



# Honeywell

## Installation Guide

### **VisionPRO® TH8000 Series**

Touch-screen Programmable Thermostat

#### **This manual covers the following models**

- **TH8321U1097:** For up to 3 Heat/2 Cool heat pump or up to 2 Heat/2 Cool conventional systems with dehumidification, humidification, or ventilation

(Pull thermostat from wallplate and turn over to find model number)

#### **Must be installed by a trained, experienced technician**

- Read these instructions carefully. Failure to follow these instructions can damage the product or cause a hazardous condition.



#### **CAUTION: ELECTRICAL HAZARD**

Can cause electrical shock or equipment damage. Disconnect power before beginning installation.



#### **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 your local waste management authority for instructions regarding recycling and proper disposal.

This thermostat contains a Lithium battery which may contain Perchlorate material. Perchlorate Material—special handling may apply, See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)

#### **Need Help?**

For assistance with this product please visit <http://customer.honeywell.com>  
or call Honeywell Customer Care toll-free at **1-800-468-1502**

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US Patent No. 6595430, D509151 and other patents pending.  
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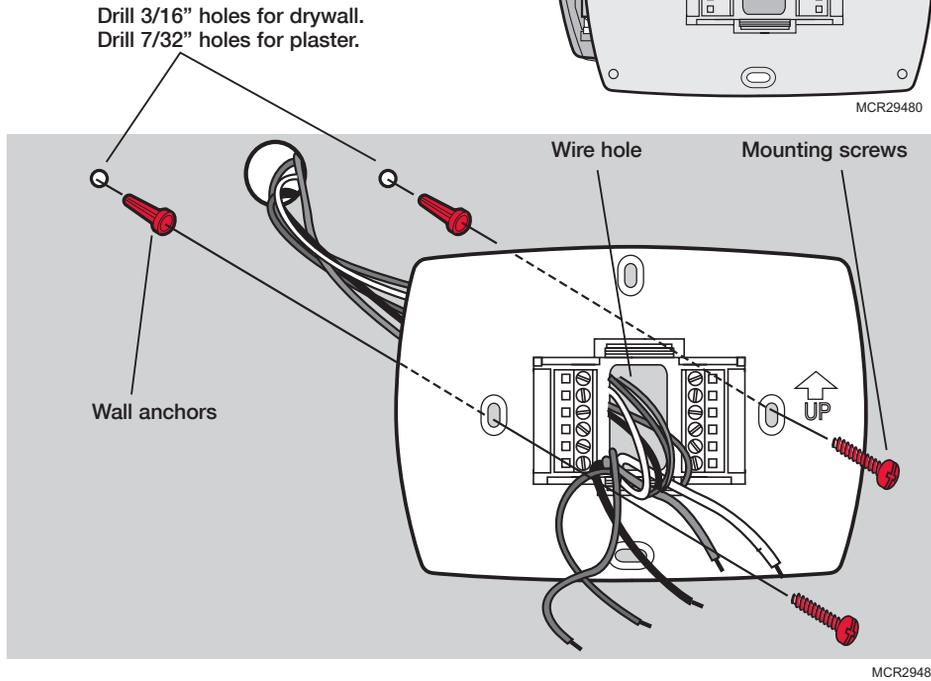
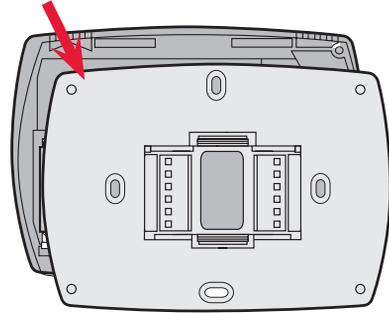


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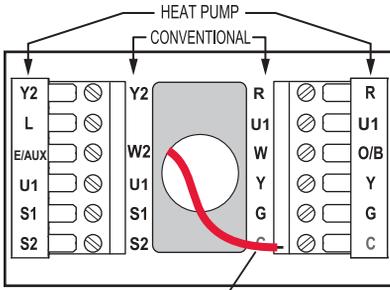
## Wallplate installation

1. Separate wallplate from thermostat.
2. Mount wallplate as shown below.

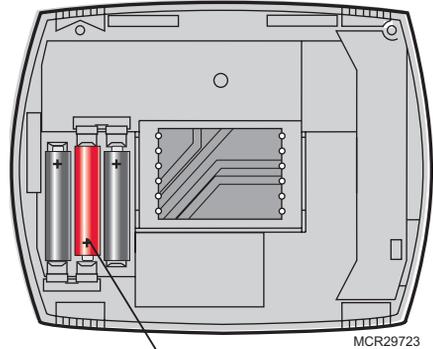
Grasp top and bottom of wallplate and pull to remove from thermostat.



