

sinopé

Smart thermostat

HVAC

Installation and configuration guide

TH6500WF



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Included in the box

Inside the box, you will find:



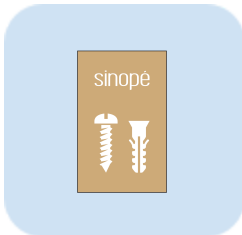
TH6500WF thermostat



Mounting plate



TB6500 connection module



4x screws
4x anchors



Welcome guide

Installation requirements

- Flathead or Phillips screwdriver for wall installation of the mounting plate and connection module – Philips #2/slot M7.0
- Screwdriver for connectors
 - 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 – Philips #1/slot M2.5, wire stripping length: 8-9mm
- Optional for easier setup:
 - Wi-Fi connection
 - Smartphone or tablet
 - Neviweb account

Connections

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

System compatibility

#	Output / Input	Rh ¹	G	W1	W2	Y1	Y2	O/B	ACC	DE	HRV
Conventional system											
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	2H2C		X	X	X	X	X				
11	2H2C	X	X	X	X	X	X				
Heat Pump											
12	1H1C		X	X		X		X			
13	2H1C		X	X		X		X			
14	2H1C	X	X	X		X		X			
15	3H1C		X	X	X	X		X			
16	3H1C	X	X	X	X	X		X			
17	3H2C		X	X		X	X	X			
18	3H2C	X	X	X		X	X	X			
19	4H2C		X	X	X	X	X	X			
20	4H2C	X	X	X	X	X	X	X			
Additional system											
21	Acc. Humidifier								X		
22	Dual-energy									X	
23	Air Exchanger										X

¹ Système avec deux transformateurs

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 those around you, hire a qualified professional.

Installation – TB6500 Connection module

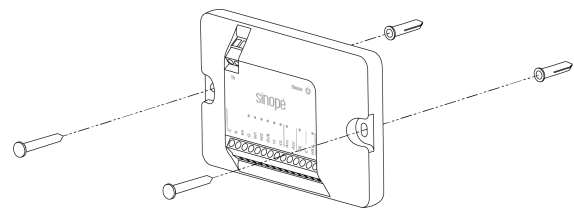
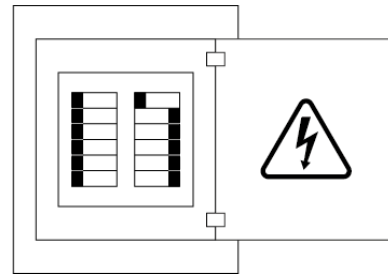
Replacement of installation

The following steps aim to modernize an existing installation to enhance efficiency and performance.

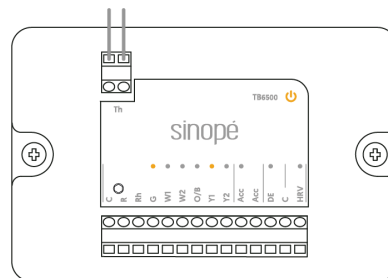
- 1 Evaluate the existing system.**
Assess the current HVAC system to understand its configuration and specifics.
- 2 Validate system compatibility.**
Ensure that the existing system is compatible with the connections available on the TB6500. If necessary, refer to the [connections](#) table.
- 3 Turn off the power.**
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.

It's important to check the length of your wires to ensure they are long enough to reach the desired location.

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



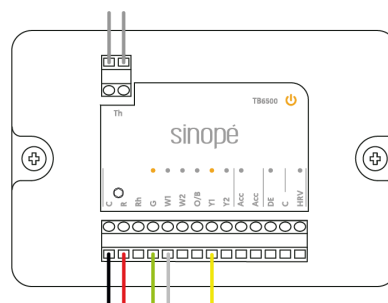
- 5** Select and connect 2 of the existing wires at the top of the connection module for communication with the thermostat.



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

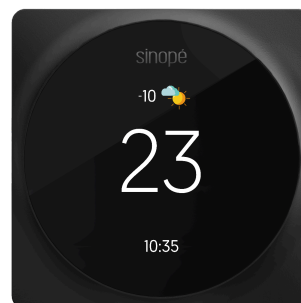
- 6** Connect the wires of your HVAC system to the connection module. Please refer to the wiring diagrams in the [Index](#) if necessary.

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



Tip: Take a photo of your system's wiring as a reminder to facilitate thermostat installation and configuration.

- 7** Proceed with the installation of the [TH6500WF thermostat](#) for the next steps.



Installation – Smart Wi-Fi thermostat

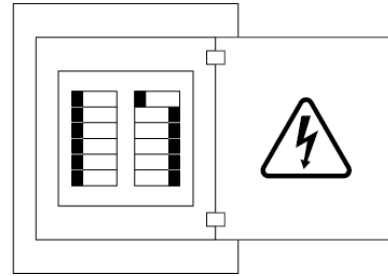
TH6500WF

This thermostat must be installed by a certified electrician and comply with the national and local electrical codes and regulations.

1

Switch off the power supply.

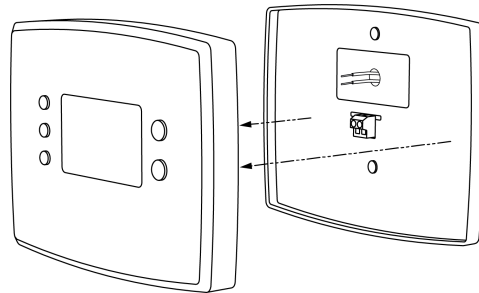
Before installing the thermostat, make sure that the breakers for your heating system are off at the electrical panel to avoid any risk of electric shock.



2

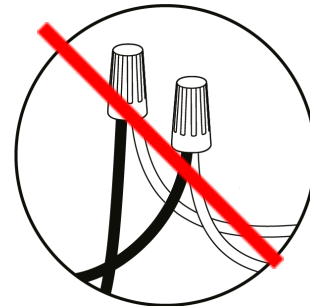
Remove the cover of your old thermostat.

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



Warning

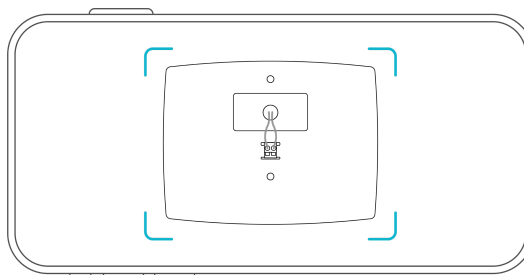
Check your system's compatibility: If your old thermostat has a label of 120V or 240V, or if it has thick wires with connection caps, it is a high-voltage system. Your system is not compatible with the TH6500WF thermostat.



3

Take a photo of the wiring of your old thermostat.

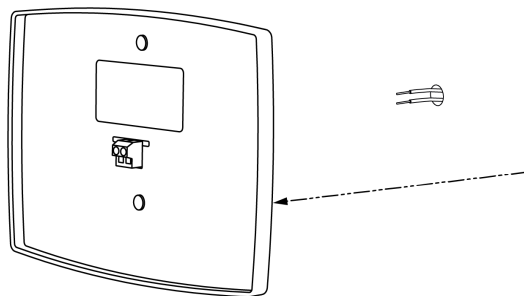
This photo can be handy when installing your new thermostat, especially if it is installed before the TB6500 connection module.



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.

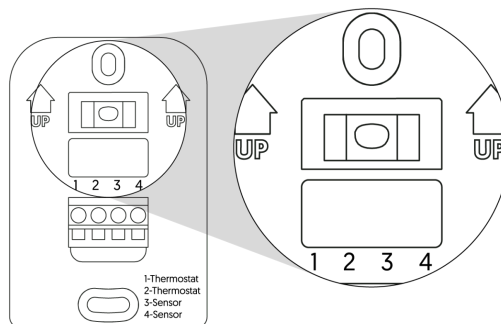


5

Mark screw locations.

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

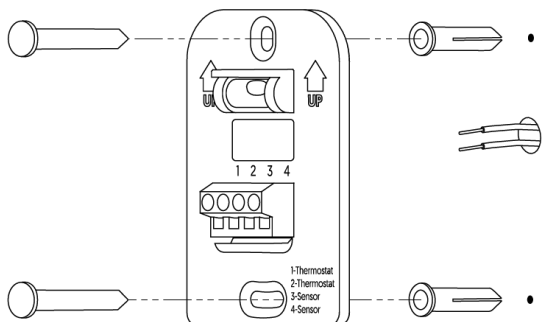
Tip: If you are using the decorative mounting plate ([AC6500-01](#)) to cover the holes or marks left by the previous thermostat, you must first secure it to the wall and then screw the wall plate afterward.



6

Fix the mounting plate.

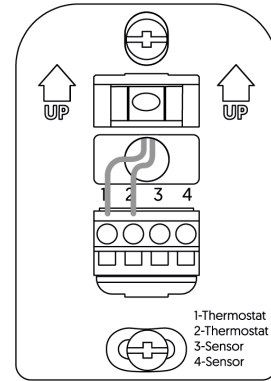
Pass the wires through the center of the base, then fasten it to the wall with the screws. Use anchors if necessary.



7

Connect the wires.

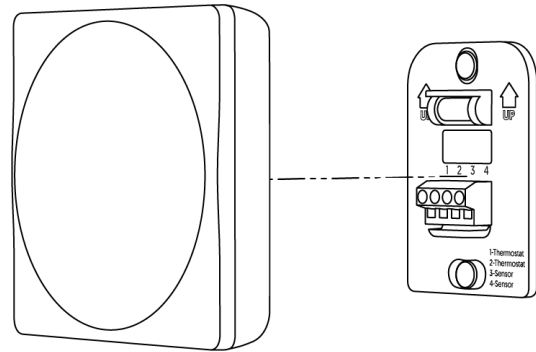
When the wires are correctly inserted into the connector holes, screw them in precisely to ensure a secure, stable connection.



8

Attach the screen.

Press the screen onto the base until it clicks into place.



9

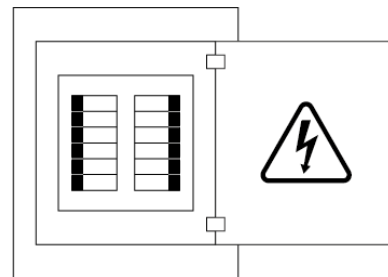
Restore the power supply.

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.



Configuration – Smart Wi-Fi thermostat TH6500WF

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

Startup screen



1

Language selection

Select the language displayed on your thermostat.



2

Temperature unit

Select the temperature format displayed on the thermostat screen.

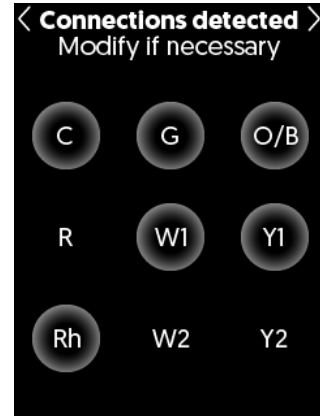


3

Connections detected

Select the wires connected to the TB6500 connection module.

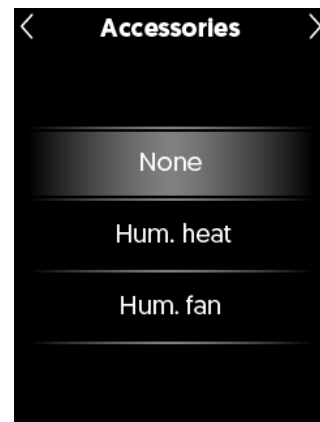
Tip: Refer to the photo taken when installing the connection module.



4

Accessories

Select, if applicable, whether your humidifier is activated on heating or fan.

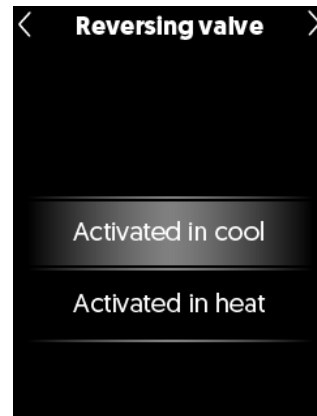


5

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.



6

Balance point

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



7

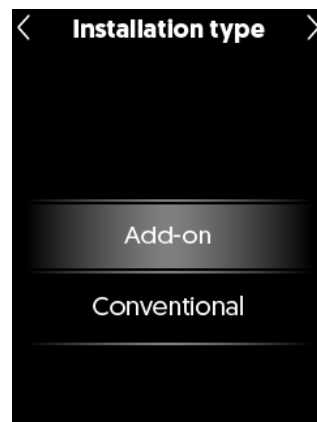
Installation type *

Select the type of installation for your equipment

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

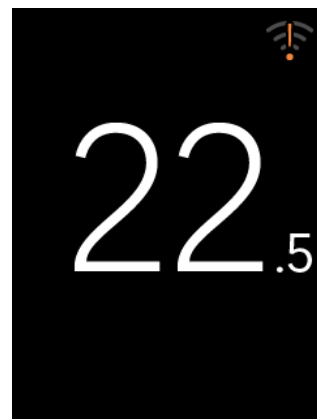
Conventional: The auxiliary system and heat pump can operate simultaneously.

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



8

Your thermostat's basic configuration is now complete.



Two options are available for the next steps:

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



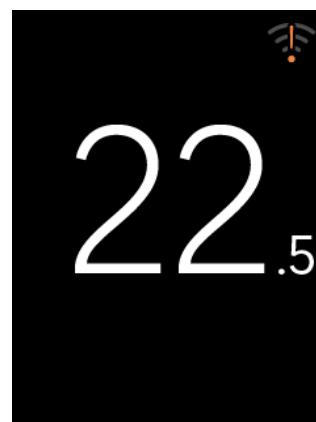
- B. Navigate the various equipment configuration menu settings to complete the installation.

Configuration with Neviweb

The Neviweb app allows you to access all the features of your smart thermostat.

1

Tap on the Wi-Fi icon displayed on the screen.

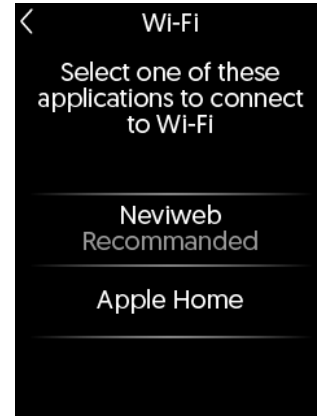


2

Tap on 'Neviweb'.

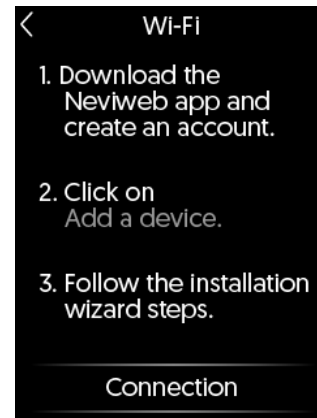
By choosing Neviweb, you can configure all the settings of your thermostat using your smartphone, benefit from features such as the weather displayed on the screen, and access several functionalities within the platform.

Additionally, you can add your device to Apple Home later.



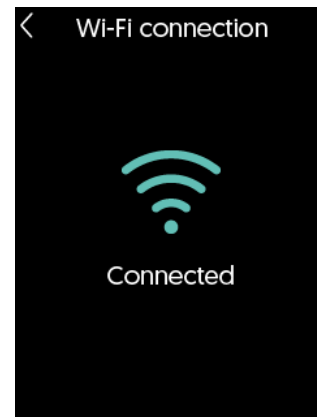
3

Follow the steps displayed on the screen.




4

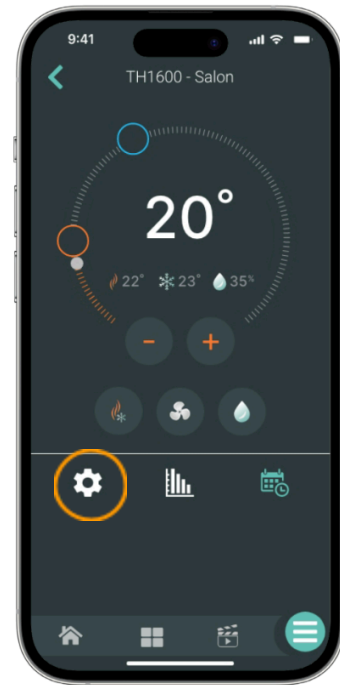
Once the Wi-Fi connection is complete, **tap on the tile corresponding to your thermostat in the Neviweb app.**



5

Setting Configuration

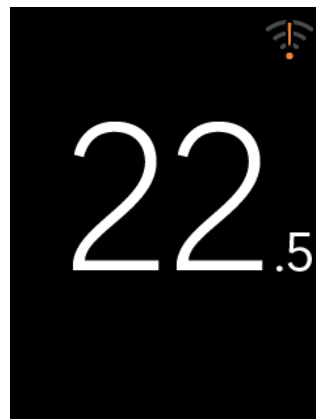
Tap on  to access the device settings. Continue configuring your system preferences in the various configuration menus.




