Honeywell Home

VisionPRO® 8000 Smart
Installation Guide
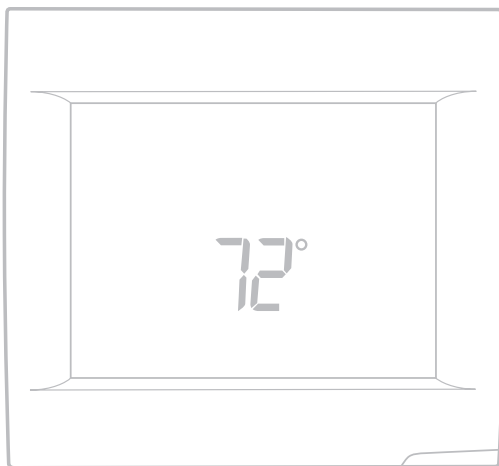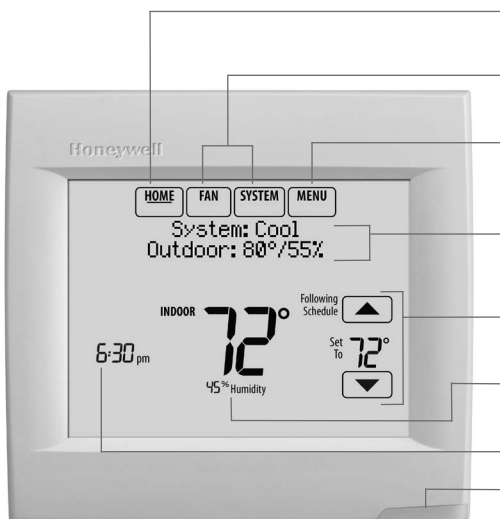

PRO install

Reference to key features

Current display. Underlined label signifies the current display.

Mode control buttons. Use to change settings for Fan or System Heat/Cool.

Menu. Select options to: set schedules, view equipment status, change IAQ settings, access installer options*, etc.

Current status. Shows system mode (heat/cool), outdoor temperature and humidity.

Current schedule. Shows desired temperature and schedule status.

Indoor conditions. Shows indoor temperature and humidity.

Current Time.

━━ Alert Light. On when alert message is active or system is set to Em Heat.

* Password is the date code.

Search for local rebates
Honeywell Home thermostats work with utility programs to reward you for helping save energy. **HoneywellHome.com/Rebates**

NO MERCURY

ATTENTION: MERCURY RECYCLING NOTICE

This product does not contain mercury. However, this product may replace a product that contains mercury. Mercury and products containing mercury should not be discarded in household trash.
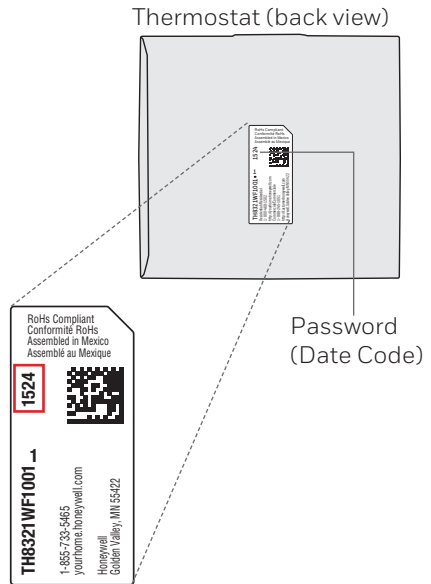
For more information on how and where to properly recycle a thermostat containing mercury in the United States, please refer to the Thermostat Recycling Corporation at www.thermostat-recycle.org.

For mercury thermostat recycling in Canada, please refer to Switch the Stat at www.switchthestat.ca

Getting started

Follow these basic steps to install this thermostat, set installer options, and connect to the Wi-Fi network.

**NOTE:** For the product data sheet, please go to **customer.resideo.com**

Thermostat (back view)

Password
(Date Code)

RoHs Compliant
Conformité RoHs
Assembled in Mexico
Assemblé au Mexique

1524

TH8321WF1001_1

1-855-733-5465
yourhome.honeywell.com

Honeywell
Golden Valley, MN 55422

Installing the thermostat

**1**   **Separate wallplate from thermostat.** If your thermostat has a button along the top of the wallplate, press the button on top and pull to remove the wallplate as shown. Updated models do not have this button. On those models, pull evenly along the sides and bottom of the thermostat to separate it from the wallplate.

