Honeywell RTH2300B1012 Programmable Thermostat Owner's Manual

Honeywell Home

**RTH2300/RTH221
Series
Programmable Thermostat
Owner's Manual
RTH2300B1012**

Read before installing
For help please visit **resideo.com**

Identify System Type
This thermostat is compatible with the following systems:

- Gas, oil or electric furnace
- Central air conditioner

- Hot water system with or without pump
- Millivolt system
- Central heating and cooling system
- Heat pump without auxiliary/backup heat

Do you need assistance? We are here to help.

Call 1-800-468-1502 for wiring assistance before returning the thermostat to the store.
This thermostat cannot be used on heat pumps with backup heat or on multistage systems.

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**

NOTICE: To avoid possible compressor damage, do not run air conditioner if the outside temperature drops below 50°F (10°C).
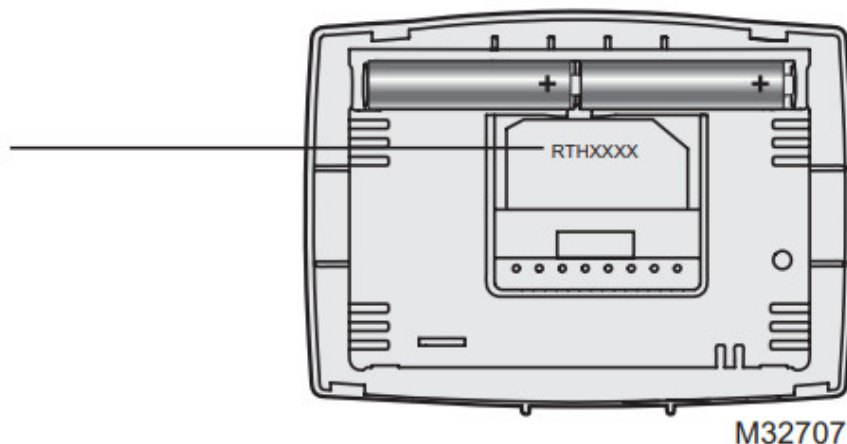
Customer assistance

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

Or call Resideo Customer Care toll-free at **1-800-468-1502**.
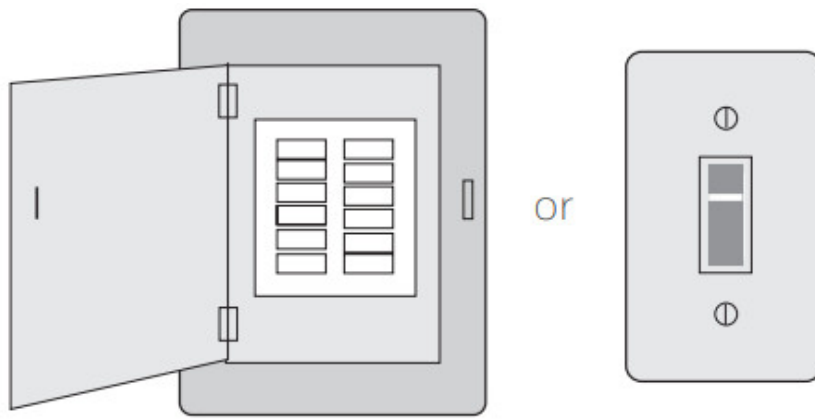
To save time, please note your model number and date code before calling.

Pull at the bottom to remove the thermostat from the wallplate.

Turn the thermostat over to find the model number and date code.

M32707

1. **Turn Off Power to Heating/Cooling System**

Circuit breaker box   Heating/cooling system power switch
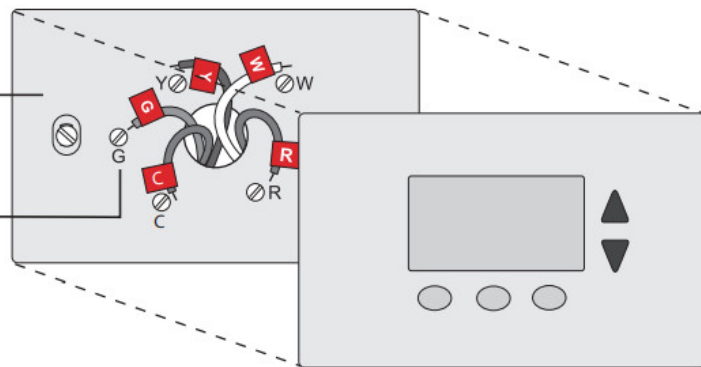
2. **Remove Old Thermostat**

   Remove old thermostat but leave wallplate with wires attached.