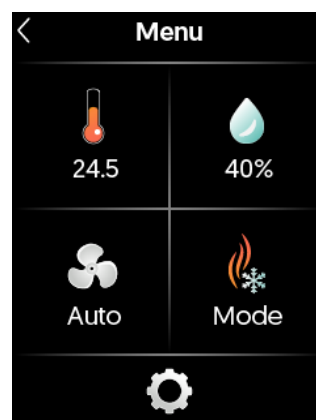
Configuration without Wi-Fi

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

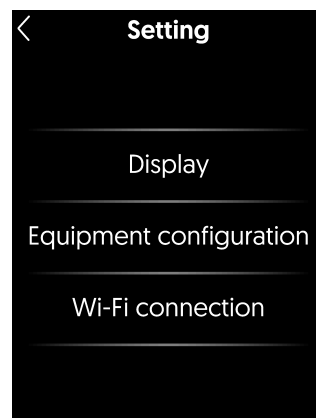
- 1 **Press on the screen**, except for the Wi-Fi icon, which is a shortcut to the Wi-Fi connection menu.



- 2 Press on  to access your thermostat's **settings**.



- 3 **Press on one of the Settings submenus** of your choice to customize your device.



Settings

Display options

Default value in **bold**.

Settings	Description	Options
Temperature unit	Temperature format featured on the thermostat display.	Celsius Fahrenheit
Language	Language displayed on your thermostat.	Français English

Equipment configuration option

Some settings may not be available on your thermostat. Access to these settings varies depending on your system. Default value in **bold**.

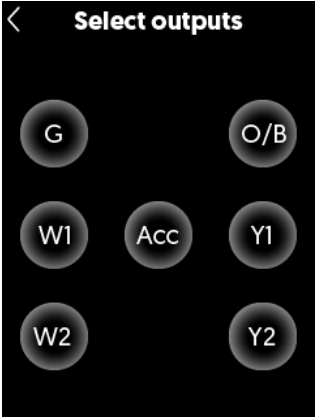
Warning: We recommend that the configuration be performed by a professional.

Settings	Description	Options
Heating source W1	Type of energy used for heating source W1. Electric: System powered by electricity. Fossil: System powered by a fossil fuel, such as gas or fuel oil. VRF: Heating, fan, and cooling system that uses a variable speed compressor.	Fossil Electric VRF
Heating source W2	Type of energy used for heating source W2. Electric: System powered by electricity. Fossil: System powered by a fossil fuel, such as gas or fuel oil.	Fossil Electric
Auxiliary heating source	Type of energy used for the auxiliary heating source Electric: System powered by electricity. Fossil: System powered by a fossil fuel, such as gas or fuel oil.	Fossil Electric
Reversing valve	Determine if the heat pump reversing valve is activated in cooling or heating mode.	Activated in cool Activated in heat
Accessories	Select, if applicable, whether your humidifier is activated on heating or fan.	None Humidifier on heat Humidifier on fan

Settings	Description	Options
Cooling cycle length in Y	The requested cycle length of your cooling system. A shorter cycle will increase your comfort but will also increase the wear of your equipment.	25 min 20 min 15 min 10 min
Heat pump cycle length	The length of the cycle required by your heat pump. A shorter cycle increases your comfort but accelerates wear and tear on your equipment.	25 min 20 min 15 min 10 min
Heat cycle length in W1	The requested cycle length of your heating system. A shorter cycle will increase your comfort but will also increase the wear of your equipment.	25 min 20 min 15 min 10 min ^{2*}
Auxiliary cycle length	The requested cycle length of your heating system. A shorter cycle will increase your comfort but will also increase the wear of your equipment.	25 min 20 min 15 min 10 min*
Heat cycle length in W2	The requested cycle length of your heating system. A shorter cycle will increase your comfort but will also increase the wear of your equipment.	25 min 20 min 15 min 10 min*
Heating/Cooling setpoint Delta T°	The minimum temperature delta authorized between the heating and cooling setpoints. Only applies in AUTO mode.	1 °C 2 °C 3 °C 4 °C 5 °C
Balance point	Outdoor temperature at which the heat pump is no longer efficient.	-30 °C to 0 °C Off Default: -15 °C
Installation type	Installation type of 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.	Add-On Conventional

^{2*}Not available if heating source is fossil fuel

Settings	Description	Options
Temperature calibration	Temperature offset needed to compensate for the inaccuracies between the thermostat temperature reading and the actual temperature.	2 °C 1.5 °C 1 °C 0.5 °C 0 °C -0.5 °C -1 °C -1.5 °C -2 °C
Compressor min. run time	Minimum time for which the compressors will be active before they can be switched off.	2 min 3 min 4 min 5 min 10 min
Compressor min. off time	Minimum time the compressor must be switched off before restarting.	2 min 3 min 4 min 5 min 10 min
Auxiliary heating min. run time	Minimum time the auxiliary heater will run before it can be switched off.	2 min 3 min 4 min 5 min 10 min
Heat pump try time	The period for which the heat pump is used to regulate the temperature before the auxiliary heat stage can be activated.	30 min 1 h 2 h 3 h 4 h 5 h 6 h 7 h 8 h

Settings	Description	Options
W1 Try time	The period for which the output W1 is used to regulate the temperature before the output W2 can be activated.	15 min 30 min 45 min 1 h 2 h 3 h 4 h 5 h 6 h 7 h 8 h
Equipment testing	<p>This tool allows the installer to test the equipment. Testing should be conducted by a qualified professional. Improper testing could damage the equipment.</p> <p>By pressing 'Continue', the thermostat 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>	
Diagnostic	This page displays various information that may be useful if you need to contact our Technical Support team. No configuration is possible from this screen.	
Factory reset	<p>Two possible options:</p> <p>Equipment configuration: Resets equipment-specific parameters and wire configuration. Other parameters, such as temperature format, setpoints, schedules, and the Wi-Fi connection will remain unchanged.</p> <p>Device Reset: Resets all custom data and previous settings, allowing the user to restart the installation process from scratch.</p>	

Summary of settings

	TH6500WF	Neviweb
Display		
Temperature unit	X	
Language	X	
Device Configuration		
Temperature unit		X
Language		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
Fan 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
Equipment configuration		
Heating source W1	X	X
Heating source W2	X	X
Auxiliary heating source	X	X
Reversing valve	X	X
Accessories	X	X
Cooling cycle length Y	X	X
Heat pump cycle length	X	X
Heating cycle length W1	X	X
Auxiliary heating cycle length	X	X

	TH6500WF	Neviweb
Heating cycle length W2	X	X
Heating/Cooling setpoint Delta	X	X
Equipment type	X	X
Balance point	X	X
Temperature calibration	X	X
Compressor min. run time	X	X
Compressor min. off time	X	X
Auxiliary heating min. run time	X	X
Heat pump try time	X	X
W1 try time	X	X
Minimum delay 2nd stage heating is activated	X	X
Minimum delay before 2nd stage cooling is activated	X	X
Equipment testing	X	
Diagnostic	X	
Factory reset	X	

System definition

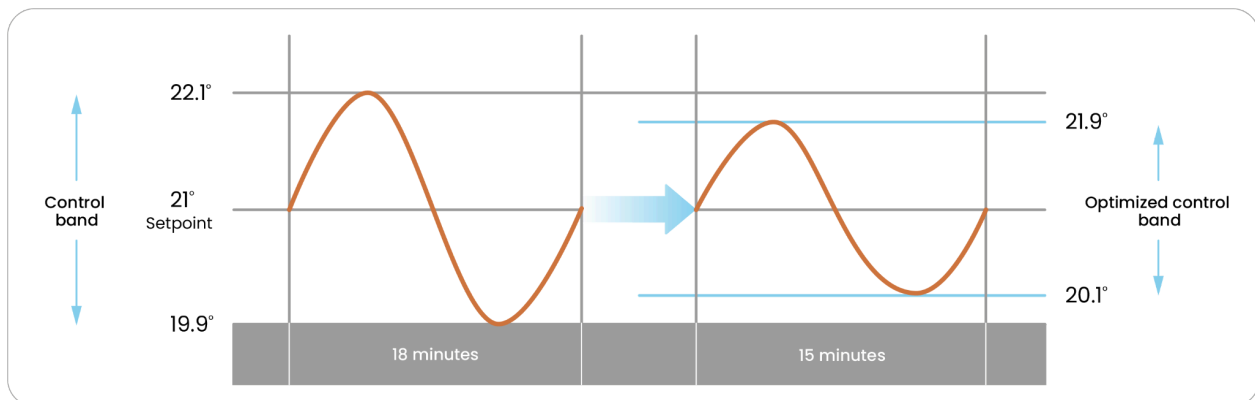
Temperature controller

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

Note: The control band represents the variation between the maximum and minimum temperatures reached in the room when the system operates at 50% power, directly impacting comfort.

Since different cycle lengths can be set for primary heating, auxiliary heating, and cooling, the thermostat adjusts to optimize each of the three modes. The thermostat may require several control cycles before adjusting to optimal values. Once optimized, the thermostat saves the optimal value so that it immediately knows which control band to use upon 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 heaters³.

The thermostat can manage up to 2 stages of heating, 2 stages of cooling, a fan, and an accessory. When changing setpoints, the thermostat waits for '**Minimum delay 2nd stage heating is activated**' 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 types of heating sources. W2 will be used either in the event of a significant temperature drop or within 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 stages of heating (2 stages of heat pump and 2 stages of auxiliary heating), 2 stages of cooling, a fan, and an accessory.

The thermostat activates the auxiliary heating stage only if the room temperature exceeds twice the control margin (calculated by the adaptive controller of the thermostat; see "Temperature controller" section) for longer than the 'Heat Pump Try Time,' an adjustable parameter in the advanced settings. This feature prioritizes heat pump use while providing freeze protection in case of failure. If the outdoor temperature drops below the adjustable 'Balance Point' in advanced settings, the heating switches to auxiliary heating, and the heat pump is stopped.

Dual-energy

The '**DE**' dual-energy input can be connected to a dry contact from a dual-register electric meter or 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 exclusively use the heating connected to the auxiliary heating stage.

³ A high-voltage relay is required to activate a load powered by a voltage higher than 24V.

Accessories

Humidifier

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

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 water vapor distribution 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 if heating ventilation is activated and humidification is necessary.

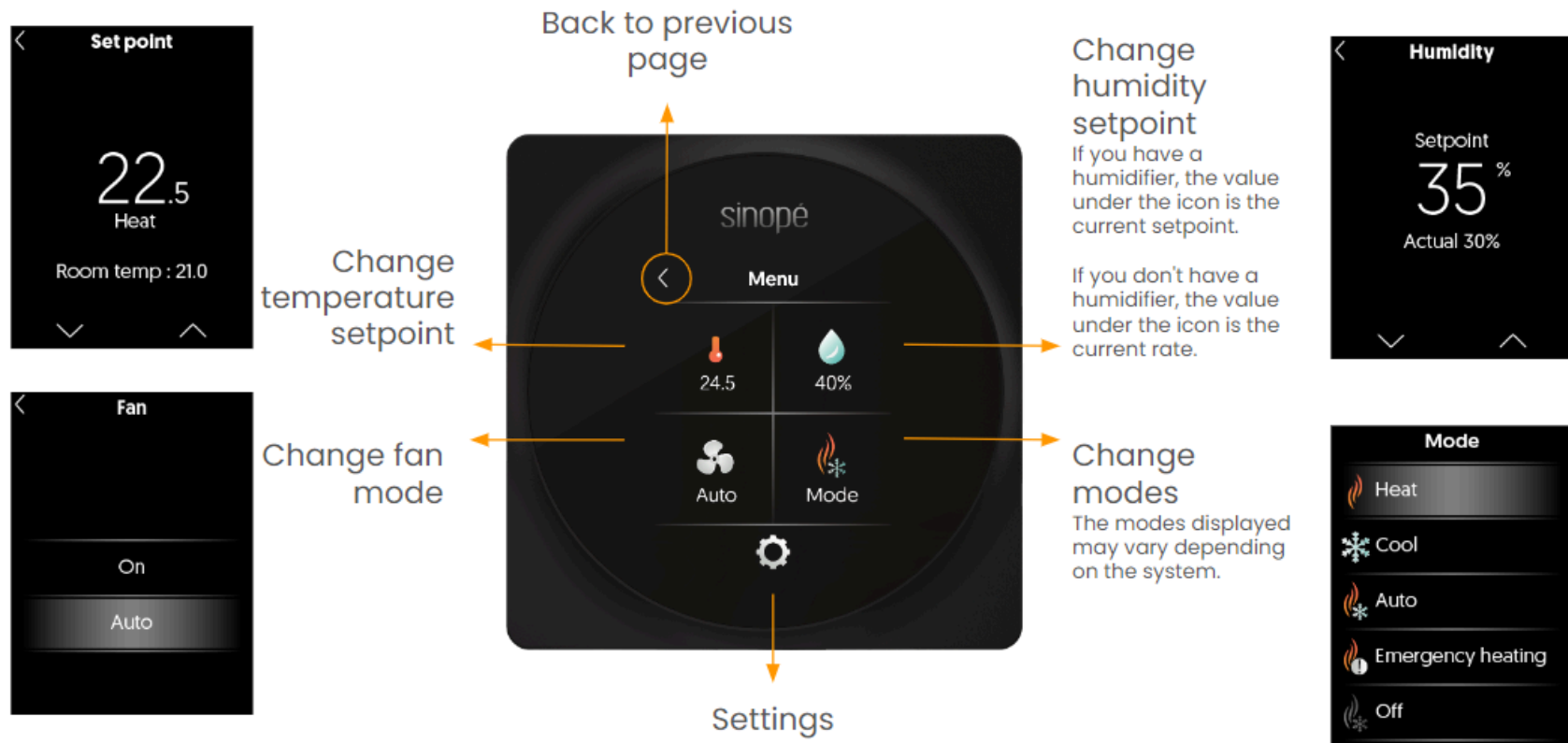
User guide

Main screen



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

Menu



Interface



Your system is currently cooling



Your system is currently heating



Your system is in auxiliary heating mode



Your system is in dual-energy mode



Your device takes part in a peak event



Your device is not connected to Wi-Fi



An error is detected, press the screen to obtain details



Outdoor temp. settings prevent system activation

Wi-Fi connection

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

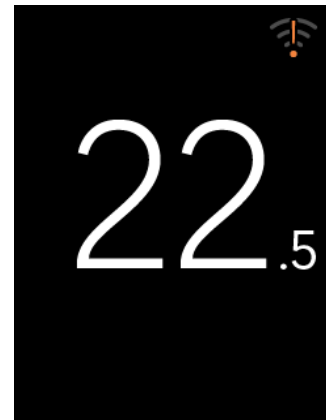
- Setup with **Neviweb**
- Setup with **Apple Home**

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

Wi-Fi connection with Neviweb

1

Tap on the Wi-Fi icon displayed on the screen.



2

Tap on 'Neviweb'.

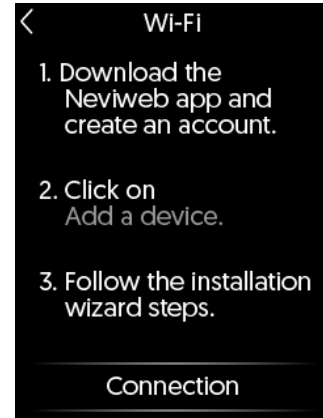
By choosing Neviweb, you can configure all the settings of your thermostat using your smartphone, benefit from features such as the weather displayed on the screen, and access several functionalities within the platform.

Additionally, you can add your device to Apple Home later.



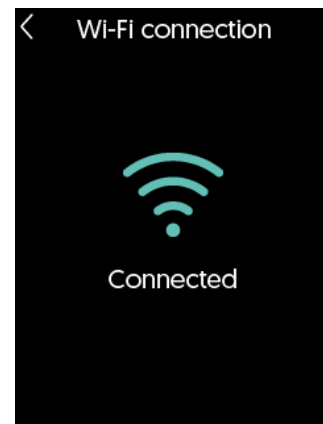
3

Follow the steps displayed on the screen.