Thermostat

Button

Wallplate
(back view)
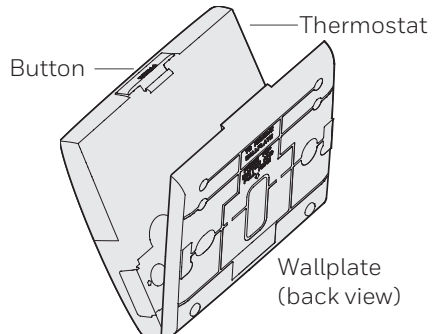
2 **Mount wallplate as shown.**
Mount new wallplate using screws and anchors included with the thermostat.

Drill 3/16-in holes for drywall.
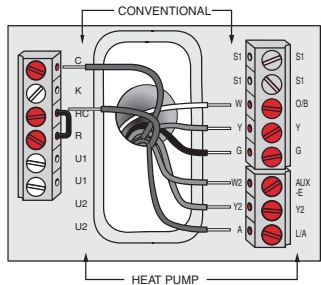
Drill 7/32-in holes for plaster.
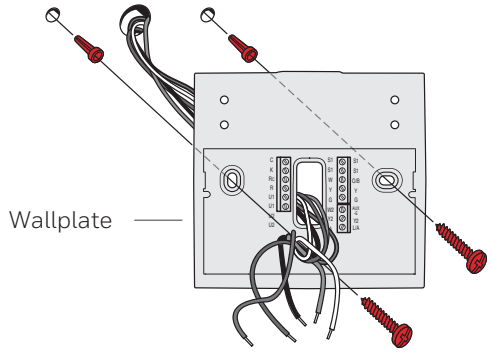
Wallplate

3 **Connect power.**
24VAC power is required. Connect common side of transformer to C terminal.

CONVENTIONAL

HEAT PUMP
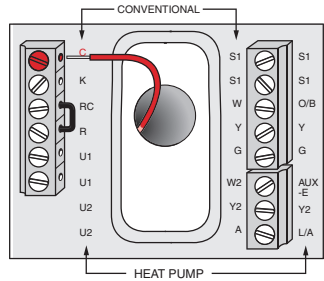
**4** **Wire the thermostat.**
Refer to the table and wiring diagrams on the next page.

a Turn on 24VAC **NOW**.
24VAC (C wire) is required.

CONVENTIONAL

HEAT PUMP

Wallplate

5 **Mount thermostat on wallplate.**
If your thermostat has hinges along the bottom and a button on the top, align the thermostat at the bottom and snap into place as shown. If you have the updated model without hinges, line the thermostat up evenly with the wallplate and push the thermostat evenly along the sides and bottom to snap it into place.
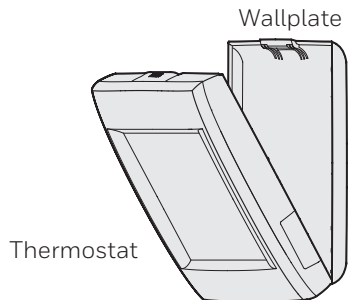
Thermostat

6 **Search for local rebates.**
Your thermostat may now be eligible for local rebates. Search for offers in your area at **HoneywellHome.com/Rebates**

Terminal Designations

| Conventional System		Heat Pump	
Terminal	Description	Terminal	Description
C	Common wire from secondary side of cooling transformer (if 2 transformers)	C	Common wire from secondary side of cooling transformer
Rc*	Cooling power	Rc	Cooling power
R*	Heating power	R	Heating power
W	Heat Stage 1	O/B	Changeover valve for heat pumps.
W2	Heat Stage 2	AUX-E	Backup Heat/Emergency Heat
Y	Compressor Stage 1	Y	Compressor Stage 1
Y2	Compressor Stage 2	Y2	Compressor Stage 2
G	Fan Relay	G	Fan Relay
A	Connect to Economizer Module or Lighting Panel (TOD)	L/A	Connect to Compressor Monitor, Zone Panel, Economizer Module or Lighting Panel (TOD)
U1 / U1	IAQ relay for humidification, dehumidification, ventilation, or a stage of heating/cooling	U1 / U1	IAQ relay for humidification, dehumidification, ventilation, or a stage of heating/cooling
S1 / S1	Input for a wired indoor, outdoor or discharge sensor	S1 / S1	Input for a wired indoor, outdoor or discharge sensor
K**	Connect to K on C-wire adaptor	K**	Connect to K on C-wire adaptor

