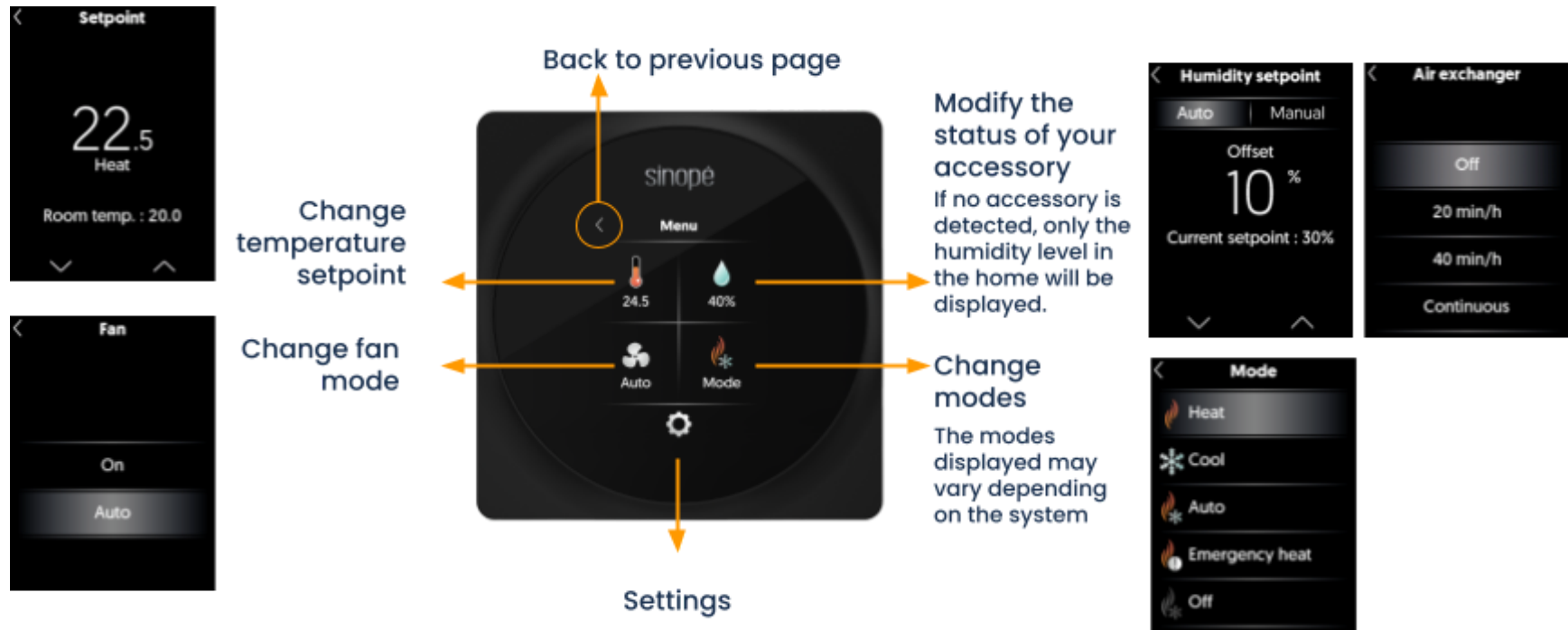
# User guide

## Main screen



**Note:** The outdoor temperature, weather conditions, and time are available if the thermostat has been added to the Sinopé application.

# Menu



## Interface



Your system is currently cooling



Your system is presently heating



Your system is in auxiliary heating mode



Your system is in dual energy mode



Your device takes part in a peak event



Thermostat: Wi-Fi connection lost



An error is detected.  
Press the screen to obtain details



Outdoor temperature settings prevent  
system activation

# Wi-Fi connection

You can connect your thermostat to Wi-Fi in two ways:

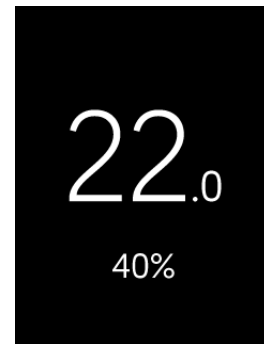
- Set up with the **Sinopé** app
- Set up with **Apple Home**

We recommend starting with the setup through the Sinopé app. This platform lets you easily configure all your thermostat settings on your smartphone. Additionally, the Sinopé app lets you display weather conditions on the screen and access various platform features. Later on, you can also add your device to Apple Home.

## Wi-Fi connection with the Sinopé app

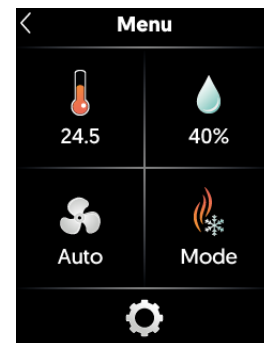
1

Tap the thermostat screen to begin.



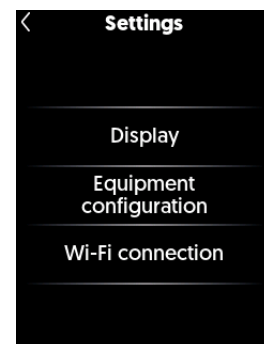
2

Tap the **Settings** icon (⚙️) to access the thermostat settings.



3

In the **Settings** menu, select **Wi-Fi connection**.



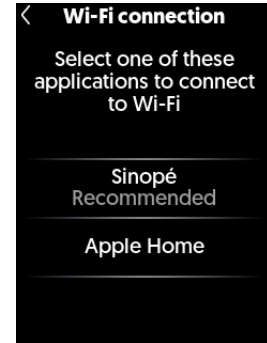
## 4

### Select Sinopé as the configuration platform.

By choosing the **Sinopé app**, you will be able to:

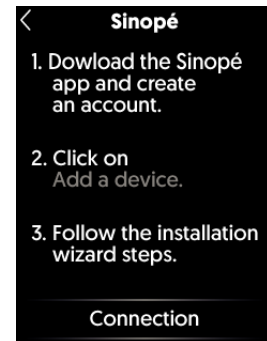
- Configure all your thermostat settings from your smartphone
- Display weather information directly on the thermostat screen
- Access advanced features within the Sinopé platform

You can also add your device to **Apple Home** later, if desired.



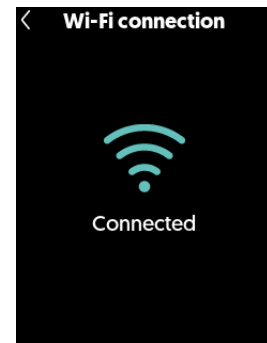
## 5

Follow the on-screen instructions to complete the Wi-Fi connection.



## 6

Once the Wi-Fi connection is complete, **tap the thermostat tile** in the Sinopé app.

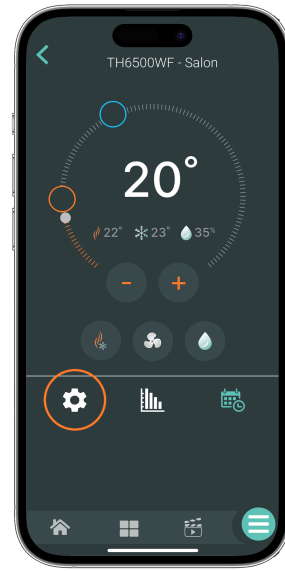


# 7

## Configuring Settings in the App

In the app, tap the **Settings** icon (⚙️) to access the device settings.

Continue configuring your system by adjusting your preferences in the various menus.

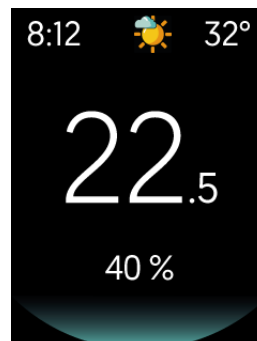


## Association with Apple Home

If you have already connected your device via the Sinopé app and now want to add it to Apple Home, please follow the steps below:

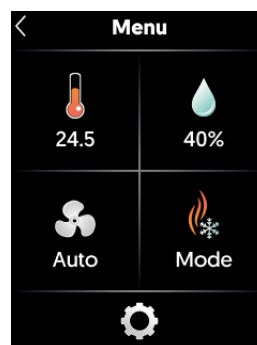
1

Tap on the main screen to access the menu.



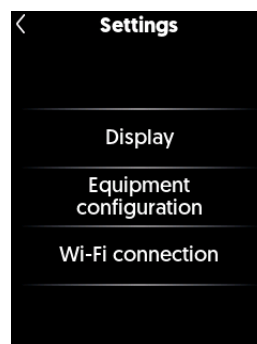
2

Tap the **Settings** icon (⚙️) to access the thermostat settings.



3

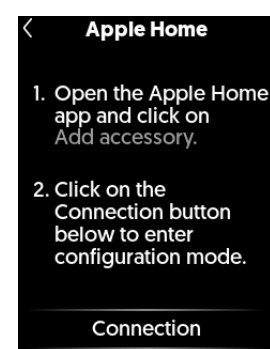
In the Settings menu, select **Wi-Fi Connection**.



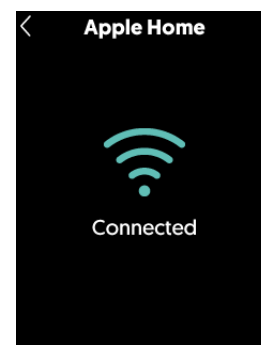
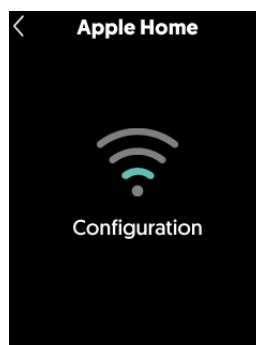
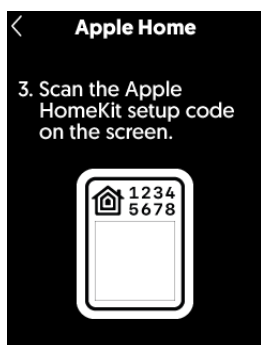
**4** Then tap “**Apple Home configuration.**”



**5** Follow the on-screen steps and tap ‘**Connection.**’



**6** Follow the steps displayed on the screen.



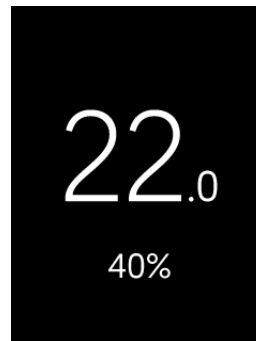
**7** Tap the arrow in **the top left corner** to exit the connection menu.



## Wi-Fi connection via Apple Home

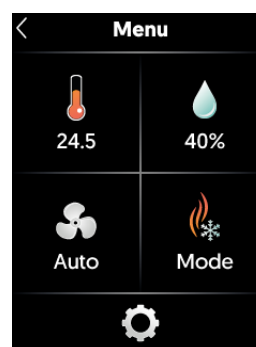
1

Tap the thermostat screen to begin.



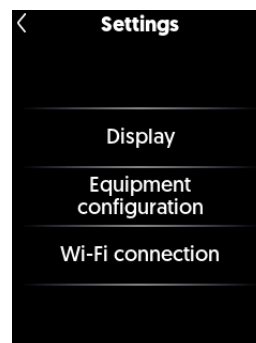
2

Tap the **Settings** icon (⚙️) to access the thermostat settings.



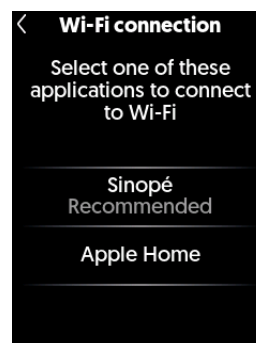
3

In the **Settings** menu, select **Wi-Fi connection**.



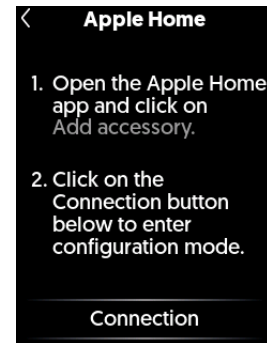
4

Tap "**Apple Home**."



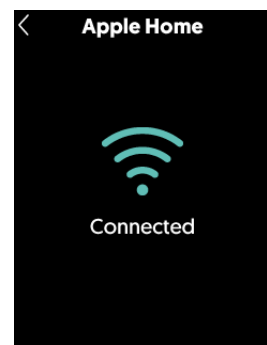
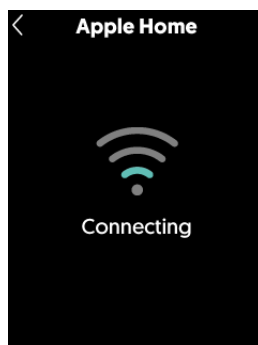
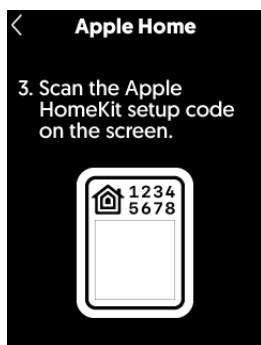
5

Follow the on-screen steps and tap '**Connection**'.



6

Follow the steps displayed on the screen.



7

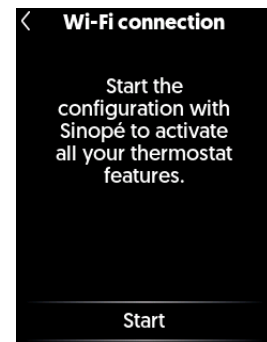
We recommend continuing the setup and adding your thermostat to the **Sinopé** application.

This platform lets you easily adjust **all thermostat settings** directly from your smartphone.

Additionally, the Sinopé app allows you to display weather conditions on the thermostat's screen and access additional features.

Tap '**Get Started**' and follow the on-screen instructions.

Tap the arrow in the top left corner to return to the main page.



Automatic and away-from-home control of this HomeKit-compatible accessory requires a HomePod, Apple TV, or iPad set up as a Home Hub. It is recommended that the software and operating system be updated.

Using the *Works with Apple* badge means that an accessory has been designed to work specifically with the technology identified in the badge and has been certified by the developer to meet Apple's performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

HomeKit is a trademark of Apple Inc.

## Explore more with the Sinopé app!

The Sinopé application, developed by Sinopé Technologies, a company specializing in smart device design and the largest Canadian manufacturer of such devices for residential and multi-residential sectors, offers comprehensive management of your smart devices.

Sinopé is a consumer app for managing various devices, including other thermostats, switches, dimmers, and water damage protection systems.

Discover additional features available in Sinopé for the **smart thermostat**:

- **Set filter replacement reminders:** Ensure the air quality in your home.
- **Adjust screen brightness:** Tailor the screen's responsiveness to your preferences.
- **Screen access control:** Explore different access levels to restrict access for children or in commercial settings.
- **Change the time display format.**
- **Customize setpoints:** Adjust settings based on your schedules and geofencing.
- **View energy consumption graphs.**
- **Add your devices to Éco Sinopé:** Optimize energy use during peak events.

# Troubleshooting and support

If you encounter any difficulties installing or using your thermostat, the Sinopé app, or connecting to third-party platforms, our support team is here to help.

## Online support

Visit our **Help Center** for troubleshooting guides, installation instructions, FAQs, and other helpful resources:

[support.sinopetech.com/en](https://support.sinopetech.com/en)

If you can't find the answer you're looking for in our **Help Center**, please complete our contact form at:

[support.sinopetech.com/en/contact/](https://support.sinopetech.com/en/contact/)

Our technical support team will review your request and get back to you as soon as possible.

## Business hours

Monday to Friday: 8:00 a.m. to 4:30 p.m. (ET)

Saturday and Sunday: Closed

## Our location

705, Montrichard Avenue  
Saint-Jean-sur-Richelieu  
Quebec, Canada J2X 5K8

# Warranty

## 5-Year Limited Warranty

SINOPÉ TECHNOLOGIES INC. warrants the components of this product against defects in materials and workmanship for a period of five (5) years from the date of purchase, upon presentation of a valid proof of purchase.

This warranty applies only to products purchased from a professional installer and installed by a professional installer.

If, at any time during the warranty period, the product is found to be defective, SINOPÉ TECHNOLOGIES INC. will replace it. This warranty does not cover any transportation costs that may be incurred. It also does not cover products that have been improperly installed, misused, or accidentally damaged.

SINOPÉ TECHNOLOGIES INC.'s obligation under this warranty is limited to replacing the product, excluding installation costs or any other incidental charges related to the replacement of the product or its components. The manufacturer shall not be held liable for incidental, consequential, or special damages arising from the use or performance of the product.

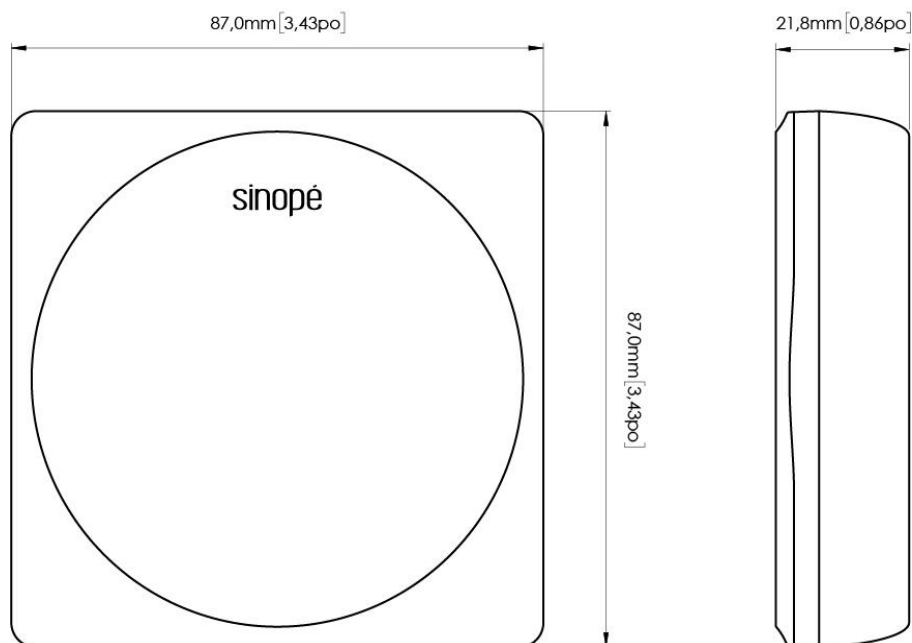
SINOPÉ TECHNOLOGIES INC. does not undertake to provide replacement parts, repair services, or information necessary for the maintenance or repair of the product after the warranty period has expired.