4

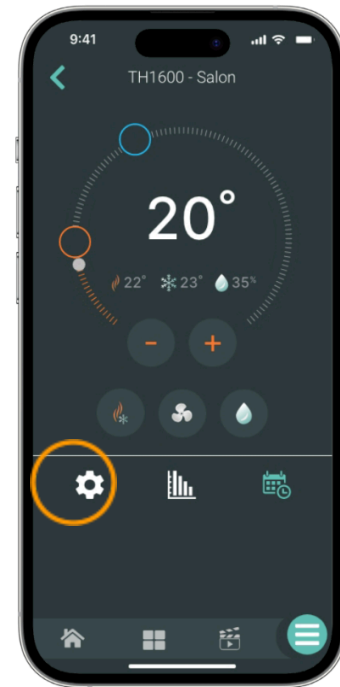
Once the Wi-Fi connection is complete, **tap on the tile corresponding to your thermostat in the Neviweb app.**



5

Setting configuration

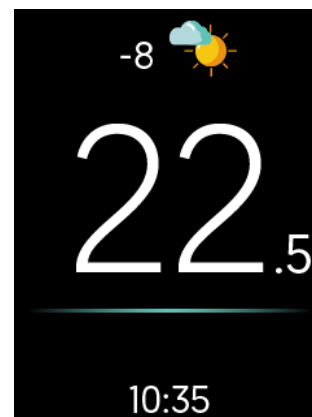
Tap on  to access the device settings. Continue configuring your system preferences in the various configuration menus.



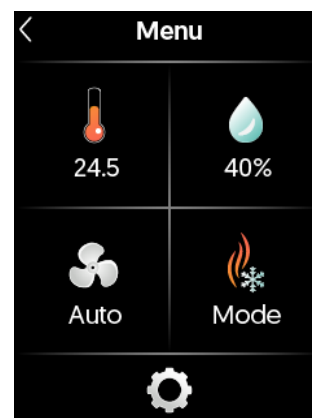
Association with Apple Home

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

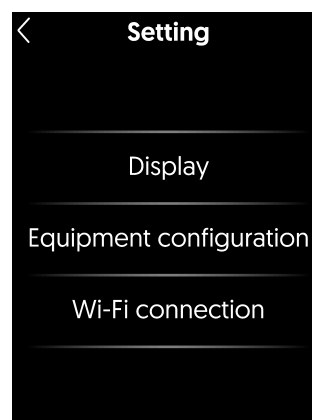
- 1 Tap on the main screen to access the menu.



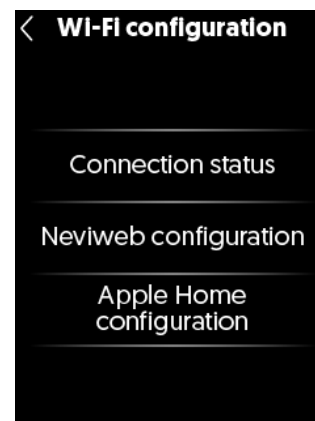
- 2 Tap on  to access settings.



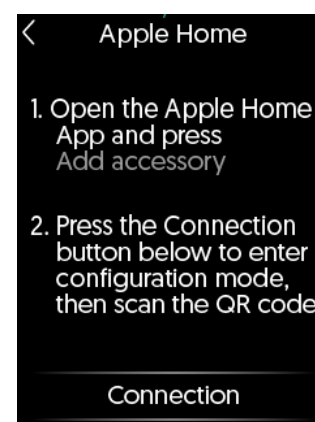
- 3 Tap on 'Wi-Fi Connection'.



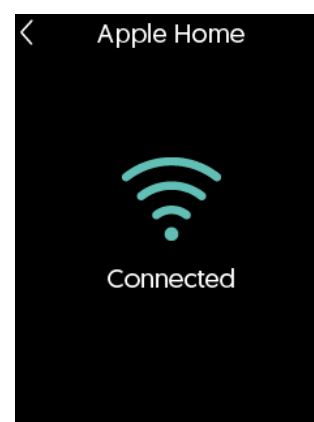
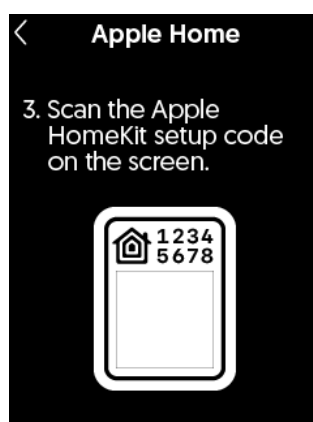
4 Then tap on '**Apple Home Configuration**'.



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



6 Follow the steps displayed on the screen.



7

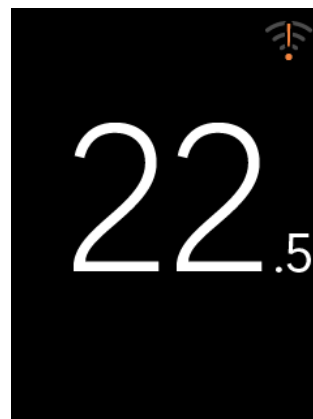
Tap the arrow in **the top left corner** to exit the connection menu.



Wi-Fi connection via Apple Home

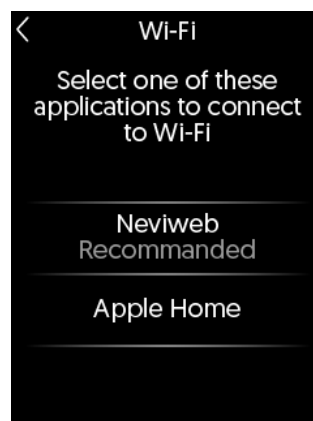
1

Tap on the '**Wi-Fi icon**' displayed on the screen.



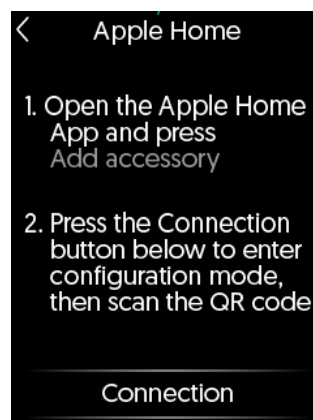
2

Tap on '**Apple Home**'.

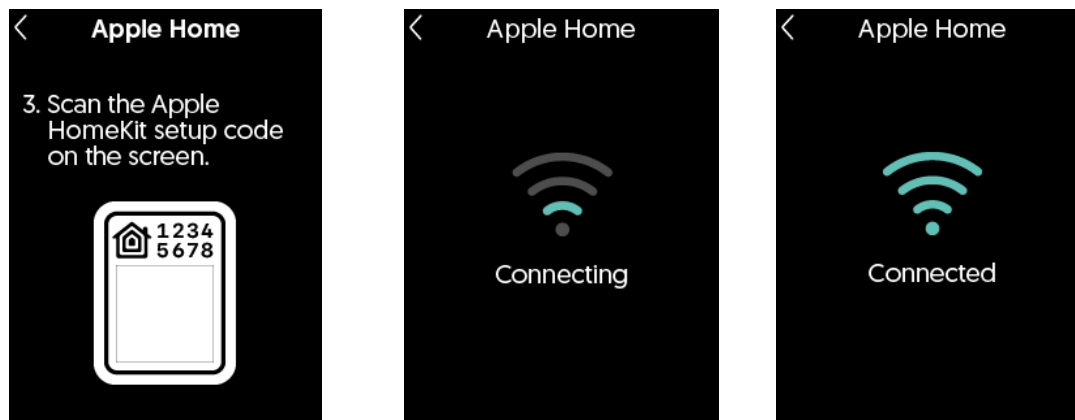


3

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



4 Follow the steps displayed on the screen.



5

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

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

Additionally, Neviweb offers the ability to display weather conditions on the screen and access various additional features.

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

To return to the main page, tap the arrow in the top left corner.



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 Neviweb!

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

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

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

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

Support

Call us at :

1 (855) 741-7701

Write to us at:

support@sinopetech.com

Find us at :

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

Opening hours :

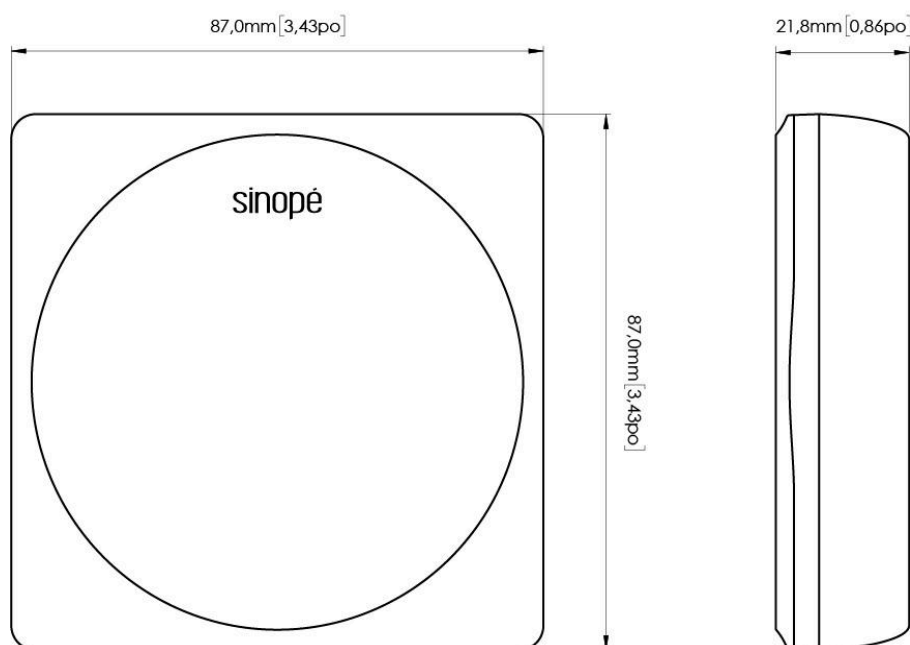
Monday to Friday - 8:00 am to 4:30 pm (EST)

Saturday & Sunday - Closed

Technical information

TH6500WF

Smart Wi-Fi thermostat for central system



Connectors	See the information on the mounting plate
Power supply	24V AC
Screen	2.4" color TFT touchscreen 240 px * 320 px
Dimensions(W x H x D)	87 mm (3.43 in) X 87 mm (3.43 in) X 21.8 mm (0.86 in)
Operating temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage temperature	-20 °C à 50 °C (-4 °F à 122 °F)
Sensors	Humidity sensor Proximity sensor Light sensor for adaptive display
Communication protocol	Protocol: Wi-Fi Standard: IEEE 802.11 b/g/n Frequency: 2.4 GHz Encryption key: WPA2
Communication module	IC: 21098-ESPC6WROOM1 FCC ID: 2AC7Z-ESPC6WROOM1
Warranty	3 years

Mounting plate

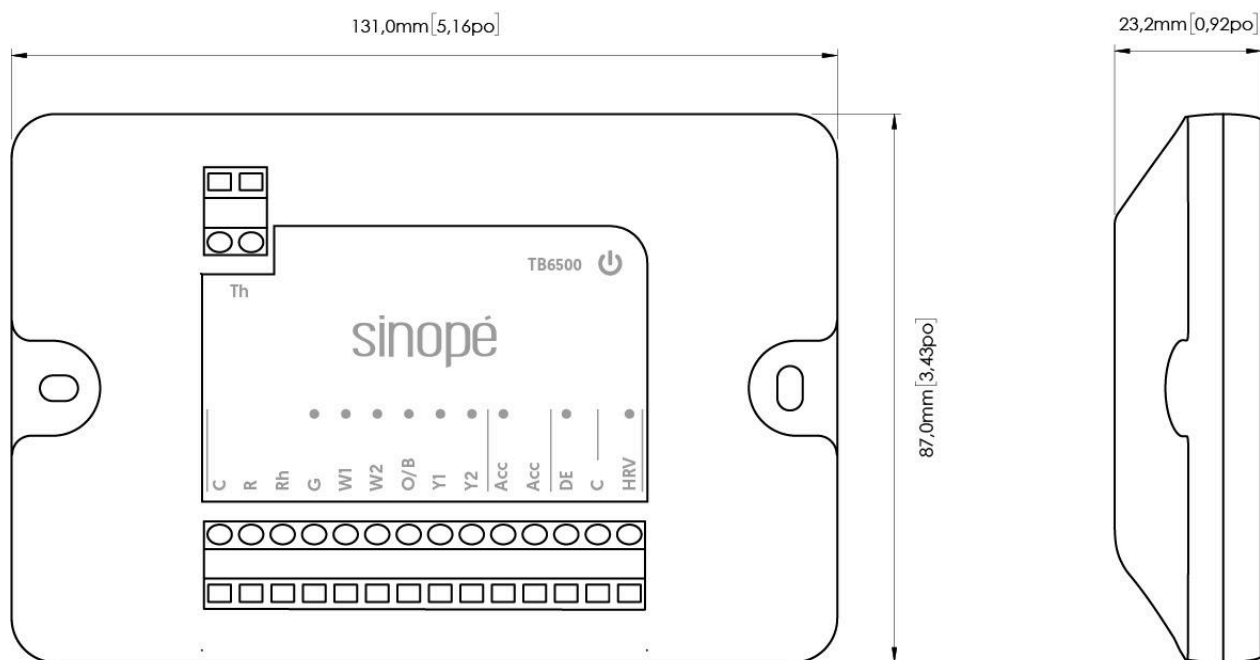


Dimensions (W x H x D)	49.6 mm (1.95 in) x 72.4 mm (2.85 in) x 14.1 mm (0.55 in)
Connectors	4 connectors Wire range (Solid): 18-22 AWG Wire range (Stranded): 18-22 AWG Connectors 1 and 2: Thermostat power supply Connectors 3 and 4: Optional temperature sensor ⁴

⁴ 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



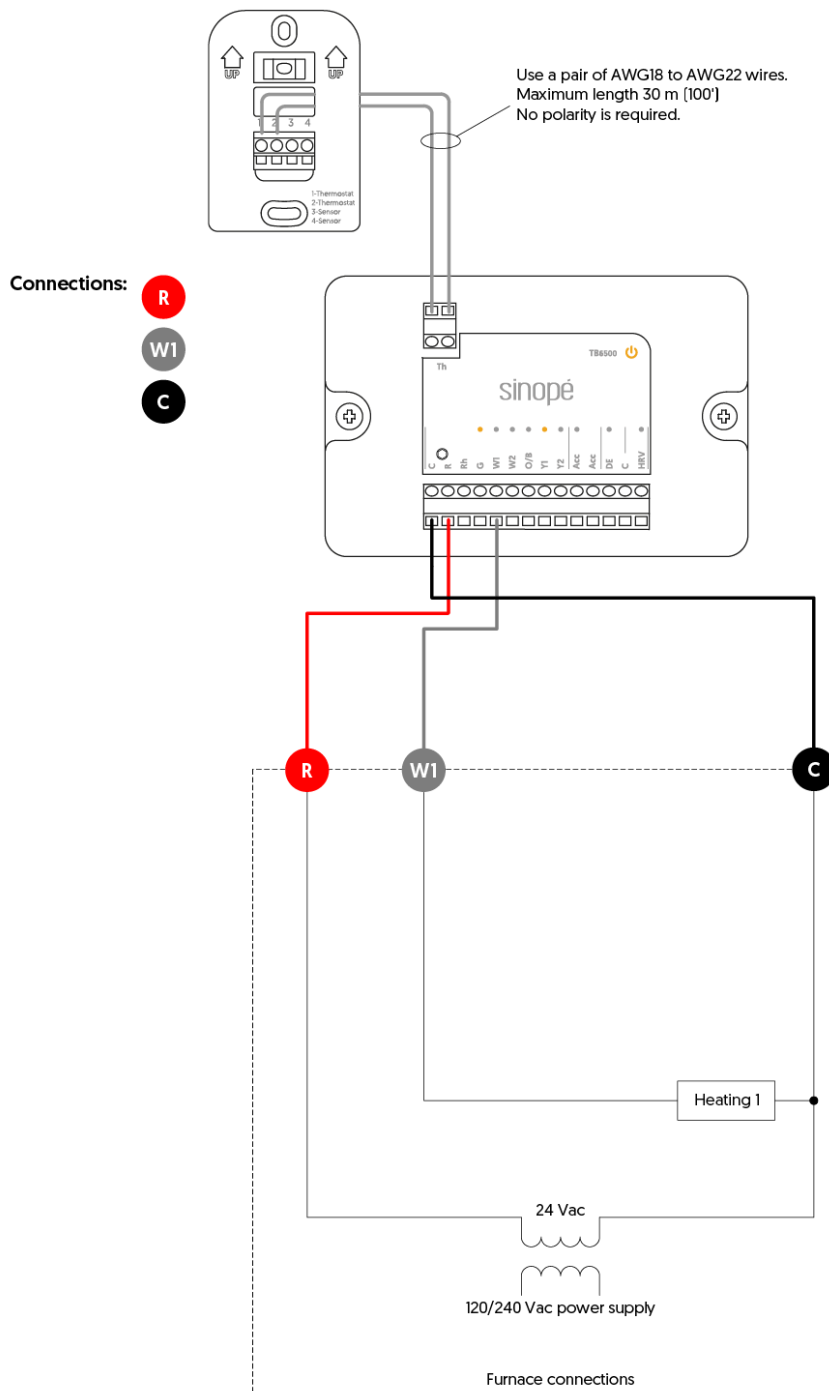
Connectors	Wire range: 18-24 AWG
Power supply	RC from heat pump / HVAC (24 Vac)
Current per output	0.5A, total 2A
Dimensions (W x H x D)	131 mm (5.16 in) x 87 mm (3.43 in) x 23.2 mm (0.92 in)
Operating temperature	0 °C à 50 °C (32 °F à 122 °F)
Storage temperature	-20 °C à 50 °C (-4 °F à 122 °F)
Warranty	3 years