## Power options



For 24VAC primary power, connect common side of transformer to "C" terminal.

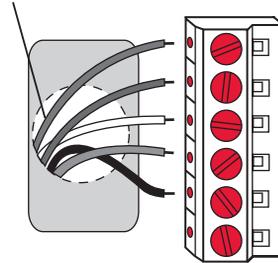
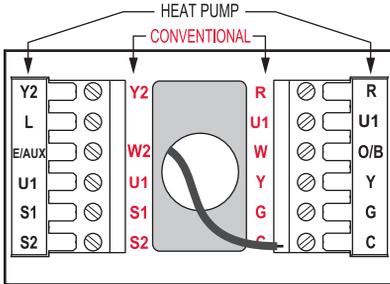


Insert supplied batteries for primary or backup power.

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## Wiring

Push excess wire back into the wall opening. Plug wall opening with non-flammable insulation.



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## Terminal Designations

### Conventional Terminal Letters:

- R** System power. Connect to secondary side of system transformer.
- C** Common wire from secondary side of transformer.
- W** 1st stage heat relay.
- W2** 2nd stage heat relay.
- Y** 1st stage compressor contactor.
- Y2** 2nd stage compressor contactor.
- G** Fan relay.
- S1/S2** Optional outdoor/remote/discharge sensor.
- U1/U1** Optional IAQ device

### Heat Pump Terminal Letters:

- R** System power. Connect to secondary side of system transformer.
- C** Common wire from secondary side of system transformer.
- Y** 1st stage compressor contactor.
- Y2** 2nd stage compressor contactor.
- E/Aux** Auxiliary/Emergency heat relay.
- G** Fan relay.
- L** Heat pump reset (powered continuously when System is set to Em Heat; system monitor when set to Heat, Cool or Off).
- O/B** Changeover valve for heat pumps.
- S1/S2** Optional outdoor/remote/discharge sensor.
- U1/U1** Optional IAQ device

# Wiring

## Wiring guide—conventional systems

### 1H/1C System (1 transformer)

<b>R</b>	Power [1, 6]
<b>W</b>	Heat relay
<b>Y</b>	Compressor contactor
<b>G</b>	Fan relay
<b>C</b>	24VAC common [2]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

### Heat Only System

<b>R</b>	Power [1]
<b>W</b>	Heat relay
<b>C</b>	24VAC common [2]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

### Heat Only System (Series 20)

<b>R</b>	Series 20 valve terminal "R" [1]
<b>W</b>	Series 20 valve terminal "B"
<b>Y</b>	Series 20 valve terminal "W"
<b>C</b>	24VAC common [2]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

### 2H/2C System (1 transformer)

<b>Y2</b>	Cool relay 2
<b>W2</b>	Heat relay 2
<b>R</b>	Power [1, 6]
<b>W</b>	Heat relay 1
<b>Y</b>	Cool relay 1
<b>G</b>	Fan relay
<b>C</b>	24VAC common [2]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

### Heat Only System With Fan

<b>R</b>	Power [1, 6]
<b>W</b>	Heat relay
<b>G</b>	Fan relay
<b>C</b>	24VAC common [2]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

### Cool Only System

<b>R</b>	Power [1]
<b>Y</b>	Compressor contactor
<b>G</b>	Fan relay
<b>C</b>	24VAC common [2]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

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See [notes] below

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

[2] Optional 24VAC common connection.

[6] Only works with single transformer systems.