For any warranty claim, a valid proof of purchase is required. Any claim must be made by the installer who sold the product, who must return it to their point of purchase.

## Technical information

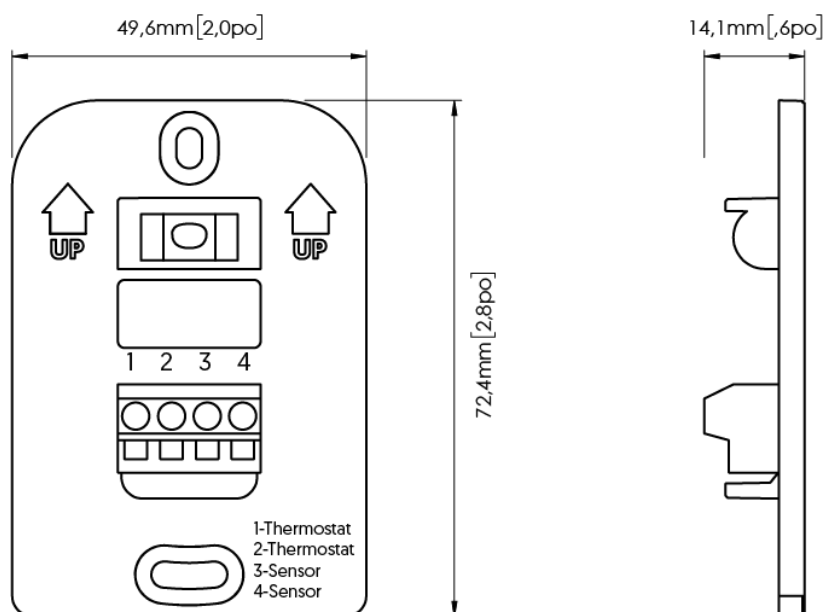
## TH6500WF

### Smart Wi-Fi thermostat for central systems



|                               |                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------|
| <b>Connectors</b>             | See the information on the mounting plate                                                    |
| <b>Power supply</b>           | 24 VAC                                                                                       |
| <b>Screen</b>                 | 2.4" color TFT touchscreen 240 px × 320 px                                                   |
| <b>Dimensions(W x H x D)</b>  | 87 mm (3.43 in) × 87 mm (3.43 in) × 21.8 mm (0.86 in)                                        |
| <b>Operating temperature</b>  | 0 °C to 50 °C (32 °F to 122 °F)                                                              |
| <b>Storage temperature</b>    | -20 °C to 50 °C (-4 °F to 122 °F)                                                            |
| <b>Sensors</b>                | Humidity sensor<br>Proximity sensor<br>Light sensor for adaptive display                     |
| <b>Communication protocol</b> | Protocol: Wi-Fi<br>Standard: IEEE 802.11 b/g/n<br>Frequency: 2.4 GHz<br>Encryption key: WPA2 |
| <b>Communication module</b>   | IC: 21098-ESPC6WROOM1<br>FCC ID: 2AC7Z-ESPC6WROOM1                                           |
| <b>Warranty</b>               | 5 years                                                                                      |

## Mounting plate - TH6500WF



### Dimensions (W x H x D)

49.6 mm (1.95 in) × 72.4 mm (2.85 in) × 14.1 mm (0.55 in)

### Connectors

4 connectors

Wire range (Solid): 18-22 AWG

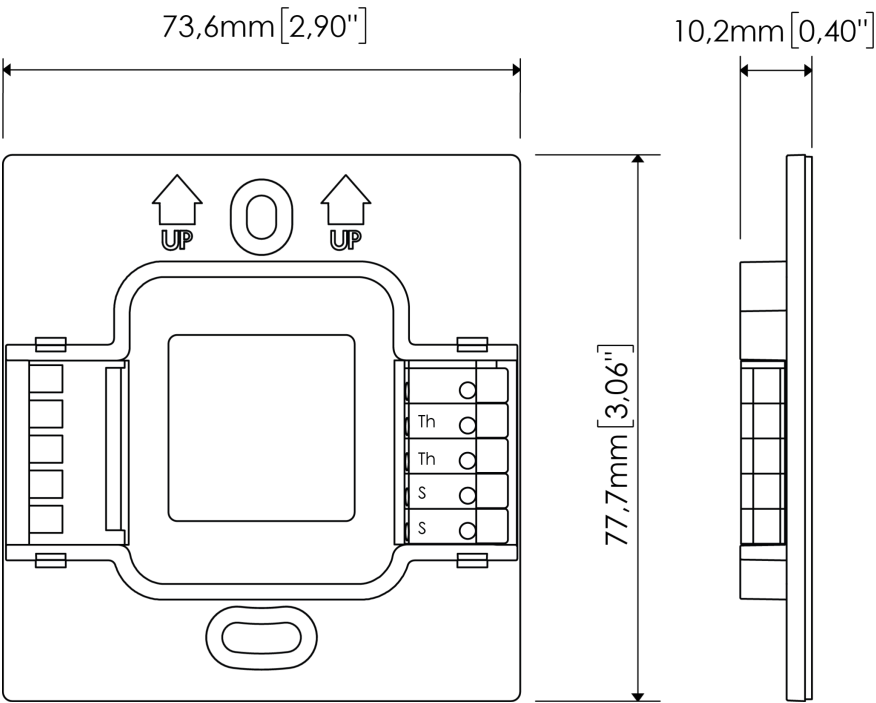
Wire range (Stranded): 18-22 AWG

**Connectors 1 and 2:** Thermostat power supply

**Connectors 3 and 4:** Optional temperature sensor<sup>7</sup>

<sup>7</sup> These connectors are not yet supported in the current version of the thermostat software. Their support is planned for an upcoming update.

# Mounting plate - TH6500WF Rev: 01

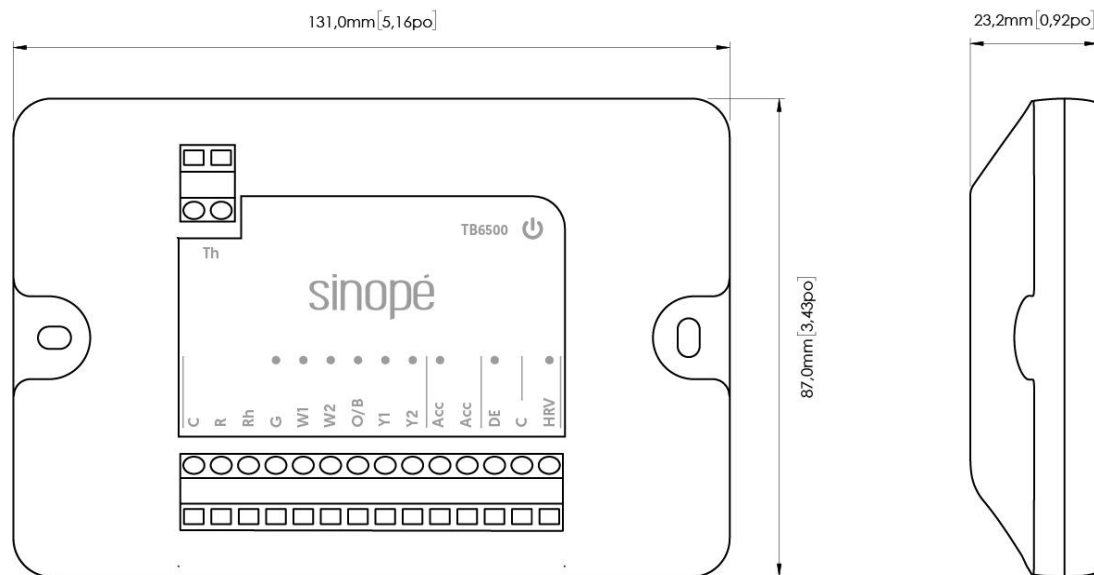


|                               |                                                                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dimensions (W x H x D)</b> | 73.6 mm (2.90 in) × 77.7 mm (3.06 in) × 10.2 mm (0.40 in)                                                                                                                                                       |
| <b>Connectors</b>             | 4 connectors<br>Wire range (Solid): 18-22 AWG<br>Wire range (Stranded): 20-22 AWG<br><br><b>"Th" connectors:</b> Thermostat power supply<br><br><b>"S" connectors:</b> Optional temperature sensor <sup>8</sup> |

<sup>8</sup> These connectors are not yet supported in the current version of the thermostat software. Their support is planned for an upcoming update.

## TB6500

### Central system connection module



|                               |                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Connectors</b>             | Wire range: 18-24 AWG                                                                                                                                                                                                                                                                                                                                                         |
| <b>Power supply</b>           | RC from heat pump / HVAC (24 Vac)                                                                                                                                                                                                                                                                                                                                             |
| <b>Current per output</b>     | 0.5A, total 2A<br>Current for one output used (G, Y1, Y2, W1, W2, O/B):<br><b>Minimum:</b> 0.0025 A. <b>Maximum:</b> 0.5 A.<br>Total current for all outputs used (G, Y1, Y2, W1, W2, O/B): 2 A.<br><b>Acc output:</b> independent, accepts between <b>0 and 2 A at 24 Vac</b> .<br><b>HRV and DE inputs:</b> designed for dry contacts, but tolerate resistance up to 10 kΩ. |
| <b>Dimensions (W x H x D)</b> | 131 mm (5.16 in) × 87 mm (3.43 in) × 23.2 mm (0.92 in)                                                                                                                                                                                                                                                                                                                        |
| <b>Operating temperature</b>  | 0 °C to 50 °C (32 °F to 122 °F)                                                                                                                                                                                                                                                                                                                                               |
| <b>Storage temperature</b>    | -20 °C to 50 °C (-4 °F to 122 °F)                                                                                                                                                                                                                                                                                                                                             |
| <b>Warranty</b>               | 5 years                                                                                                                                                                                                                                                                                                                                                                       |

Controlling this HomeKit-enabled accessory automatically and away from home requires a HomePod, Apple TV, or iPad set up as a home hub. It is recommended that you update to the latest software and operating system. Use of the Works with Apple badge means that an accessory has been designed to work specifically with the technology identified in the badge and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. HomeKit is a trademark of Apple Inc.

Sinopé® is a registered trademark of Sinopé Technologies Inc. in Canada and the United States.

Apple and the Apple logo are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc., registered in the U.S. and other countries.

Google Play and the Google Play logo are trademarks of Google Inc.

The Wi-Fi CERTIFIED™ Logo is a certification mark of Wi-Fi Alliance®.

## ISED Canada compliance statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

## FCC compliance statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

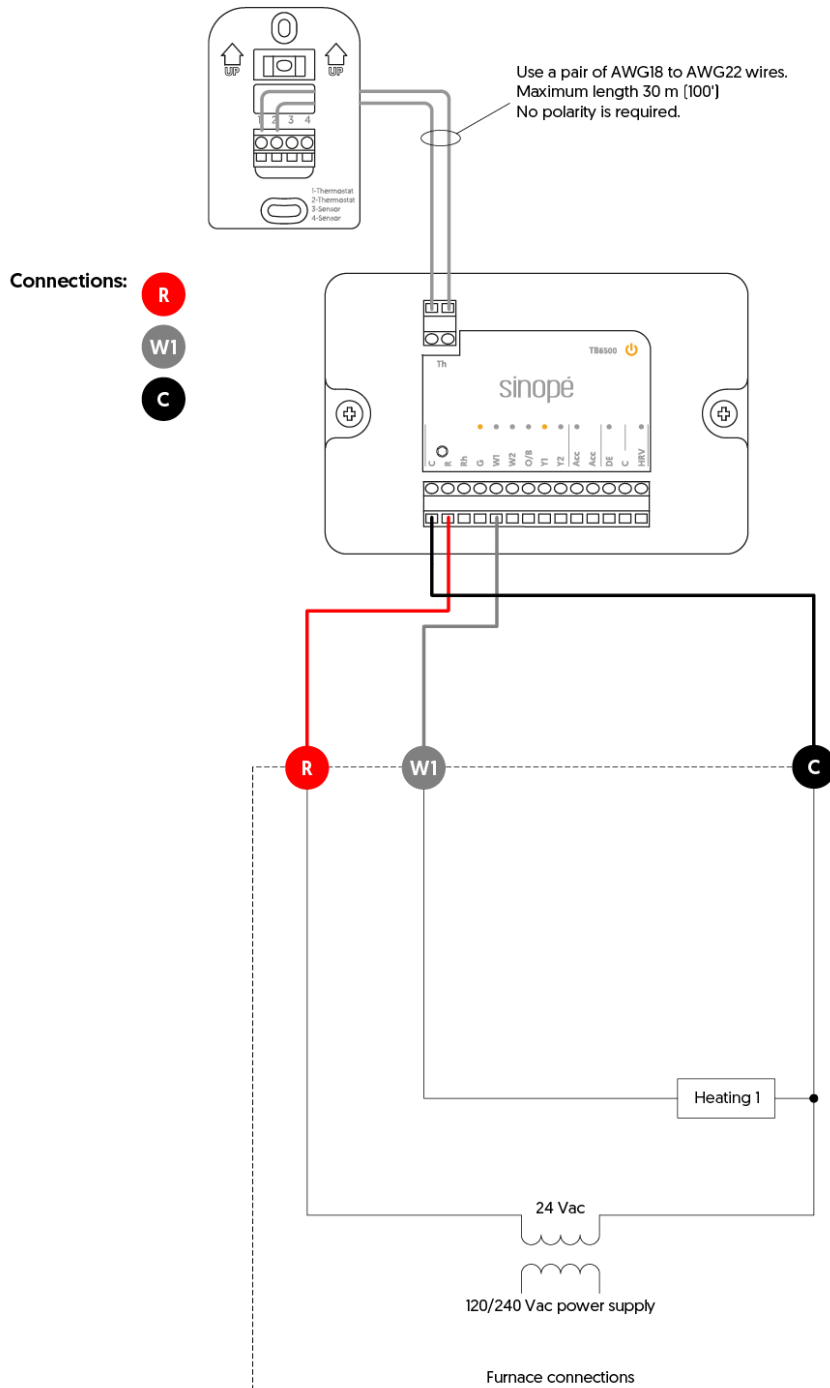
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

# Wiring diagrams

# Conventional system

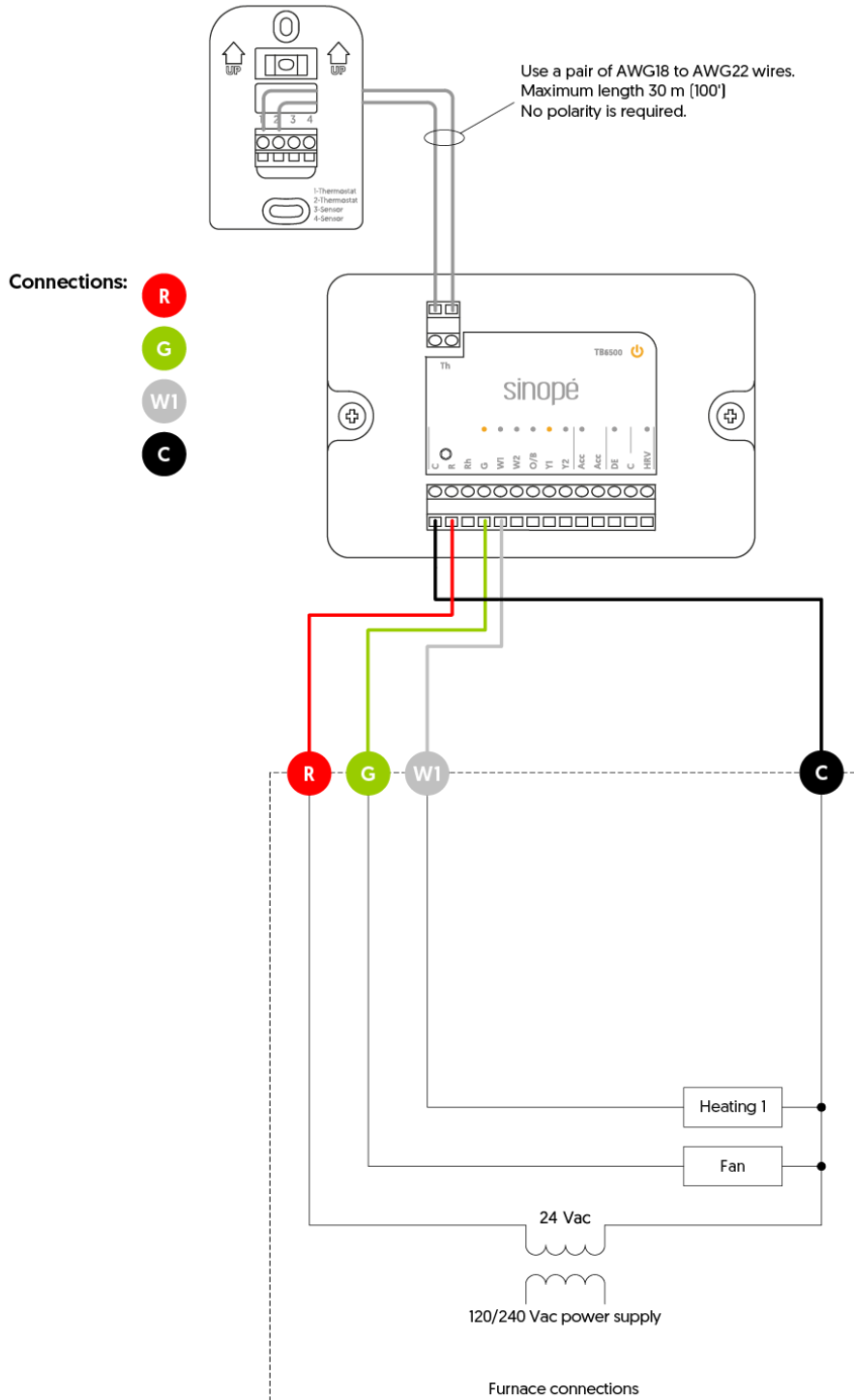
## Wiring 1: 1H

This system refers to a **single-stage heating system without ventilation**. Standard connection for furnaces.



