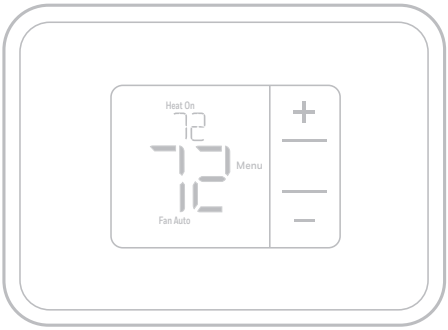
Honeywell Home

T3 Pro

Thermostat

Installation Instructions



Package Includes:

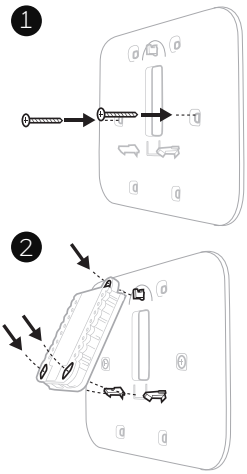
- T3 Pro Thermostat
- UWP™ Mounting System
- Decorative Cover Plate – Small; Size 4.72" H X 5.9" W (120 mm H X 150 mm W)
- Screws and Anchors
- 2 AA Batteries
- Thermostat Literature

TH3110U2008,
TH3210U2004
Read before installing

Optional Cover Plate installation

NOTE: If Optional Cover Plate is not required, see "UWP Mounting System installation" on next page.

Use the **Optional Cover Plate** when you need to cover paint gaps from the old thermostat.



1. Before starting, turn the power off at the breaker box or switch.
2. Mount the Cover Plate to the wall using any of the 6 screw holes. Insert and tighten the mounting screws supplied with the Cover Plate. Do not overtighten. See Figure 1. Make sure the Cover Plate is level.
3. Attach the UWP by hanging it on the top hook of the Cover Plate and then snapping the bottom of the UWP in place. See Figure 2.
4. If mounting to a wall with no existing wall anchors:
   a. Position the Cover Plate on wall. Level and mark hole positions. See Figure 1.
   b. Drill holes at marked positions, and then lightly tap supplied wall anchors into the wall using a hammer.
      - If your box contains red anchors, drill 7/32" (5.6 mm) holes.
      - If your box contains yellow anchors, drill 3/16" (4.8 mm) holes.
      - Use 2x supplied screws (#8 1-1/2" (38 mm) for red anchors and #6 1-1/2" (38 mm) for yellow anchors).

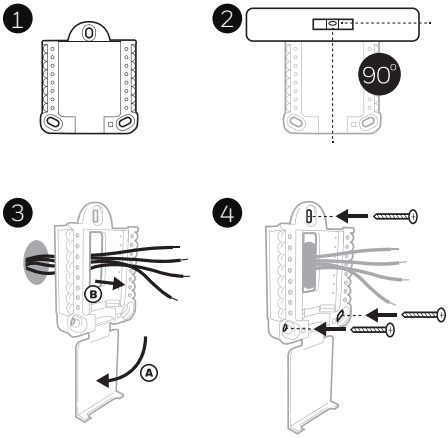
UWP Mounting System installation

1. Before starting, turn the power off at the breaker box or switch. Open package to find the UWP. See Figure 1.
2. Position the UWP on wall. Level and mark hole positions. See Figure 2.

   Drill holes at marked positions, and then lightly tap supplied wall anchors into the wall using a hammer.

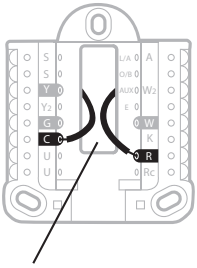
   - If your box contains red anchors, drill 7/32" (5.6 mm) holes.
   - If your box contains yellow anchors, drill 3/16" (4.8 mm) holes.
3. Pull the door open and insert the wires through wiring hole of the UWP. See Figure 3.
4. Place the UWP over the wall anchors. Insert and tighten mounting screws supplied with the UWP. Do not overtighten. Tighten until the UWP no longer moves. Close the door. See Figure 4.

NOTE: If Optional Cover Plate is required, see "Optional Cover Plate installation" on previous page.

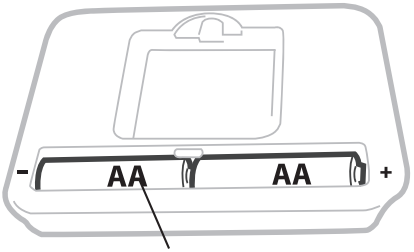


Use 3x supplied screws (#8 1-1/2" (38 mm) for red anchors and #6 1-1/2" (38 mm) for yellow anchors)

Power options



Insert **R** and **C** wires into designated terminals for primary AC power (C terminal is optional if batteries are installed, but it is recommended). Remove wires by depressing the terminal tabs.



Insert AA batteries for primary or backup power.

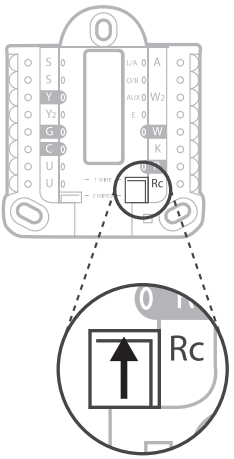
Setting Slider Tabs (built-in jumper)

Set R Slider Tab.

- Use built-in jumper **(R Slider Tab)** to differentiate between one or two transformer systems.
- If there is only one R wire, and it is connected to the **R**, **Rc**, or **RH** terminal, set the slider to the up position **(1 wire)**.
- If there is one wire connected to the **R** terminal and one wire connected to the **Rc** terminal, set the slider to the down position **(2 wires)**.

NOTE: Slider Tab for U terminals should be left in place for T3 Pro models.

UWP Mounting System

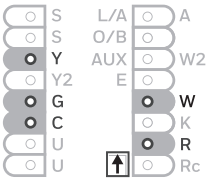


R/Rc Slider Tab (built-in jumper)

UWP Wiring terminal designations

S	Not used for T3 thermostat.
S	
Y	Compressor contactor (stage 1)
Y2	Not used for T3 thermostat.
G	Fan
C	24VAC common. For 2 transformer systems, use common wire from cooling transformer.
U	Not used for T3 thermostat.
U	

L/A - A	Not used for T3 thermostat.
O/B	Changeover valve
AUX - W2	Auxiliary heat (TH3210U only)
E	Emergency heat (TH3210U only)
W	Heat (stage 1)
K	Not used for T3 thermostat.
R	24VAC power from heating transformer*
Rc	24VAC power from cooling transformer*



Note: Not all terminals may be used, depending on the system type that is being wired. The most commonly used terminals are shaded.

* Terminal can be jumped using Slider Tab. See “Setting Slider Tabs” above.

Wiring conventional systems: forced air and hydronics

1H/1C System (1 transformer)

R Power **[1]**
Rc [R+Rc joined by Slider Tab] **[2]**
Y Compressor contactor
C 24VAC common **[3]**
W Heat
G Fan

Heat-only System

R Power **[1]**
Rc [R+Rc joined by Slider Tab] **[2]**
C 24VAC common **[3]**
W Heat

Heat-only System (Series 20) **[5]**

R Series 20 valve terminal "R" **[1]**
Rc [R+Rc joined by Slider Tab] **[2]**
Y Series 20 valve terminal "W"
C 24VAC common **[3]**
W Series 20 valve terminal "B"

Heat-only System
(power open zone valve) **[5]**

R Power **[1]**
Rc [R+Rc joined by Slider Tab] **[2]**
W Valve
C 24VAC common **[3]**

1H/1C System (2 transformers)

R Power (heating transformer) **[1]**
Rc Power (cooling transformer) **[1]**
Y Compressor contactor
C 24VAC common **[3, 4]**
W Heat
G Fan

Heat-only System with Fan

R Power **[1]**
Rc [R+Rc joined by Slider Tab] **[2]**
C 24VAC common **[3]**
W Heat
G Fan

Cool-only System

R Power **[1]**
Rc [R+Rc joined by Slider Tab] **[2]**
Y Compressor contactor
C 24VAC common **[3]**
G Fan

Wiring heat pump systems

1H/1C Heat Pump System

R Power **[1]**
Rc [R+Rc joined by Slider Tab] **[2]**
Y Compressor contactor
C 24VAC common **[3]**
O/B Changeover valve **[7]**
G Fan
W **Do not use this terminal for heat pump applications!**

2H/1C Heat Pump System (TH3210U only)

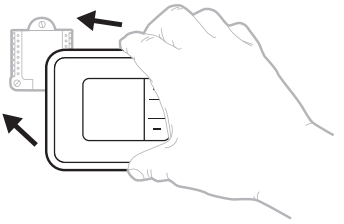
R Power **[1]**
Rc [R+Rc joined by Slider Tab] **[2]**
Y Compressor contactor
C 24VAC common **[3]**
O/B Changeover valve **[7]**
G Fan
AUX Auxiliary heat
E Emergency heat
W **Do not use this terminal for heat pump applications!**

NOTES
Wire specifications: Use 18- to 22-gauge thermostat wire. Shielded cable is not required.

[1] Power supply. Provide disconnect means and overload protection as required.
[2] Move R-Slider Tab on UWP to the **R** setting. For more information, see "Setting Slider Tabs (built-in jumper)" on page 3
[3] Optional 24VAC common connection.
[4] Common connection must come from cooling transformer.
[5] In ISU set Heat system type to Radiant Heat. Set number of cool stages to 0.
[7] In Installer Setup, set changeover valve to O (for cool changeover) or B (for heat changeover).

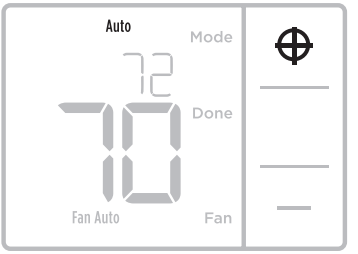
Thermostat mounting

1. Push excess wire back into the wall opening.
2. Close the UWP door. It should remain closed without bulging.
3. Align the UWP with the thermostat, and push gently until the thermostat snaps in place.
4. Turn the power on at the breaker box or switch.



System operation settings

1. Press **Menu**, and then press the **Mode** (+) button to cycle to the next available System mode.
2. Cycle through the modes until the required System mode is displayed, and then press **Done**.



NOTE: Available System modes vary by model and system settings.

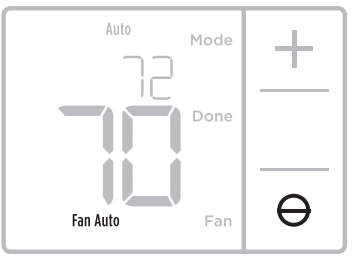
System modes:

- **Auto:** Thermostat selects heating or cooling as needed.
- **Heat:** Thermostat controls only the heating system.
- **Cool:** Thermostat controls only the cooling system.
- **Em heat (TH3210U only):** For heat pumps with auxiliary heat. Thermostat controls auxiliary heat. Compressor is not used.
- **Off:** Heating and cooling system is off. Fan will still operate if fan is set to On.

NOTE: Heat On/Cool On may flash for 5 minutes due to compressor protection.

Fan operation settings

1. Press **Menu**, and then press the **Fan** (-) button to cycle to the next available Fan mode.
2. Cycle through the modes until the required Fan mode is displayed, then press **Done**.



NOTE: Available Fan modes vary with system settings.

Fan modes:

- **Auto:** Fan runs only when the heating or cooling system is on.
- **On:** Fan is always on.

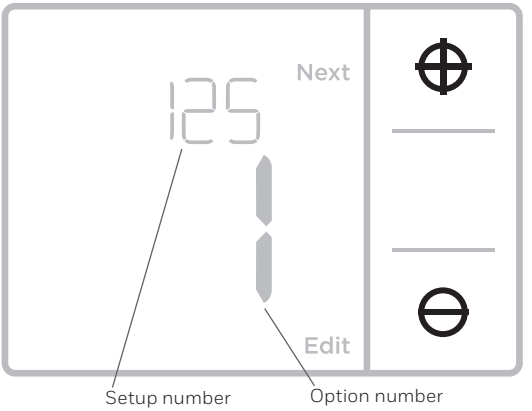
Installer setup (ISU)

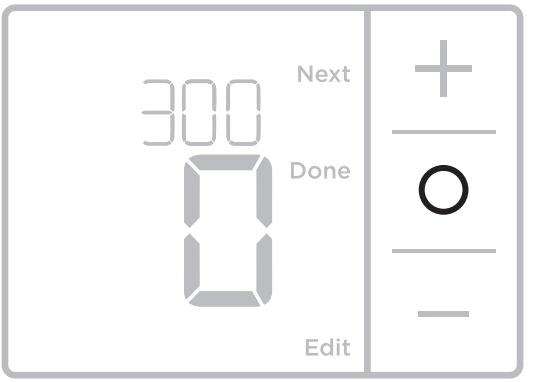
NOTE: The thermostat enters installer setup the first time it is powered up during installation. To re-enter the System Setup from the Home Screen, press and hold the Menu button for approximately 5 seconds.

1. **Select System Setup options.**
   Press **Edit** (-) to change values or select from available options. Then press **Next** (+) to save changes and advance to the next System Setup number.

   See "System Setup options" on the next page for a full list of System Setup numbers and options.

   Repeat until all of the System Setup options have been set, and then press **Done**. The thermostat will save and exit to the home screen.
2. **Continue to "Installer setup (ISU)" on page 6.**





Installer setup (ISU)

ISU Setup Number and Description	Options (factory default in bold)
125 = Temperature Indication Scale	**0 = Fahrenheit** 1 = Celsius
200 = Heating System Type	1 = Conventional Forced Air Heat 2 = Heat Pump 3 = Radiant Heat 5 = None (Cool Only) *Notes:* • *Default varies based on model.* • *This option selects the basic system type your thermostat will control.*
205 = Heating Equipment Type	*Conventional Forced Air Heat:* 1 = Standard Efficiency Gas Forced Air **2 = High Efficiency Gas Forced Air** 3 = Oil Forced Air 4 = Electric Forced Air 5 = Hot Water Fan Coil *Heat Pump:* *Note: ISU 205 is not shown when ISU 200 is set for heat pump.* *Radiant Heat:* **9 = Hot Water Radiant Heat** 12 = Steam *Note: This option selects the equipment type your thermostat will control. This feature is NOT displayed if feature 200 is set to Cool Only.*
218 = Reversing Valve O/B	**0 = O (O/B in Cool)** 1 = B (O/B in Heat) *Note: This option is only displayed if the Heat Pump is configured. Select whether reversing valve O/B should energize in cool or in heat.*
220 = Cool Stages / Compressor Stages (200=Conv / 200=HP)	0, **1** *Note: Select how many Cool or Compressor stages of your equipment the thermostat will control. Set value to 0 if you do not have Cool Stage/ Compressor Stage.*
221 = Heat Stages / Backup Heat Stages	Heat Stages: **1** Backup Heat Stages: 0, **1** *Note: Select how many Heat or Aux/E stages of your equipment the thermostat will control.*
230 = Fan Control in Heat	1 = Equipment Controls Fan **2 = Thermostat Controls Fan** *Note: This ISU is only displayed if ISU 205 is set to Electric Forced Air or Fan Coil.*
300 = System Changeover	**0 = Manual** 1 = Automatic *Note: Thermostat can automatically control both heating and cooling to maintain the desired indoor temperature. To be able to select "automatic" system mode on thermostat home screen, turn this feature ON. Turn OFF if you want to control heating or cooling manually.*

Continued on next page.

Installer setup (ISU) (continued)

ISU Setup Number and Description	Options (factory default in bold)
303 = Auto Changeover Differential	**0 °F** to 5 °F **0 °C** to 2.5 °C *Note: Differential is NOT deadband. Differential means how far past the setpoint before switching to the mode selected. Deadband setup is not an option. An advanced algorithm fixes the deadband at 0 °F. This is more advanced than previous thermostats.*
340 = Backup Heat Droop (TH3210U only)	**0 = Comfort** 2 = 2 °F 3 = 3 °F 4 = 4 °F 5 = 5 °F 6 = 6 °F 7 = 7 °F 8 = 8 °F 9 = 9 °F 10 = 10 °F 11 = 11 °F 12 = 12 °F 13 = 13 °F 14 = 14 °F 15 = 15 °F
350 = Upstage Timer to Backup Heat (TH3210U only)	**0 = Off** 1 = 30 minutes 2 = 45 minutes 3 = 60 minutes 4 = 75 minutes 5 = 90 minutes 6 = 2 hours 7 = 3 hours 8 = 4 hours 10 = 5 hours
365 = Compressor Cycle Rate (Stage 1)	1 - 6 *Note: This ISU is only displayed when Cool /Compressor Stage is set to 1 stage. Cycle rate limits the maximum number of times the system can cycle in a 1 hour period measured at a 50% load. For example, when set to 3 CPH, at a 50% load, the most the system will cycle is 3 times per hour (10 minutes on, 10 minutes off). The system cycles less often when load conditions are less than or greater than a 50% load.*
370 = Heating Cycle Rate (Stage 1)	1 - 12 *Note: This ISU is only displayed when Heat Stage is set to 1 stage. Cycle rate limits the maximum number of times the system can cycle in a 1 hour period measured at a 50% load. For example, when set to 3 CPH, at a 50% load, the most the system will cycle is 3 times per hour (10 minutes on, 10 minutes off). The system cycles less often when load conditions are less than or greater than a 50% load. The recommended (default) cycle rate settings are below for each heating equipment type: Standard Efficiency Gas Forced Air = 5 CPH; High Efficiency Gas Forced Air = 3 CPH; Oil Forced Air = 5 CPH; Electric Forced Air = 9 CPH; Fan Coil = 3 CPH; Hot Water Radiant Heat = 3 CPH; Steam = 1 CPH.*
375 = Heating Cycle Rate Auxiliary Heat (TH3210U only)	1 - 12
387 = Compressor Protection	0 = Off 1 - **5** minutes *Note: The thermostat has a built in compressor protection (minimum off timer) that prevents the compressor from restarting too early after a shutdown. The minimum-off timer is activated after the compressor turns off. If there is a call during the minimum-off timer, the thermostat shows "Wait" in the display. This ISU is displayed if ISU 220 is set to at least 1 stage.*

Installer setup (ISU) (continued)

ISU Setup Number and Description	Options (factory default in bold)
430 = Minimum Cool Setpoint	50 °F to 99 °F **(50 °F)** 10.0 °C to 37.0 °C **(10.0 °C)** *Note: The cool temperature cannot be set below this level.*
431 = Maximum Heat Setpoint	32 °F to 90 °F **(90 °F)** 0 °C to 32.0 °C **(32 °C)** *Note: The heat temperature cannot be set above this level.*
1400 = Backlighting	**0 = On Demand** 1 = Continuous *Note: Common wire needed for continuous.*
1401 = Backlight Brightness	1 - **5** *Note: Only displayed if continuous backlight selected.*
1420 = Temperature Display Offset	-3 °F to 3 °F **(0 °F)** -1.5 °C to 1.5 °C **(0 °C)** *Note: 0 °F = No difference in displayed temperature and the actual room temperature. The thermostat can display up to 3 °F (1.5 °C) lower or higher than the actual measured temperature.*

NOTE: Once you have cycled through all of the System Setup numbers, press **Done** to save and exit to the home screen.