    If you have an older thermostat with a sealed mercury tube, turn to page 2 for proper disposal instructions.

Do not remove wallplate yet
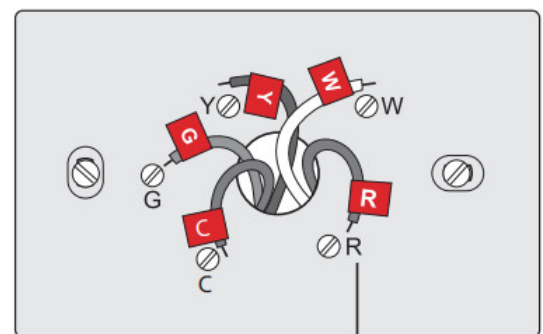
Terminal designation

3. **Label Wires with Tags**

   Label the wires using the supplied wire labels as you disconnect them.

Wiring Labels
Apply these wiring labels to each wire with the appropriate terminal designation as you remove it from the existing thermostat.

B	B	Y2	Y2	C	C	E	E	F	F
G	G	H	H	L	L	O	O	P	P
R	R	RC	RC	RH	RH	T	T	U	U
V/VR	V/VR	W	W	W1	W1	W2	W2	W3	W3
X	X	X1	X1	X2	X2	Y	Y	Y1	Y1

69-0823EFS • 5-03 • Printed in U.S.A.

Wire Labels

Terminal designation

4. **Separate Wallplate from New Thermostat**
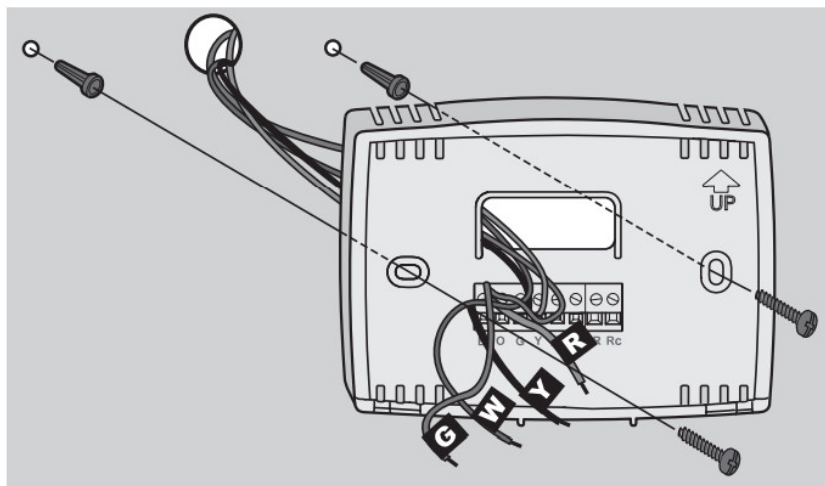
   Remove the wallplate from the new thermostat and mount it onto the wall.
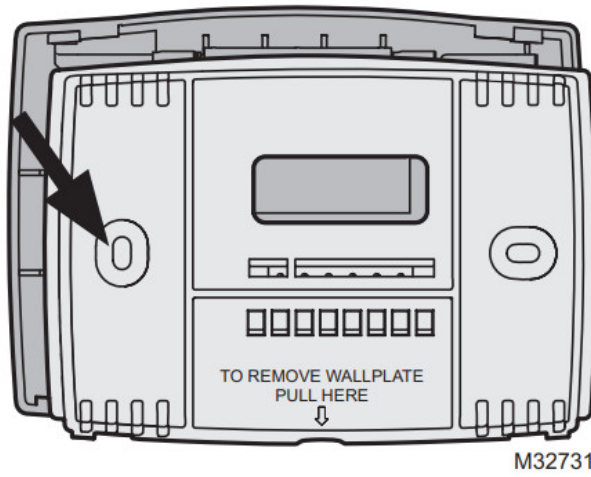
Wallplate