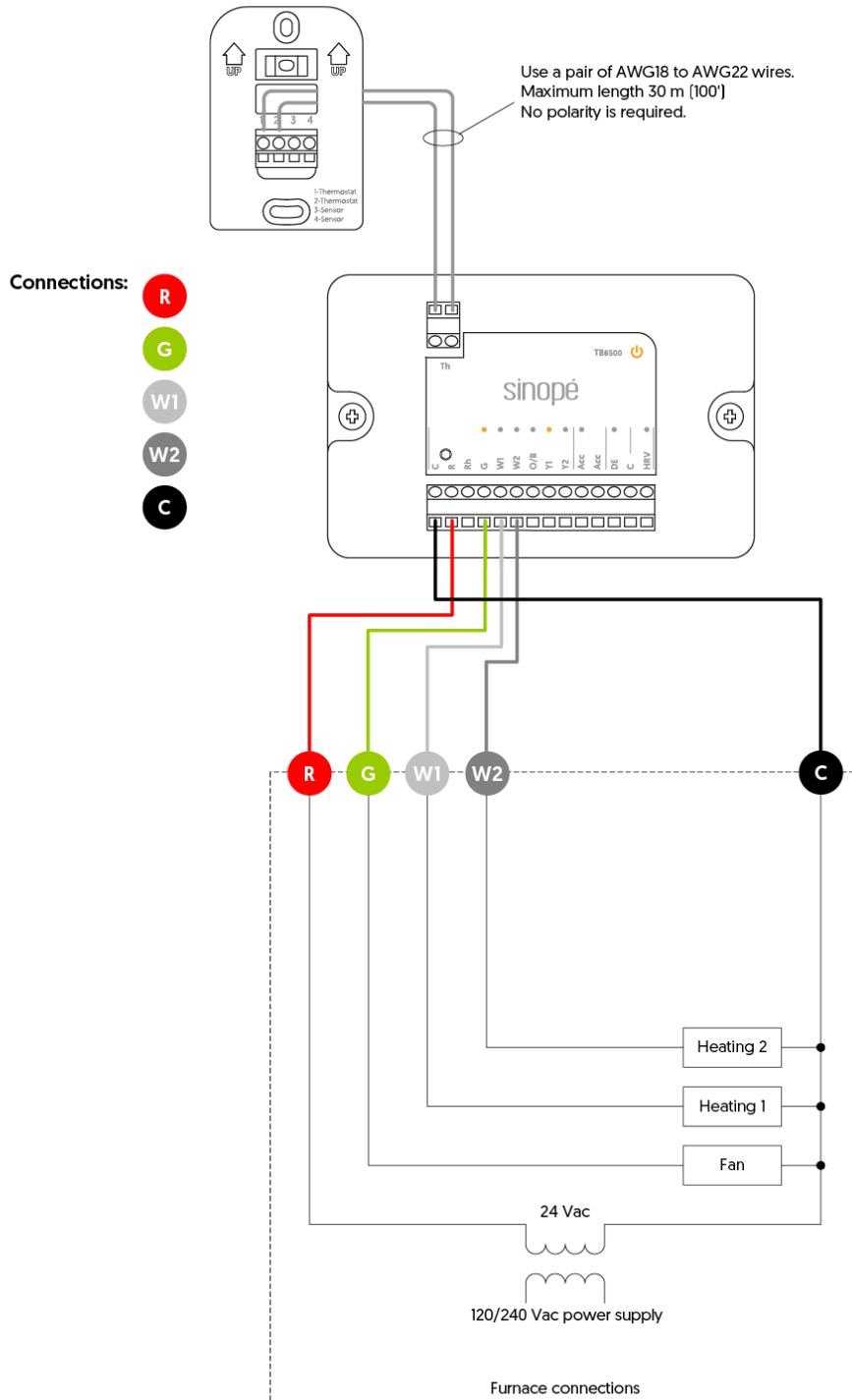
## Wiring 2: 1H

This system refers to a **single-stage heating system with ventilation control**. Standard connection for furnaces.



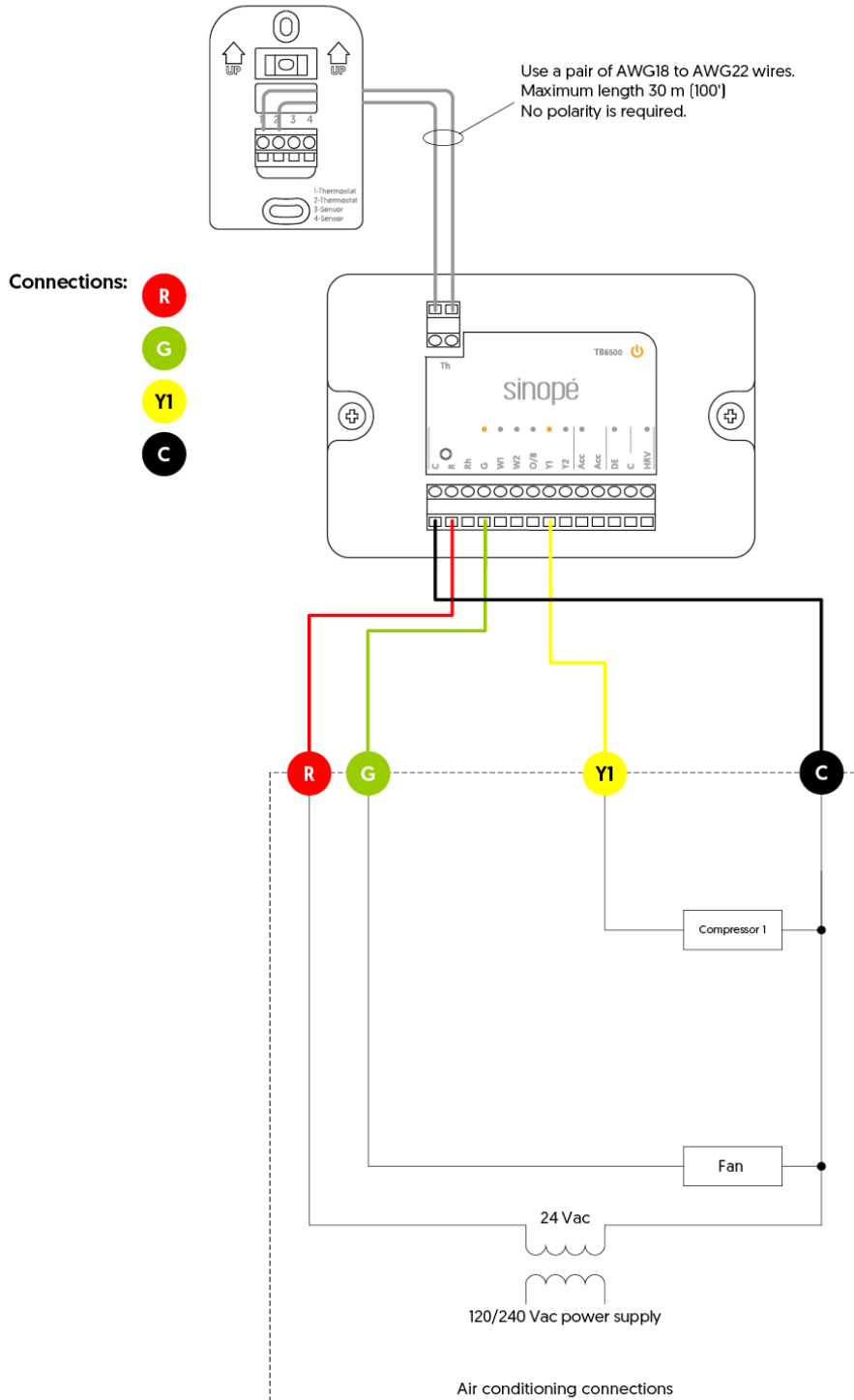
## Wiring 3: 2H

This system refers to a heating and ventilation system designed to handle **two stages of heating**.  
Standard connection for furnaces.



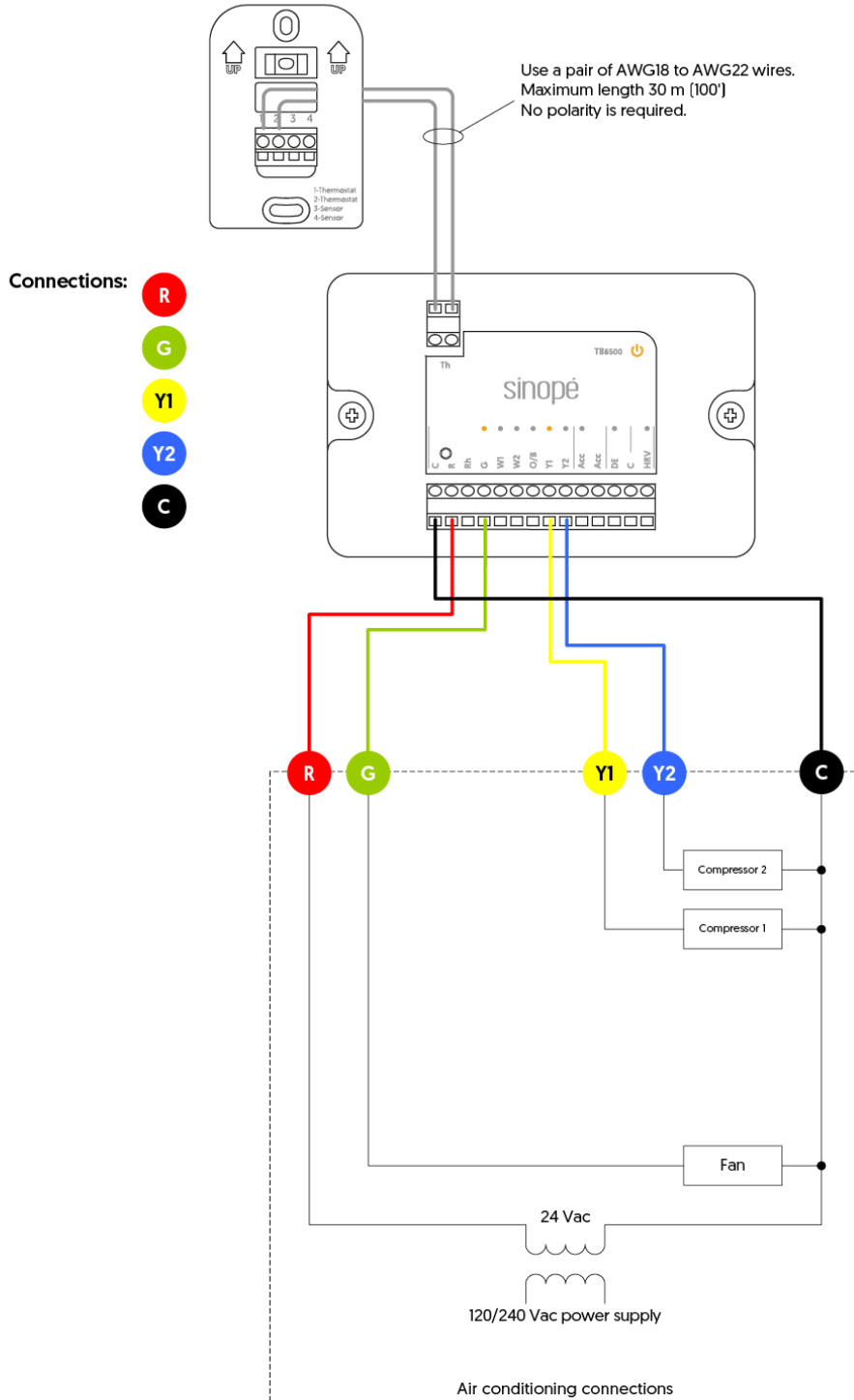
## Wiring 4: 1C

This system refers to a **single-stage air conditioning system with ventilation control**. Standard connection for air conditioners.



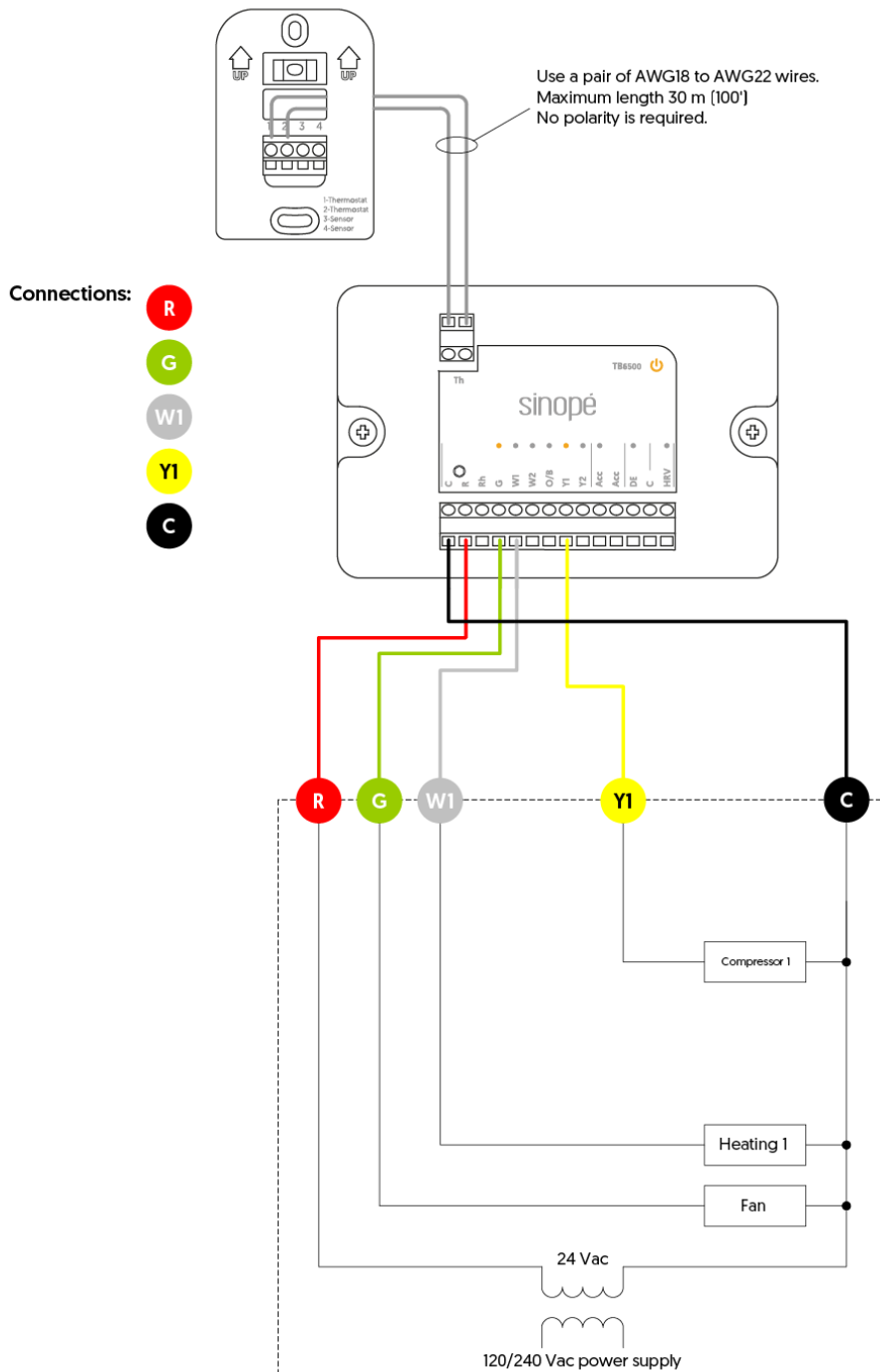
## Wiring 5: 2C

This system refers to an air conditioning and ventilation system designed to handle **two stages of air conditioning**. Standard connection for air conditioners.