Wiring diagrams

Conventional system

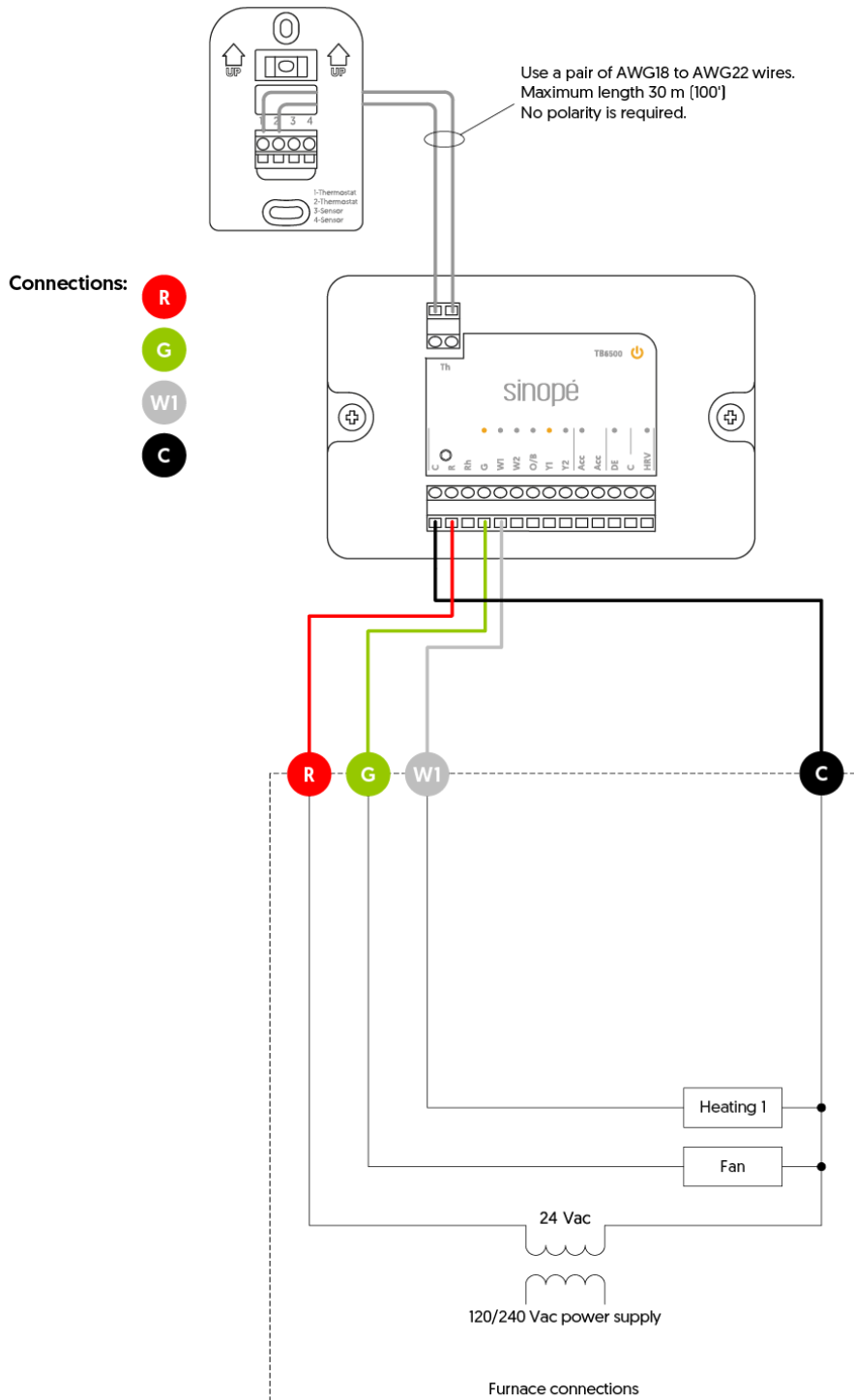
Wiring 1: 1H

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



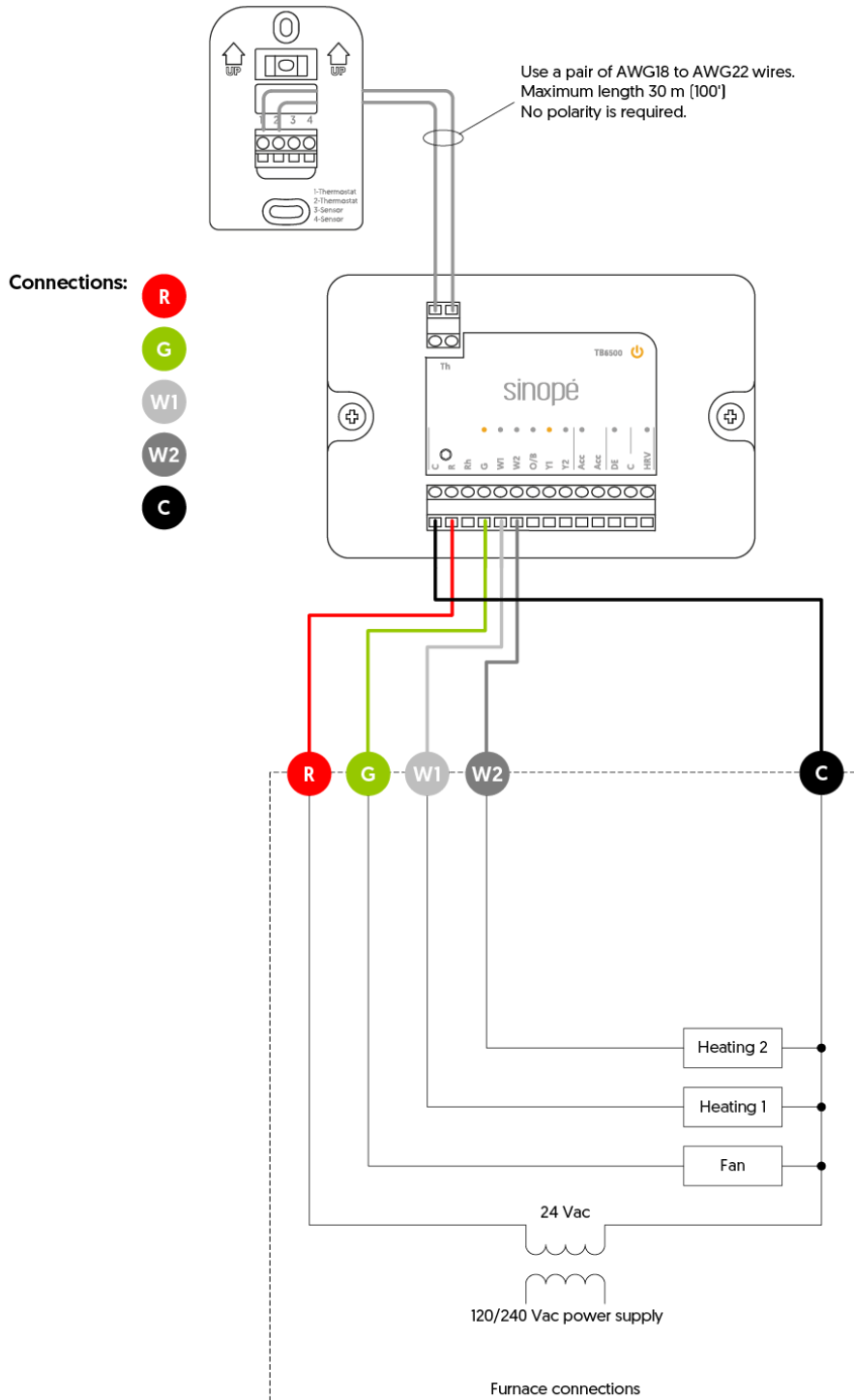
Wiring 2: 1H

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



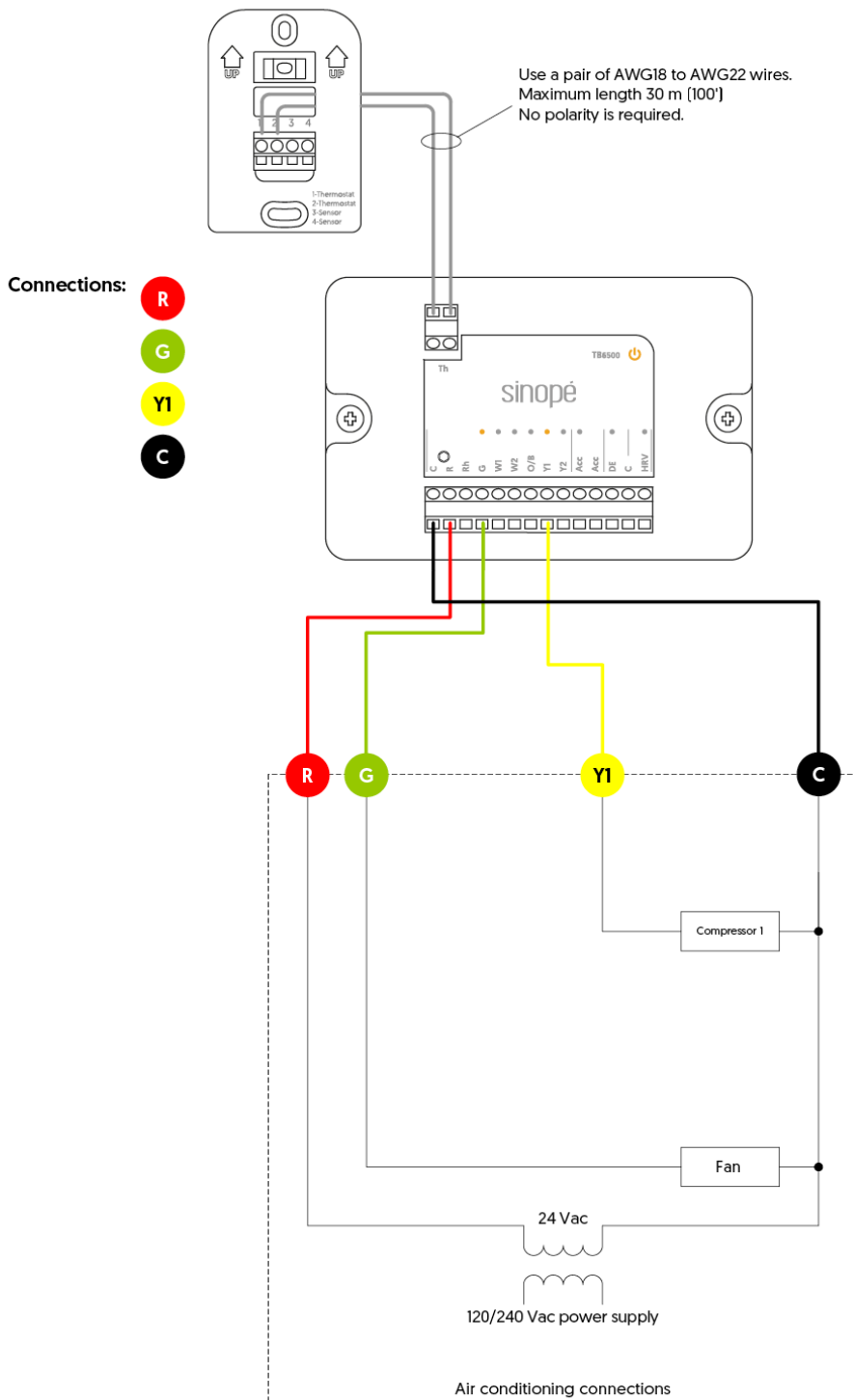
Wiring 3: 2H

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



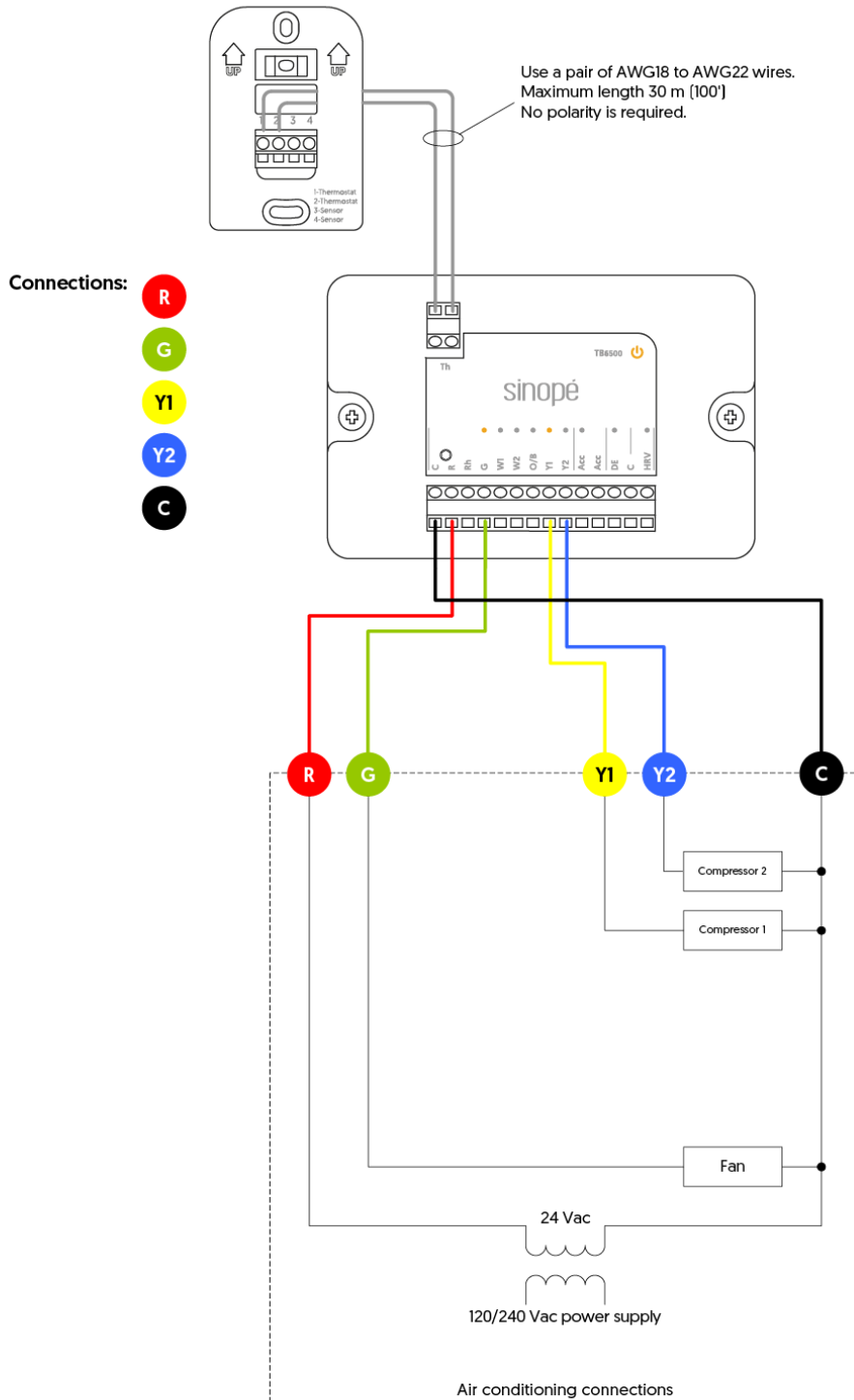
Wiring 4: 1C

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



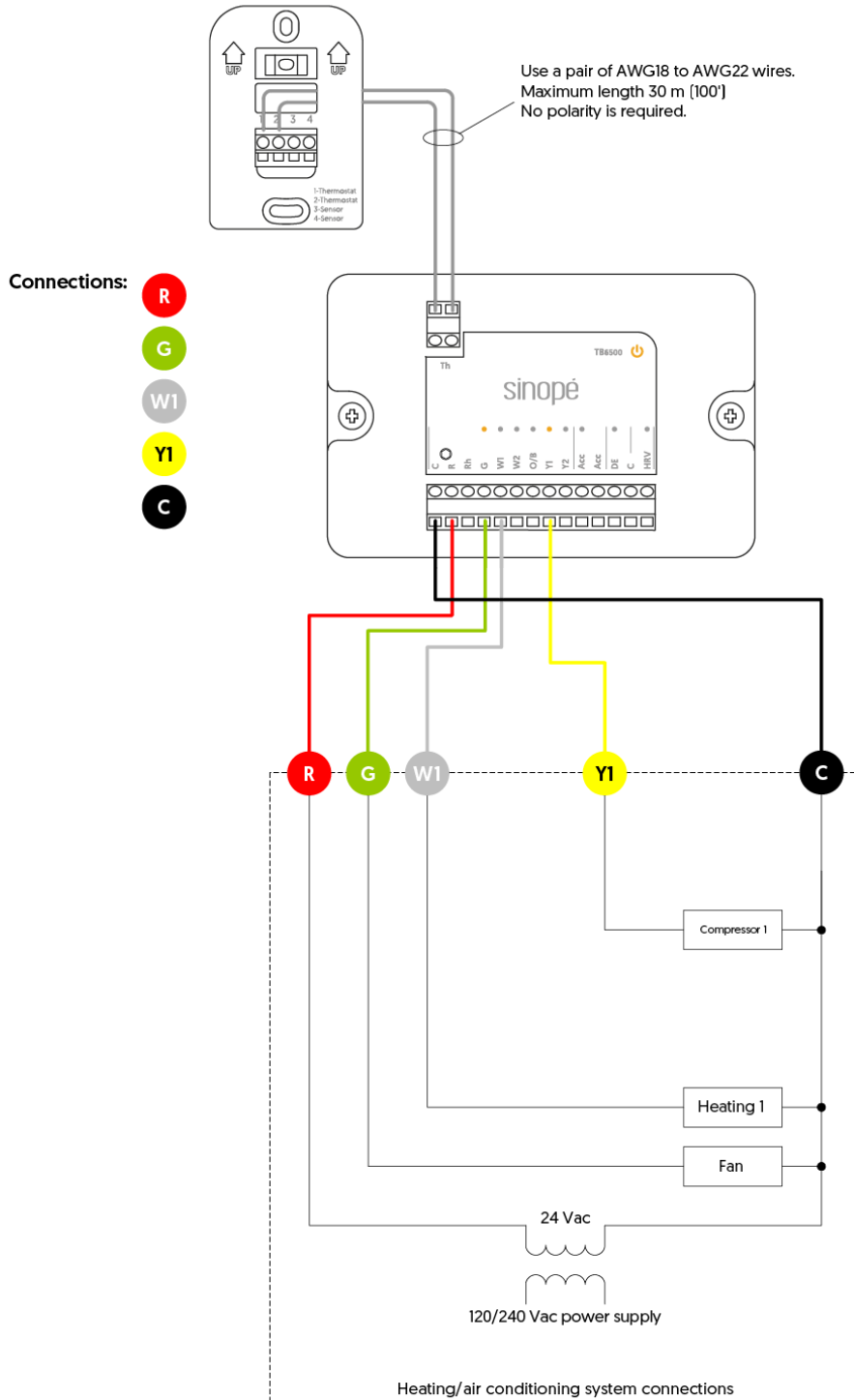