5. **Mount Wallplate**

   Mount the new wallplate using the included screws and anchors.
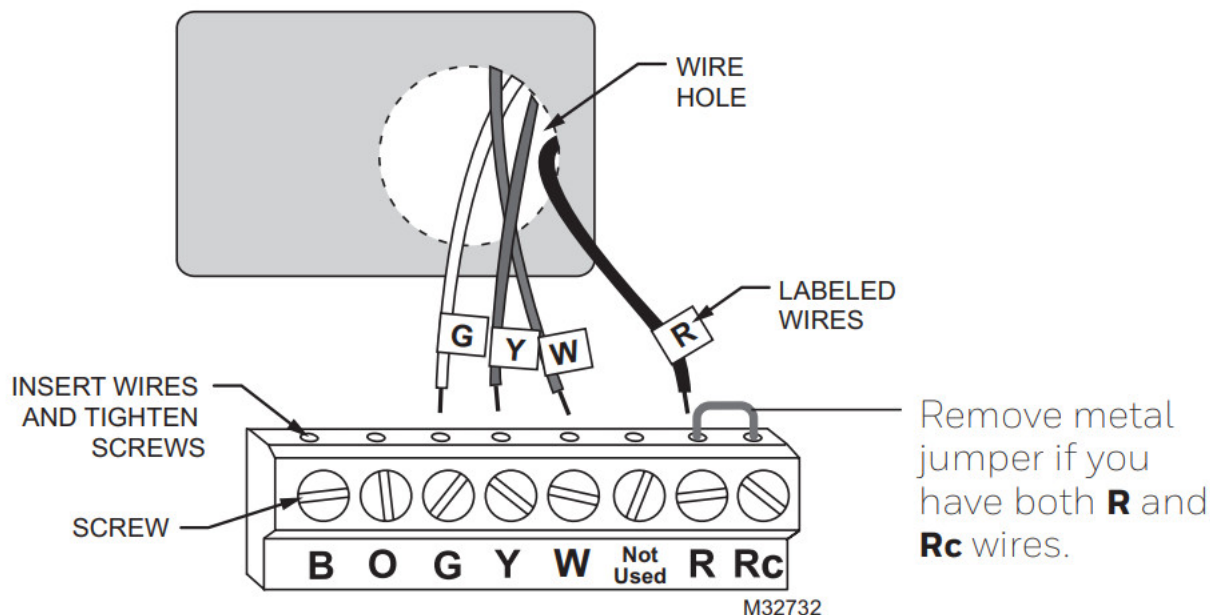

   If your box contains red anchors, drill 7/32" (5.6 mm) holes. If your box contains yellow anchors, drill 3/16" (4.8 mm) holes.

6. **Connect Wires**

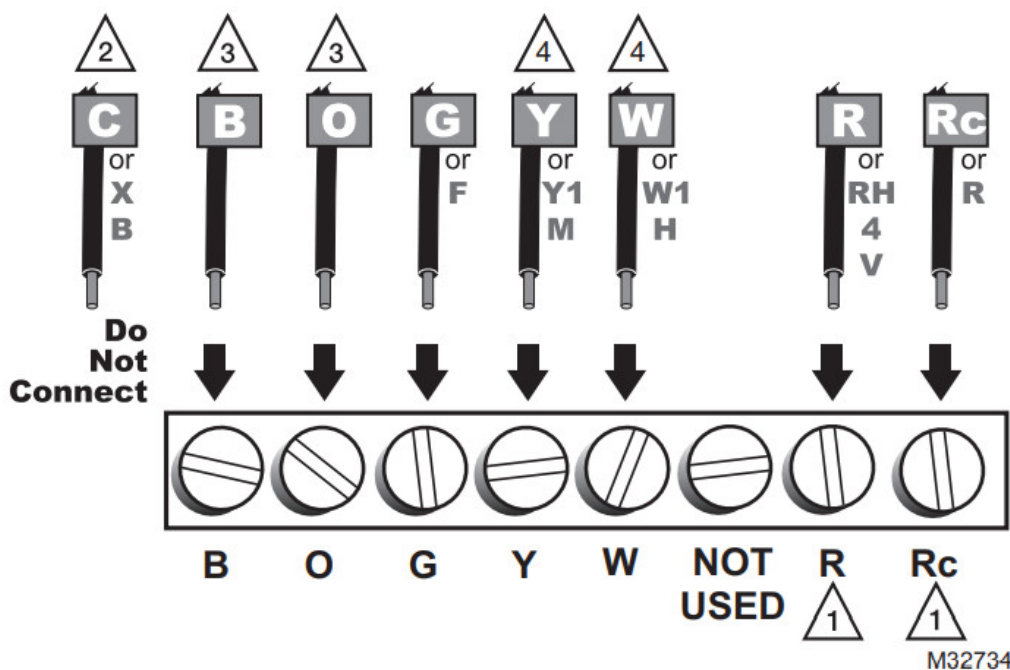   Simply match wire labels.

