

T8011R Programmable Heat Pump Thermostat

TRADELINE®

PRODUCT DATA



FEATURES

- Attractive styling complements any decor to the homeowner's delight.
- Preprogrammed for your convenience.
- Program up to four time periods and temperature setpoints to complement your lifestyle.
- Programs are permanently held in non-volatile memory in the event of a power failure.
- Indefinite setpoint temperature hold for added comfort and energy savings.
- Ease-of-use means fewer homeowner questions and increased homeowner satisfaction.
- Large temperature display for quick easy readability.
- Conveniently sized thermostat (5-1/2 x 3-1/2) with optional decorator cover plates (7-3/8 x 5-3/4) make it easy to install in a variety of locations.
- Keys are located by the display for easy access.
- FAN and SYSTEM switches are located on the lower edge to eliminate accidental setting changes.
- Easy installation, setup and system checkout saves time and increases installer productivity.
- Manual changeover from heat to cool eliminates unexpected system operation.
- °F or °C temperature display for added model flexibility.
- Cooling cycle rate is fixed (3 cph), the standard setting for compressors, for speedy installation.
- Selectable 2nd stage heating cycle rate (1, 3, 6 or 9 cph). First stage heating cycle rate is fixed at 3 cph.
- Setpoints are permanently held in non-volatile memory (no batteries required) and retained during power outages for increased installer and homeowner convenience.
- Em. Ht. and Aux. Ht. indicators let the homeowner know when these modes are active.

APPLICATION

The T8011R Heat Pump Thermostat provides 24 Vac control of a two-stage heating and one-stage cooling heat pump system with manual changeover from heat to cool. First stage heating and cooling cycle rates are fixed at 3 cph. Second stage heating cycle rate is selectable at 1, 3, 6 or 9 cph. Temperature indication can be set for °F or °C.

The T8011R Heat Pump Thermostat is powered directly through the system transformer.

Contents

Application	1
Features	1
Specifications	2
Ordering Information	2
Installation	3
Installer Setup	4
Operation	6
Checkout	9
Troubleshooting	10



SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances; therefore, an individual unit might not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions, and some minor differences in performance can be expected if those conditions are changed.

T8011R TRADELINE® model includes a thermostat, wallplate (for wiring and mounting thermostat) and Owner's Guide.

Power:

T8011R: 24 Vac nominal, 18 to 30 Vac, 50 or 60 Hz.

Electrical Ratings:

First Stage Heating: .02 to 1.5A run; 7.5A inrush.
 Second Stage Heating: .02 to 1.5A run; 3.5A inrush.
 Cooling: .02 to 1.5A run; 7.5A inrush.
 Fan: .02 to 0.5A run; 2.5A inrush.
 Emergency Heat Output (E): .02 to 1.5A run; 3.5A inrush.
 Heating Changeover Valve (B): .02 to 0.5A run; 2.5A inrush.
 Cooling Changeover Valve (O): .02 to 0.5A run; 2.5A inrush.
 Emergency Heat Indicator (L): .02 to 0.5A run; 2.5A inrush.

Temperature Adjustment:

Setpoint temperature is adjusted by using the ▼ or ▲ keys. One press changes the setpoint one degree; pressing and holding changes the setpoint several degrees.

Temperature Setting Range:

30° to 99°F (4° to 37°C)

Ambient Temperature Range:

30° to 110°F (4° to 43°C).

Shipping Temperature Range:

-20° to 120°F (-29°C to 49°C).

Operating Relative Humidity:

5% to 90% RH, non-condensing.

Cycle Rates (at 50% Load):

First Stage Heating: Fixed at 3 cph.
 Second Stage Heating: Selectable at 1, 3, 6 or 9 cph.
 Cooling: Fixed at 3 cph.

Finish:

T8011R MODELS: are available in Premier White® and Taupe finish.

Accessory:

Decorator cover plates; for covering wall marks are available separately. Order Honeywell part no. 209649A for Taupe, or part no. 209649B for White. 7-3/8 in. x 5-3/4 in. (188 mm x 146 mm).

Dimensions:

See Fig. 1.

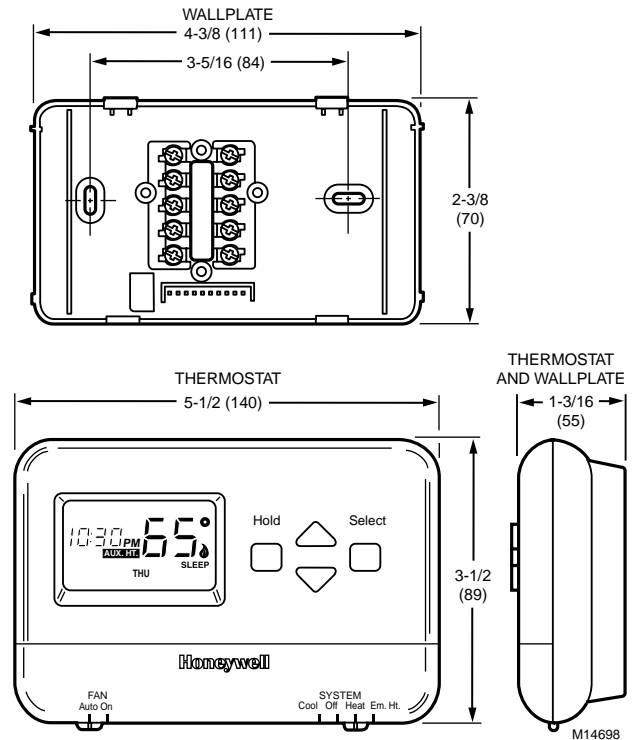


Fig. 1. T8011R Thermostat dimensions in in. (mm).

ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Assistance
 Honeywell Inc., 1885 Douglas Drive North
 Minneapolis, Minnesota 55422-4386 (612) 951-1000

In Canada—Honeywell Limited/Honeywell Limitée, 155 Gordon Baker Road, North York, Ontario M2H 3N7.

International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.



CAUTION

Damage to Heating/Cooling System Possible.
Be careful when handling wires during installation.
 Disconnect power at furnace or main breaker/fuse box.



MERCURY NOTICE

If this control is replacing a control that contains mercury in a sealed tube, do not place your old control in the trash. Dispose of it properly.

Contact your local waste management authority for instructions regarding recycling and the proper disposal of a control. If you have questions, call the Honeywell Customer Response Center at 1-800-468-1502.

Location

Install the thermostat about 5 ft (1.5 m) above the floor in an area with good air circulation at average room temperature. See Fig. 2. Do not install the thermostat where it can be affected by:

- drafts or dead spots behind doors and in corners.
- hot or cold air from ducts.
- radiant heat from the sun or appliances.
- concealed pipes and chimneys.
- unheated (uncooled) areas such as an outside wall behind the thermostat.

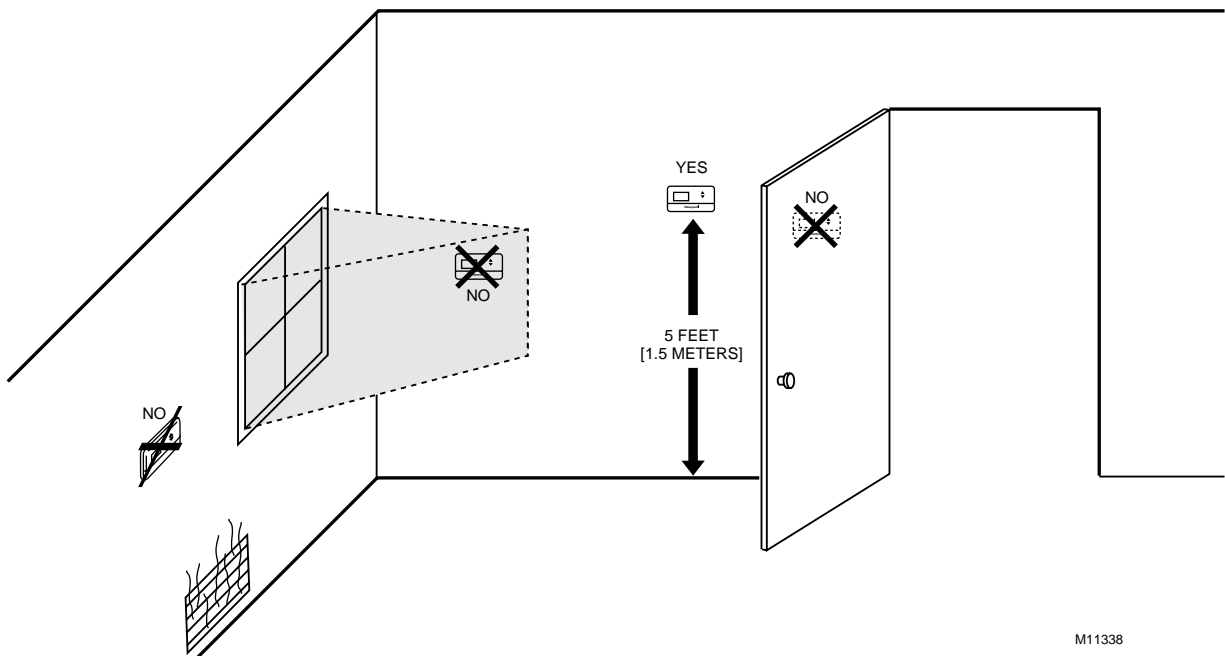
Mounting Wallplate to Wall

IMPORTANT

Level for appearance only. The thermostat functions normally even when not level.

Mount wallplate and the T8011R with the screws provided (see Fig. 3) as follows:

1. Place the wallplate at the desired location on the wall.
2. Pull the thermostat wire through the wallplate entrance hole.
3. Fasten the wallplate to the wall using the anchors and screws provided.
4. After wiring the wallplate, plug the hole with non-flammable insulation to prevent drafts from affecting the thermostat; see Wiring section.



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Fig. 2. Typical location of thermostat.