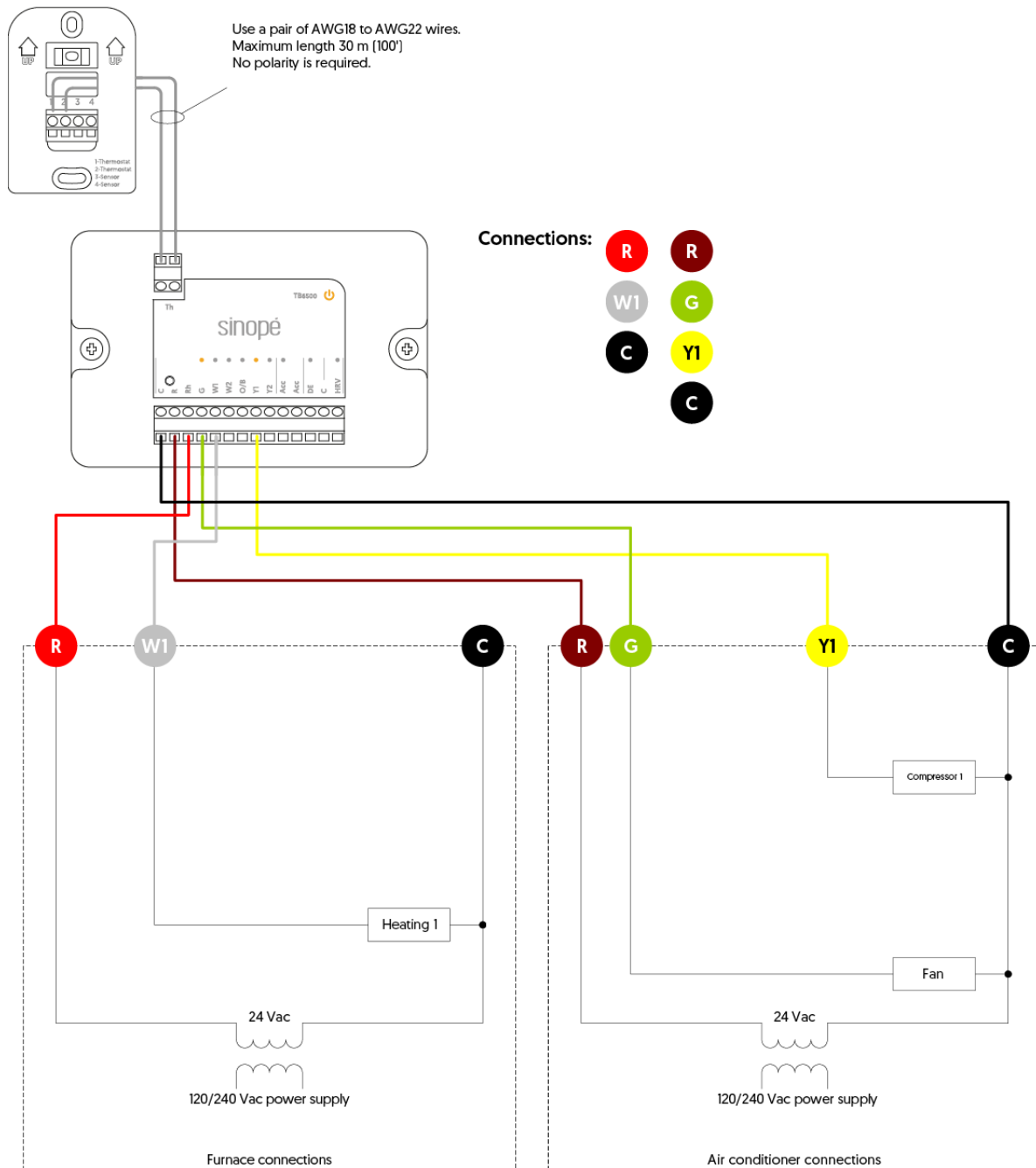
## Wiring 6: 1H1C

This system refers to a heating, ventilation, and air conditioning system designed for **one heating** and **one cooling stage**.



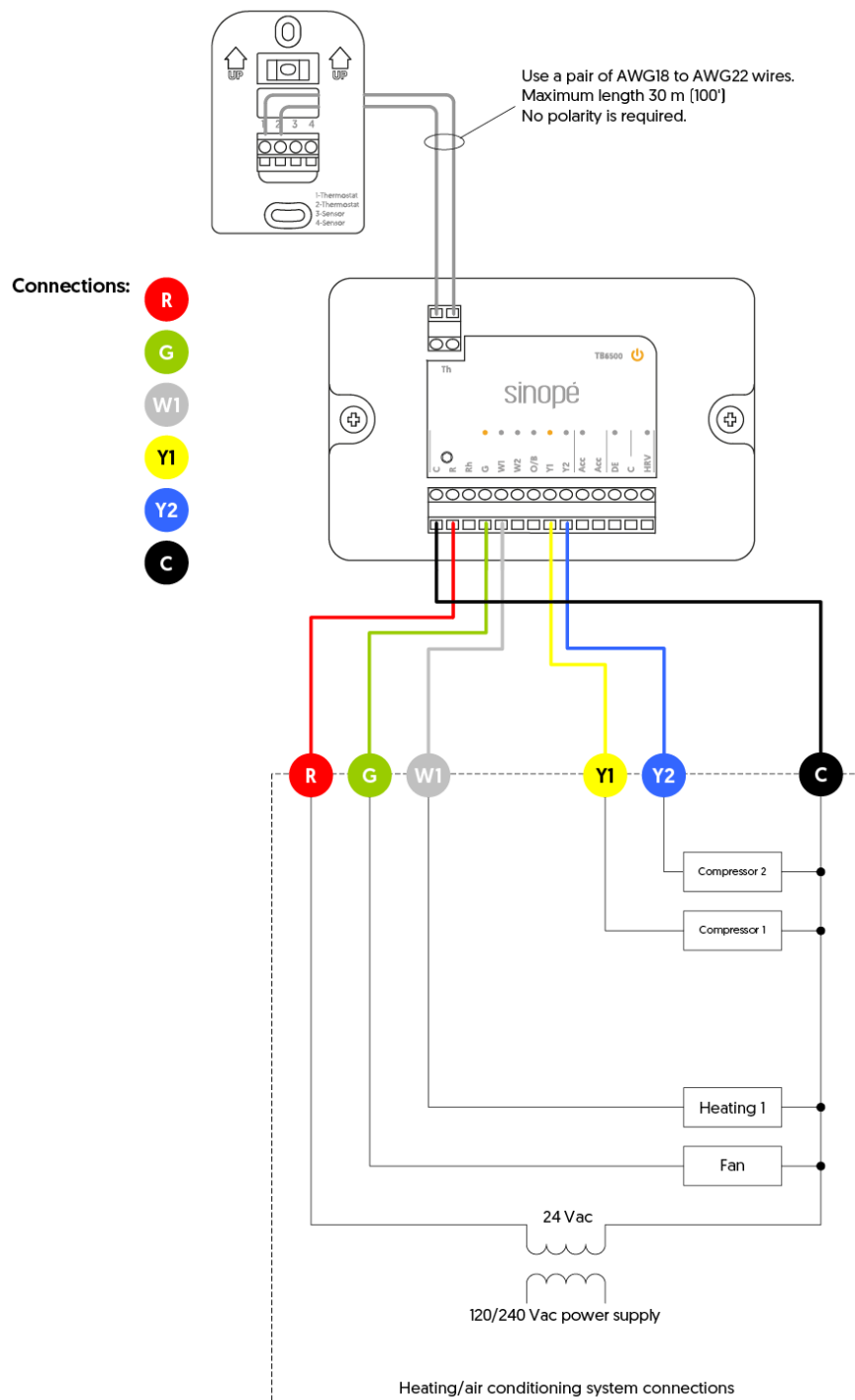
## Wiring 7: 1H1C

This system refers to a heating, ventilation, and air conditioning system designed for **one heating and one cooling stage, with separate power for dual-part systems.**



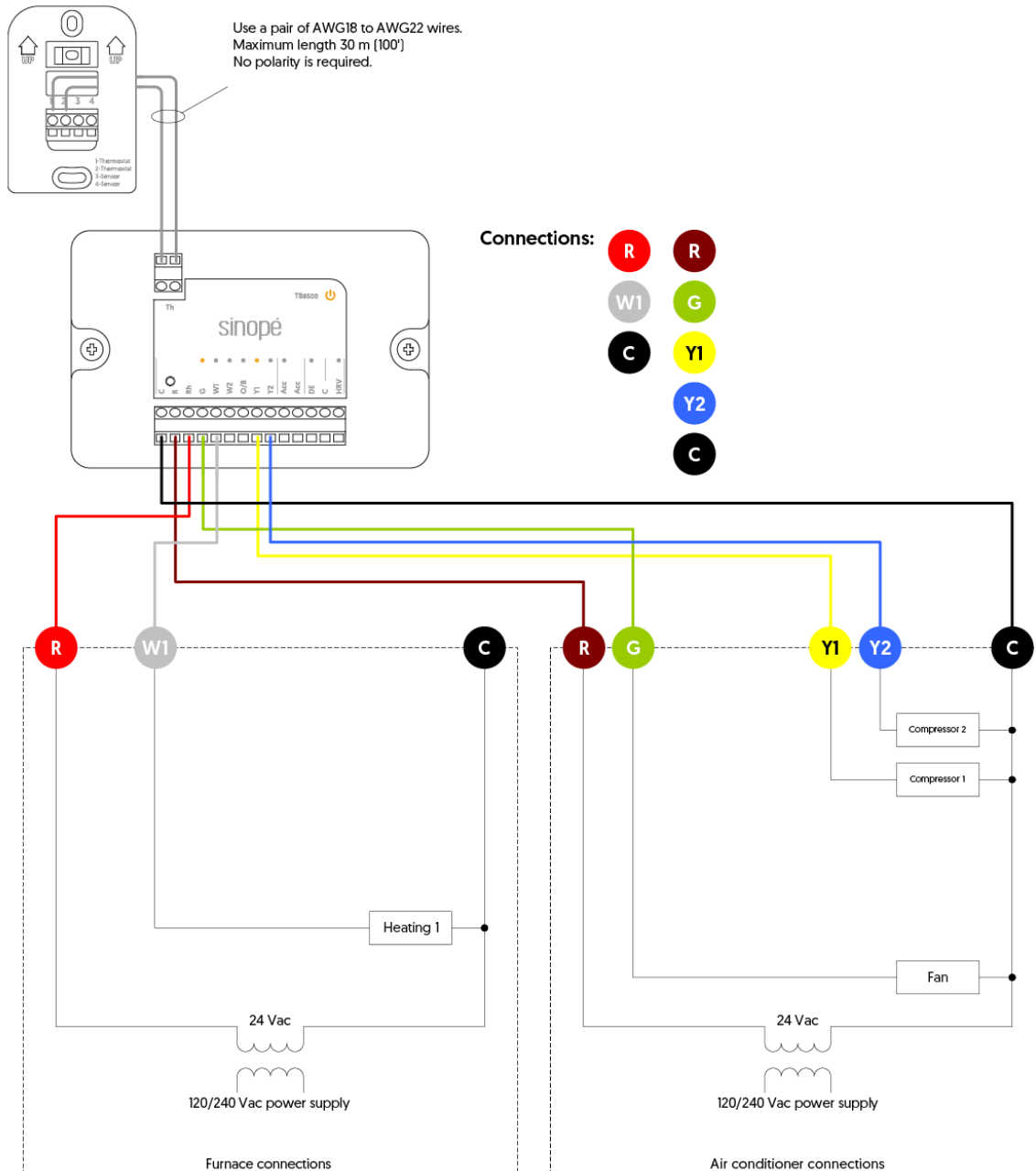
## Wiring 8: 1H2C

Refers to an HVAC system with **one heating stage and two air conditioning stages with ventilation control.**



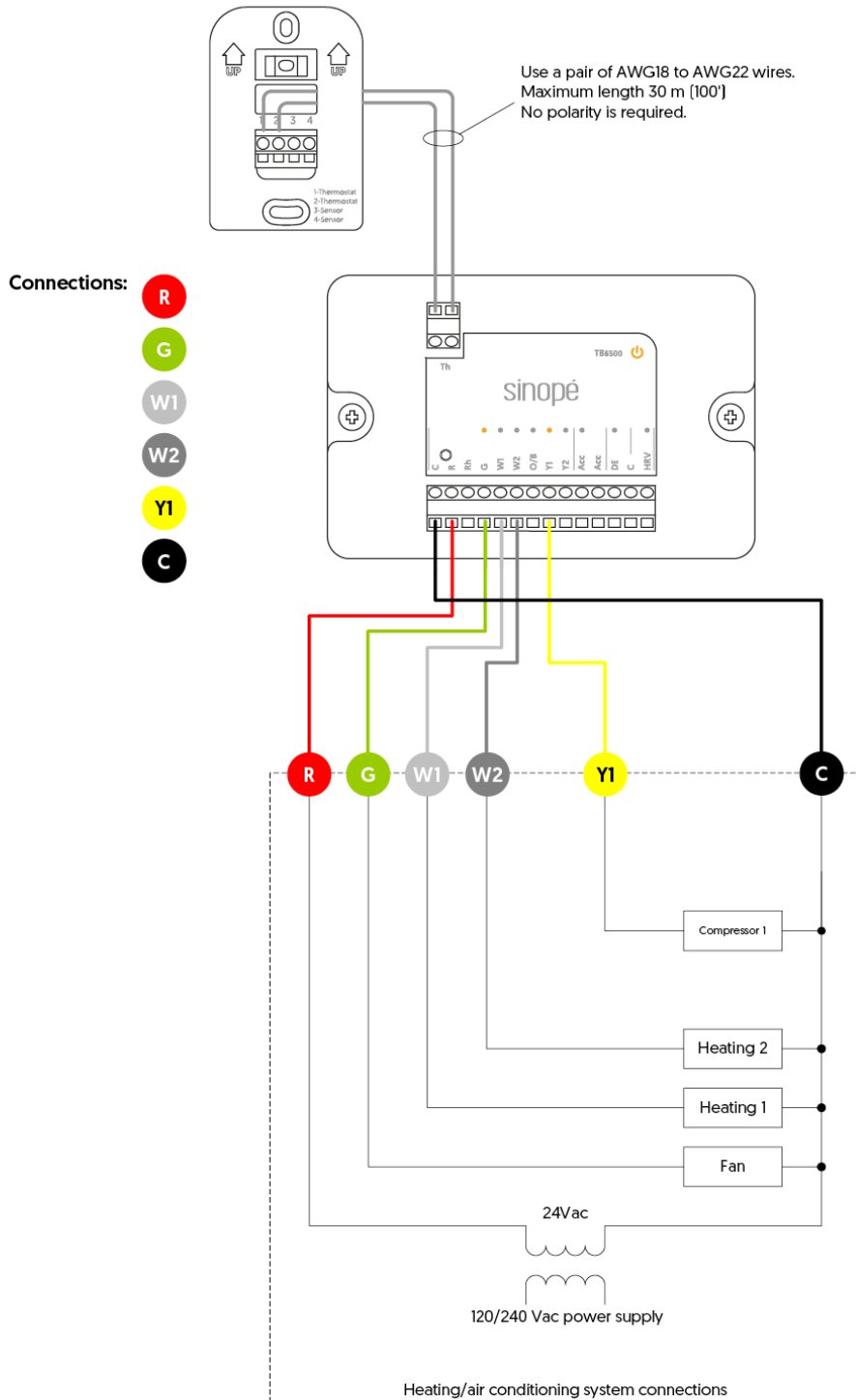
## Wiring 9: 1H2C

Refers to an HVAC system with **one heating stage** and **two air conditioning stages** with **ventilation control**. Separate power for heating and cooling. Standard connection for a furnace combined with an air conditioner.



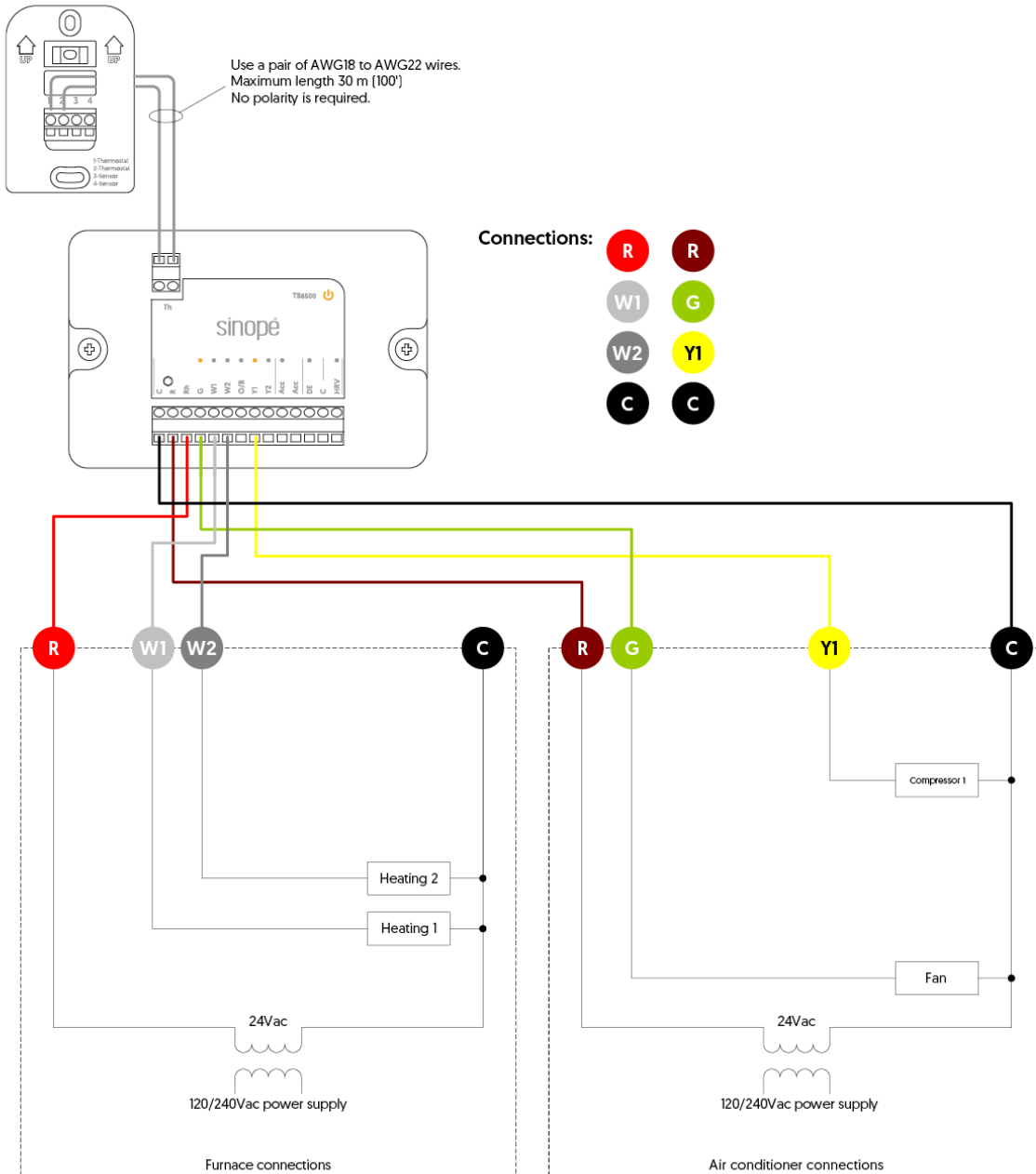
## Wiring 10: 2H1C

This system refers to a heating, ventilation, and air conditioning system designed for **two heating** and **one cooling stage**.