Wiring 5: 2C

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



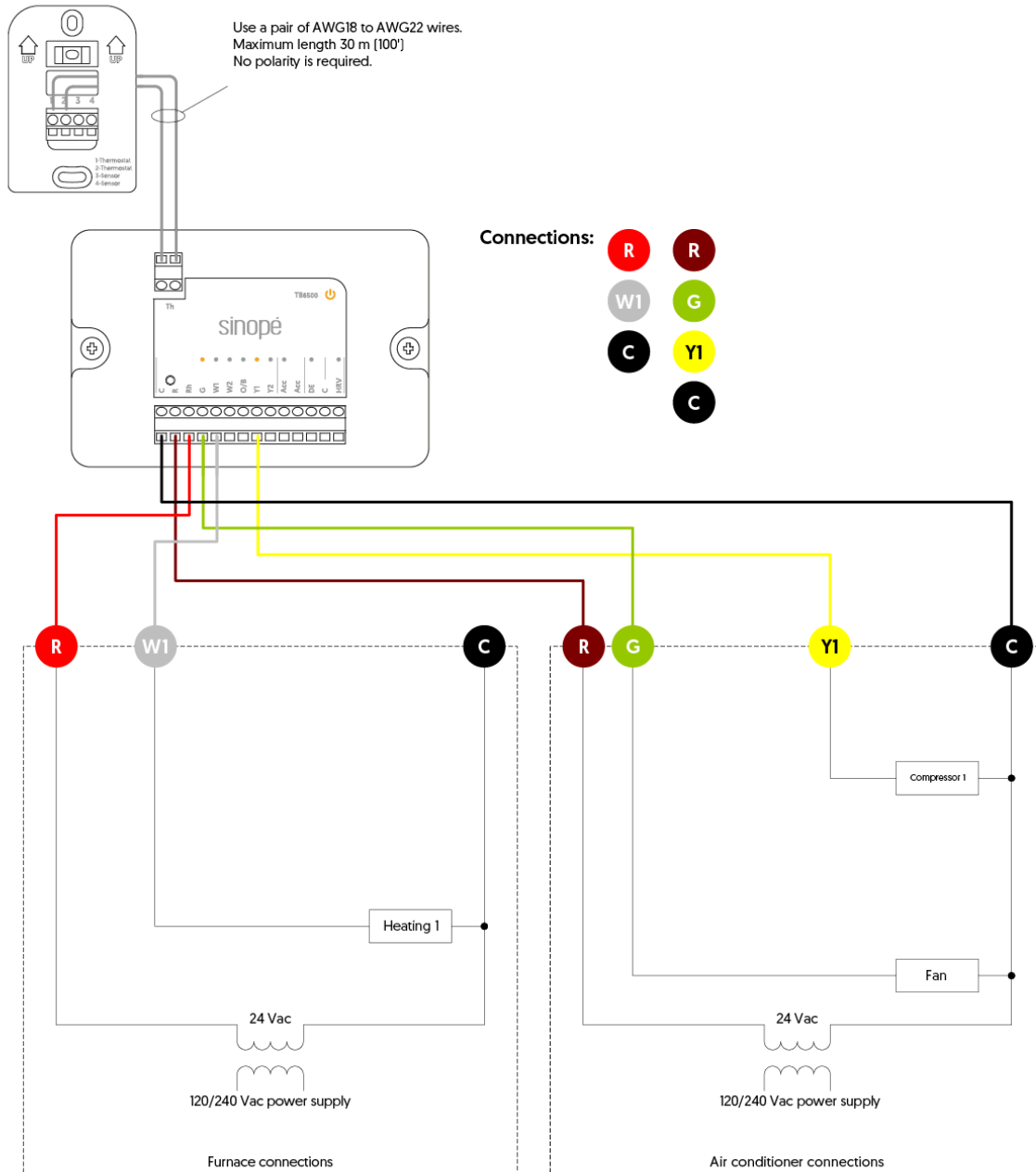
Wiring 6: 1H1C

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



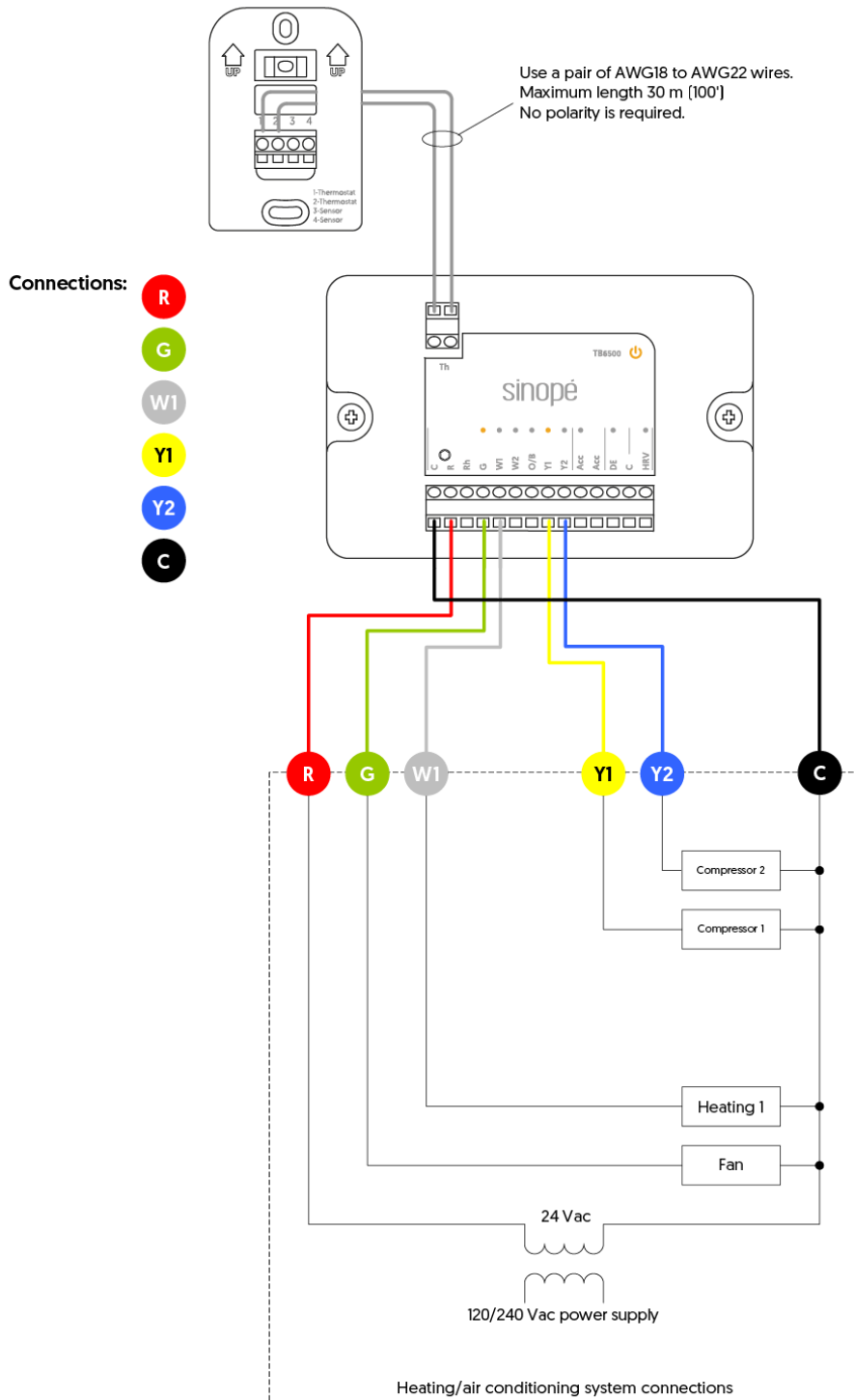
Wiring 7: 1H1C

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.



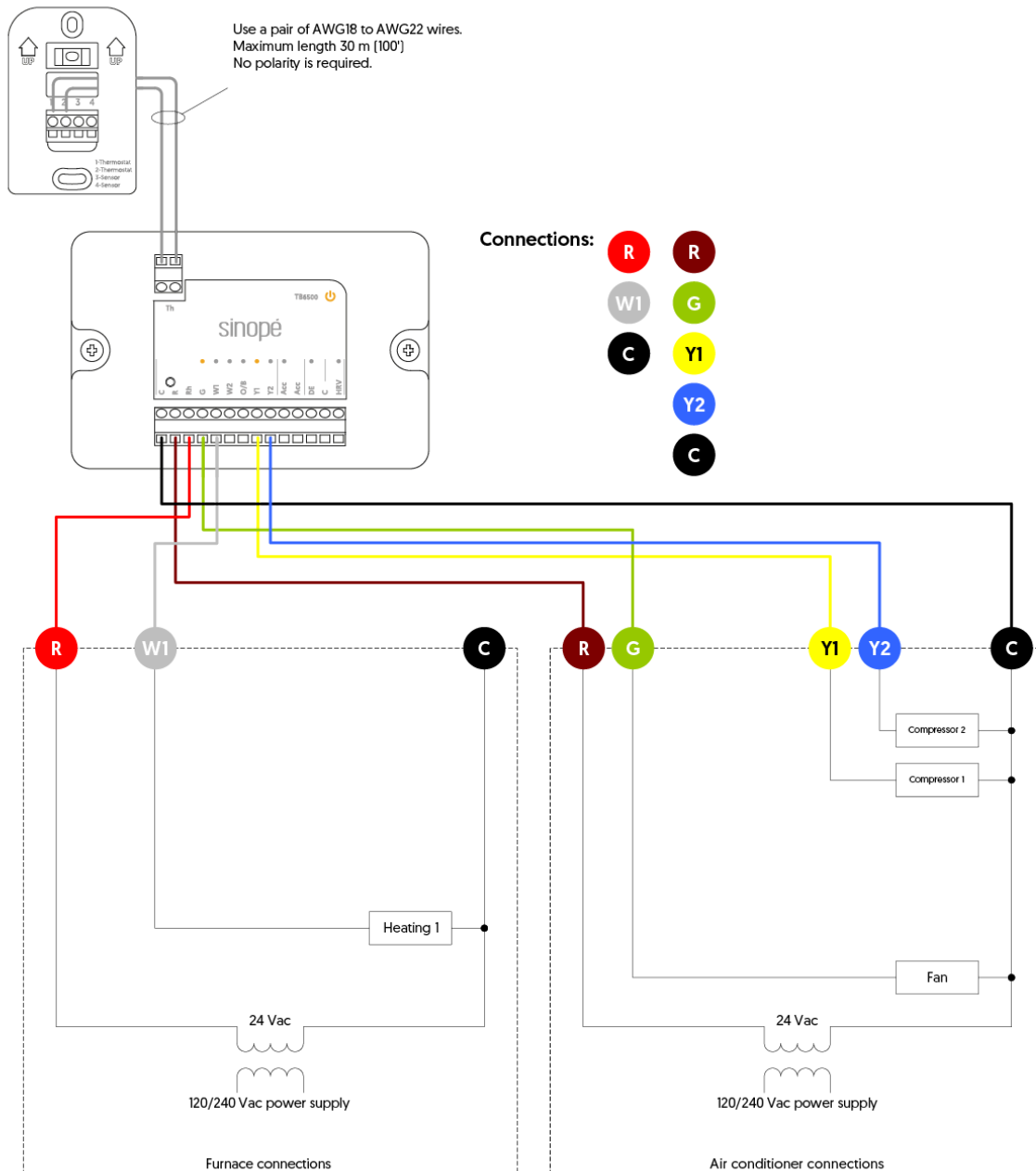
Wiring 8: 1H2C

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



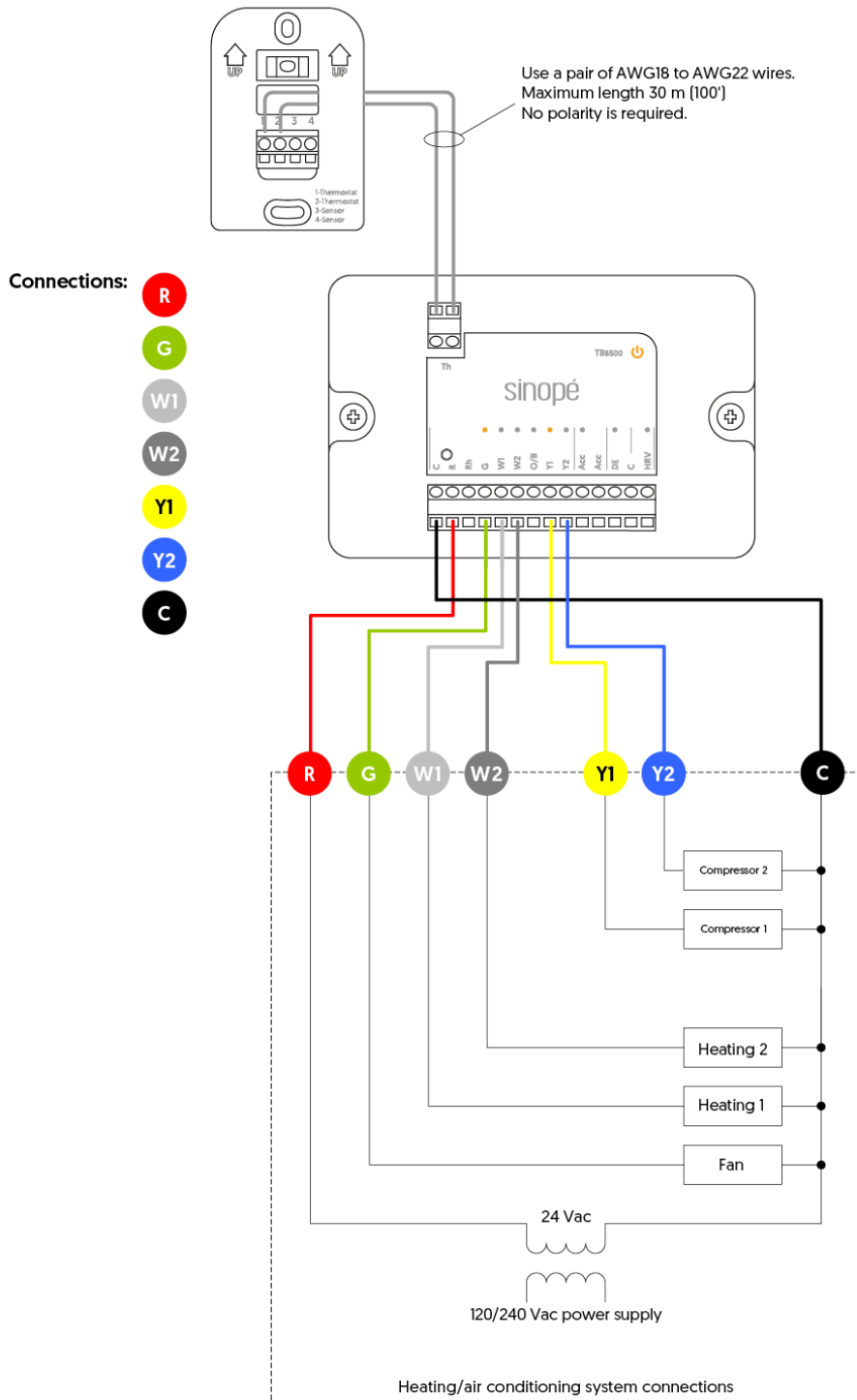
Wiring 9: 1H2C

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.