* Remove factory installed jumper for two transformer systems.
** The THP9045A1098 C-wire adaptor is used on heat/cool systems when you only have four wires at the thermostat and you need a fifth wire for a common wire. Use the K terminal in place of the Y and G terminals on conventional or heat pump systems to provide control of the fan and the compressor through a single wire—the unused wire then becomes your common wire. See THP9045 instructions for more information.
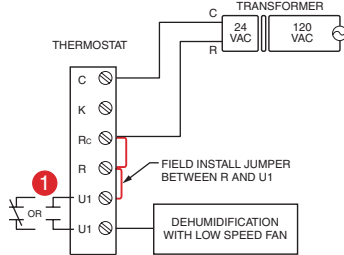
POWERED HUMIDIFIER, DEHUMIDIFIER OR VENTILATOR
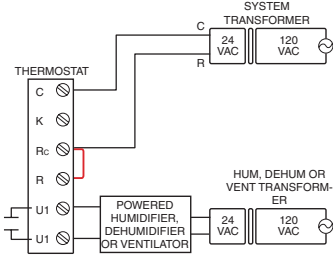
NON-POWERED HUMIDIFIER, DEHUMIDIFIER OR VENTILATOR
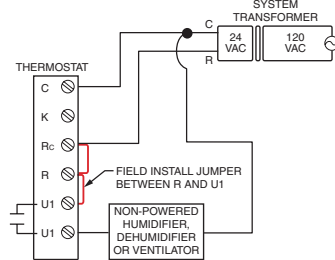
DEHUMIDIFICATION WITH LOW SPEED FAN

CONNECTING A HEAT OR COOL STAGE TO U1

1 Wire the thermostat IAQ relay to the low speed fan for dehumidification control at the equipment. The thermostat relay can be set to normally open or normally closed in the thermostat installer setup.

Normally open, dry contacts

Normally closed, dry contacts
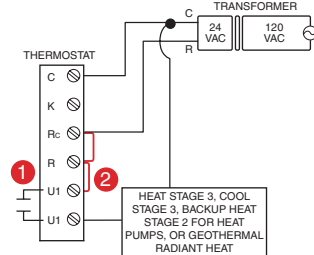
1 U1 terminals are normally open dry contacts when set up for a stage of heating or cooling.

2 You must install a field jumper if the stage of heating or cooling is powered by system transformer. Do NOT install a field jumper if the stage of heating has its own transformer.

Performing installer setup

Setup options define the type of system you are installing and preferences for the display.

1 Follow prompts on the screen to select the appropriate options. Among the screens you might see will be options for:
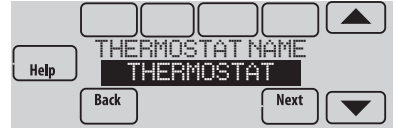
1.1 Application, either Residential or Commercial.

```
APPLICATION
  residential
          Next
```

1.2 Thermostat Name, which will enable you to identify it if you're installing more than one thermostat (for a zoned HVAC application, for instance).

```
          THERMOSTAT NAME
Help         THERMOSTAT
Back                    Next
```

1.3 Thermostat Type, either programmable or not, depending on preference.

```
          THERMOSTAT TYPE
Help        programmable
        Done          Next
```

1.4 Temperature Scale, either Fahrenheit or Celsius.

```
          TEMPERATURE SCALE
Help         fahrenheit
Back  Done            Next
```

1.5 Use outdoor temp.

🖈 **NOTE:** Choose **wired/internet** to use local outdoor weather data for your application.

```
          USE OUTDOOR TEMP
Help       wired / internet
Back  Done            Next
```

1.6 The type of heating system.

1.7 For all installer options, press the ▲ or ▼ buttons to change the option.

1.8 Press **Next** to move to the next setting, and **Done** when setup is complete.

```
          HEATING SYSTEM
Help       conv. forced air
Back  Done            Next
```

Wiring

1H/1C System (1 transformer)

Rc	Power [1]
R	[R+Rc joined by jumper]
W	Heat relay
Y	Compressor contactor
G	Fan relay
C	24VAC common
S1	Optional outdoor/remote sensor

Heat Only System

Rc	Power [1]
R	[R+Rc joined by jumper]
W	Heat relay
C	24VAC common
S1	Optional outdoor/remote sensor

Heat Only System (Series 20)

Rc	[R+Rc joined by jumper]
R	Series 20 valve terminal "R" [1]
W	Series 20 valve terminal "B"
Y	Series 20 valve terminal "W"
C	24VAC common
S1	Optional outdoor/remote sensor

2H/2C System (1 transformer)