## Wiring

### Wiring guide—heat pump systems

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

<b>R</b>	Power [1]
<b>O/B</b>	Changeover valve [3]
<b>Y</b>	Compressor relay
<b>G</b>	Fan relay
<b>C</b>	24VAC common [2]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

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

<b>L</b>	Equipment monitor [4, 5]
<b>E/Aux</b>	Auxiliary/emergency heat relay
<b>R</b>	Power [1]
<b>O/B</b>	Changeover valve [3]
<b>Y</b>	Compressor relay
<b>G</b>	Fan relay
<b>C</b>	24VAC common [2, 4]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

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

<b>Y2</b>	Compressor 2 relay
<b>R</b>	Power [1]
<b>O/B</b>	Changeover valve [3]
<b>Y</b>	Compressor 1 relay
<b>G</b>	Fan relay
<b>C</b>	24VAC common [2]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

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

<b>Y2</b>	Compressor 2 relay
<b>L</b>	Equipment monitor [4, 5]
<b>E/Aux</b>	Auxiliary/Emergency heat relay
<b>R</b>	Power [1]
<b>O/B</b>	Changeover valve [3]
<b>Y</b>	Compressor 1 relay
<b>G</b>	Fan relay
<b>C</b>	24VAC common [2, 4]
<b>S1/S2</b>	Optional outdoor/remote/discharge sensor
<b>U1/U1</b>	Optional IAQ relay

### Wiring guide—humidification systems

#### Steam humidifier (or any humidifier with its own transformer)

<b>R</b>	Power [1]
<b>U1</b>	Humidifier relay [7]
<b>U1</b>	Humidifier relay [7]

#### Bypass, flow-through humidifier (or any humidifier that uses the system transformer)

<b>R</b>	Power [1]
<b>U1</b>	Field jumper R to U1 [7]
<b>U1</b>	Humidifier relay [7]

### Wiring guide—dehumidification systems

#### Whole house dehumidifier

<b>R</b>	Power [1]
<b>U1</b>	Dehumidifier relay [7]
<b>U1</b>	Dehumidifier relay [7]

#### A/C with low-speed fan

<b>R</b>	Power [1]
<b>U1</b>	Field jumper R to U1 [7]
<b>U1</b>	Dehumidifier relay [8]

### Wiring guide—ventilation systems

#### Whole house powered ventilator

<b>R</b>	Power [1]
<b>U1</b>	Ventilator relay [7]
<b>U1</b>	Ventilator relay [7]

#### Non-powered ventilator

<b>R</b>	Power [1]
<b>U1</b>	Field jumper R to U1 [7]
<b>U1</b>	Ventilator relay

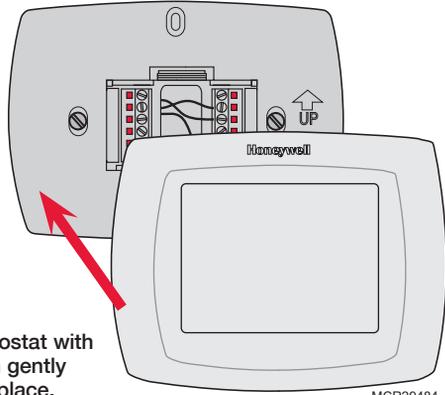
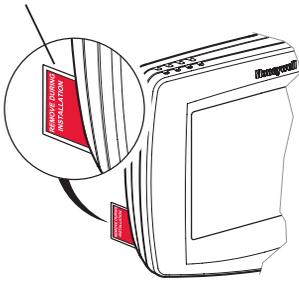
See [notes] below

- [1] Power supply. Provide disconnect means and overload protection as required.
- [2] Optional 24VAC common connection.
- [3] **O/B** set to control as either **O** or **B** in installer setup.
- [4] If **L** terminal is used, 24VAC common (terminal **C**) must be connected.
- [5] Heat pump reset (powered continuously when thermostat is set to Em. Heat; system monitor when set to Heat, Cool, or Off).
- [7] Terminals are normally open dry contacts.
- [8] Equipment must include dehumidification terminal for low-speed fan.

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## Remove tab and mount thermostat

Remove tab.

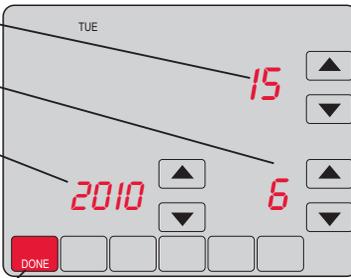


Align pins on back of thermostat with slots in wallplate, then push gently until thermostat snaps into place.