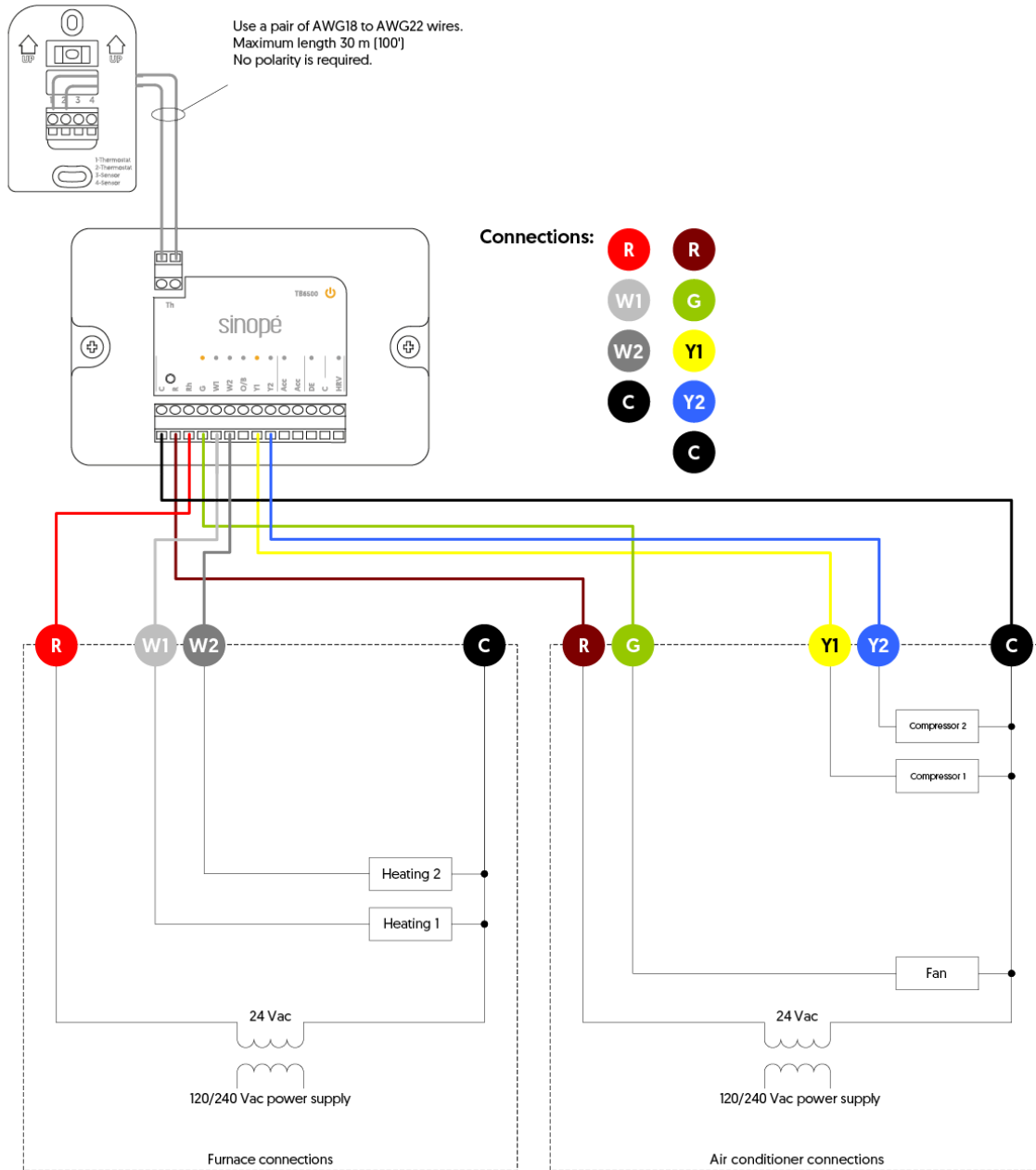
Wiring 10: 2H2C

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



Wiring 1I: 2H2C

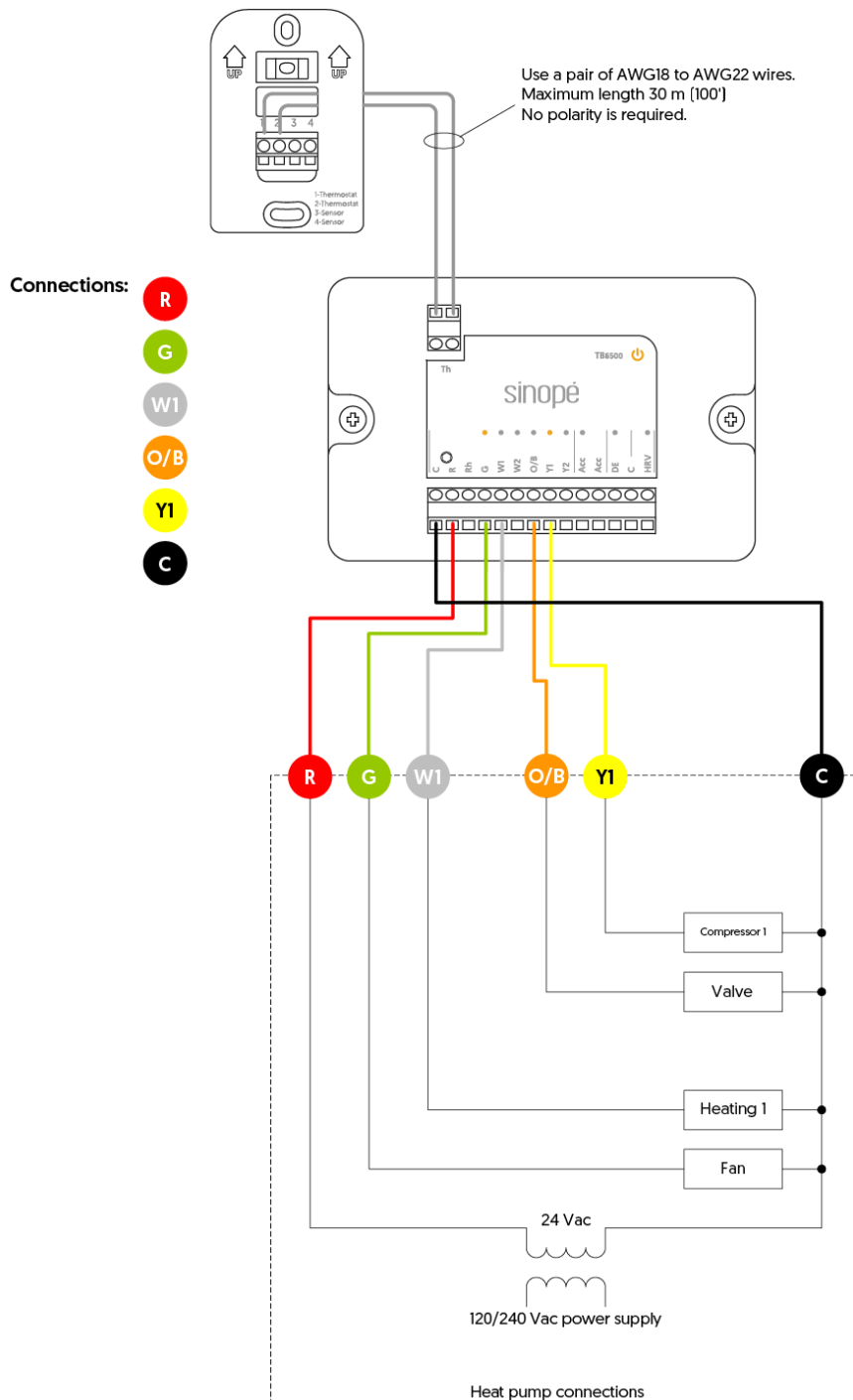
This system refers to a heating, ventilation, and air conditioning system designed for two heating and two cooling stages, with separate power for dual-part systems.