Y2	Cool relay 2
W2	Heat relay 2
Rc	Power [1]
R	[R+Rc joined by jumper]
W	Heat relay 1
Y	Cool relay 1
G	Fan relay
C	24VAC common
S1	Optional outdoor/remote sensor

1H/1C System (2 transformers)

Rc	Power (cooling transformer) [1, 2]
R	Power (heating transformer) [1, 2]
W	Heat relay
Y	Compressor contactor
G	Fan relay
C	24VAC common [3]
S1	Optional outdoor/remote sensor

Heat Only System With Fan

Rc	Power [1]
R	[R+Rc joined by jumper]
W	Heat relay
G	Fan relay
C	24VAC common
S1	Optional outdoor/remote sensor

Cool Only System

Rc	Power [1]
R	[R+Rc joined by jumper]
Y	Compressor contactor
G	Fan relay
C	24VAC common
S1	Optional outdoor/remote sensor

2H/2C System (2 transformers)

Y2	Cool relay 2
W2	Heat relay 2
Rc	Power (cooling transformer) [1, 2]
R	Power (heating transformer) [1, 2]
W	Heat relay 1
Y	Cool relay 1
G	Fan relay
C	24VAC common [3]
S1	Optional outdoor/remote sensor

See [notes] below

[1] Power supply. Provide disconnect means and overload protection as required.

[2] Remove jumper for 2-transformer systems.

[3] Common connection must come from cooling transformer if a 2 transformer installation.

Wiring

1H/1C Heat Pump (no auxiliary heat)

Rc ⌉	Power [1]
R ⌐	[R+Rc joined by jumper]
O/B	Changeover valve [4]
Y	Compressor relay
G	Fan relay
C	24VAC common
S1	Optional outdoor/remote sensor

2H/1C Heat Pump (with auxiliary heat)

L	Equipment monitor [5]
Aux/E	Auxiliary/Emergency heat relay (Heat 2)
Rc ⌉	Power [1]
R ⌐	[R+Rc joined by jumper]
O/B	Changeover valve [4]
Y	Compressor relay
G	Fan relay
C	24VAC common
S1	Optional outdoor/remote sensor

2H/2C Heat Pump (no auxiliary heat)

Y2	Compressor 2 relay
Rc ⌉	Power [1]
R ⌐	[R+Rc joined by jumper]
O/B	Changeover valve [4]
Y	Compressor 1 relay
G	Fan relay
C	24VAC common
S1	Optional outdoor/remote sensor

3H/2C Heat Pump (with auxiliary heat)

Y2	Compressor 2 relay
L	Equipment monitor [5]
Aux/E	Auxiliary/Emergency heat relay (Heat 2)
Rc ⌉	Power [1]
R ⌐	[R+Rc joined by jumper]
O/B	Changeover valve [4]
Y	Compressor 1 relay
G	Fan relay
C	24VAC common
S1	Optional outdoor/remote sensor

See [notes] below

[1] Power supply. Provide disconnect means and overload protection as required.

[4] **O/B** set to control as either **O** or **B** in installer setup.

[5] Heat pump reset (powered continuously when thermostat is set to Em. Heat; system monitor when set to Heat, Cool, or Off).

Connecting to Wi-Fi

After installer setup, you will be prompted to connect to a Wi-Fi network.

NOTE: If you select **No**, the homeowner can connect to the Wi-Fi network later. (See "Connecting to Wi-Fi later" on page 10 or in the User's Guide.) The thermostat will display its Home screen and thermostat setup is complete.

1   Connect to the Wi-Fi network now.

1.1   Press **Yes**.
The thermostat will scan for available Wi-Fi networks.

1.2   Use the arrow buttons to scroll up/down or left/right. Press the Wi-Fi network name, then press **Select**.

NOTE: If the Wi-Fi network name is hidden, see "Connecting to a hidden Wi-Fi network" on page 12.

1.3   When prompted, press the screen to edit the password (if necessary).

Enter the password.
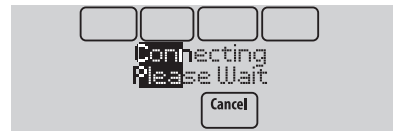Press the ▲ or ▼ buttons to change the letter or number.
Press the ▶ button to move to the next character, or the ◀ button to move to the previous character.
Use the ▲ or ▼ buttons at the bottom to change letter case.
Press **Done** when complete.

1.4   The screen will let you know when the connection is successful. Press **Done** when the connection is successful. If the connection is not successful, the screen will explain why not. See "Unsuccessful connection" on page 11. Follow instructions on the screen to try again.