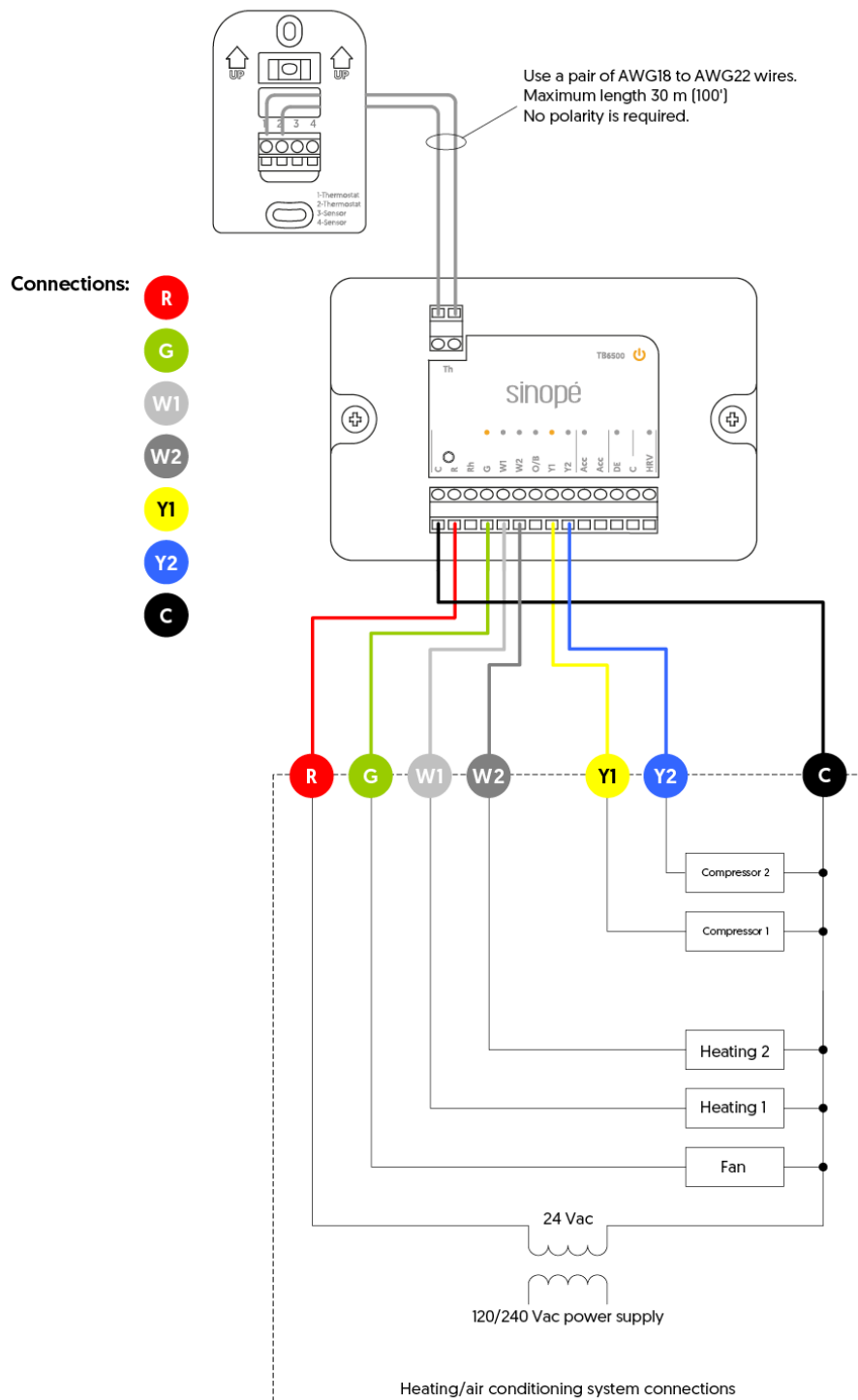
## Wiring 11: 2H1C

This system refers to a heating, ventilation, and air conditioning system designed for **two heating** and **one cooling stage**, with separate power for dual-part systems.



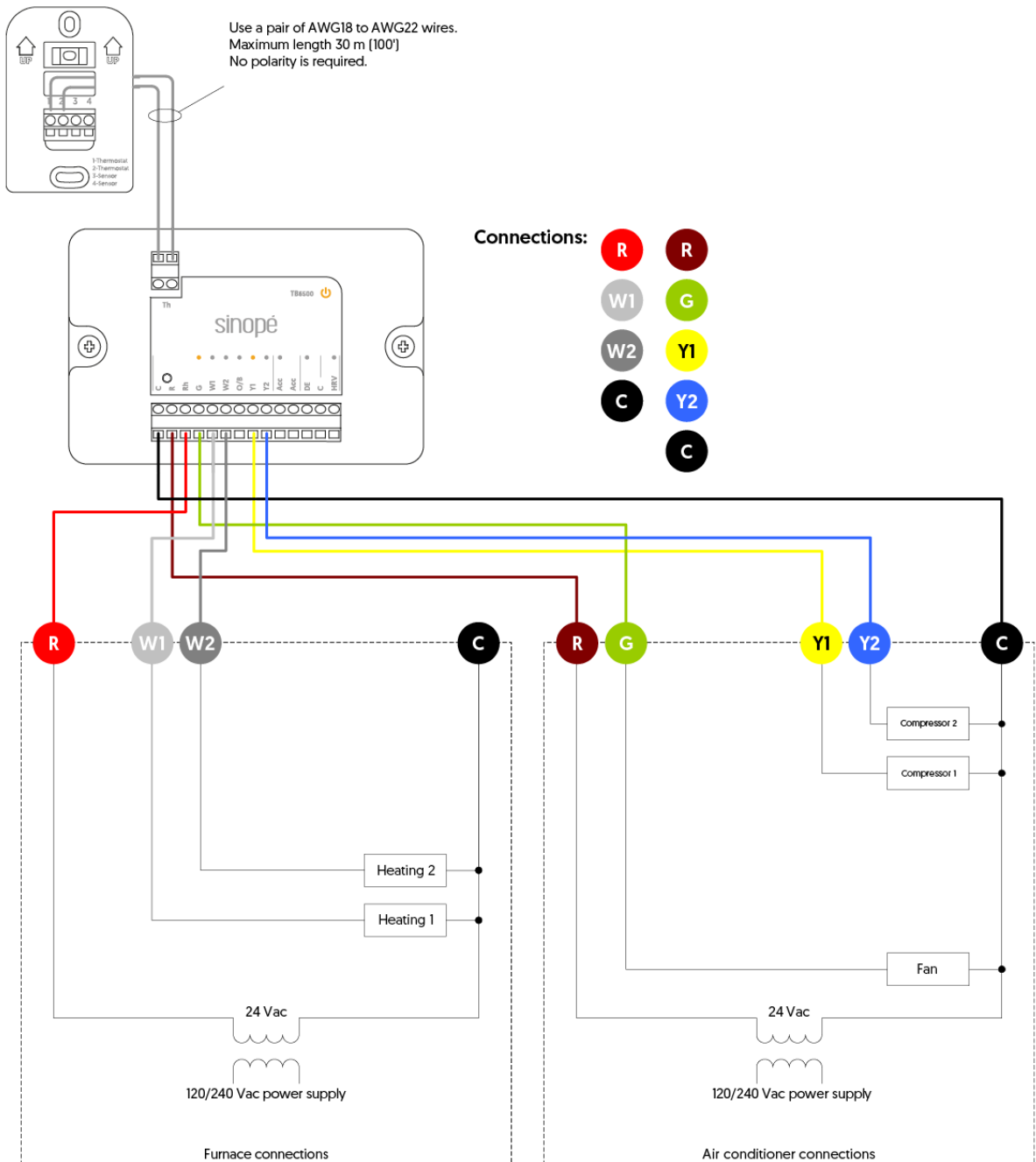
## Wiring 12: 2H2C

This system refers to a heating, ventilation, and air conditioning system designed for **two heating** and **two cooling** stages.



## Wiring 13: 2H2C

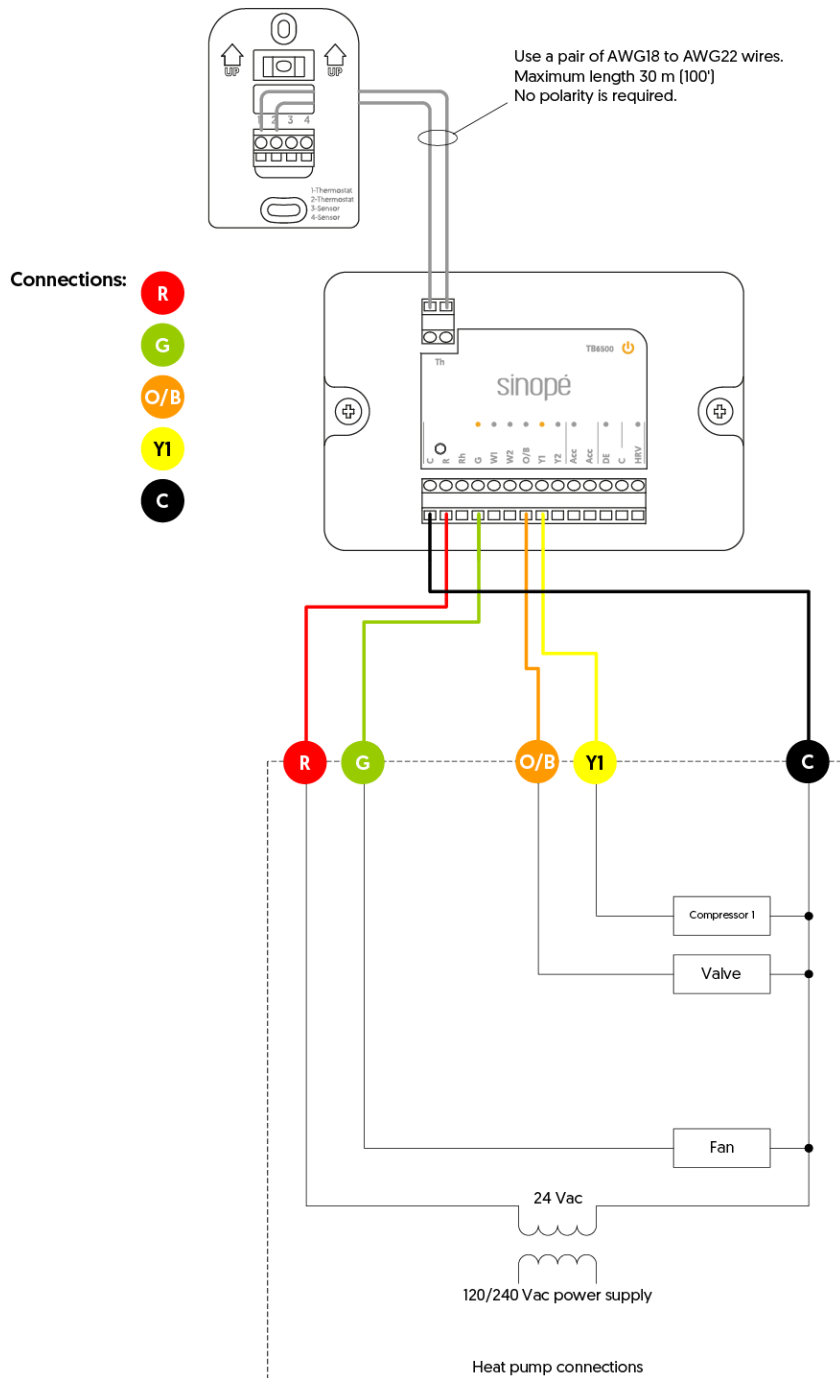
This system refers to a heating, ventilation, and air conditioning system designed for **two heating** and **two cooling stages**, with **separate power for dual-part systems**.



# Heat pump

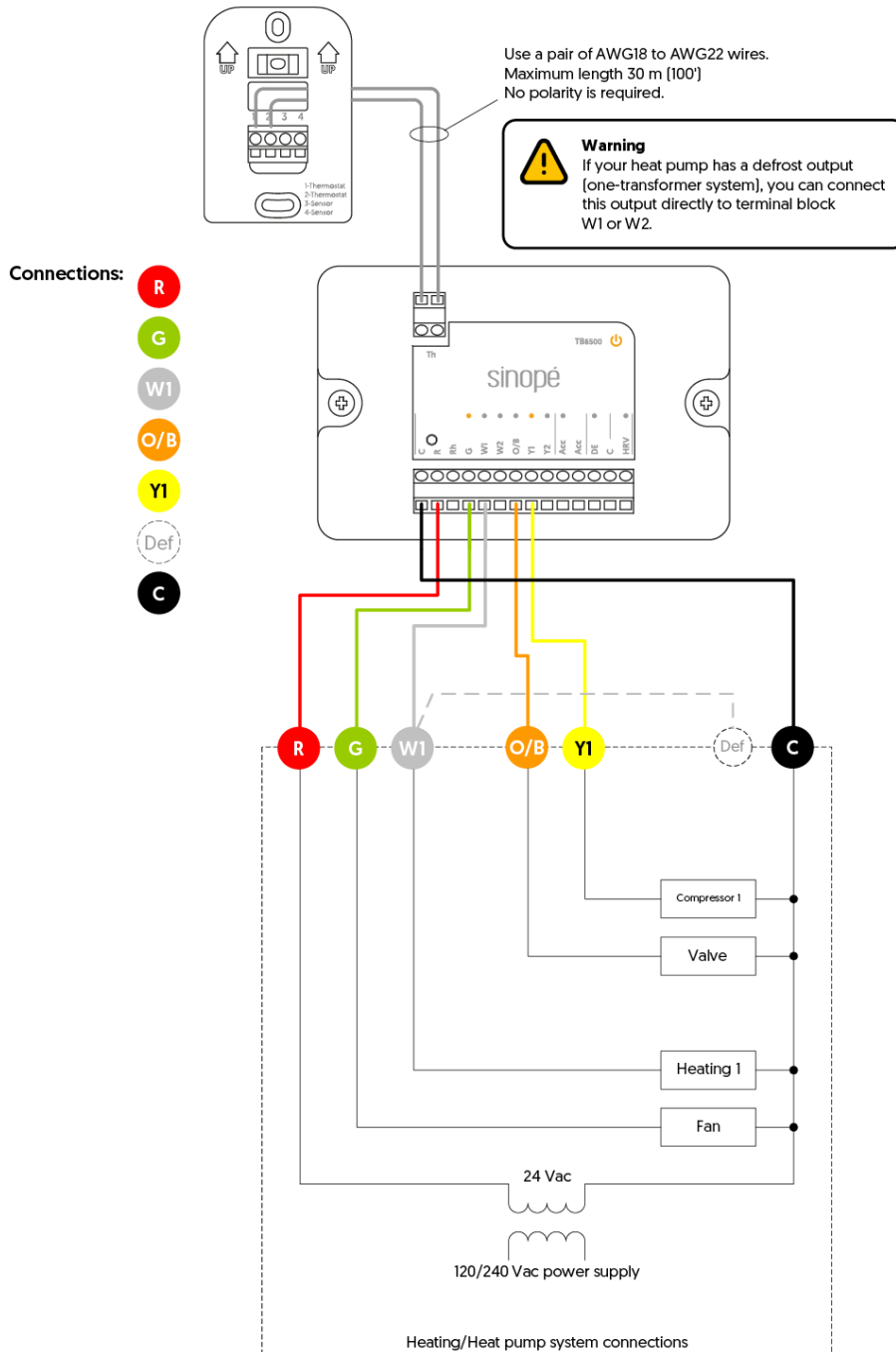
## Wiring 14: 1H1C

System to control heating and cooling functions, as well as fan operation, at a **single stage**. Standard connection for heat pumps.



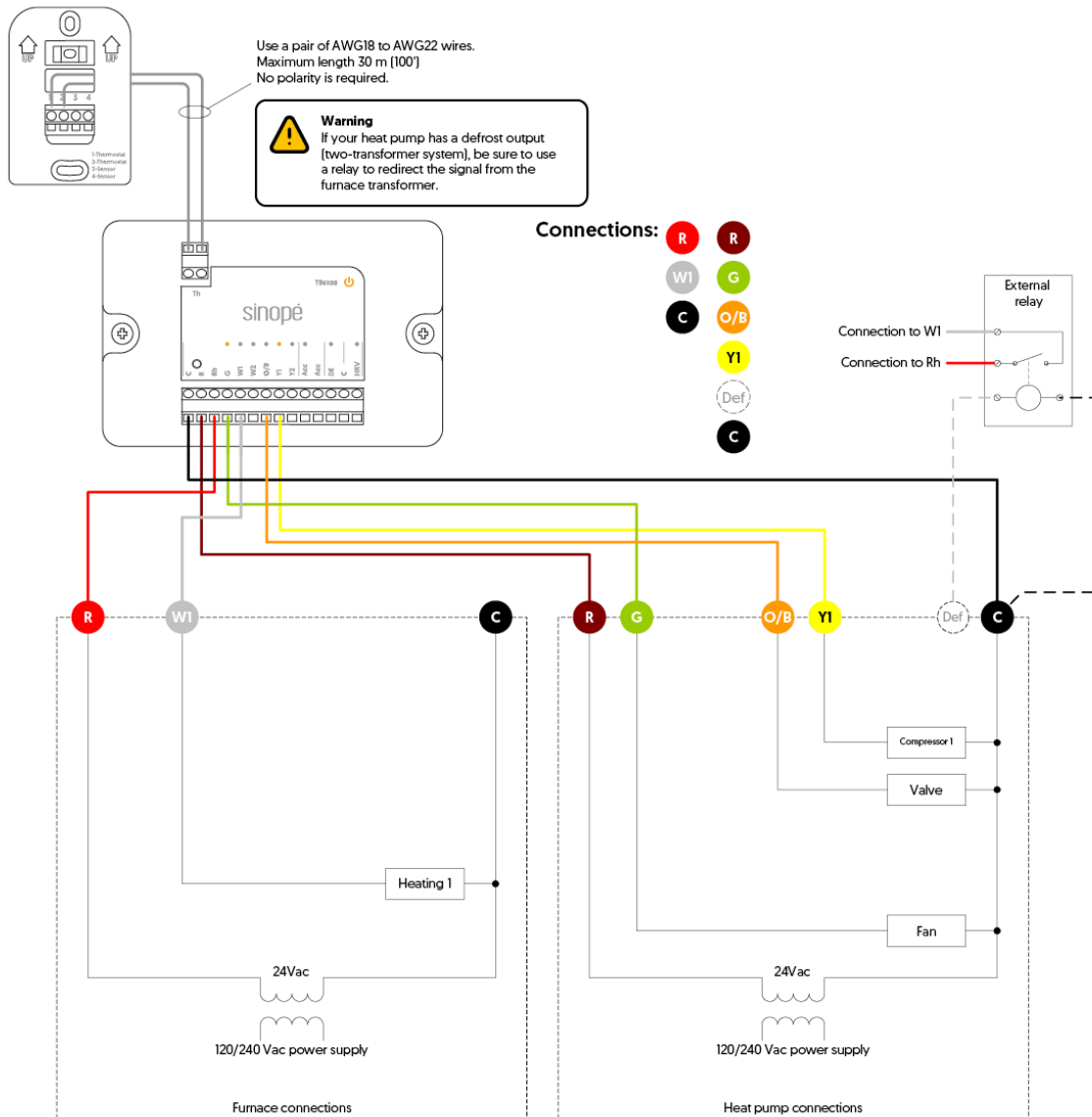
## Wiring 15: 2H1C

Refers to an HVAC system with **two heating stages** and **one air conditioning stage** with **ventilation control**. Standard connection for heat pumps.