Heat pump

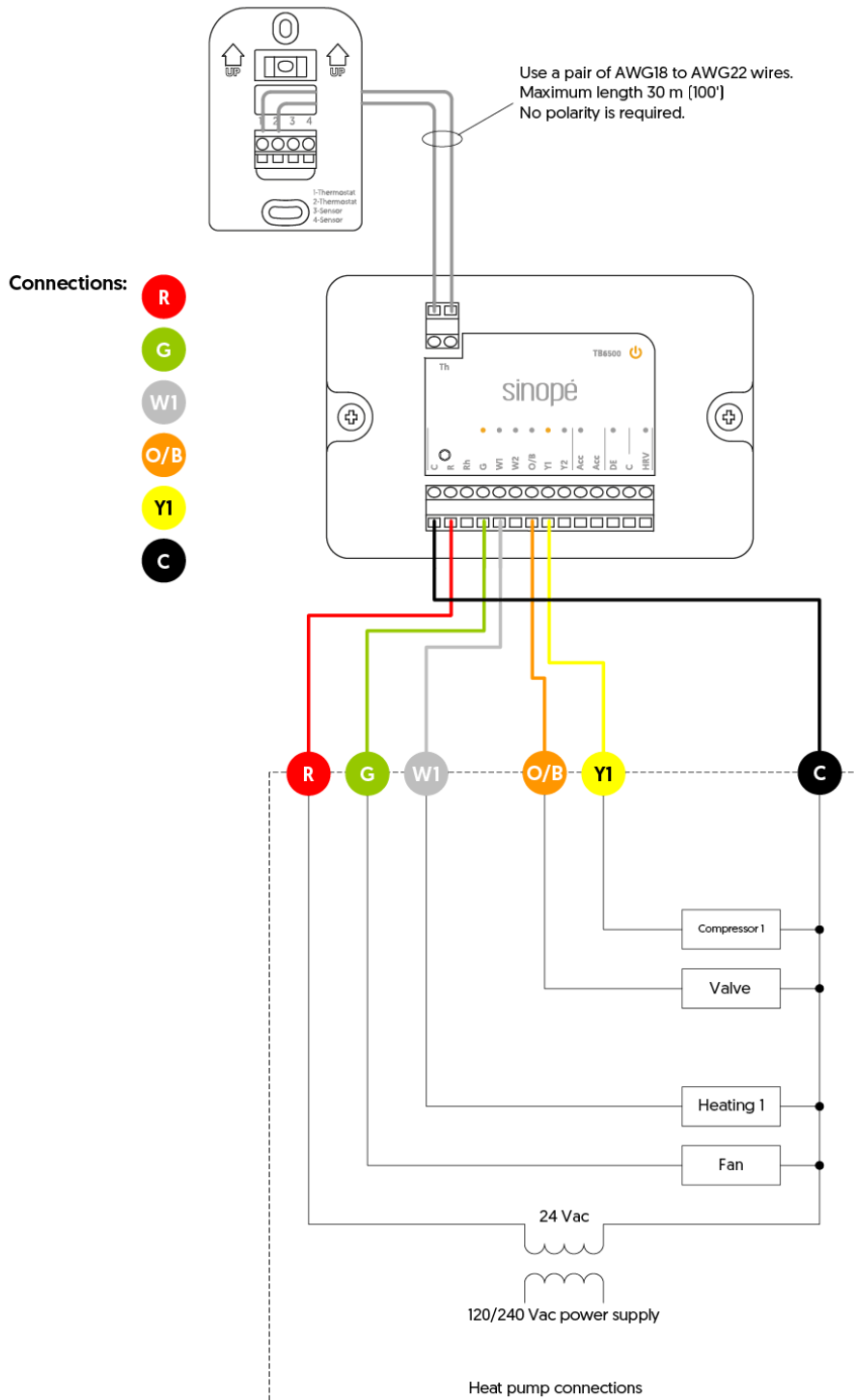
Wiring 12: 1H1C

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



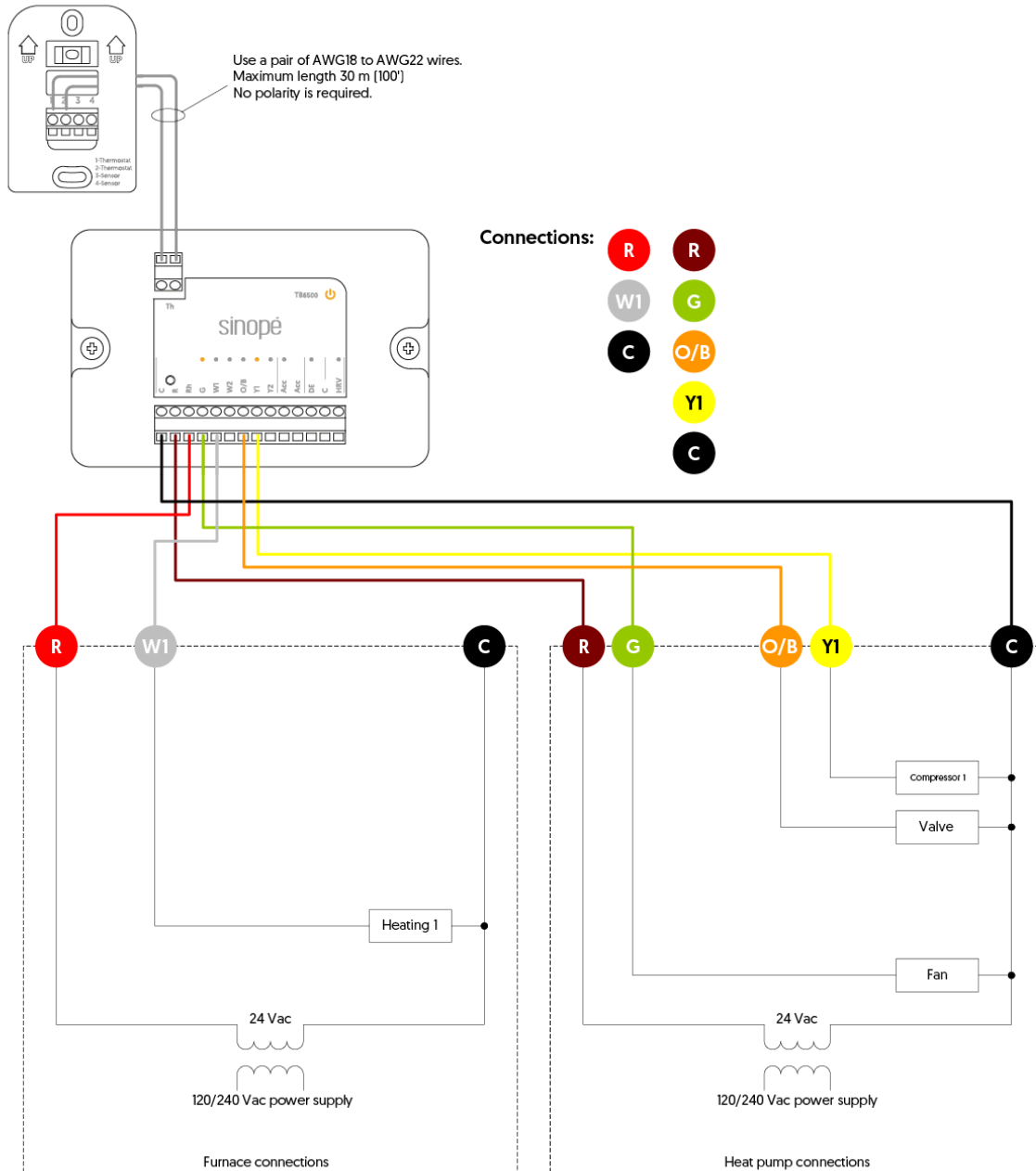
Wiring 13: 2H1C

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



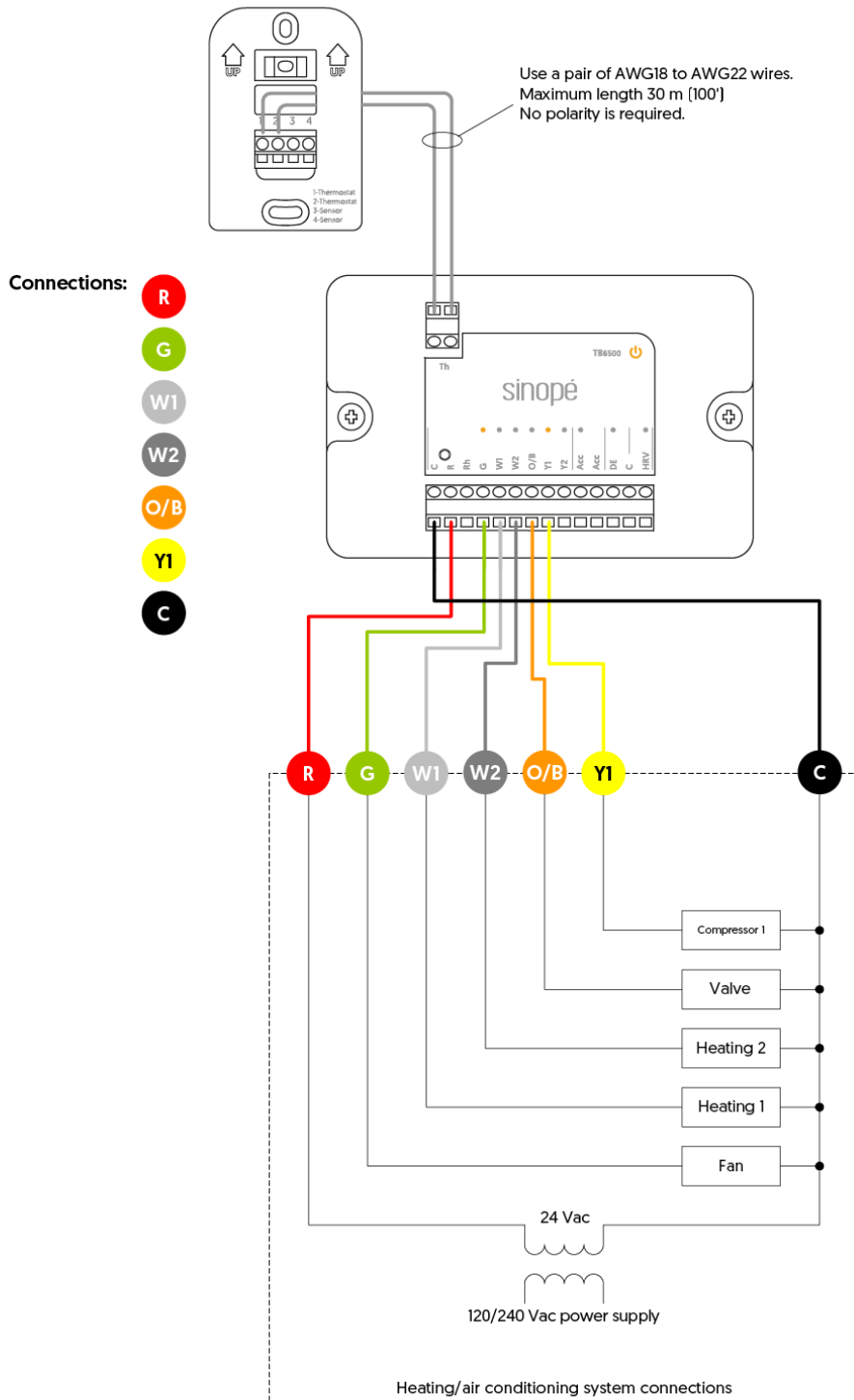
Wiring 14: 2H1C

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.



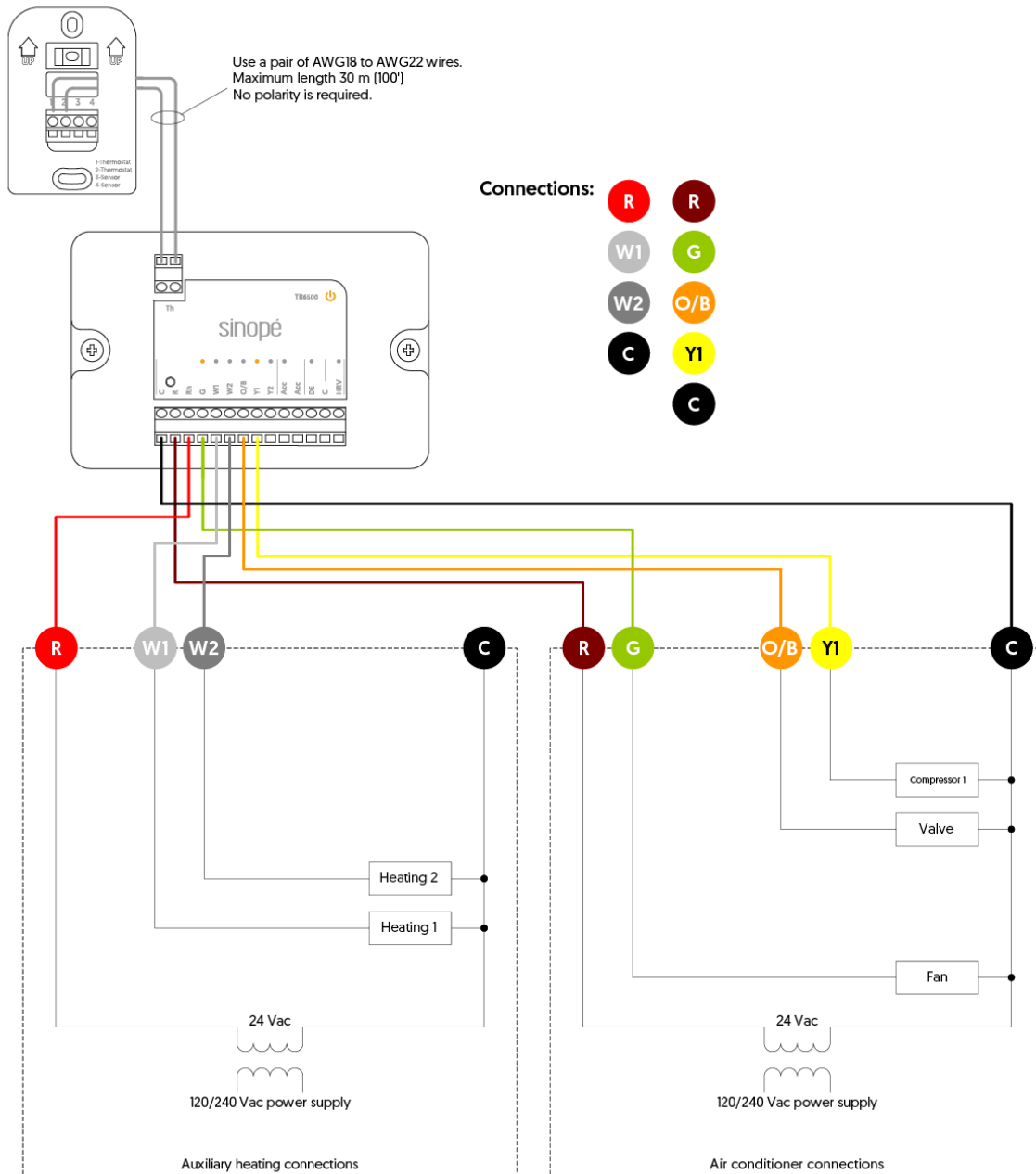
Wiring 15: 3H1C

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.



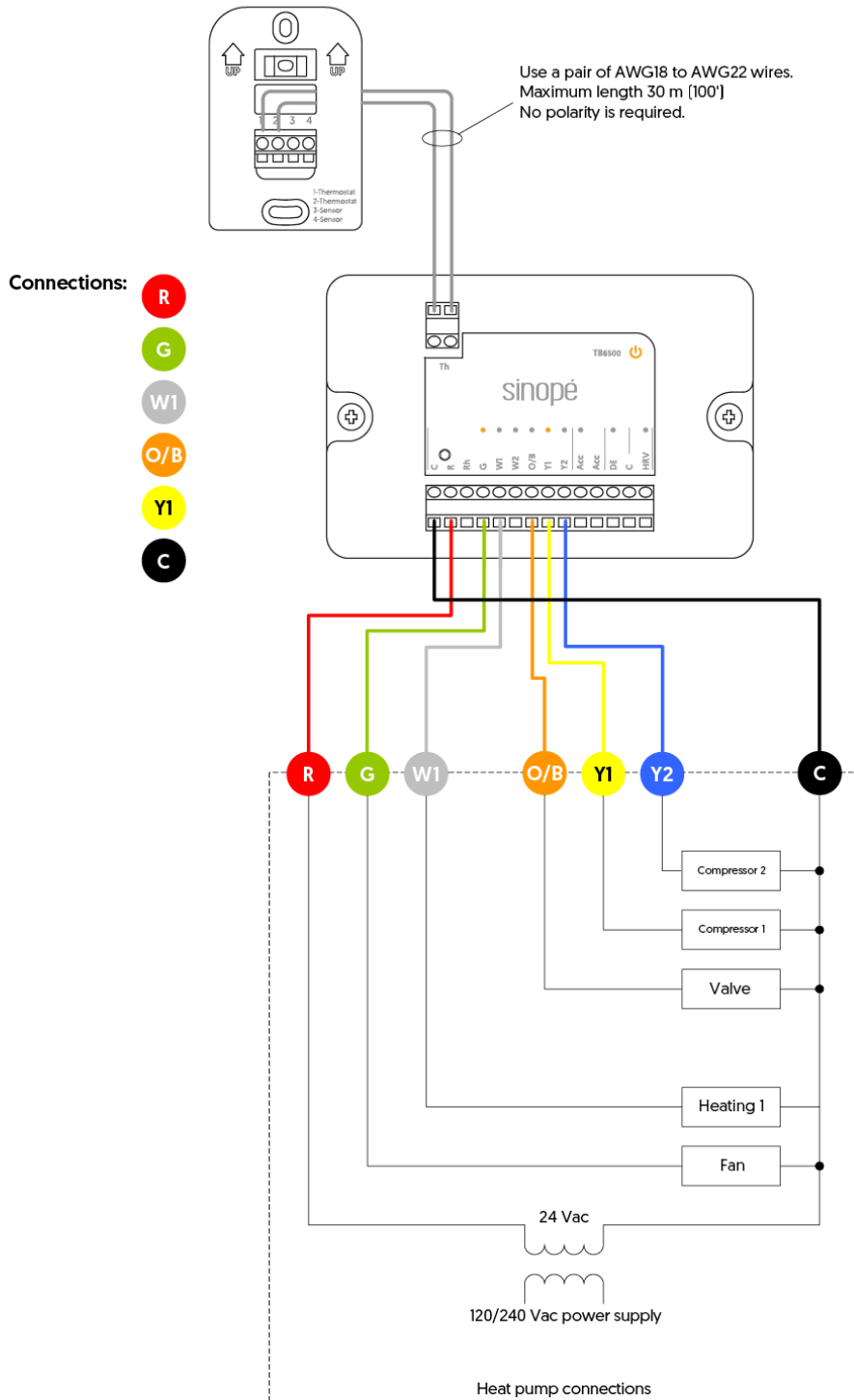
Wiring 16 : 3H1C

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.