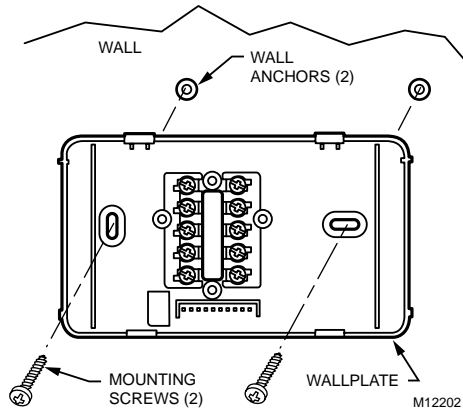


Fig. 3. Mounting wallplate to wall.

Wiring

IMPORTANT

Use an 18-gauge maximum wire for wiring the T8011R Thermostat.

All wiring must comply with local electrical codes and ordinances. Disconnect the power supply to prevent electrical shock or equipment damage.

The shape of the terminals permits insertion of straight or wraparound wiring connections; either method is acceptable. A letter code is located near each terminal for identification. See Fig. 4.

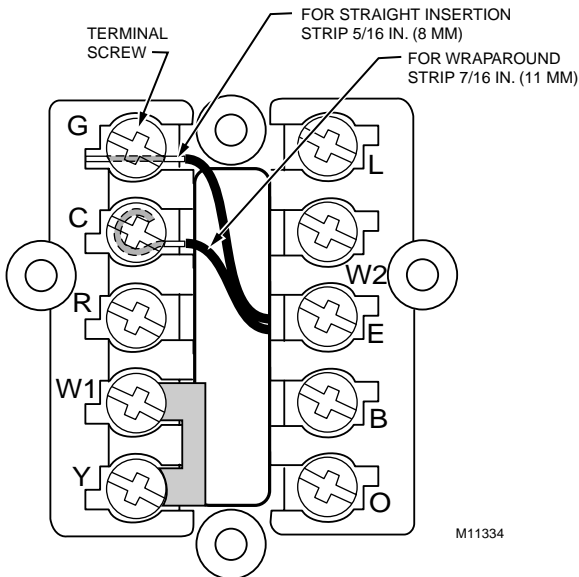


Fig. 4. Wiring connections.

NOTE: To ensure proper mounting of thermostat, restrict all wiring to the shaded area in the center of the terminals. See Fig. 5.

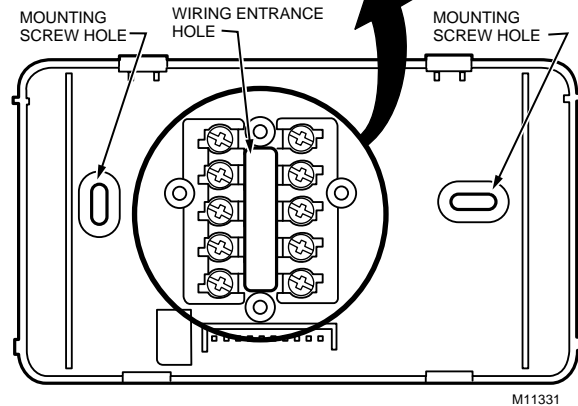
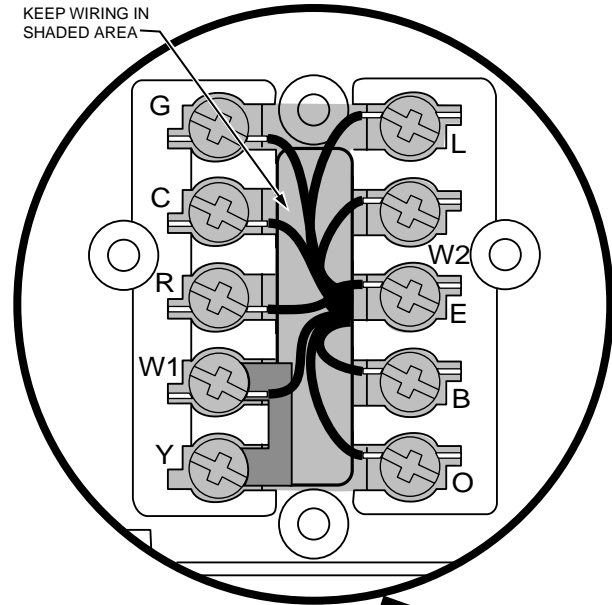


Fig. 5. Restrict wiring to shaded area.

The T8011R Heat Pump Thermostat is powered directly from the system transformer.

Refer to Fig. 6 for typical wiring hookup.

Mounting Thermostat to Wallplate

1. Slide System switch to the Off position.
2. Engage the tabs at the top of the thermostat and wallplate.
3. Swing down the thermostat and press the lower edge of the thermostat onto the wallplate to latch. See Fig.7.

INSTALLER SETUP

Setting °F/°C Indication and Heat Cycle Rate

The following instructions provide the information necessary to change the heating cycle rate to match the heating equipment and to choose either Fahrenheit (°F) or Celsius (°C) display.

NOTE: All four steps must be completed to save changes to the °F/°C indication and the heat cycle rate.

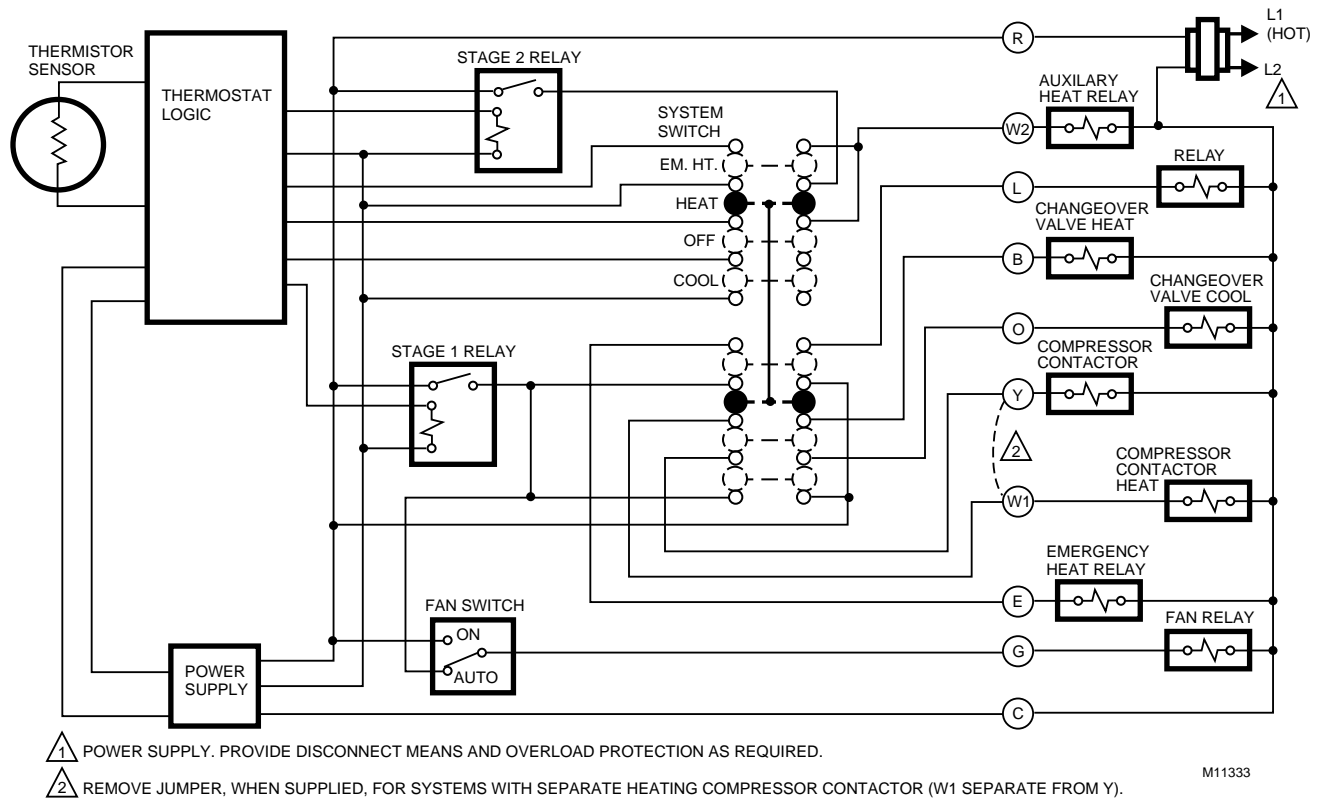


Fig. 6. T8011R two-stage heat, one-stage cool wiring diagram with manual changeover.

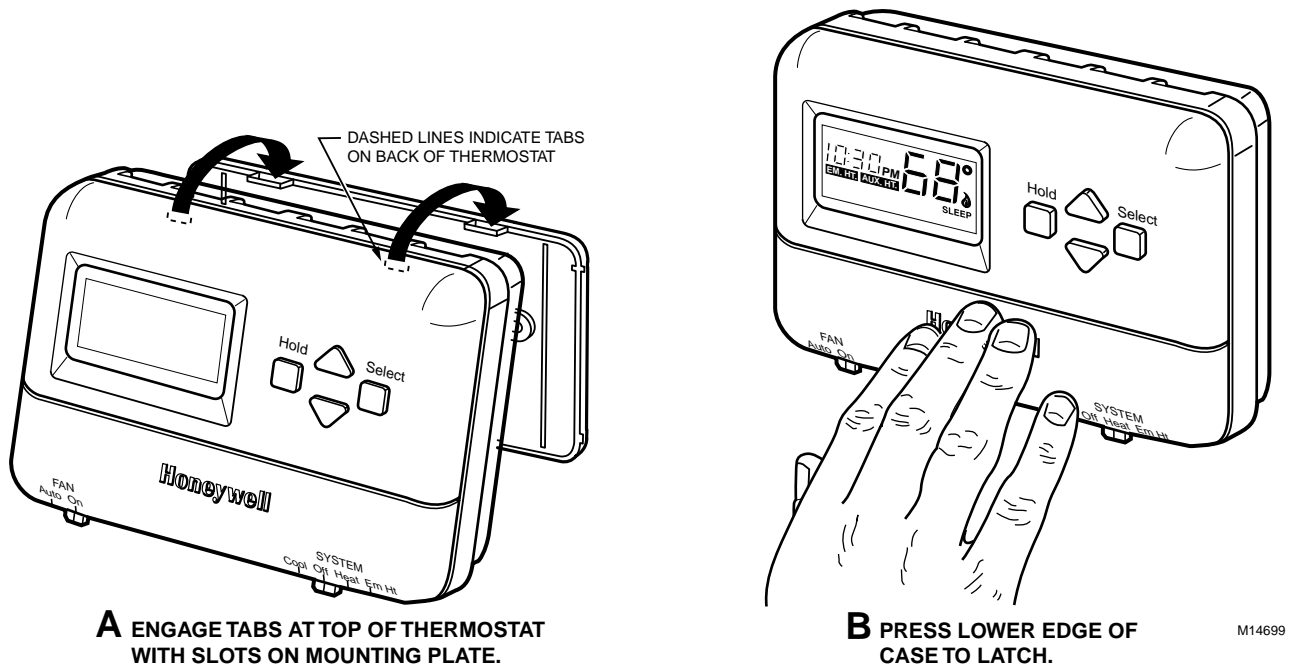
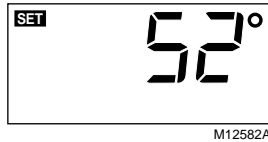


Fig. 7. Mounting thermostat to wall plate.

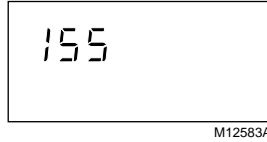
1. Enter Installer Setup.

- a. Use ▲ or ▼ keys to set the temperature setpoint to 52 °F (11°C).

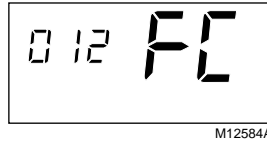


- b. Press the ▲ and ▼ keys simultaneously for more than two seconds to enter installer setup.

- c. When released a software revision code is displayed.



- d. Press the ▲ key. Factory configuration (FC) is displayed (A typical example is shown, but information displayed varies by model. This information is for factory use only).



Optional System Checkout

When in steps 1c and 1d, pressing the ▼ key can be used to turn heat or cool outputs on and off. Change the SYSTEM switch setting to test heat or cool outputs. During testing, the 5 minute off-timer is bypassed. No action takes place if the system switch is in the Off position.

! CAUTION

Damage to Compressor Possible.
Allow compressor to remain off for 5 minutes before restarting.
 Refer to manufacturer's instructions.

Examples: System setting at HEAT: Press the ▼ key to turn on the first stage heat. Press the ▼ key again to turn on the second stage heat. To turn off second stage heat, press the ▼ key a third time. Press the ▼ key again to turn off the first stage heat.

System setting at COOL: If cool is on, pressing the ▼ key turns it off; if cool is off, pressing the ▼ key turns it on.

NOTE: In Installer Setup only, each press of the ▲ key momentarily displays 1. Each press of the ▼ key momentarily displays 2. When the keys are released, these one-digit codes are no longer displayed.

2. Setting °C or °F.

- a. Press the ▲ key again to display the current setting.



- b. Press the ▼ key to change the °C or °F indication.



3. Setting Heat Cycle Rate (see Table 1 for cycle rate options).

NOTE: Cycle rate settings are for second stage heat. First stage heat and cool are fixed at 3 cph.

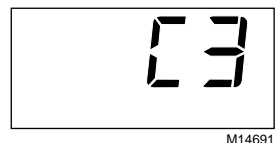
- a. Press the ▲ key to display the current heat cycle rate setting of 1, 3, 6, or 9 cph.
- b. If the desired cycle rate is displayed, press the ▲ key to exit the installer setup.



- c. To change the heat cycle rate, press the ▼ key until your choice of 1, 3, 6, or 9 is displayed.



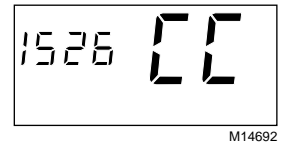
- d. Press the ▲ key to display cooling algorithm configuration default.



- e. Press the ▲ key again to change cooling algorithm to C1 or C3.

C1 = Standard cooling algorithm.
 C3 = Aggressive cooling algorithm (can cause overshooting).

- f. Press the ▲ key again. Current configuration (CC) is displayed. A typical example is shown, but CC varies by model.



(This information is for factory use only.)

4. Exit Installer Setup.

- a. Press the ▲ key to save all changes and return to normal operation.



Table 1. Second Stage Heating Cycle Rates.

System	Cycles Per Hour
Steam, Gravity	1
Condensing Gas Furnaces ^a	3
Gas or Oil Forced Air	6
Electric Heat	9

^aHigh efficiency furnace (90+).

OPERATION

Setting FAN and SYSTEM Switches

Fan and system settings are controlled manually by using the switches located at the bottom of the thermostat case. See Fig. 8.

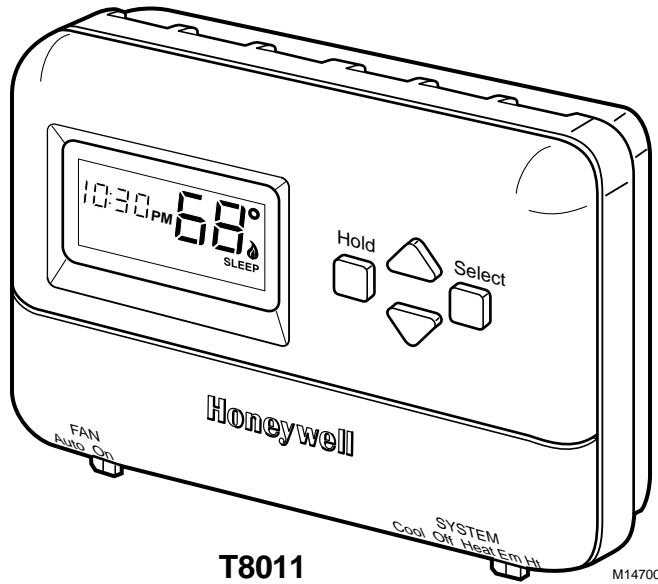


Fig. 8. Digital display and system switches.

FAN Switch

Fan switch settings are:

- On: The fan runs continuously. Use for improved air circulation and air quality.
- Auto: Normal setting for most homes. The fan starts and stops with the equipment.

Slide the FAN switch in the lower left corner of the thermostat to select the desired fan setting.

System Switch

System switch settings control thermostat operation as follows:

- Cool: The thermostat controls the cooling system.
- Heat: The thermostat controls the heating system.
- Off: Both heating and cooling are off.
- Em. Ht: Thermostat cycles emergency heat relay (E) and auxiliary heat (W2) as needed to maintain setpoint. Terminal L is energized continuously. (Fault heat relay is on continuously.) Cooling system is off. Compressor is de-energized.

Em. Ht. and Aux. Ht. Indications

The ◀ indicator points to either Emergency Heat (Em. Ht.) or Auxiliary Heat (Aux. Ht.) when these modes are active.

- Em. Ht.: The ◀ indicator points to Em. Ht. when the system switch is set at Em. Ht.
- Aux. Ht.: The ◀ indicator points to Aux. Ht. when auxiliary backup heat is needed to maintain setpoint.

Programming

The thermostat is flexible and can be programmed for different schedules for weekdays and weekends.

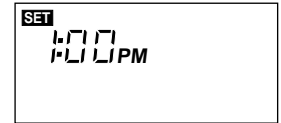
Four time periods are available during weekdays and weekends —WAKE, LEAVE, RETURN, and SLEEP.

IMPORTANT

Always press the keys with your fingertip or similar blunt tool. Sharp instruments like pens and pencil points can damage the keyboard.

Setting the Current Time and Day

1. To Set Current Time.
Press Select twice.
Press ▲ or ▼ to set current time.



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While setting the current time, the word SET is displayed.

2. To Set Day of Week.
Press Select again.
Press ▲ or ▼ to set current day.



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To use the preprogrammed time and temperature settings (see Table 2), press Hold to exit the programming mode.

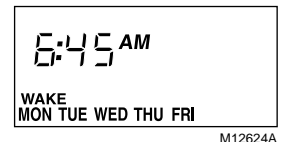
Table 2. Preprogrammed Time and Temperature Settings.

Period	Time	Heat Setpoint	Cool Setpoint
Wake	6:00 AM	70°F (21°C)	78°F (26°C)
Leave	8:00 AM	62°F (17°C)	85°F (29°C)
Return	6:00 PM	70°F (21°C)	78°F (26°C)
Sleep	10:00PM	62°F (17°C)	82°F (28°C)

Setting the Weekday Program

Slide the SYSTEM switch to the position, heating or cooling, you want to program. The flame 🔥 (heating) or the snowflake ❄️ (cooling) will appear in the lower right corner of the display when setting the program temperatures.

3. Wake
 - a. Press Select.
Press ▲ or ▼ to set Wake time.



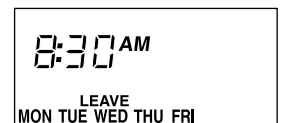
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- b. Press Select.
Press ▲ or ▼ to set Wake temperature.



M12625B

4. Leave
 - a. Press Select.
Press ▲ or ▼ to set Leave time.



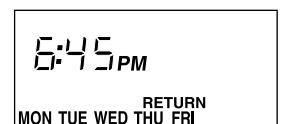
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- b. Press Select.
Press ▲ or ▼ to set Leave temperature.



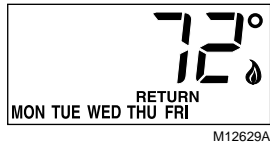
M12627A

5. Return
 - a. Press Select.
Press ▲ or ▼ to set Return time.

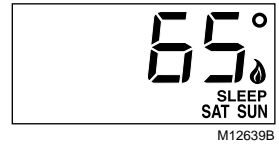


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- b. Press Select.
Press ▲ or ▼ to set
Return temperature.

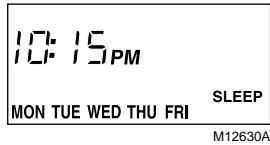


- b. Press Select.
Press ▲ or ▼ to set
Sleep temperature.

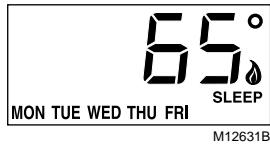


6. Sleep

- a. Press Select.
Press ▲ or ▼ to set
Sleep time.



- b. Press Select.
Press ▲ or ▼ to set
Sleep temperature.



- 11. End Programming.
Press Select. End is
displayed. Programming is
complete. The thermostat
will revert to displaying the
current day, time and
temperature in five
seconds.

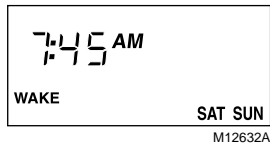


- NOTE: To reset the thermostat to the preprogrammed time and temperature settings (see Table 1):
- a. Press and hold the Hold and Select keys simultaneously. The display will begin counting down from 36 to zero.
 - b. The thermostat display will go blank, then will display the current time and temperature.
 - c. Release keys, the program has reverted to the preprogrammed time and temperature settings.

Setting the Weekend Program

7. Wake

- a. Press Select.
Press ▲ or ▼ to set
Wake time.

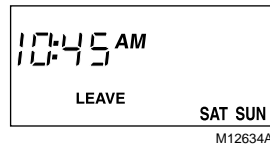


- b. Press Select.
Press ▲ or ▼ to set
Wake temperature.

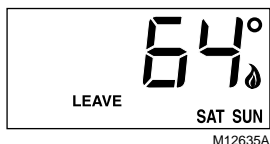


8. Leave

- a. Press Select.
Press ▲ or ▼ to set
Leave time.

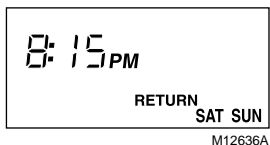


- b. Press Select.
Press ▲ or ▼ to set
Leave temperature.



9. Return

- a. Press Select.
Press ▲ or ▼ to set
Return time.

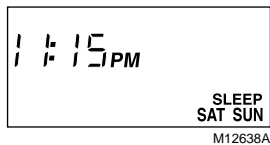


- b. Press Select.
Press ▲ or ▼ to set
Return temperature.



10. Sleep

- a. Press Select.
Press ▲ or ▼ to set
Sleep time.

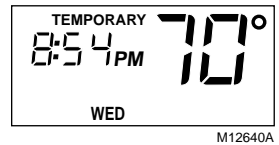


Setting Temperature Hold

Slide the SYSTEM switch to the heat or cool position.

Temporary Temperature Hold

- 1. Press ▲ or ▼ key to select
a temporary temperature
setting.

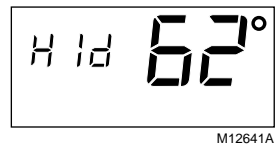


NOTE: The temporary temperature setting is displayed for approximately 3 seconds and remains in effect until the next program period. To cancel, press Hold twice.

Indefinite Temperature Hold

The Hold key allows you to indefinitely hold a temperature. When Hold is active, the letters Hld are displayed continuously. Hold can be canceled by pressing the Hold key again.

- 1. Press Hold
- 2. Press ▲ or ▼ key to select
indefinite temperature
setting.



NOTE: Indefinite hold remains in effect until the Hold key is pressed to cancel it.

CHECKOUT

CAUTION

Damage to Compressor Possible.
Operating at too low of an outdoor temperature may cause compressor damage.

Do not operate cooling if outdoor temperature is below 50°F (10°C).

Allow compressor to remain off for five minutes before restarting. Refer to manufacturer's recommendations.

Heating

1. Slide the SYSTEM switch to Heat and the FAN switch to Auto.
2. Press and hold the ▲ key to raise the temperature setting several degrees above the room temperature; the heating equipment and fan should start.
3. Press the ▼ key to lower the temperature setting below the room temperature. Heating equipment should stop.

Cooling

1. Slide the SYSTEM switch to Cool and the FAN switch to Auto.
2. Press the ▼ key to lower the temperature setting several degrees below the room temperature; the cooling equipment and fan should start.

NOTE: If the unit does not start immediately, remember, the thermostat has a built-in minimum off-time of five minutes to protect the compressor. A flashing ❄ or 🔥 indicates that the minimum off-timer is in effect.

3. Press the ▲ key to raise the temperature setting above the room temperature. Cooling system should shut down.

Fan

1. Slide the SYSTEM switch to Off and the FAN switch to On. The fan should run continuously.
2. Slide the FAN switch to Auto. The system turns the fan on and off with the equipment.

Make certain all equipment responds properly to the thermostat.

Sequence of Operations

The Fan, Heat and Cool outputs are relay controlled. A loss of ac power, or a change in the SYSTEM switch setting can cause the outputs to turn off. Table 3 shows the sequence of operations for the Fan and System settings.

Em. Ht.

With the system switch at Em. Ht., the thermostat controls the emergency heat. On a call for emergency heat, the E, G and L terminals are energized and an indicator points to Em. Ht. on the display. L terminal is powered continuously while system switch is in Em. Ht. In severe weather, the W2 terminal may also energize.

Minimum Off-Timer

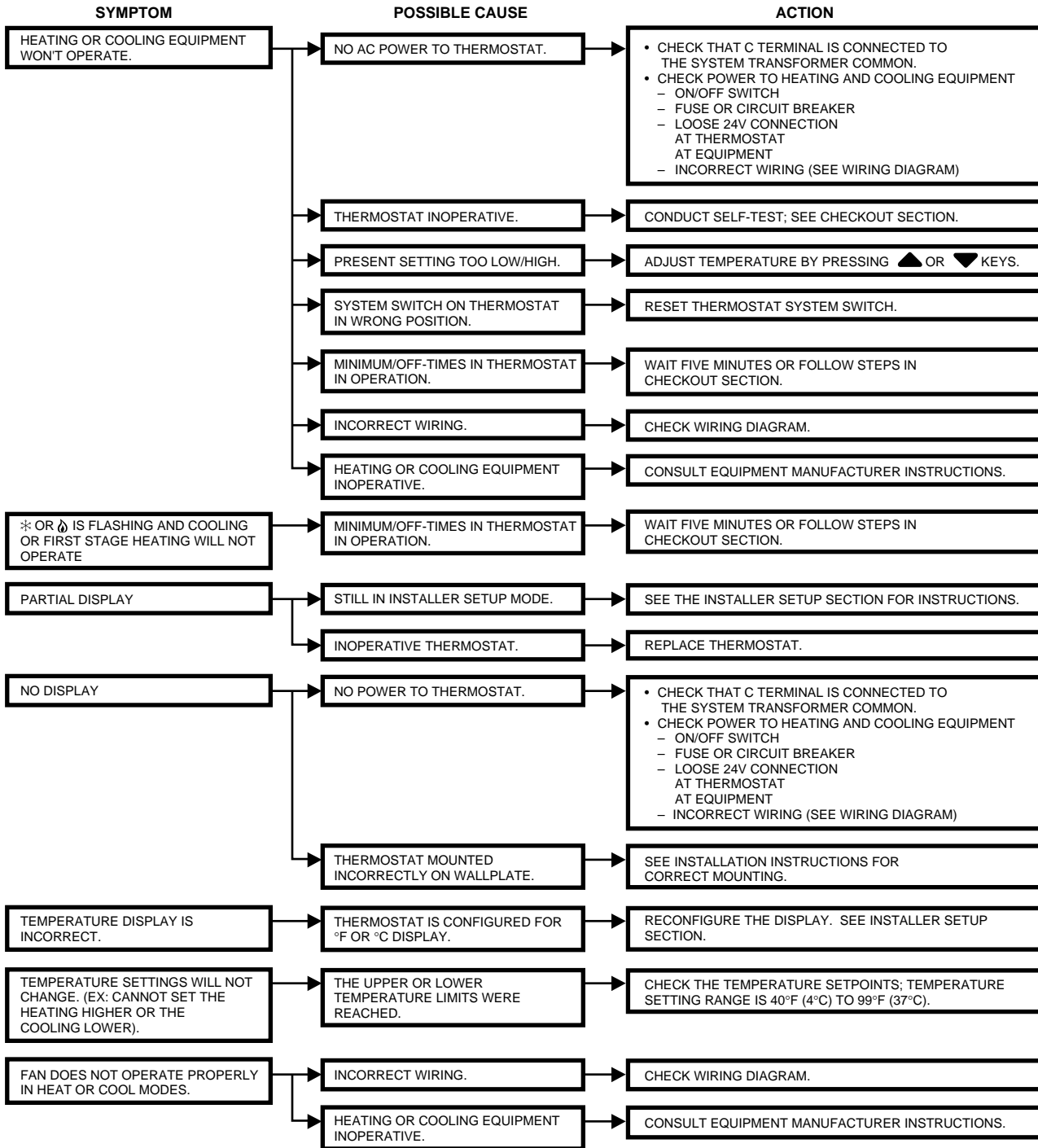
A minimum off-timer in the T8011R assures that the compressor does not come on again for at least five minutes after it turns off. The minimum off-timer is triggered when the compressor turns off and when the SYSTEM switch position is changed. If the compressor turns off when the setpoint is changed, the minimum off-timer is triggered. Power interruption and power restoration also trigger the minimum off-timer. The minimum off-timer operates in first stage heating or cooling. A flashing 🔥 or ❄ indicates that the minimum off-timer is in effect. The minimum off timer is bypassed during the optional system checkout. See page 6.

Table 3. Sequence of Operations.

FAN Switch Settings	SYSTEM Switch Settings	Call for Action	Energize Terminals	Display Icons
Auto	Cool	None	O	None
Auto	Cool	Cooling	O, Y, G	❄
Auto	Heat	None	B	None
Auto	Heat	Stage 1 Heat	B, W1, G	🔥
Auto	Heat	Stage 2 Heat	B, W1, W2, G	🔥 Aux Ht
Auto	Em. Ht.	None	L	Em Ht
Auto	Em. Ht.	Stage 1 Heat	L, E, G	🔥 Em Ht
Auto	Em. Ht.	Stage 2 Heat	L, E, W2, G	🔥 Em Ht and Aux Ht

^aO terminal is powered continuously in cooling, B terminal is powered continuously in heating and the L terminal is powered continuously in emergency heat as a function of the SYSTEM switch position even without a call for heat or cool.

TROUBLESHOOTING T8011



M11734

Home and Building Control

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Honeywell Latin American Region

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Sunrise FL 33325

Home and Building Control

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Scarborough, Ontario
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Honeywell Europe S.A.

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1140 Brussels
Belgium

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