   If labels do not match letters on the thermostat, check "Alternate Wiring" on page 6 and connect to the terminal as shown (see notes, below).

   The thermostat does not work on Heat Pumps with auxiliary/backup heat.

WIRE HOLE

LABELED WIRES

INSERT WIRES AND TIGHTEN SCREWS

SCREW

Remove metal jumper if you have both **R** and **Rc** wires.

B O G Y W Not Used R Rc

M32732

We are here to help. Call 1-800-468-1502 for wiring assistance.

Alternate Wiring

B O G Y W NOT USED R Rc

M32734

 If wires will be connected to both R and Rc terminals, remove the metal jumper.

 Do not use C or X. Wrap the bare end of the wire with electrical tape.

 If you have a heat pump without auxiliary/backup heat connect O or B, not both. If you do not have a heat pump, do not connect B. Wrap the bare end of the wire with electrical tape.

 Place a jumper (a piece of wire) between Y and W if you are using a heat pump without auxiliary/backup heat

7. **Install Batteries**

Install two AAA alkaline batteries.

RTHXXXX

M32707
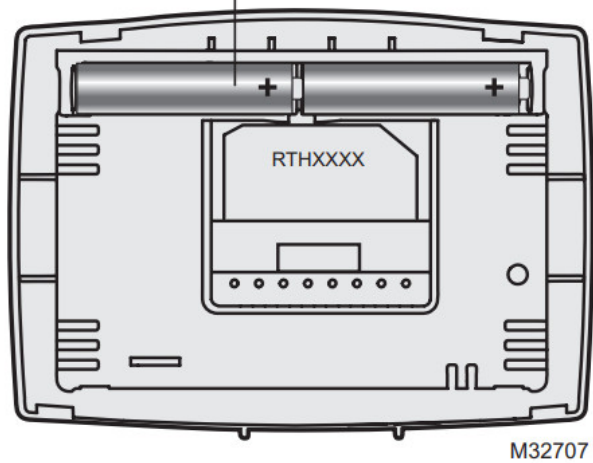
Back of thermostat

8. **Set fan operation switch**

Move the switch to the proper setting:

Gas or Oil: For gas or oil heating systems, leave the fan operation switch in this factory-set position (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.)
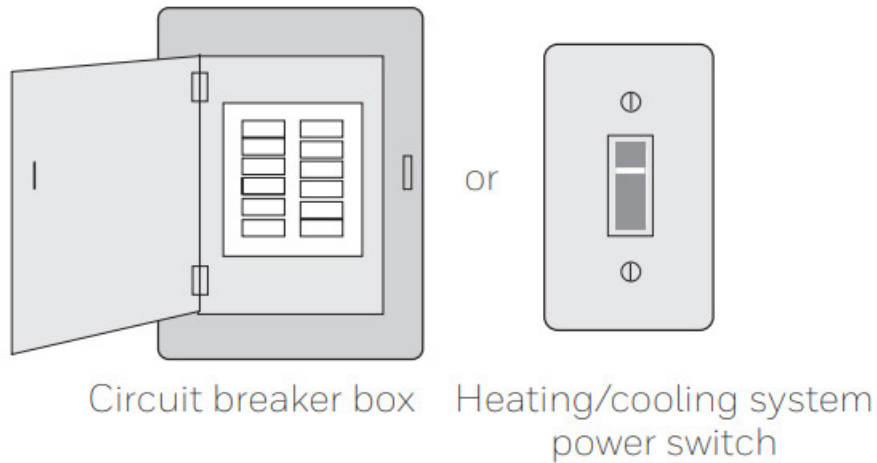