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## Set date and time

Press ▲▼ to set date  
 Press ▲▼ to set month  
 Press ▲▼ to set year



Press ▲▼ to set time



Press **DONE** to save changes.

Press **DONE** to save and exit.

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## Installer setup

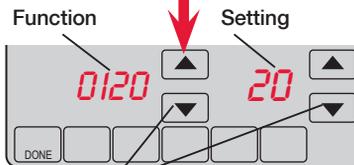
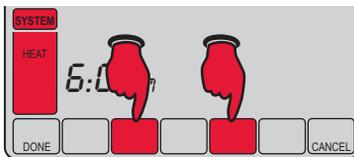
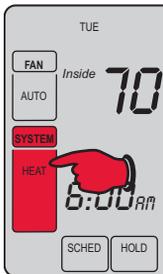
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1 Press **SYSTEM**

2 Press and hold for 5 seconds

3 Change settings (see p. 7-9)

Press **DONE** to save & exit



Press ▲▼ to change

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**Installer setup**

Setup functions		Settings & Options (factory default in bold)	
<b>0120</b>	<b>Year (first two digits)</b>	<b>20</b>	<b>(2000-2099)</b> 21 <b>(2101-2178)</b>
<b>0130</b>	<b>Year (second two digits)</b>	<b>10</b>	<b>(2010)</b> [Other options: 00-99]
<b>0140</b>	<b>Month</b>	<b>6</b>	[Other options: 1-12]
<b>0150</b>	<b>Date</b>	<b>15</b>	[Other options: 1-31]
<b>0160</b>	<b>Schedule format</b>	<b>4</b>	<b>7-day programming</b> 0 Non-programmable
<b>0165</b>	<b>Restore Energy Star Schedule</b>	<b>0</b>	<b>No</b> 1 Yes
<b>0170</b>	<b>System type</b>	<b>1</b>	<b>1 heat/1 cool conventional</b> 2 1 heat/1 cool heat pump (no aux. heat) 3 Heat only (2-wire systems) 4 Heat only with fan 5 Hot water Series 20 system (power to open & close zone valves/normally open zone valves) 6 Cool only 7 2 heat/1 cool heat pump (with aux. heat) 8 2 heat/2 cool multistage conventional 9 2 heat/1 cool multistage conventional 10 1 heat/2 cool multistage conventional 11 2 heat/2 cool heat pump (no aux. heat) 12 3 heat/2 cool heat pump (with aux. heat)
<b>0173</b>	<b>Heat Pump Type</b>	<b>0</b>	<b>Air to Air heat pump</b> 1 Geothermal heat pump
<b>0180</b>	<b>Fan control (heating)</b>	<b>0</b>	<b>Gas/Oil heat (equipment controls heating fan)</b> 1 Electric furnace (thermostat controls heating fan)
<b>0190</b>	<b>Changeover valve (O/B terminal)</b>	<b>0</b>	<b>O/B terminal controls valve in cooling</b> 1 O/B terminal controls valve in heating
<b>0200</b>	<b>Auxiliary heat</b>	<b>0</b>	<b>Electric backup heat</b> 1 Fossil fuel backup heat
<b>0210</b>	<b>External fossil fuel kit</b>	<b>1</b>	<b>External fossil fuel kit controls backup heat</b> 0 Thermostat controls backup heat (outdoor sensor required)
<b>0220</b>	<b>1st stage compressor cycle rate</b>	<b>3</b>	<b>Recommended for most compressors</b> [Other options: 1, 2, 4, 5 or 6 CPH]
<b>0230</b>	<b>2nd stage compressor cycle rate</b>	<b>3</b>	<b>Recommended for most compressors</b> [Other options: 1, 2, 4, 5 or 6 CPH]
<b>0240</b>	<b>1st stage heat cycle rate (CPH= cycles per hour)</b>	<b>5</b>	<b>Gas or oil furnaces of less than 90% efficiency</b> 1 Steam or gravity systems 3 Hot water systems & furnaces of 90%+ efficiency 9 Electric furnaces [Other options: 2, 4, 6, 7, 8, 10, 11, 12 CPH]
<b>0250</b>	<b>2nd stage heat cycle rate (CPH)</b>	<b>5</b>	<b>Gas or oil furnaces of less than 90% efficiency</b> 1 Steam or gravity systems 3 Hot water systems & furnaces of 90%+ efficiency 9 Electric furnaces [Other options: 2, 4, 6, 7, 8, 10, 11, 12 CPH]
<b>0260</b>	<b>3rd stage heat cycle rate (CPH)</b>	<b>9</b>	<b>Electric auxiliary heat or electric furnaces</b> 1 Steam or gravity systems 3 Hot water systems & furnaces of 90%+ efficiency 5 Gas or oil furnaces of less than 90% efficiency [Other options: 2, 4, 6, 7, 8, 10, 11, 12 CPH]