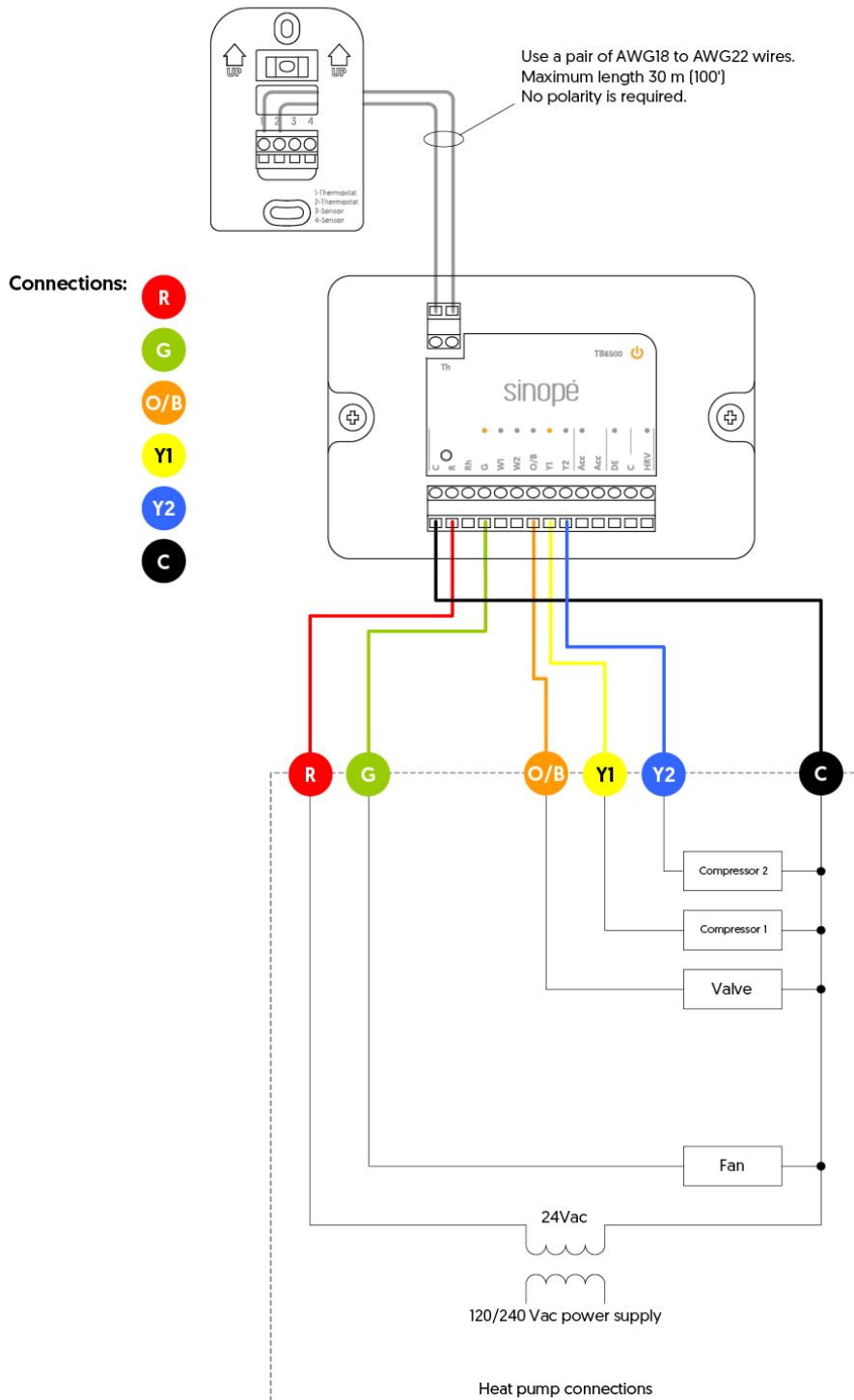
## Wiring 16: 2H1C

Refers to an HVAC system with **two heating stages** and **one air conditioning stage** with **ventilation control**. Separate power for heating and cooling. Standard connection for a heat pump combined with a furnace.



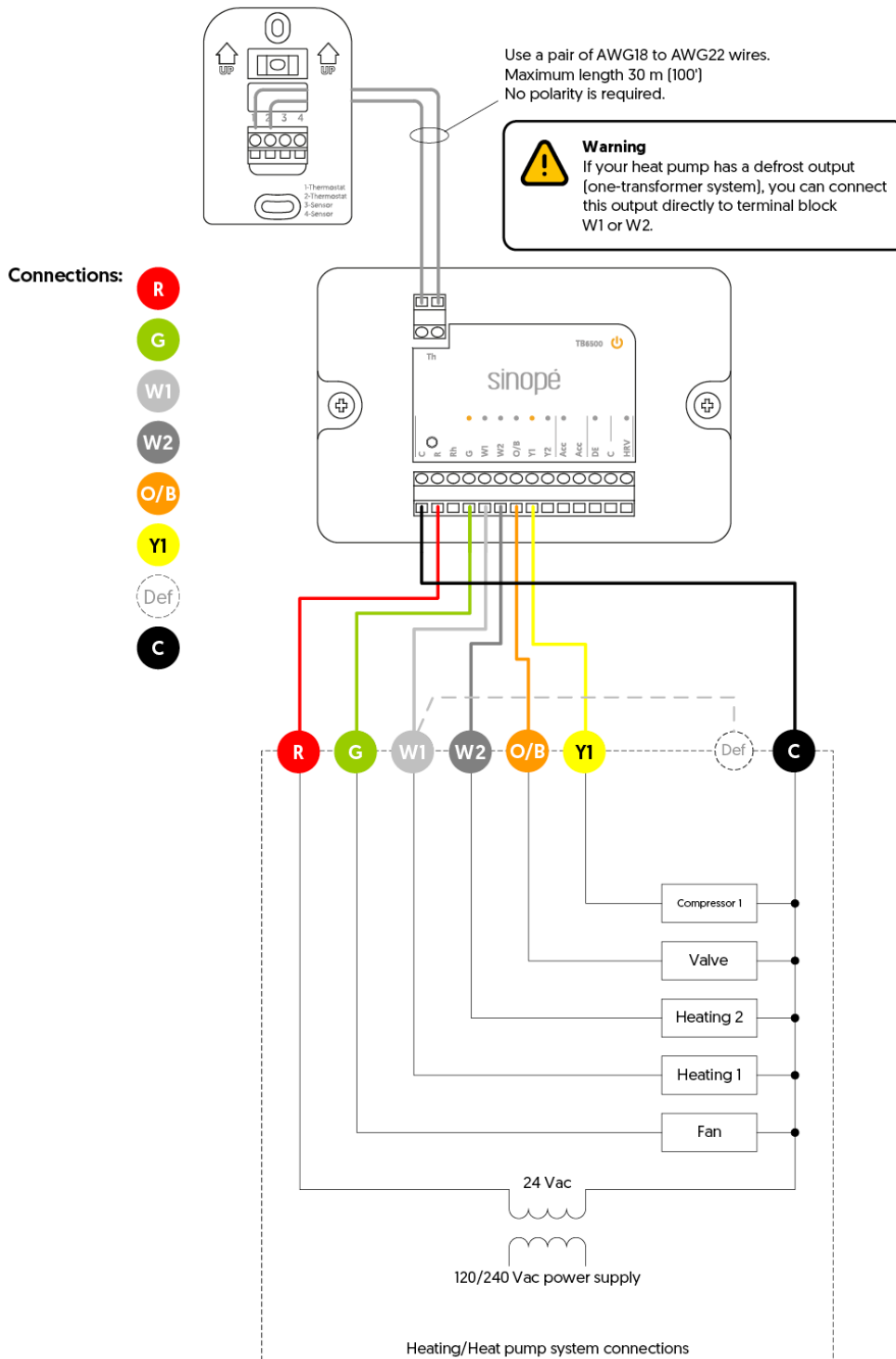
## Wiring 17: 2H2C

Refers to an HVAC system with **two heating stages** and **two air conditioning stages** with **ventilation control**.



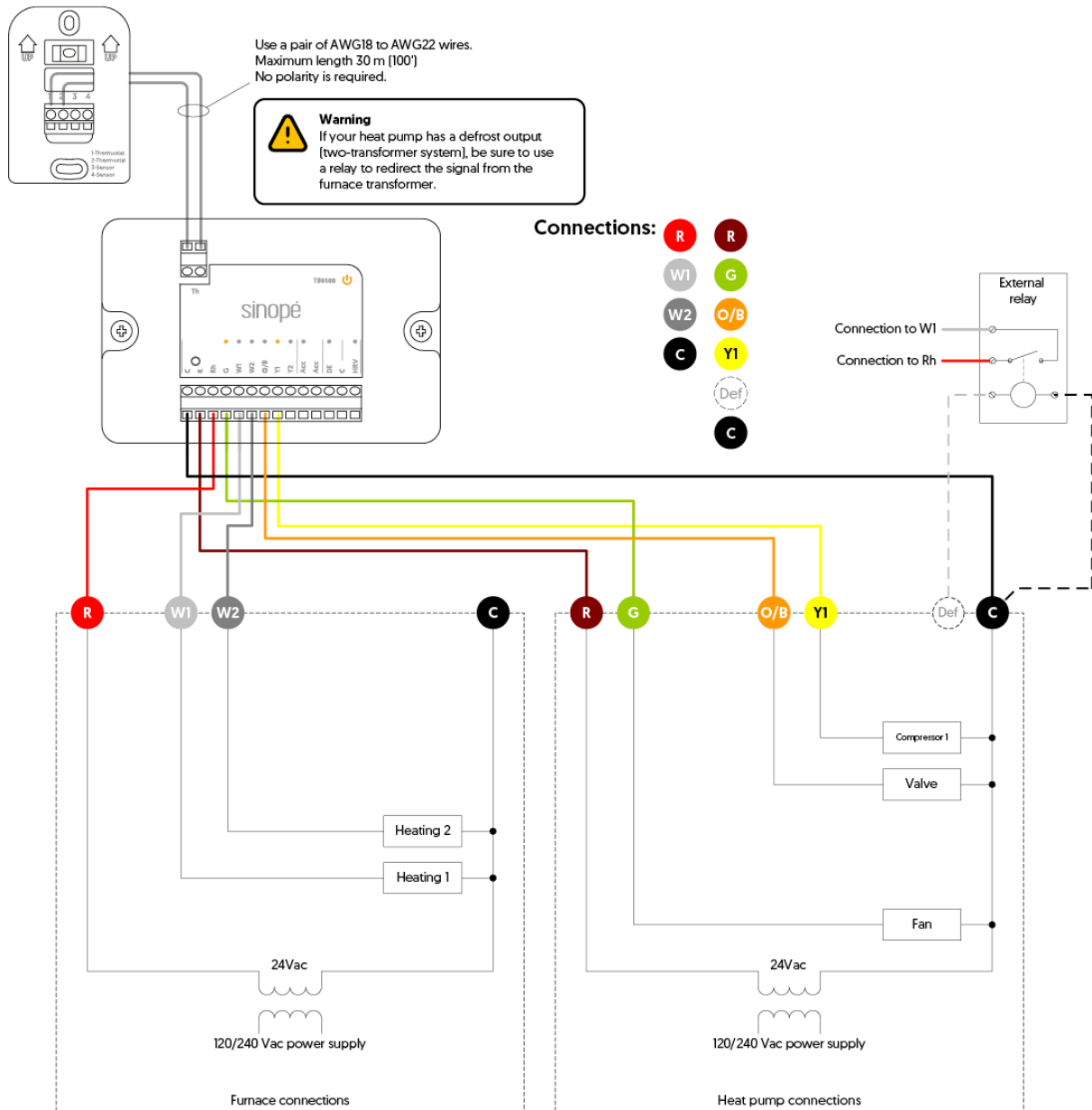
## Wiring 18: 3H1C

Refers to an HVAC system with **three heating stages** and **one air conditioning stage** with **ventilation control**. Standard connection for a heat pump with dual-stage auxiliary heating.



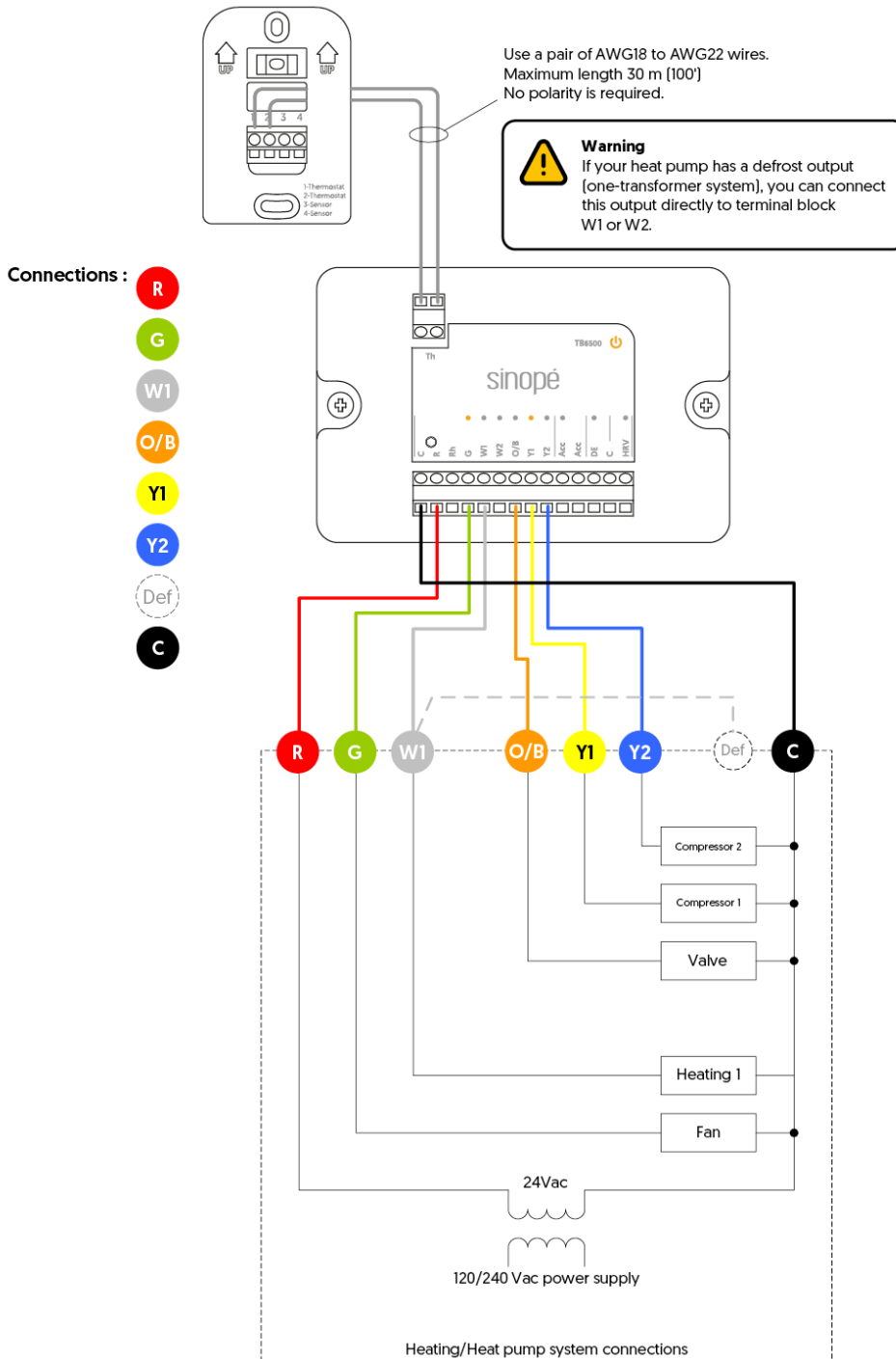
## Wiring 19: 3H1C

Refers to an HVAC system with **three heating stages** and **one air conditioning stage** with **ventilation control**. **Separate power for heating and cooling**. Standard connection for a heat pump with dual-stage auxiliary heating.