RTHXXXX

GAS OR OIL

ELECTRIC OR HEAT PUMP

GAS OR OIL

ELECTRIC OR HEAT PUMP

M32716
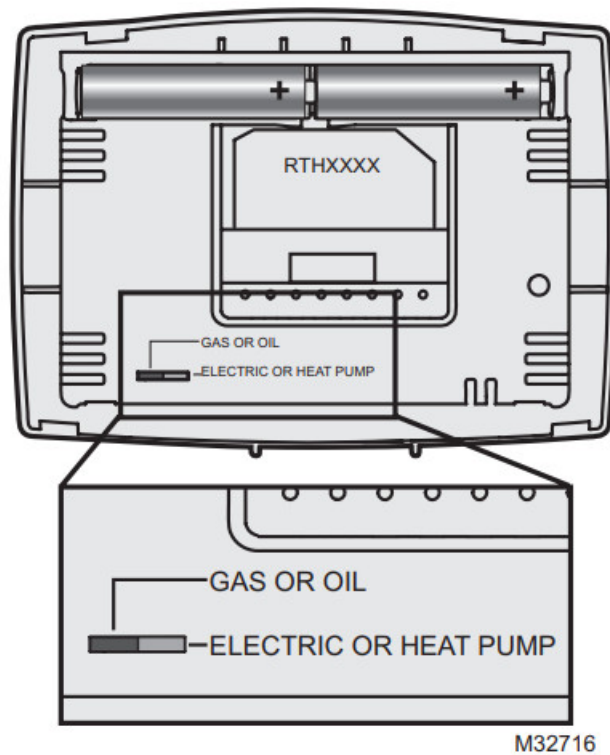
9. **Install Thermostat onto Wallplate**

Install thermostat onto the wall plate on the wall.

M32705
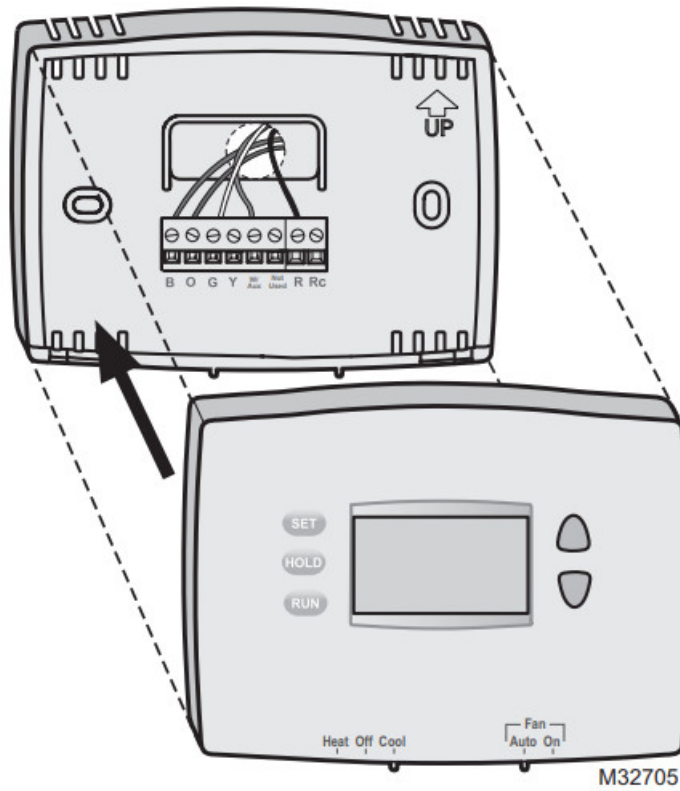
10. **Turn Power Back On**

Turn the power back on to the heating/cooling system.