NOTE: Press the **Help** button for more information about an unsuccessful connection.

Connect to a
Wi-Fi network now?
No   Yes

Finding Networks
Please Wait

Select Wi-Fi Network
Help   Your Network
◀   Select   Cancel   ▶

Help   Enter Password
Press Here to Edit
Back

Delete   Space
AC
◀   Done   Cancel   ▶
ABC

Connecting
Please Wait
Cancel

Connection
Successful
Done

2 **The homeowner must have a Total Connect Comfort account.**

2.1 Have the homeowner go to mytotalconnectcomfort.com and follow the instructions to login or create an account.

Help Register at:
Honeywell.com/TCC
Done

2.2 Press the ▼ button to display MAC and CRC.

2.3 Note the Thermostat MAC and CRC; they will be needed during registration. Or, refer to the User's Guide.

Finding the password (Date Code)

- To make changes to Installer Setup
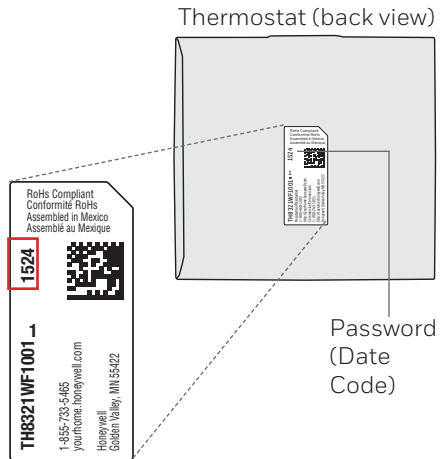- To perform an Installer Test

Thermostat (back view)

Finding the password

You can find the date code
on the back of the thermostat,
or touch **Menu**, select **Dealer Information**,
and scroll to the bottom to see Date Code.

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1524

TH8321WF1001   1

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Golden Valley, MN 55422

Password
(Date
Code)

1 Touch **Menu**.

2 Select **Dealer Information**.

HOME | FAN | SYSTEM | MENU | ▲
Dealer Information
Installer Options
Select | ▼

3 Scroll down to see the Date Code.

HOME | ▲
TH8321WF1001
Date Code: 1524
Done | ▼

**Making changes to Installer Setup and performing an Installer Test**

1 Touch **Menu**.

2 Select **Installer Options**.

3 Enter password (date code) and
   touch **Done**. See "Finding the password"
   on page 9 to find the date code.

4 Select **Installer Setup** or **Installer Test**.

5 Follow prompts on the screen to select
   the desired setup options or to perform
   an equipment test.

Checking signal strength

After you successfully connect to the Wi-Fi
network (see "Connecting to Wi-Fi" step 1.5),
the thermostat will display signal strength. The
signal strength symbols have the following
meanings:

   Signal strength is 75%–100%

   Signal strength is 50%–75%

   Signal strength is 0%–50%
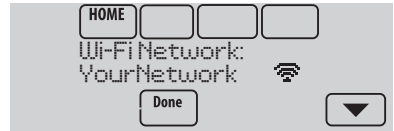
You can also check signal strength at any time after the thermostat is connected to
the Wi-Fi network by pressing **MENU** then **Wi-Fi Setup**.

Connecting to Wi-Fi later

1 Press **MENU**, then **Wi-Fi Setup**.

2 Follow the prompts on-screen (and in
   "Connecting to Wi-Fi") to select the Wi-Fi
   network and enter the password.

   NOTE: To view and set the Wi-Fi
   thermostat remotely, the homeowner **must**
   have a Total Connect Comfort account.
   See "Connecting to Wi-Fi" step 2.

Unsuccessful connection

If you are unsuccessful in connecting the thermostat to the Wi-Fi network, you will see a Connection Failed screen. Press the ▼ button for other tips about this failed connection. Here are three specific reasons the connection might be unsuccessful.

For all Connection Failed screens, pressing **Done** will return to the Menu screen.

Invalid Password

The password you entered is invalid. Check that you have the right password and try again.

Press **Done** to return to "Connecting to Wi-Fi" step 1.3 on page 8.

No IP Address

The thermostat was unable to obtain an IP address from the router. Verify the router is correctly set up to automatically assign IP addresses. This connection can take several minutes. If there is still no connection, remove the thermostat from the wallplate for 10 seconds, then snap it back into place.