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## Installer setup

Setup functions	Settings & Options (factory default in bold)
<b>0280</b> Backlight	<b>0 Backlight on for approx. 8 seconds after keypress</b> 1 Backlight always on low intensity, full bright after keypress (requires 24VAC connection)
<b>0300</b> Manual/Auto changeover	<b>0 Manual changeover (Heat/Cool/Off)</b> 1 Automatic changeover (Heat/Cool/Auto/Off)
<b>0310</b> Auto changeover deadband	<b>3 Heat/cool temperature 3°F apart (1.5°C) ** See page 11</b> [Other options: 2-9 (2°F to 9°F/1°C to 5°C)]
<b>0320</b> Temperature display	<b>0 Fahrenheit</b> 1 Celsius
<b>0330</b> Daylight savings	<b>2 Auto-change to daylight saving time</b> 0 Daylight saving time is turned off
<b>0340</b> Remote sensor	<b>0 No remote sensor</b> 1 Outdoor sensor (display only) 2 Outdoor sensor for control (select lockouts and frost protection) ** See page 11 3 Indoor sensor 4 Discharge air sensor (Required for Desert humidity control) ** See page 11
<b>0345</b> Dual Fuel Heat Pump Control **	<b>1 Droop Control</b> 0 No droop control 2 Droop control with aux heat lockout
<b>0346</b> Dual fuel heat pump upstage to furnace timer **	<b>1 1 hour</b> 0 Off [Other options: 0.5, 1.5, 2-6, 8, 10, 12, 14, 16 hours]
<b>0347</b> Droop temperature	<b>2 2°F (1°C)</b> [Other options: 2-5 (2°F to 5°F/1°C to 2.5°C)]
<b>0350</b> Heat pump compressor lockout	<b>0 No heat pump compressor lockout</b> [Other options: 5-60°F (-15°C to 15.5°C)] ** See page 11
<b>0360</b> Heat pump auxiliary lockout	<b>0 No heat pump auxiliary lockout</b> [Other options: 5-65°F (-15°C to 18.5°C)] ** See page 11
<b>0371</b> Indoor Air Quality device on U1/U1	<b>0 None</b> 1 Humidification 2 Dehumidification 3 Ventilation
<b>0372</b> Humidification Control	<b>0 Off</b> 1 Humidify with no frost protection 3 Humidify with frost protection 8 Desert humidity control in heat, off, or cool; DATS required
<b>0374</b> Hum fan action	<b>0 Humidify only while fan is on</b> 1 Humidifier forces fan on 2 Humidify only when heat it on 3 Humidifier operates independent of fan
<b>0379</b> Dehumidification Control	<b>0 None</b> 1 Air conditioning with low speed fan 3 Whole house dehumidification
<b>0380</b> Dehumidify with air conditioner	<b>0 No dehumidification control</b> 1 Thermostat controls dehumidification with air conditioner high speed fan ** See page 11
<b>0383</b> Over cooling limit	<b>3 3°F (1.5°C)</b> [Other options: 1-2 (1°F to 2°F/.5°C to 1°C)]
<b>0384</b> Dehumidification fan control	<b>0 Fan turns on with dehumidifier</b> 1 Dehumidifier operates independent of fan
<b>0386</b> Whole house dehumidification lockout	<b>0 Off</b> 1 On

\*\* See pages 11-12  
Continued on next page

**Installer setup**

Setup functions		Settings & Options (factory default in bold)	
<b>0390</b>	Dehumidification Away Mode	<b>0</b>	<b>No</b> 1 Yes
<b>0391</b>	Dehumidification Away Mode Fan Setting	<b>0</b>	<b>Fan auto</b> 1 Fan on 2 Fan circulate
<b>0392</b>	Dehum. Away Mode Low Limit Temperature Setting	<b>76</b>	<b>Low limit temperature 76°F (24°C)</b> [Other options: 70°F to 80°F (21°C to 27°C)]
<b>0393</b>	Dehum. away mode temp. setting	<b>85</b>	<b>Low limit away temperature 85°F (29°C)</b> [Other options: 70°F to 99°F (21°C to 37°C)]
<b>0394</b>	Dehum. Away Mode Dehum. Setting	<b>65</b>	<b>Away humidity level 65%</b> [Other options: 40% to 70%]
<b>0400</b>	Ventilation control	<b>0</b>	<b>No ventilation</b> 1 Vent on during all periods 2 Vent off during sleep period 3 Vent on during all periods with lockouts 4 Vent off during sleep period with lockouts
<b>0401</b>	Number of bedrooms	<b>2</b>	<b>Two bedrooms</b> [Other options: 1 to 6]
<b>0402</b>	Size of home	<b>10</b>	<b>1,000 square feet</b> [Other options: 11 to 50 (1,100 to 5,000 square feet)]
<b>0403</b>	Ventilation level	<b>160</b>	<b>CFM (cubic feet per minute)</b> [Other options: (30 to 195 CFM)]
<b>0404</b>	Max. ventilation limit	<b>50</b>	<b>50% ventilation limit</b> [Other options: 30% to 60% or 100%] <b>P</b> Meets ASHRAE 62.2 standard <b>F</b> Does not meet ASHRAE 62.2 standard
<b>0405</b>	Ventilation fan action	<b>1</b>	<b>Ventilation on forces fan on</b> 2 Ventilation does not force fan on
<b>0430</b>	Ventilation lockout	<b>0</b>	<b>Off</b> 1 Lockout for high temperatures <b>** See page 11</b> 2 Lockout for low temperatures <b>** See page 11</b> 3 Lockout for high and low temperatures <b>** See page 11</b>
<b>0431</b>	Ventilation high temperature lockout	<b>100</b>	<b>100°F (38°C): Settings 5°F apart (3°C)</b> [Other options: (90°F to 110°F/32°C to 43.5°C)]
<b>0432</b>	Ventilation low temperature lockout	<b>-10</b>	<b>-10°F (-23.5°C): Settings 5°F apart (3°C)</b> [Other options: (-20°F to 0°F/-29°C to -18°C)]
<b>0500</b>	Furnace filter change reminder	<b>0</b>	<b>Off</b> 1 10-day run time 8 365-day run time 2 30-day run time 10 60 calendar days 3 60-day run time 11 90 calendar days 4 90-day run time 12 120 calendar days 5 120-day run time 13 180 calendar days 6 180-day run time 14 365 calendar days 7 270-day run time
<b>0502</b>	Furnace filter alert options	<b>0</b>	<b>Timer counts Heat &amp; Cool run time</b> 1 Timer counts Cool run time only
<b>0510</b>	Humidifier pad change reminder	<b>0</b>	<b>Off</b> 1 90 calendar days 2 180 calendar days 3 365 calendar days
<b>0520</b>	UV lamp change reminder	<b>0</b>	<b>Off</b> 1 1 year 2 2 years

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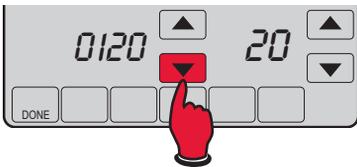
## Installer setup

Setup functions	Settings & Options (factory default in bold)
<b>0530</b> Adaptive Intelligent Recovery™	<b>1 On</b> ** See page 11 0 Off
<b>0540</b> Program periods	<b>4 4 program periods (Wake, Leave, Return, Sleep)</b> 2 2 program periods (Wake, Sleep)
<b>0580</b> Compressor protection	<b>5 5 minute compressor off time</b> ** See page 11 [Other options: 0, 1, 2, 3 or 4-minute off time]
<b>0600</b> Heat temperature range stop	<b>90 Max. heat temperature setting is 90°F (32°C)</b> [Other options: 40-89°F (4°C to 32°C)]
<b>0610</b> Cool temperature range stop	<b>50 Min. cool temperature setting is 50°F (10°C)</b> [Other options: 51-99°F (11°C to 37°C)]
<b>0640</b> Clock format	<b>12 12-hour time (i.e., "3:30 pm")</b> 24 24-hour time (i.e., "15:30")
<b>0650</b> Extended fan timer (heat)	<b>0 Off</b> [Other options: Fan runs for 30, 60, 90, or 120 seconds after call for heat ends]
<b>0660</b> Extended fan timer (cool)	<b>0 Off</b> [Other options: Fan runs for 30, 60, 90, or 120 seconds after call for cool ends]
<b>0670</b> Keypad lock	<b>0 Keypad unlocked (fully functional)</b> 1 Partially locked (access to temperature settings only) 2 Fully locked
<b>0680</b> Heat temperature control	<b>2 Standard temperature control (recommended)</b> 1 Choose if room is warmer than set temperature 3 Choose if room does not reach set temperature
<b>0690</b> Cool temperature control	<b>2 Standard temperature control (recommended)</b> 1 Choose if room is cooler than set temperature 3 Choose if room does not reach set temperature
<b>0700</b> Temperature display offset	<b>0</b> Thermostat displays actual room temperature [Other options: -3, -2, -1, 1, 2, 3°F offset (-1.5°C to 1.5°C)]
<b>0701</b> Humidity display offset	<b>0 0%</b> [Other options: -12% to 12%]
<b>0710</b> RESET	<b>0 No reset</b> 1 Reset installer options & program schedule to factory default (only date and time settings are retained)

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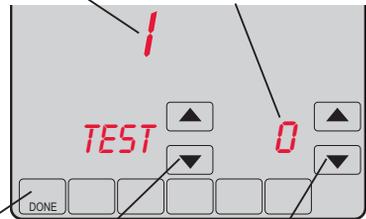
## Installer system test

During installer setup, press ▼ repeatedly until "Test" appears.



Press **DONE** to terminate testing.

Test number      System status



Press ▲▼ to select test

Press ▲▼ to change status

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## Installer system test

### System test

- 1 **Cooling system**
- 2 **Fan system**
- 3 **Heating system**
- 4 **Emergency heating system**
- 5 **Humidifier**
- 6 **Dehumidifier**
- 7 **Ventilator**

### System status

- 0 Compressor and fan turn off
- 1 Compressor and fan turn on
- 2 Second stage compressor turns on
- 0 Fan turns off
- 1 Fan turns on
- 0 Heat and fan turn off
- 1 Heat turns on (fan on if Function 0170 is set for heat pump, or if Function 0180 is set to "1") \*\* See page 6
- 2 Second stage heat turns on
- 3 Third stage heat turns on
- 0 Heat and fan turn off
- 1 Heat and fan turn on
- 0 Off
- 1 Humidifier on
- 0 Off
- 1 Dehumidifier on
- 0 Off
- 1 Ventilator on



### CAUTION: EQUIPMENT DAMAGE HAZARD.

Compressor protection is bypassed during testing. To prevent equipment damage, avoid cycling the compressor quickly.

## Special functions

**Auto Changeover** (Setup Function 0300): When set to Auto, the thermostat automatically selects heating or cooling depending on the indoor temperature. Heat and cool settings must be at least 2 degrees apart. If function 0380 is set to On, the heat and cool settings must be at least 5 degrees apart.

**Remote Sensor** (Setup Function 0340): If an optional outdoor sensor is installed, the thermostat can display the outside temperature. If an optional remote indoor sensor is installed, the thermostat will display the temperature at the sensor location (the internal sensor in the thermostat is not used). A Discharge Air Temperature Sensor (DATS) is required to enable desert humidification.

**Adaptive Intelligent Recovery** (Setup Function 0530): Allows the thermostat to "learn" how long the furnace and air conditioner take to reach programmed temperature settings, so the temperature is reached at the scheduled time.

**Compressor Protection** (Setup Function 0580): Forces the compressor to wait a few minutes before restarting, to prevent damage. During this time, the message "Wait" is displayed.

**Dehumidification control** (Setup Function 0380): TH8321 models monitor the indoor humidity level and automatically activate the cooling system to reduce humidity by lowering the temperature by up to 3 degrees below the current cool setting. When Setup Function 0371 is set to dehumidification, the U1/U1 relay can be set to control dehumidification.

**Heat Pump Control — Electric Backup** (Setup Functions 0350-0360): If an outdoor temperature sensor is installed, select a compressor lockout temperature (Function 0350). Below this temperature, only electric heat operates. Also select an auxiliary lockout temperature (Function 0360). Above this temperature, only the compressor operates. Between these temperatures, both heat sources operate.

**Heat Pump Control — Fossil Fuel Backup** (Setup Function 0345):

**Option 0 (No Droop Control):** If outdoor temperature is above balance point (Function 0350), only the compressor operates. Below this temperature, only backup heat operates.

**Option 1 (Droop Control):** As above, but backup heat is activated if room temperature drops to the selected droop temperature setting (compressor is deactivated).

**Option 2: (Droop Control with Aux Heat lockout):** Compressor works only above auxiliary lockout temperature, backup heat works only below balance point, 2° droop between temperatures.

If temperature is not reached in a reasonable time, set the **upstage timer** (Function 0346). After the designated time, the compressor will be deactivated and the system will switch to backup heat.

**Ventilation Control** (Setup Functions 0400-0432): If the system includes a self-powered ventilation unit (Function 0400), the home can be ventilated on demand. Ventilation can also be locked out based on high and low outdoor temperature (Function 0431 & 0432)—outdoor temperature sensor required.

**Dehumidification Away Mode** (Setup Functions 0390-0394): This feature is useful for homes in southern climates. It allows humidity control when the the home is unoccupied for long periods during the hot/humid season. You can control temperature (Function 0393) and dehumidification (Function 0394) while away. You can control humidity with a dehumidifier or a cooling system (Function 0379). If a cooling system is used, humidity is controlled by cooling indoor air to the Low Limit Temperature (Function 0392). When the desired humidity is reached, the system will maintain the temperature you select in Function 0393.

**Indoor Air Quality Device** (Setup Function 0371): This feature allows the thermostat to control one of the following IAQ devices: whole house humidifier, dehumidifier, or ventilator.

## Accessories & replacement parts

Please contact your distributor to order replacement parts.

**Outdoor temperature sensor** ..... Part Number C7089U1006  
**Remote indoor temperature sensor** ..... Part Number C7189U1005  
**Discharge air temperature sensor** ..... Part Number C7735A1000  
**Energy recovery ventilator** ..... Part number ER200B2006  
**Heat recovery ventilator** ..... Part number HR200B1005  
**Fresh air damper** ..... Part number EARD6  
**Bypass flow through humidifier** ..... Part number HE265A1007  
**TrueSTEAM humidifier** ..... Part number HM512W1005  
**Cover plate\*** ..... Part Number 32003796-001

\*(Use to cover marks left by old thermostats.)

## Specifications

### Temperature Ranges

- Heat: 40° to 90°F (4.5° to 32°C)
- Cool: 50° to 99°F (10° to 37°C)

### Operating Ambient Temperature

- 0° to 120°F (-18° to 48.9°C)

### Shipping Temperature

- -30° to 150°F (-34° to 66°C)

### Operating Relative Humidity

- 5% to 90% (non-condensing)

### Physical Dimensions

- 4-9/16" H x 6" W x 1-3/8" D
- 116 mm H x 152 mm W x 35 mm D

### Electrical Ratings

Terminal	Voltage (50/60Hz)	Running Current
<b>W</b> Heating (Powerpile)	20-30 Vac 750 mV DC	0.02-1.0 A 100 mA DC
<b>W2</b> Heating	20-30 Vac	0.02-0.6 A
<b>Y</b> Cooling	20-30 Vac	0.02-1.0 A
<b>Y2</b> Cooling	20-30 Vac	0.02-0.6 A
<b>E/Aux</b> Auxiliary/ Emergency heat	20-30 Vac	0.02-1.0 A
<b>O/B</b> Changeover	20-30 Vac	0.02-0.6 A
<b>L</b> Heat pump reset	20-30 Vac	0.02-0.6 A
<b>U1/U1</b> IAQ relay	20-30 Vac	0.02-0.6 A

### Automation and Control Solutions

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