Circuit breaker box   Heating/cooling system power switch

or

11. **If your system type is…**

If your system type is:

• Single-Stage Heat and Cool

• Heat Only or Cool Only

Contents [**hide**]

Congratulations, you're done!

If your system type is:

- Heat pump
- High-efficiency furnace
- Hot water
- Electric furnace
- Gas/oil steam
- Gravity system

Continue with Advanced Installation to match your thermostat to your system type.

If you are not sure of your system type or if you have other questions, call us toll-free at 1-800-468-1502. This thermostat works on 24 volt or 750 mV systems. It will NOT work on multistage conventional systems.

Advanced Installation

Enter System Setup

To enter the system setup, press and hold both the ▲ and ▼ buttons until the display changes (approximately 5 seconds).

M32713
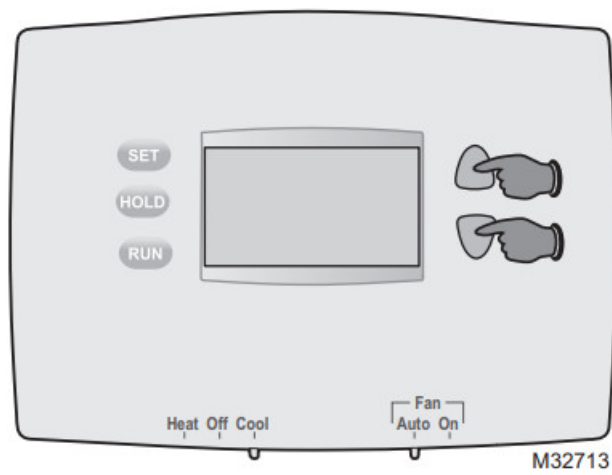
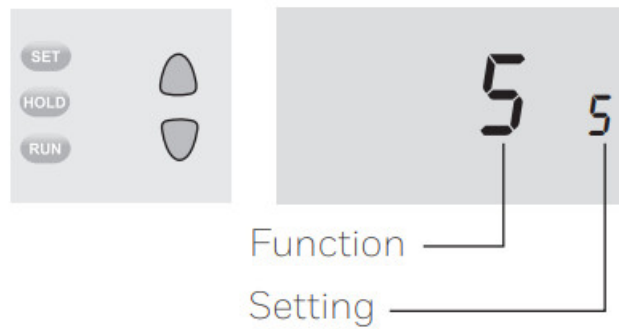**Changing Settings**

1. Press the ▲ OR ▼ button to change the setting.

2. Press the ▲ and ▼ buttons simultaneously for one second to advance to the next function.

3. Press the **RUN** button to exit and save settings.

Function ──── 5

Setting ──── 5

NOTE: If you do not press any button for 60 seconds while you are in the setup menu, the thermostat automatically saves any changes made and exits the menu.

Function	Description Press the ▲ or ▼ button to	Setting
5	select your heating system and optimize its operation	5 **Gas or oil furnaces:** Use this setting if you have a standard gas or oil furnace that is less than 90% efficient. 6 **Electric furnace:** Use this setting if you have any type of electric heating system. **3 Heat pumps, hot water, or high-efficiency furnace:** Use this setting if you have a hot water system or a gas furnace of greater than 90% efficiency. **2 Gas/oil steam or gravity system:** Use this setting if you have a steam or gravity heat system.
14	select Fahrenheit or Celsius temperature display	**0 Fahrenheit** temperature display (°F) 1 **Celsius** temperature display (°C)
15*	select Compressor Protection settings	**1 On** **0 Off**
20	select clock display	**0** 12-hour display **1** 24-hour display
40 (RTH2300 only)	restore program schedule to default settings	**0 Off** **1 On** Program schedule default settings is listed on page 11.

* **Compressor Protection:** This feature forces the compressor to wait approximately 5 minutes before restarting, to prevent equipment damage. During the wait time, the message "Cool On" or "Heat On" is displayed on the screen.

About your new thermostat

Your new Resideo thermostat has been designed to give you many years of reliable service and easy-to-use, push-button climate control.

- Backlit display on RTH2300
- Displays ambient (measured) temperature at all times
- One-touch access to the setpoint temperature
- Preset program settings
- Temporary and permanent override of schedule
- Built-in compressor protection

Thermostat controls

Set: Press to set time/day/schedule.