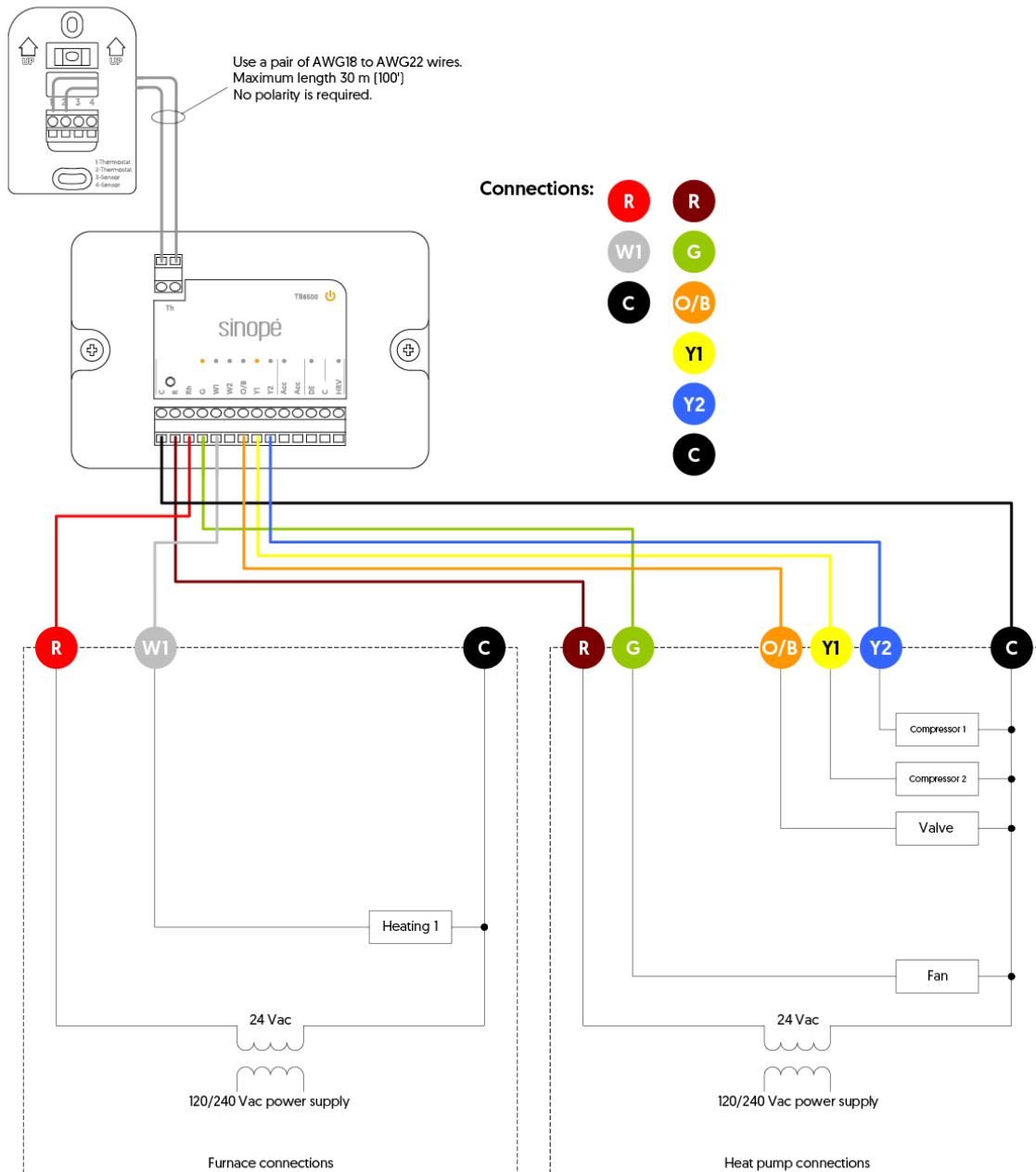
Wiring 17: 3H2C

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



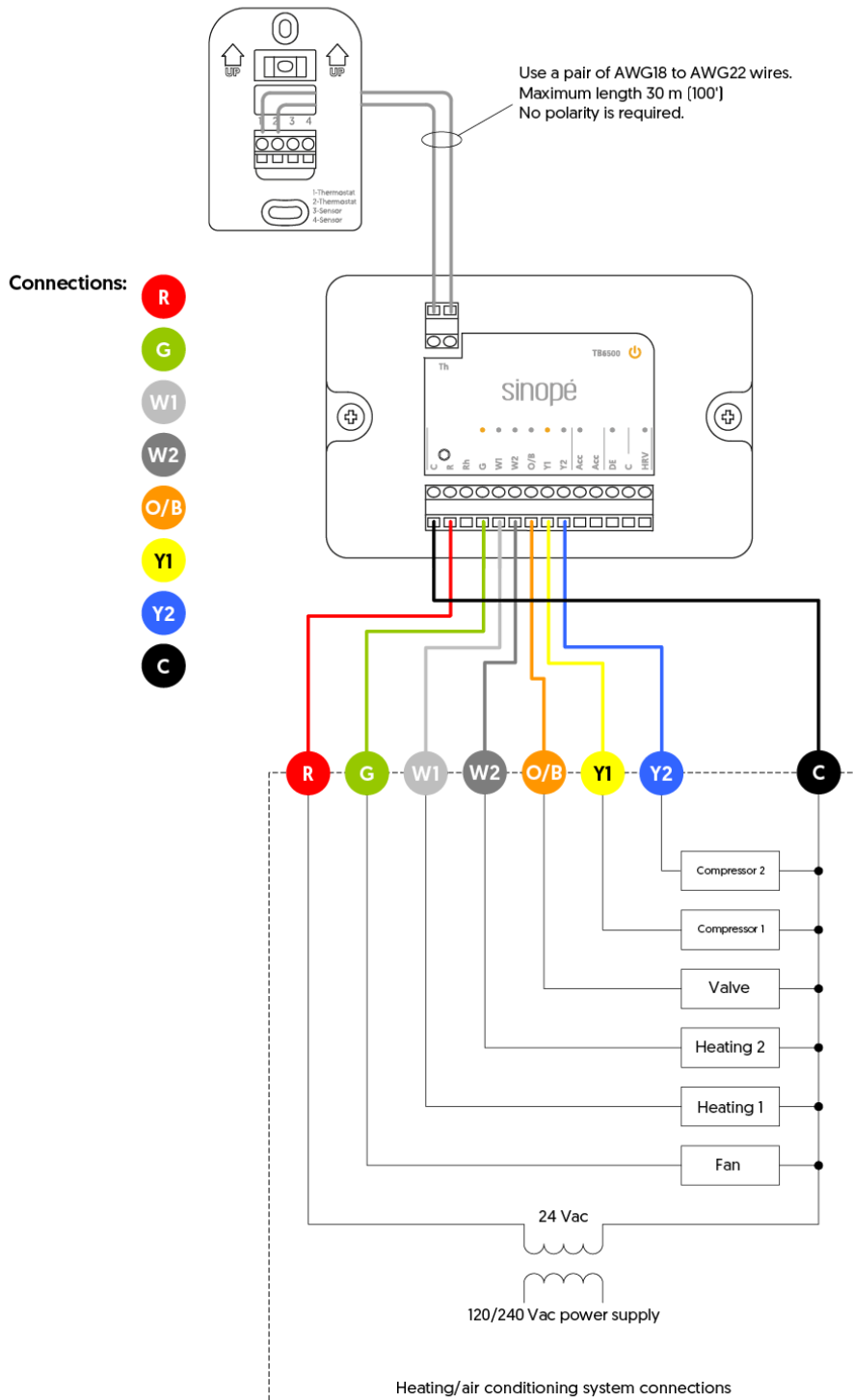
Wiring 18: 3H2C

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.



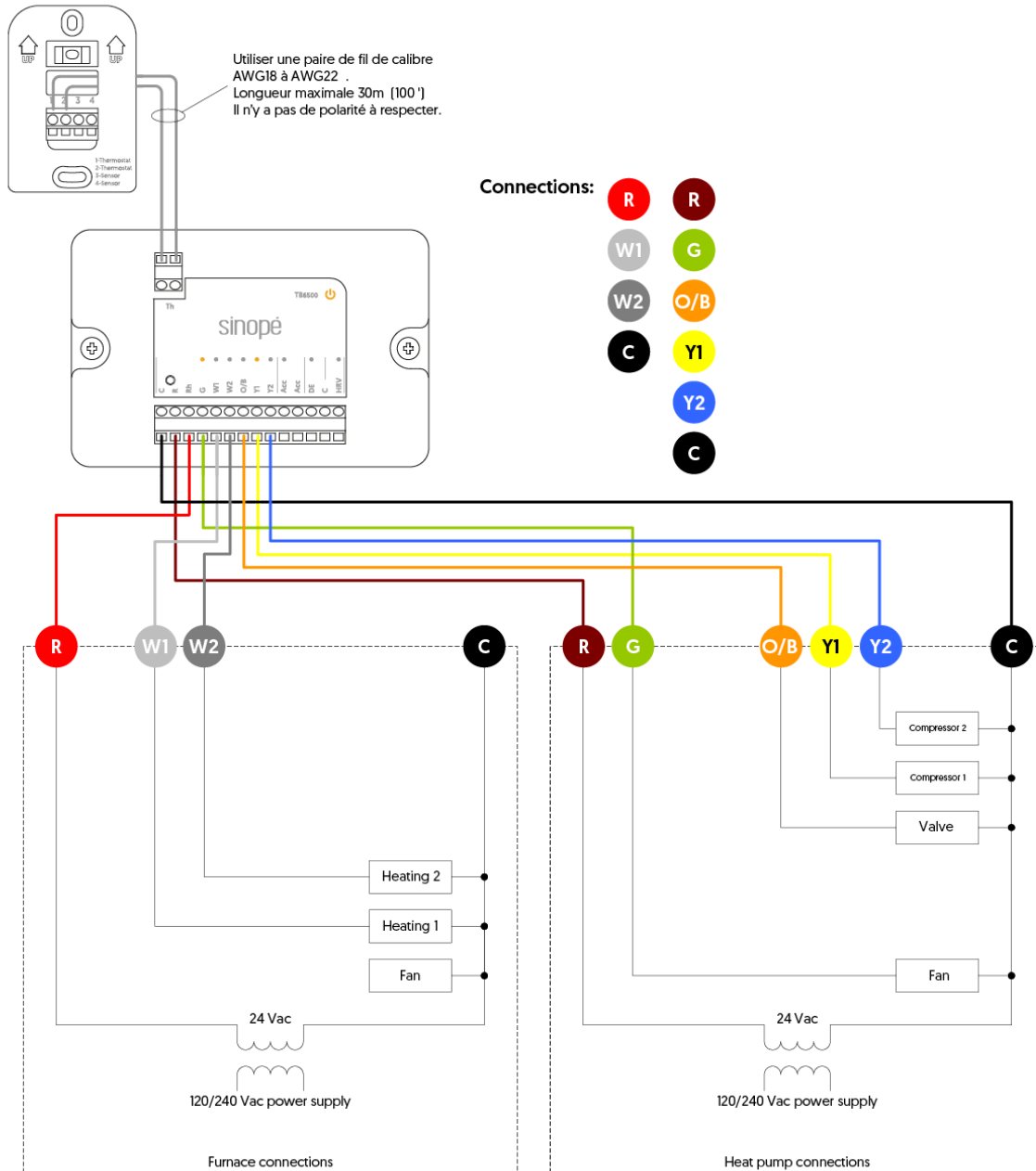
Wiring 19: 4H2C

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



Wiring 20: 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.

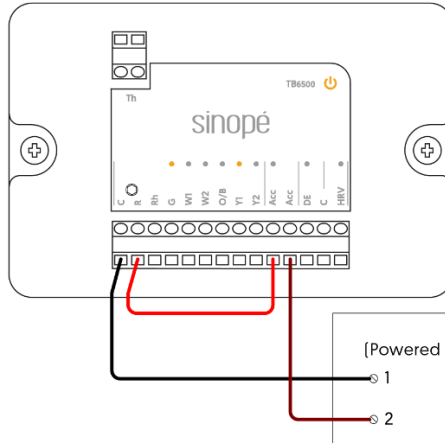


Additional system

Wiring 21: Acc. Humidifier

Humidifier powered by the HVAC system.

Connections:



The TB6500 must be powered by the ventilation system.

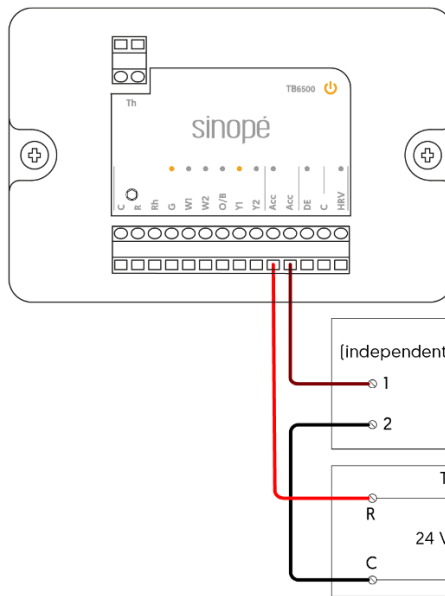
Check that the ventilation system's 24 Vac transformer has sufficient power to supply the humidifier.

Humidifier
(Powered by ventilation system)

Wiring 21.1: Acc. Humidifier

Humidifier with independent external power.

Connections:



Humidifier
(independent external power supply)

Transformer

24 Vac

120/240 Vac
60Hz

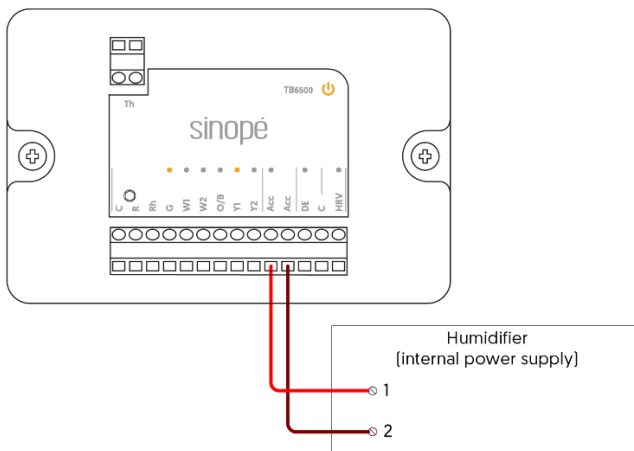
Wiring 21.2: Acc. Humidifier

Humidifier with internal power supply.

Connections:

Acc

Acc



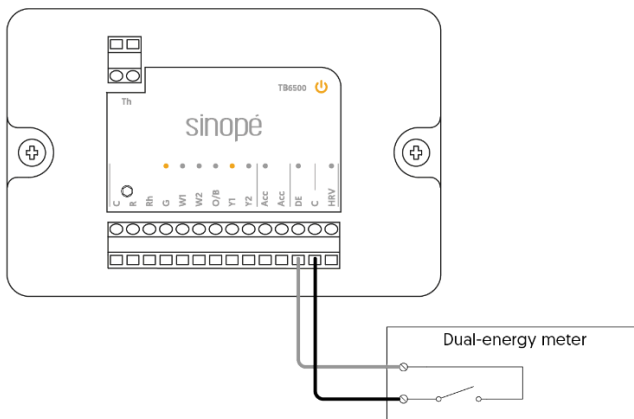
Wiring 22: Dual-energy

Connection for dual-energy signal.

Connections:

DE

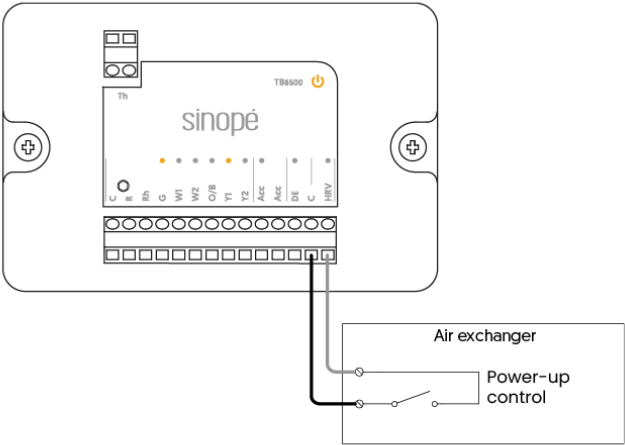
C



Wiring 23: Air exchanger

Connection for an air exchanger.

Connections:



Additional accessories

Decorative mounting plate

It was designed to cover wall imperfections resulting from the old thermostat, including a steel plate for installing the thermostat over an electrical box.



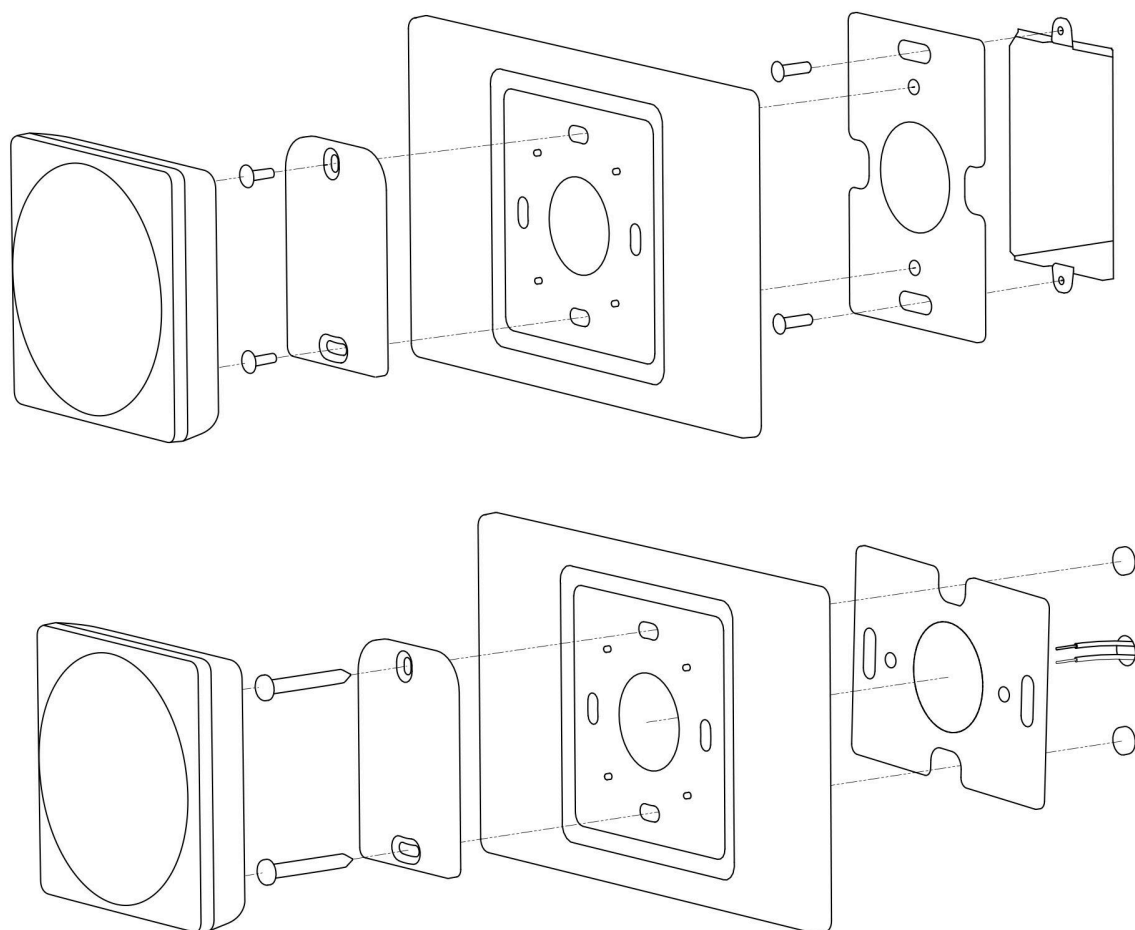
AC6500-01 Decorative Mounting Plate (sold separately)

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

Included in the box:

- Decorative mounting plate
- Steel plate, installation sheet
- 2x screws for the decorative plate
- 2x 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) X 114.3 mm (4.5 in) X 4.8 mm (0.19 in)

Included in the box:

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

Installation diagrams for the AC6500-02 decorative mounting plate:

