

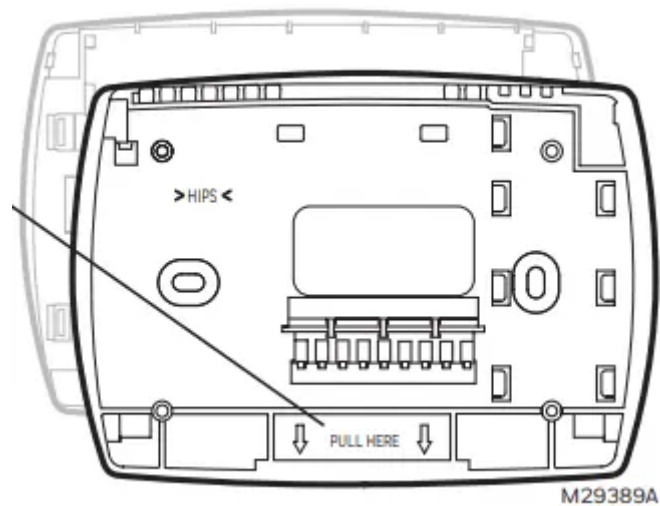
## Installation Guide Digital Thermostat

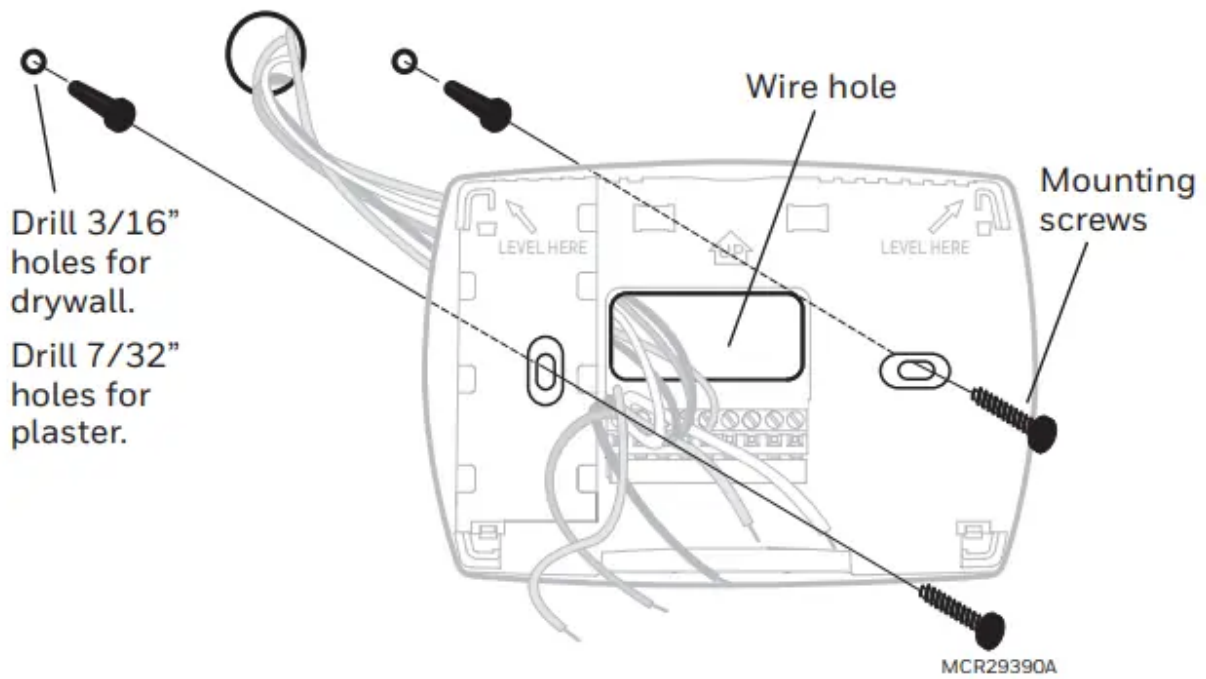
### Installation

#### Wallplate installation

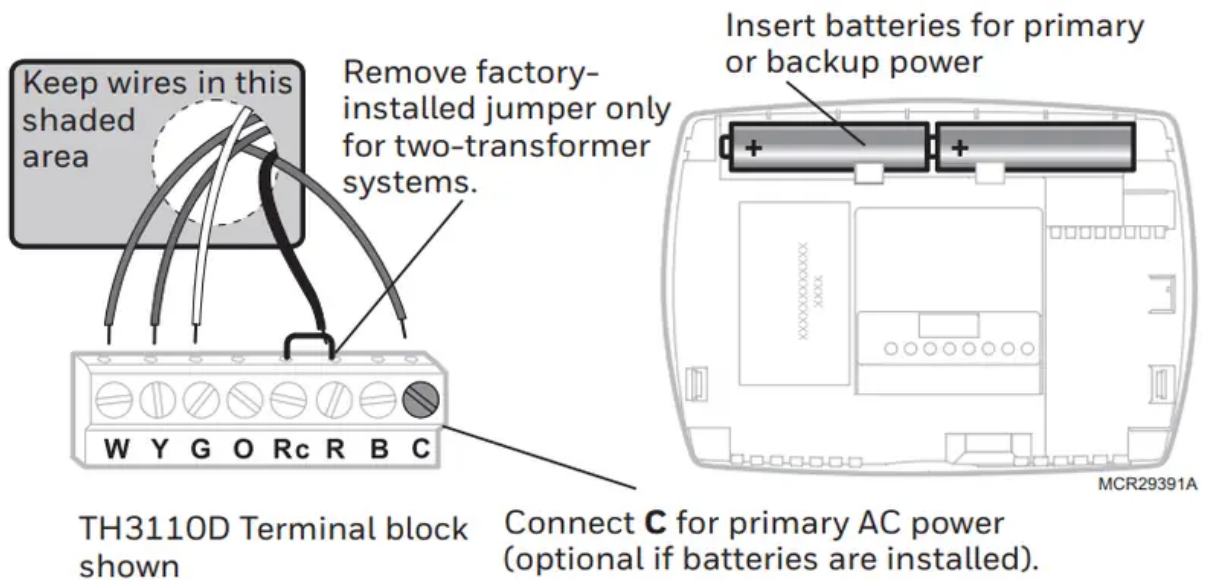
Remove the wallplate from the thermostat by pulling from the bottom, then follow directions below for mounting.

1. Pull wires through wire hole.
2. Position wallplate on wall, level and mark hole positions with pencil.
3. Drill holes at marked positions as shown below, then tap in supplied wall anchors.
4. Place wallplate over anchors, insert and tighten mounting screws.





## Power options



## Wiring terminal designations



### TH3110D

- C** 24 Vac common. For 2 transformer systems, use common wire from cooling transformer.
- B** Changeover valve energized in heating
- R** 24 Vac power from heating transformer
- Rc** 24 Vac power from cooling transformer
- O** Changeover valve energized in cooling
- G** Fan relay
- Y** Compressor contactor
- W** Heat relay



### TH3210D

- C** 24 Vac common
- B** Changeover valve energized in heating
- R** 24 Vac power
- L** Sends output when set to Em. Heat
- O** Changeover valve energized in cooling
- G** Fan relay
- Y** Compressor contactor
- Aux** Auxiliary heat relay
- E** Emergency heat relay

## Wiring conventional and heat pump systems



### 2H/1C Heat Pump System TH3210D

- C** 24 Vac common [3]
- B** Changeover valve energized in heating [5]
- R** Power [1]
- L** Sends output when set to Em. Heat [8]
- O** Changeover valve energized in cooling [5]
- G** Fan relay
- Y** Compressor contactor
- Aux** Auxiliary heat relay [9]
- E** Emergency heat relay [9]



### 1H/1C Heat Pump System TH3110D [7]

- C** 24 Vac common [3]
- B** Changeover valve energized in heating [5]
- R** [R+Rc joined by jumper]
- Rc** Power [1]
- O** Changeover valve energized in cooling [5]
- G** Fan relay
- Y** Compressor contactor [6]
- W** [W+Y joined by jumper]



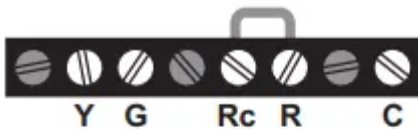
**1H/1C System TH3110D (1 transformer)**

- C** 24 Vac common [3]
- R** [R+Rc joined by jumper]
- Rc** Power [1]
- G** Fan relay
- Y** Compressor contactor
- W** Heat relay



**1H/1C System TH3110D (2 transformers)**

- C** 24 Vac common [3, 4]
- R** Power (heating transformer) [1, 2]
- Rc** Power (cooling transformer) [1, 2]
- G** Fan relay
- Y** Compressor contactor
- W** Heat relay



**Cool Only System TH3110D**

- C** 24 Vac common [3]
- R** [R+Rc joined by jumper]
- Rc** Power [1]
- G** Fan relay
- Y** Compressor contactor

**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] Remove jumper for 2-transformer systems.

[3] Optional 24 Vac common connection.

[4] Common connection must come from cooling transformer.

[5] Use either O or B terminals for changeover valve.

[6] Use a small piece of wire (not supplied) to connect W and Y terminals.



**Heat Only System TH3110D**

- C** 24 Vac common [3]
- R** [R+Rc joined by jumper]
- Rc** Power [1]
- W** Heat relay



**Heat Only System with Fan TH3110D**

- C** 24 Vac common [3]
- R** [R+Rc joined by jumper]
- Rc** Power [1]
- G** Fan relay
- W** Heat relay



[7] Set fan operation switch to Heat Pump (see page 5) and configure system type for heat pump (see page 6).

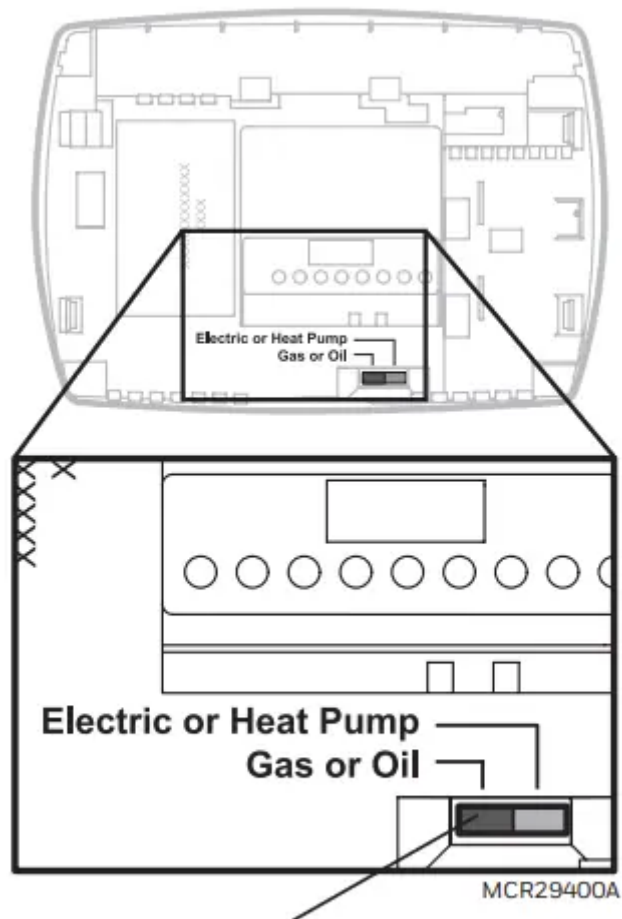
[8] L terminal sends a continuous output when thermostat is set to Em. Heat. Connect to Honeywell Home zoning panels to switch the panel to Emergency Heat.

[9] Install field jumper between Aux and E if there is no emergency heat relay.

### Fan operation settings (TH3110D only)

Gas or Oil: For gas or oil heating systems, leave the fan operation switch in this factory-set position. (This setting is for systems that control the fan in a call for heat.)

Electric or Heat Pump: Change the switch to this setting for heat pump or electric heat systems. (This setting is for systems that allow the thermostat to control the fan in a call for heat, if a fan wire is connected to the G terminal.)



Set fan operation switch.

### Thermostat mounting

1. Align the 4 tabs on the wallplate with corresponding slots on the back of the thermostat.
2. Push gently until the thermostat snaps in place.



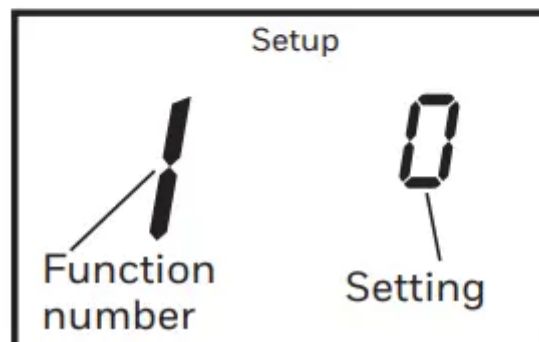
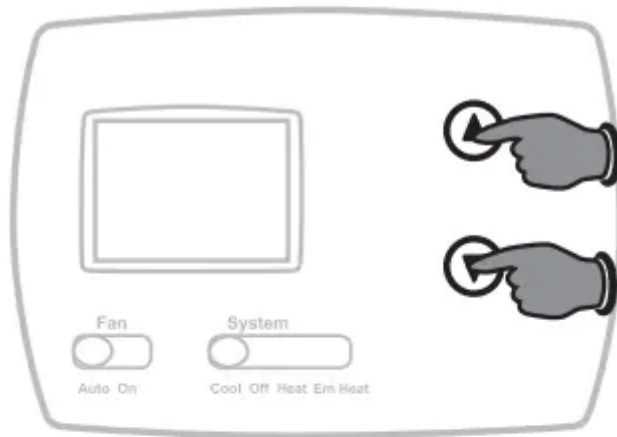
3. Push excess wire back into the wall opening.
4. Plug wall opening with nonflammable insulation.

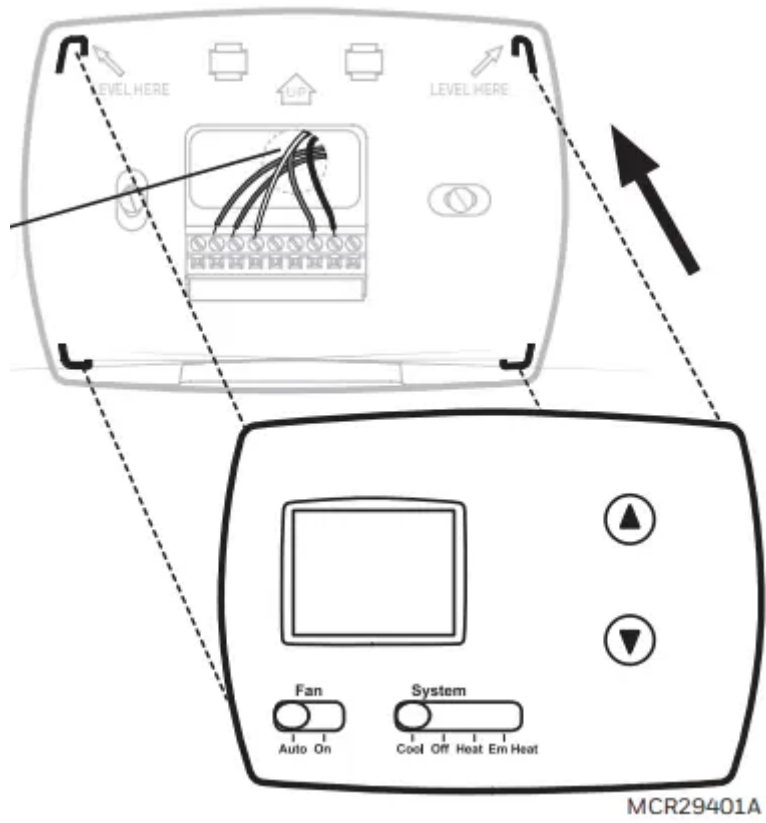
## Installer Setup

Follow the procedure below to configure the thermostat to match the installed heating/cooling system, and customize feature operation as desired.

To begin, press and hold the ▲ and ▼ buttons until the display changes.

- Press ▼ to change settings.
- Press ▲ to advance to next function.
- Press and hold ▼▲ to exit and save settings.





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## Setup function





- 1 System type**  
TH3110D only
  
- 5 Heating cycle rate**  
(CPH: cycles/hour)  
TH3110D only
  
- 6 Auxiliary heat cycle rate** (CPH)  
TH3210D only
  
- 8 Emergency heat cycle rate** (CPH)  
TH3210D only
  
  
- 9 Compressor cycle rate** (CPH)
  
- 14 Temperature display**
  
- 15 Compressor protection**

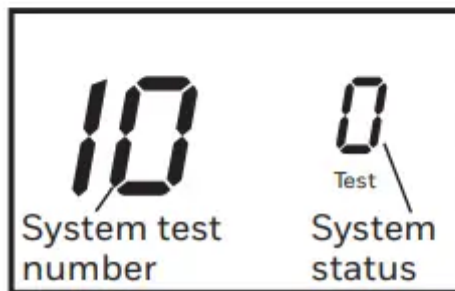
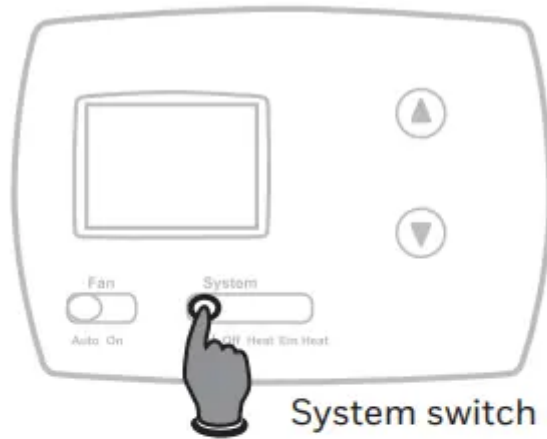
## Settings & options (factory settings in bold)

- 0 Gas, oil or electric heat with air conditioning**
  - 1 Heat pump (5 minute compressor off time in heating and cooling)
  
- 5 For gas or oil furnaces of less than 90% efficiency**
  - 1 For steam or gravity systems
  - 3 For hot water systems & furnaces of over 90% efficiency
  - 9 For electric furnaces
  - [Other cycle rate options: 2, 4, 6, 7, 8, 10, 11 or 12 CPH]
  
- 5 For gas or oil furnaces of less than 90% efficiency**
  - 1 For steam or gravity systems
  - 3 For hot water systems & furnaces of over 90% efficiency
  - 9 For electric furnaces
  - [Other cycle rate options: 2, 4, 6, 7, 8, 10, 11 or 12 CPH]
  
- 9 For electric emergency heat**
  - 1 For steam or gravity systems
  - 3 For hot water systems & furnaces of over 90% efficiency
  - 5 For gas or oil furnaces of less than 90% efficiency
  - [Other cycle rate options: 2, 4, 6, 7, 8, 10, 11 or 12 CPH]
  
  
- 3 Recommended for most compressors  
[Other cycle rate options: 1, 2, 4, 5, or 6 CPH]
  
- 0 Fahrenheit**
  - 1 Celsius
  
  
- 5 Five-minute compressor off time**  
[Other options: 0, 1, 2, 3 or 4-minute off time]

**Compressor Protection** (Setup Function 15): Forces the compressor to wait a few minutes before restarting, to prevent damage. During the wait time, the message Cool On or Heat On (heat pumps only) will flash on the display.

## Installer system test

1. Set SYSTEM switch to Heat.
2. Press  to turn on and check systems (see table, below).
3. Press  until systems turn off.
4. Set SYSTEM switch to Em Heat and repeat steps 2-3 above (TH3210D only).
5. Set SYSTEM switch to Cool and repeat steps 2-3 above.
6. Press and hold   to terminate test at any time.



### System test

**10 Heating system**

**20 Emergency heat**

**30 Cooling system**

**70 Thermostat information**  
(for reference only)

### System status

- |    |  |                  |
|----|--|------------------|
| 0  | Heat and fan turn off.                     |                  |
| 1  | Heat turns on.                             |                  |
| 2  | Auxiliary heat turns on (TH3210D only).    |                  |
| 0  | Heat and fan turn off.                     | } (TH3210D only) |
| 1  | Heat and fan turn on.                      |                  |
| 2  | Auxiliary heat turns on.                   |                  |
| 0  | Compressor and fan turn off.               |                  |
| 1  | Compressor and fan turn on.                |                  |
| 71 | Software revision number (major revisions) |                  |
| 72 | Software revision number (minor revisions) |                  |
| 73 | Configuration identification code (major)  |                  |
| 74 | Configuration identification code (minor)  |                  |
| 75 | Production configuration date code (week)  |                  |
| 76 | Production configuration date code (year)  |                  |

## Troubleshooting

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

<b>Display is blank</b>	<ul style="list-style-type: none"> <li>•Check circuit breaker and reset if necessary.</li> <li>•Make sure power switch at heating &amp; cooling system is on.</li> <li>•Make sure furnace door is closed securely.</li> <li>•Make sure fresh AA alkaline batteries are correctly installed (see page 2).</li> </ul>
<b>Heating or cooling system does not respond</b>	<ul style="list-style-type: none"> <li>•Set system switch to Heat. Make sure the temperature is set higher than the Inside temperature.</li> <li>•Set system switch to Cool. Make sure the temperature is set lower than the Inside temperature.</li> <li>•Wait 5 minutes for the system to respond.</li> </ul>
<b>Temperature settings do not change</b>	<p>Make sure heating and cooling temperatures are set to acceptable ranges:</p> <ul style="list-style-type: none"> <li>•Heat: 40° to 90°F (4.5° to 32°C).</li> <li>•Cool: 50° to 99°F (10° to 37°C).</li> </ul>
<b>“Cool On” or “Heat On” is flashing</b>	<ul style="list-style-type: none"> <li>•Compressor protection feature is engaged. Wait 5 minutes for the system to restart safely, without damage to the compressor.</li> </ul>
<b>“Heat On” is not displayed</b>	<ul style="list-style-type: none"> <li>•Set the System switch to Heat, and set the temperature level above the current room temperature.</li> </ul>
<b>“Cool On” is not displayed</b>	<ul style="list-style-type: none"> <li>•Set the System switch to Cool, and set the temp</li> </ul>

### Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.