Setup Complete

You have now finished installing and setting up your thermostat.

Specifications

Temperature Ranges
Heat: 32 °F to 90 °F (0 °C to 32.0 °C)
Cool: 50 °F to 99 °F (10.0 °C to 37.0 °C)

Operating Ambient Temperature
32 °F to 102 °F (0 °C to 38.9 °C)

Shipping Temperature
-20 °F to 120 °F (-28.9 °C to 48.9 °C)

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

Physical Dimensions in inches (mm) (H x W x D)
Thermostat: 3.86" H x 5.36" W x 1.08" D
(98 mm H x 136 mm W x 27.4 mm D)
Decorative Cover Plate – Small; size:
4.72" H X 5.9" W (120 mm H X 150 mm W)

Electrical Ratings

Terminal	Voltage (50Hz/60Hz)	Running Current
W Heating	20 Vac-30 Vac	0.02 A-1.0 A
(Powerpile)	750 mV DC	100 mA DC
W2 (Aux) Heating (TH3210U only)	20 Vac-30 Vac	0.02 A-1.0 A
E Emergency Heat (TH3210U only)	20 Vac-30 Vac	0.02 A-0.5 A
Y Compressor Stage 1	20 Vac-30 Vac	0.02 A-1.0 A
G Fan	20 Vac-30 Vac	0.02 A-0.5 A
O/B Changeover	20 Vac-30 Vac	0.02 A-0.5 A

Troubleshooting

If you have difficulty with your thermostat, please try the following suggestions. Most problems can be corrected quickly and easily.

Display is blank
- Check circuit breaker and reset if necessary.
- Make sure power switch for heating & cooling system is on.
- Make sure furnace door is closed securely.
- Make sure fresh AA alkaline batteries are correctly installed (see page 2).

Heating or cooling system does not respond
- Press **Mode** button to set system Heat (see page 5). Make sure the desired temperature is set higher than the inside temperature.
- Press **Mode** button to set system Cool (see page 5). Make sure the desired temperature is set lower than the inside temperature.
- Check circuit breaker and reset if necessary.
- Make sure power switch for heating & cooling system is on.
- Make sure furnace door is closed securely.
- Wait 5 minutes for the system to respond.

"Cool On" or "Heat On" is flashing
- Compressor protection feature is engaged. Wait 5 minutes for the system to restart safely, without damage to the compressor.

Aux heat runs in cooling
- For heat pump systems, verify there is not a wire attached to W on UWP systems. See "Wiring heat pump systems" on page 4.

Cool runs with a call for heat
- For heat pump systems, verify there is not a wire attached to W on UWP systems. See "Wiring heat pump systems" on page 4.

CAUTION: ELECTRICAL HAZARD
Can cause electrical shock or equipment damage. Disconnect power before beginning installation.

CAUTION: EQUIPMENT DAMAGE HAZARD
Compressor protection is bypassed during testing. To prevent equipment damage, avoid cycling the compressor quickly.

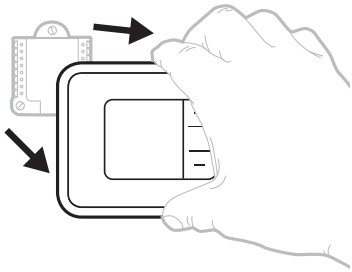
CAUTION: MERCURY NOTICE
If this product is replacing a control that contains mercury in a sealed tube, do not place the old control in the trash. Contact your local waste management authority for instructions regarding recycling and proper disposal.

CAUTION: ELECTRONIC WASTE NOTICE
The product should not be disposed of with other household waste. Check for the nearest authorized collection centers or authorized recyclers. The correct disposal of end-of-life equipment will help prevent negative consequences for the environment and human health.

Customer assistance

For assistance with this product, please visit **customer.resideo.com**.

Or call Customer Care toll-free at **1-800-468-1502.**



Pull to remove the thermostat from the UWP.

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