No Internet Link

The thermostat connected to the Wi-Fi network but was unable to establish a connection to the internet. Check the router settings and try again. Make sure the Ethernet cable is plugged into the router and try rebooting the router if necessary.

Connecting to a hidden Wi-Fi network

If the Wi-Fi network name is hidden and it doesn't show up in the list in "Connecting to Wi-Fi" follow these steps to connect to it.

1   Press **MENU**, then **Wi-Fi Setup**.
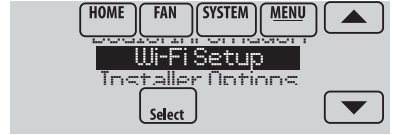
2   Press **Other**, then press **Select**.

3   When prompted, press the screen to edit the network name.

4   Enter the network name.
Press the ▲ or ▼ buttons to change the letter or number.
Press the ▶ button to move to the next character, or the ◀ button to move to the previous character.
Use the ▲ or ▼ buttons at the bottom to change letter case.
Press **Done** when complete.

5   Select the appropriate network security setting, then press **Select**.

6   Enter the Wi-Fi network password as shown in "Connecting to Wi-Fi" step 1.4.
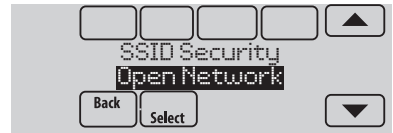
Specifications and replacement parts

Operating Ambient Temperature
   Thermostat: 32 to 120° F (0 to 48.9° C)

Operating Relative Humidity
   Thermostat: 5% to 90% (non-condensing)

Physical Dimensions (height, width, depth)
   Thermostat: 4-15/16 x 4-5/8 x 1-1/8 inches (126 mm x 118 mm x 29 mm)

Wi-Fi Communication
   Supports 802.11 B/G/N home wireless router
   Frequency: 2.4 Ghz

Electrical ratings

Terminal	Voltage (50/60 Hz)	Max. Current Rating
W - OB	18 to 30 VAC and 750 mVDC	1.00A
Y (cooling)	18 to 30 VAC	1.00A
G (fan)	18 to 30 VAC	0.50A
W2 - Aux (heating)	18 to 30 VAC	0.60A
Y2 (cooling)	18 to 30 VAC	0.60A
A-L/A (output)	18 to 30 VAC	1.00A
U1/U1	30 VAC max.	0.50A

Accessories and replacement parts

Accessories / Replacement Parts	Part Number
Cover Plate (covers marks left by old thermostats)	THP2400A1019
C-wire adaptor	THP9045A1098

Regulatory information

FCC REGULATIONS
47 CFR § 15.19 (a)(3)

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

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

47 CFR § 15.21 (USA only)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

47 CFR § 15.105 (b)

See **https://customer.resideo.com/en-US/ support/residential/codes-and-standards/ FCC15105/Pages/default.aspx** for additional FCC information for this product.

IC REGULATIONS
RSS-GEN

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:

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

Model Numbering	TH8321WF	TH8321R	TH8320R	TH8110R
RedLINK™ or Wi-Fi	Wi-Fi	RedLINK™	RedLINK™	RedLINK™
Stages	3H/2C HP 2H/2C CONV	3H/2C HP 2H/2C CONV	3H/2C HP 2H/2C CONV	1H/1C HP 1H/1C CONV
Residential or Commercial	✓	✓	✓	✓
Dual Powered - C Wire or Battery	C Wire only	✓	✓	✓
Onboard Humidity Sensor	✓	✓		
Number of IAQ Relays	1	1	0	0
Number of Sensor Inputs	1	1	1	1
Economizer / TOD Output	✓	✓	✓	
Works with Optional Equipment Interface Module*		✓	✓	✓
Works with Optional TrueZONE Wireless Adapter*		✓	✓	✓

* The relay outputs and inputs on the thermostat do not function when used with an Equipment Interface Module or the TrueZONE Wireless Adapter.

⚠ **DISCONNECT POWER BEFORE INSTALLATION.** Can cause electrical shock or equipment damage.

⚠ **MERCURY NOTICE:** If this product is replacing a control that contains mercury in a sealed tube, do not place the old control in the trash. Contact the Thermostat Recycling Corporation at www.thermostat-recycle.org or 800-238-8192 for information on how and where to properly and safely dispose of your old thermostat.

PRO instal **Must be installed by a trained, experience technician.** Read these instructions carefully. Failure to follow these instructions can damage the product or cause a hazardous condition.

Need Help?

For assistance please visit **http://customer.resideo.com**
or call toll-free: **1-855-733-5465**

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33-00065-05