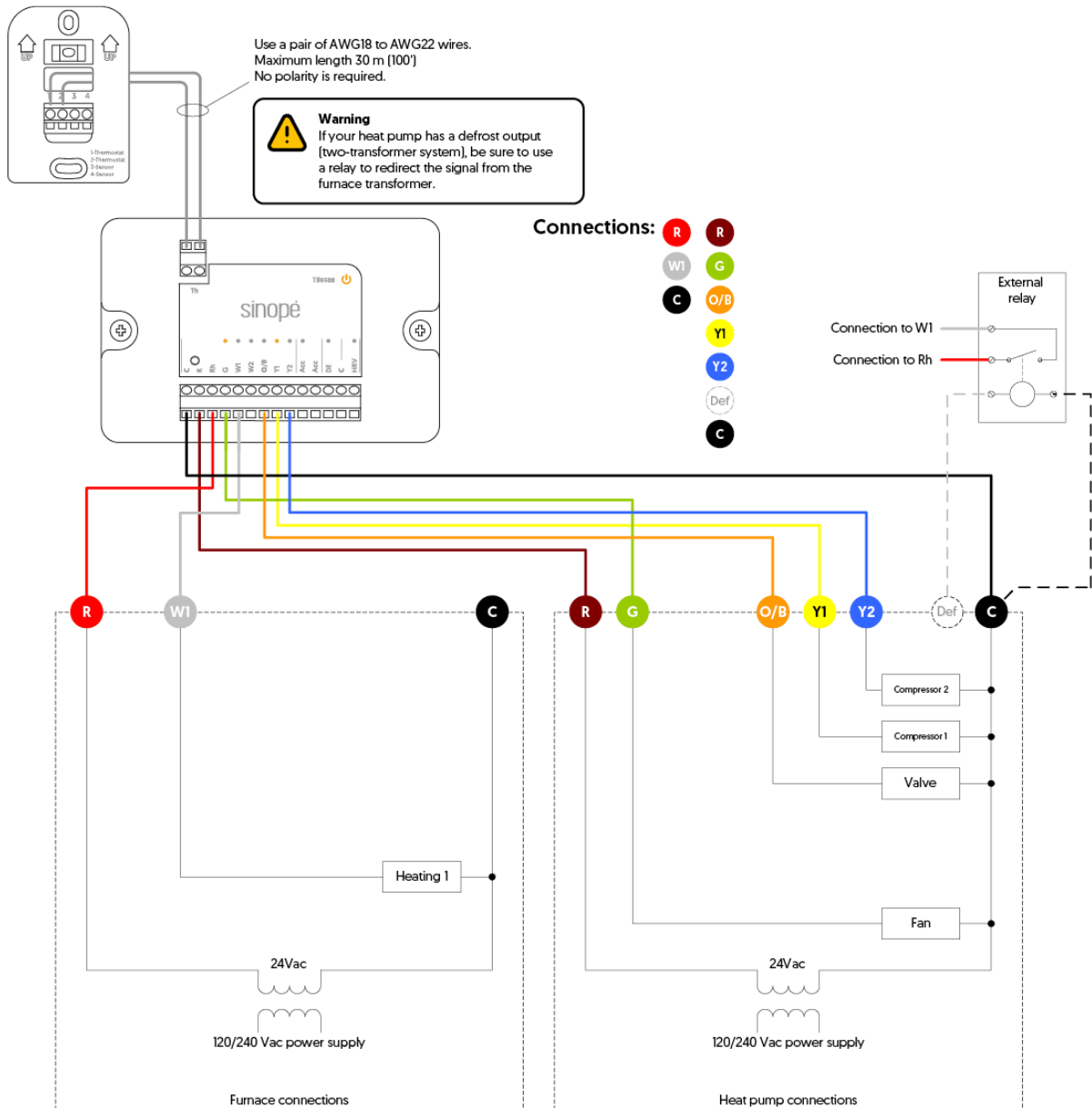
## Wiring 20: 3H2C

Refers to an HVAC system with **three heating stages** and **two air conditioning stages** with **ventilation control**. Standard connection for heat pumps.



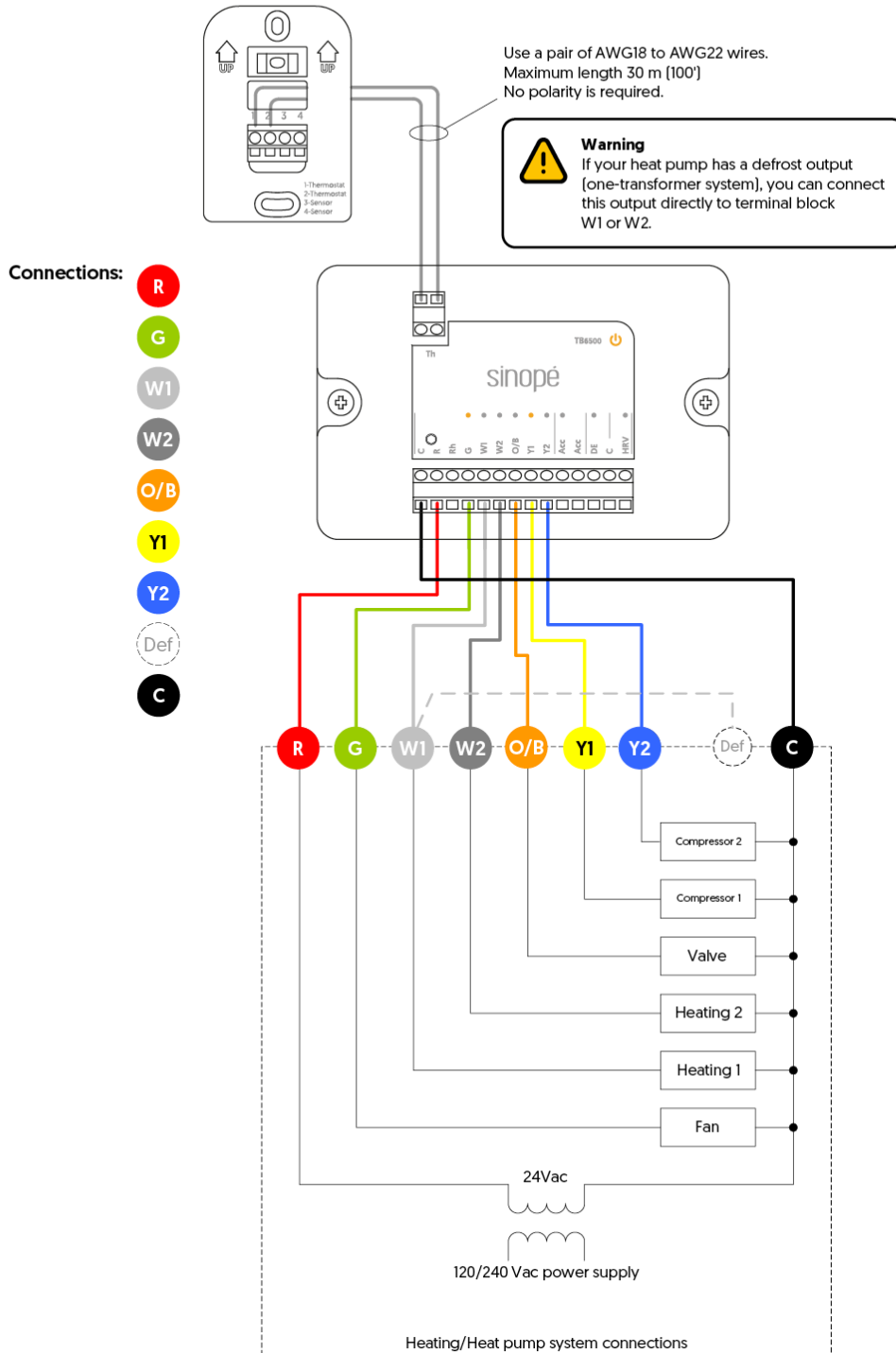
## Wiring 21: 3H2C

Refers to an HVAC system with **three heating stages** and **two air conditioning stages** with **ventilation control**. **Separate power for heating and cooling**. Standard connection for a heat pump combined with a furnace.



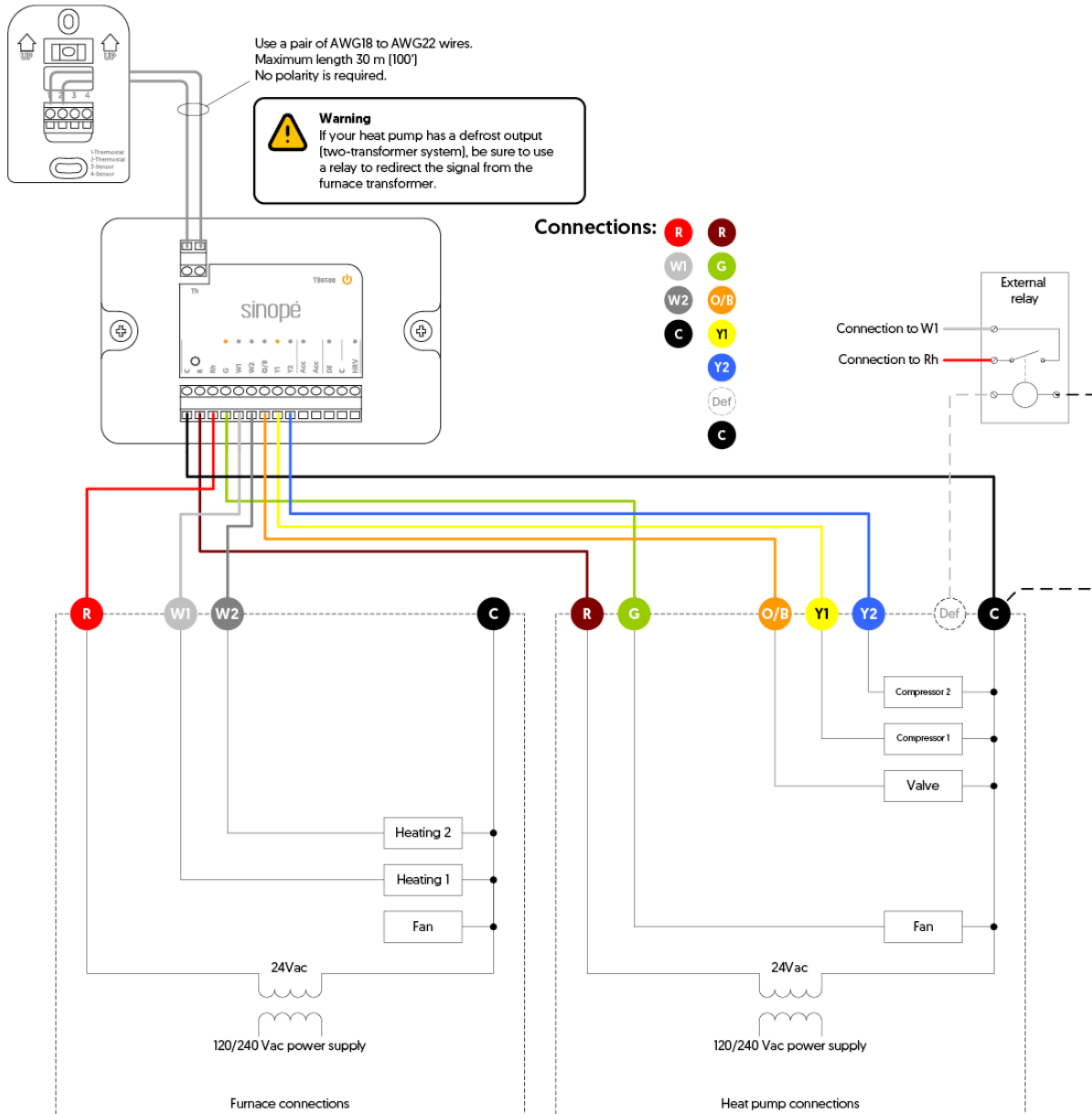
## Wiring 22: 4H2C

Refers to an HVAC system with **four heating stages** and **two air conditioning stages** with **ventilation control**. Standard connection for heat pumps.



## Wiring 23: 4H2C

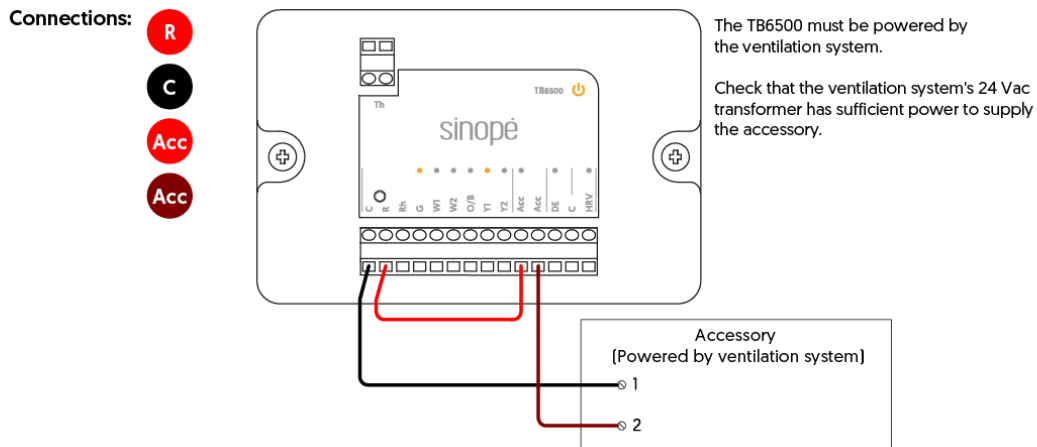
Refers to an HVAC system with **four heating stages** and **two air conditioning stages** with **ventilation control**. **Separate power for heating and cooling**. Standard connection for a heat pump combined with a furnace.



## Additional system

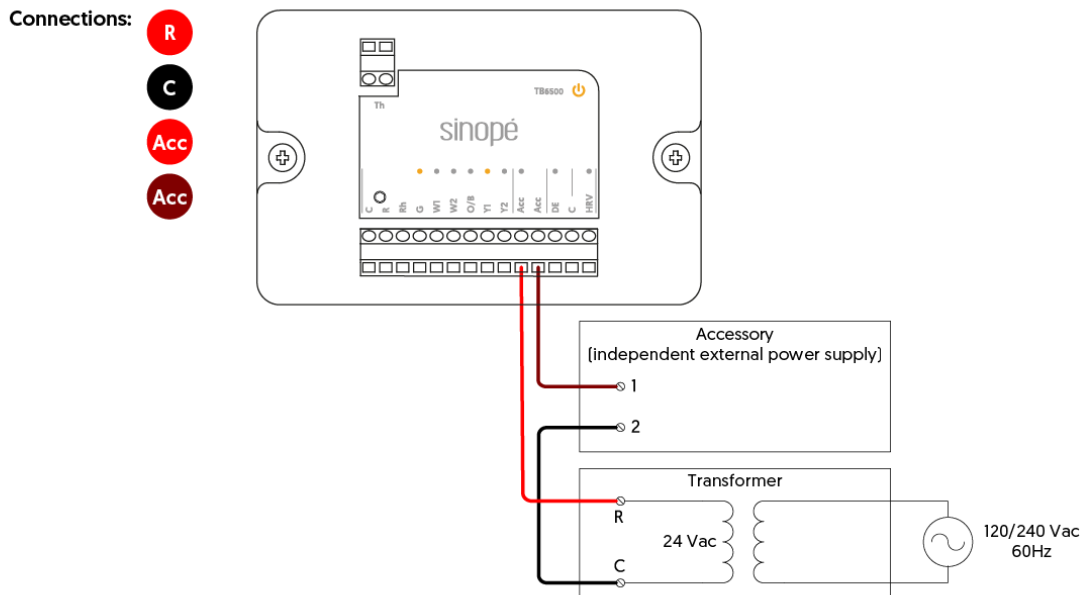
### Wiring 24: Humidifier / Dehumidifier

Humidifier or dehumidifier powered by the HVAC system.



### Wiring 24.1: Humidifier / Dehumidifier

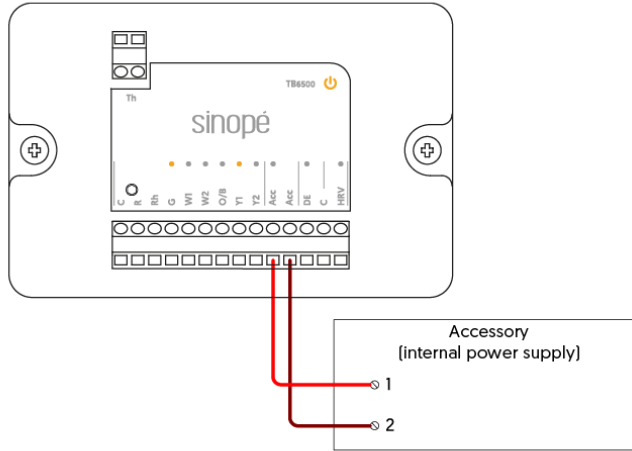
Humidifier or dehumidifier with independent external power.



## Wiring 24.2: Humidifier

Humidifier or dehumidifier with internal power.

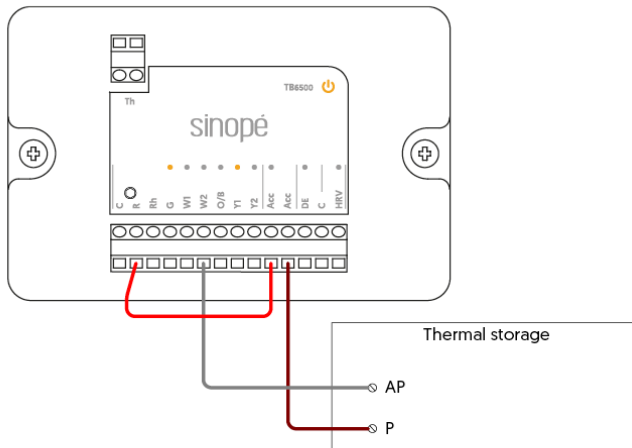
Connections:



## Wiring 24.3: Thermal storage

Thermal storage unit with internal power supply

Connections:



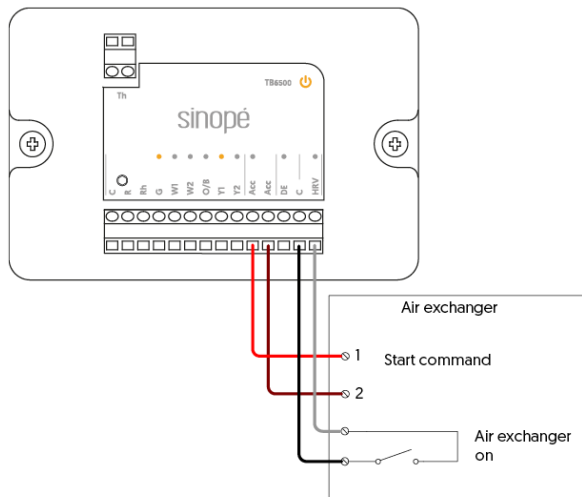
## Wiring 25: Air exchanger

Connection for an air exchanger.

The **ACC-ACC** input is a dry contact used to start the air exchanger. The **HRV** input activates the HVAC system's ventilation when a dry contact is established between **HRV** and **C**. It is **not necessary** to connect both **HRV and ACC**: only one of these connection options can be used, depending on the application. If you choose only the C and HRV connection option, no new options will be added to your thermostat menus; the air exchanger will operate independently.

Possible connection options:

- C HRV
- ACC ACC
- ACC ACC C HRV

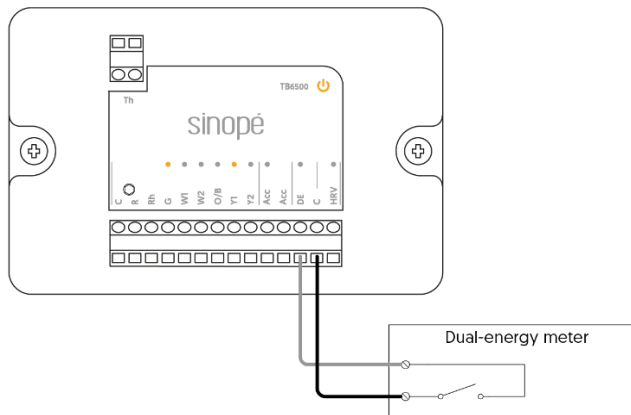


## Wiring 26: Dual energy

Connection for dual energy signal.

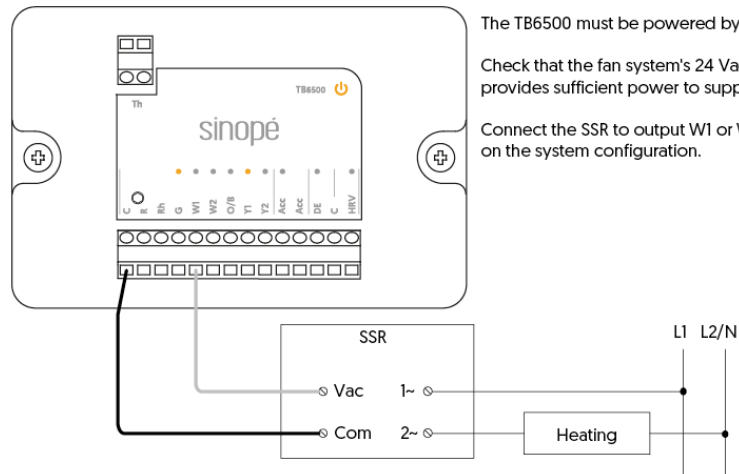
Connections:

- DE
- C



## Wiring 27: SSR

Connections:



The TB6500 must be powered by the fan system.

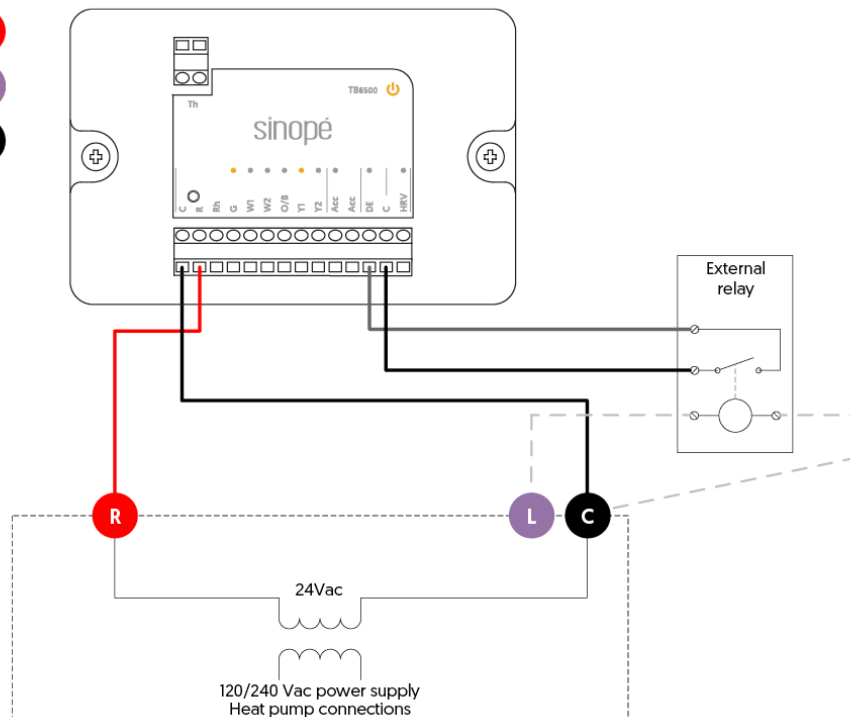
Check that the fan system's 24 Vac transformer provides sufficient power to supply the SSR.

Connect the SSR to output W1 or W2, depending on the system configuration.

Note: SSR consumption on the output must be at least 20 mA [AC] when the system configuration uses the TB6500 Rh terminal.

## Wiring 28: Heat pump "L" output

Connections:



# Additional accessories

## Decorative mounting plates

Designed to cover wall imperfections from a previous thermostat, these plates also include a steel backing plate for installation over an electrical box.

When a junction box is used, the decorative plate **must** be installed to ensure **proper and secure** coverage of the junction box.

### Decorative mounting plates for the TH6500WF



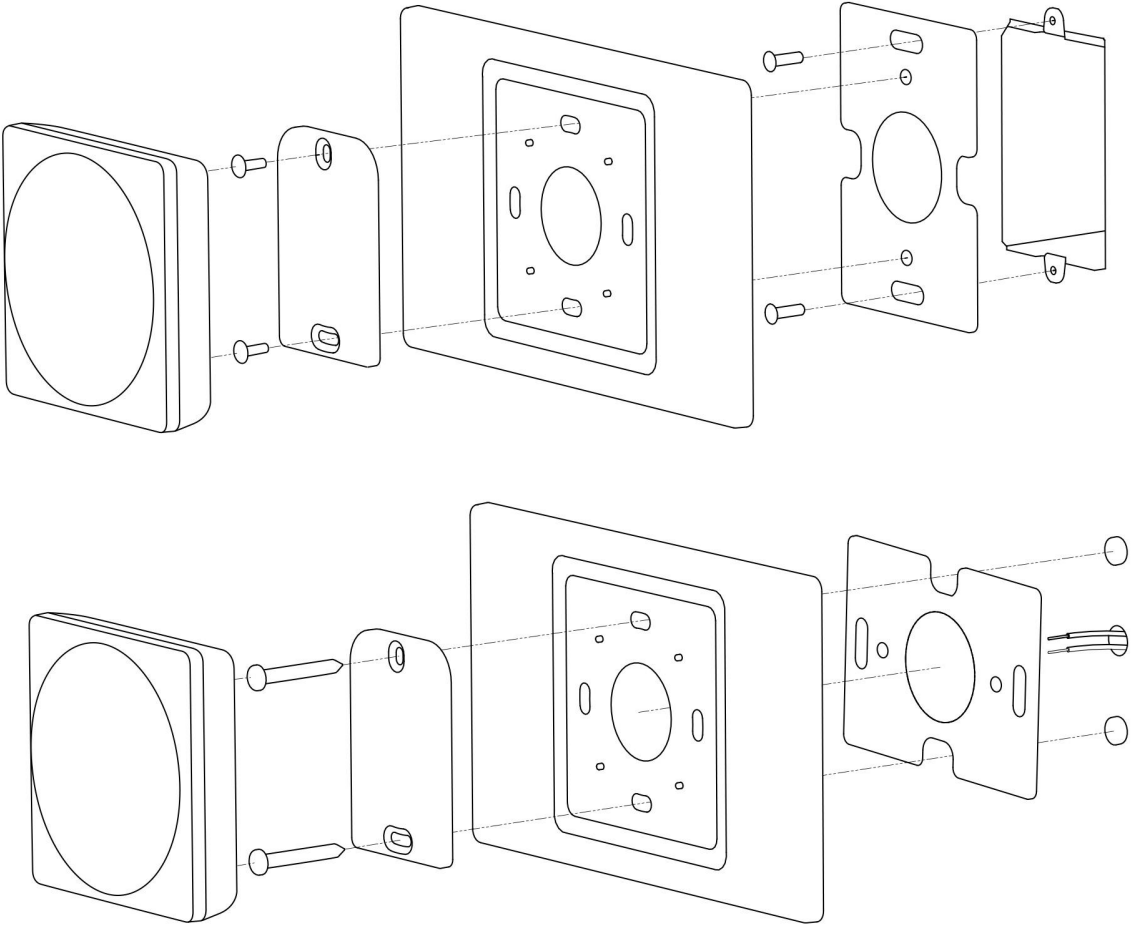
### AC6500-01 Decorative Mounting Plate (sold separately)

**Dimensions (W x H x D):** 180.5 mm (7.11 in) × 112.5 mm (4.43 in) × 5 mm (0.20 in)

**Included in the box:**

- Decorative mounting plate
- Steel plate, installation sheet
- 2 screws for the decorative plate
- 2 screws for the steel plate

Installation diagrams for the AC6500-01 decorative mounting plate





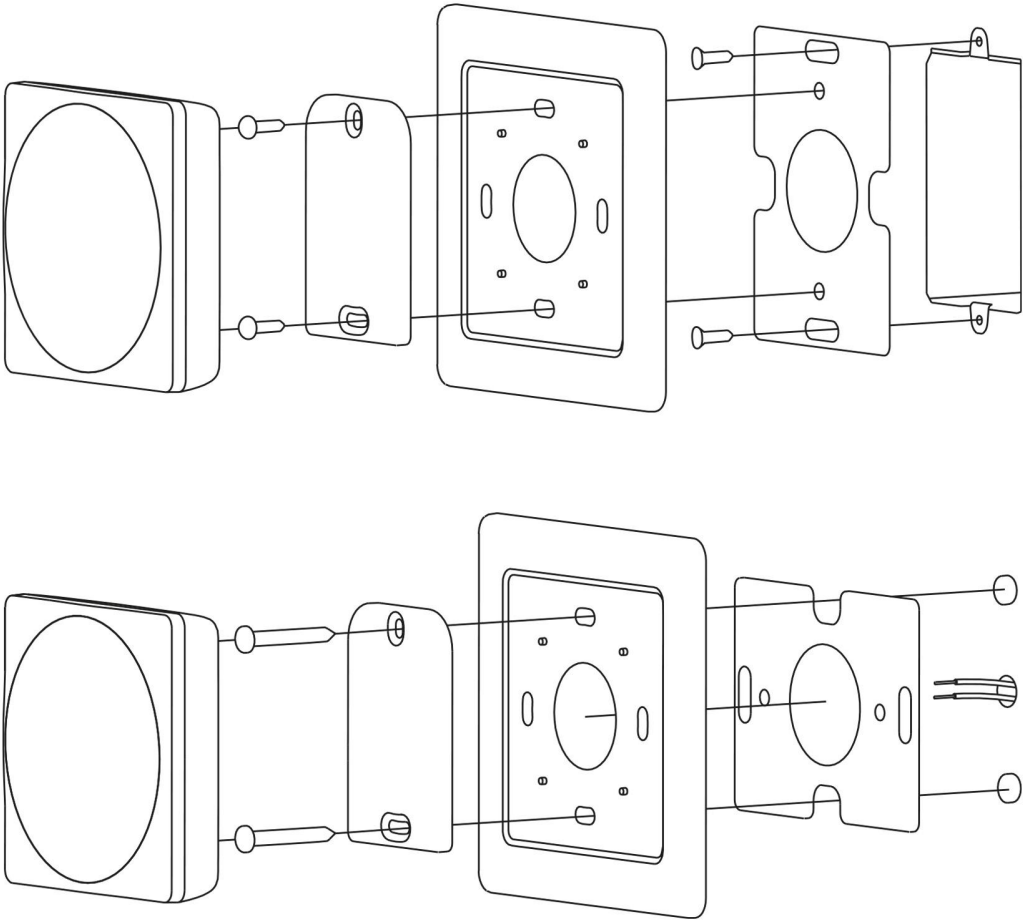
## AC6500-02 Decorative mounting plate (sold separately)

**Dimensions (W x H x D):** 114.3 mm (4.5 in) × 114.3 mm (4.5 in) × 4.8 mm (0.19 in)

**Included in the box:**

- Decorative mounting plate
- Steel plate, installation sheet
- 2 screws for the decorative plate
- 2 screws for the steel plate

Installation diagrams for the AC6500-02 decorative mounting plate



## Decorative mounting plates for the TH6500WF REV: 01



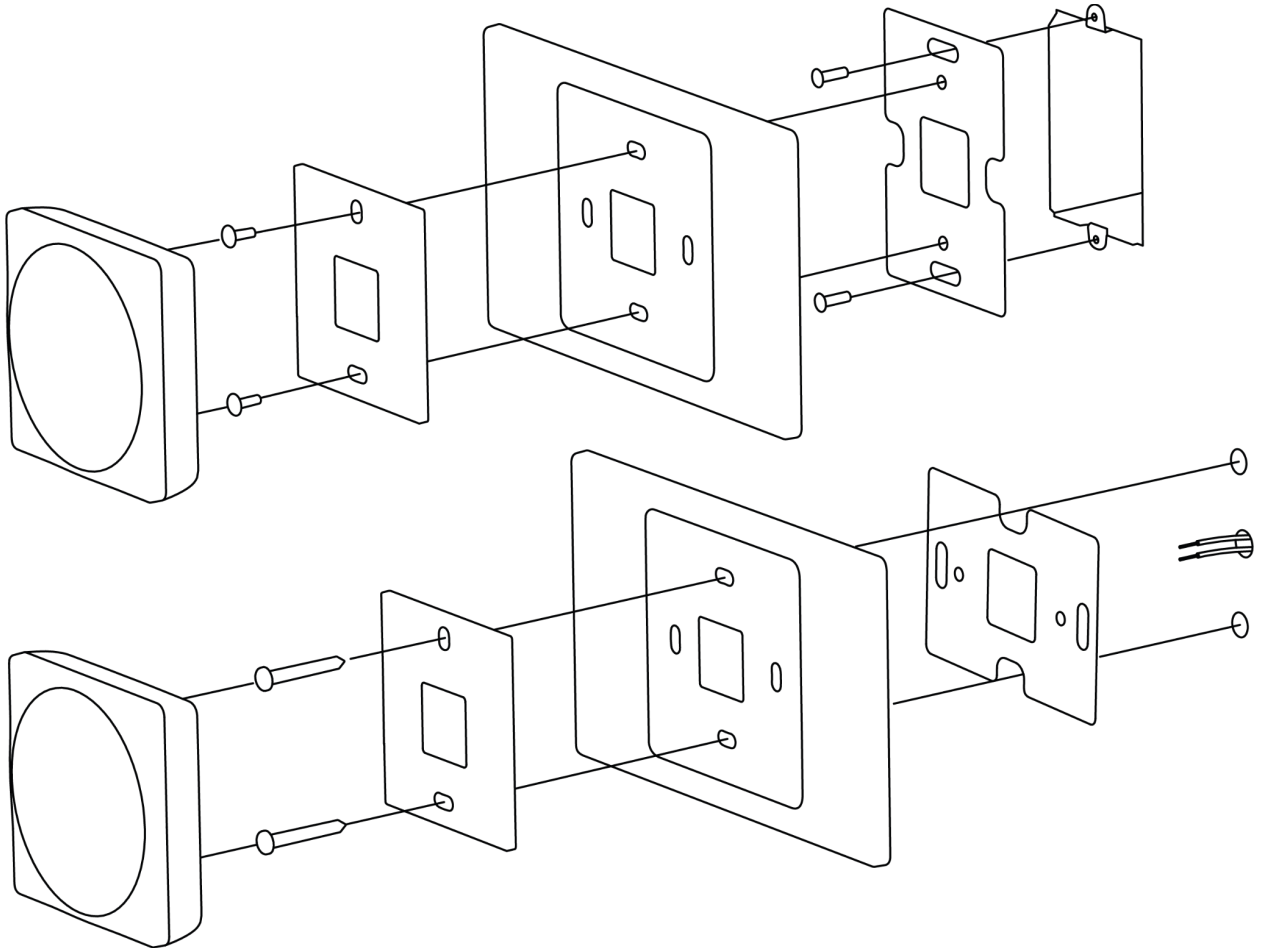
## AC6500-03 Decorative mounting plate (sold separately)

**Dimensions (W x H x D):** 180.5 mm (7.11 in) × 112.5 mm (4.43 in) × 5 mm (0.20 in)

**Included in the box:**

- Decorative mounting plate
- Steel plate, installation sheet
- 2 screws for the decorative plate
- 2 screws for the steel plate

Installation diagrams for the AC6500-03 decorative mounting plate





## AC6500-04 Decorative mounting plate (included)

**Dimensions (W x H x D):** 114.3 mm (4.5 in) × 114.3 mm (4.5 in) × 4.8 mm (0.19 in)

### Included in the box:

- Decorative mounting plate
- Steel plate, installation sheet
- 2 screws for the decorative plate
- 2 screws for the steel plate

Installation diagrams for the AC6500-04 decorative mounting plate