Hold: Press to override programmed temperature control.

Run: Press to resume program schedule.
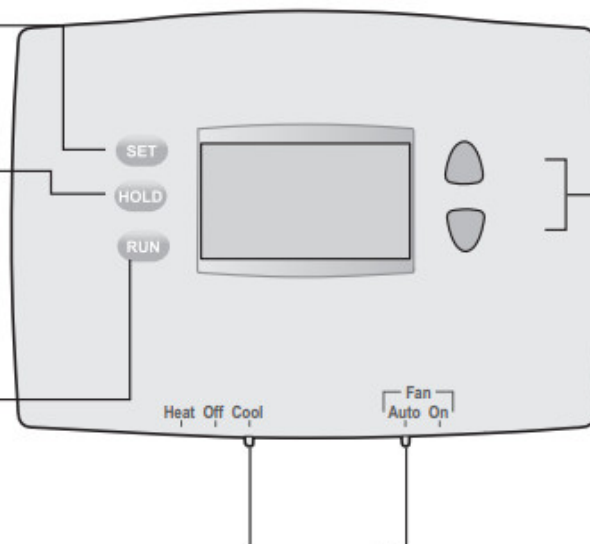
Temperature adjustment Press the up or down buttons until you reach the desired temperature.

NOTE: Make sure the **SYSTEM** switch is set to the system you want to control (Heat or Cool).

System Switch is used to control your heating or cooling system.
- **Heat:** Heating system control.
- **Off:** All systems off.
- **Cool:** Cooling system control.

Fan Switch is used to control your fan.

In "Auto" mode, the fan runs only when the heating or cooling system is on.
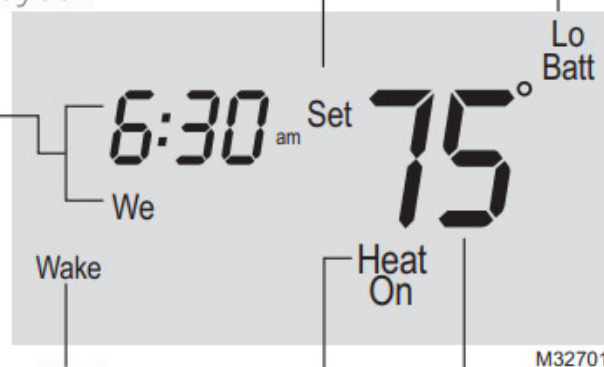
If set to "On," the fan runs continuously.

Display screen

Setpoint indicator Appears when the setpoint temperature is displayed.

Low battery warning (see page 14)

Current day/time (see page 11)

6:30 am Set 75°

Lo Batt

We

Wake

Heat On

M32701

Current program period Wake/Leave/Return/Sleep (see pages 11–13)

**System status** **Cool on:** Cooling system is on. **Heat on:** Heating system is on.

When Cool On is flashing, compressor protection is engaged (see page 14).

Temperature The ambient (measured) temperature is normally displayed. To view the setpoint temperature, press the Up or Down button once. The setpoint temperature will appear for five seconds.

Set the time and day

1. Press the **SET** button, then press ▲ or ▼ to set the clock time.

2. Press the **SET** button, then press ▲ or ▼ to to select the day of the week.
3. Press **RUN** to save & exit.

M32702
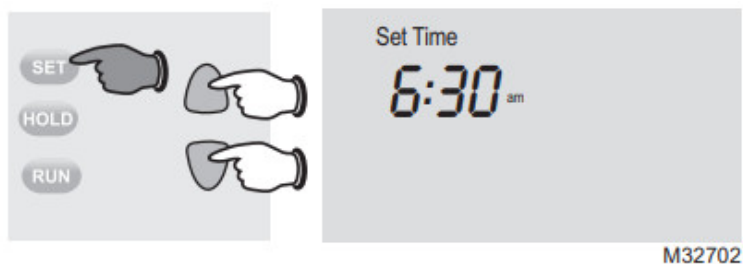
NOTE: If the clock flashes, the thermostat will follow your settings for the Monday "Wake" time period until you reset the time and day.

M32703
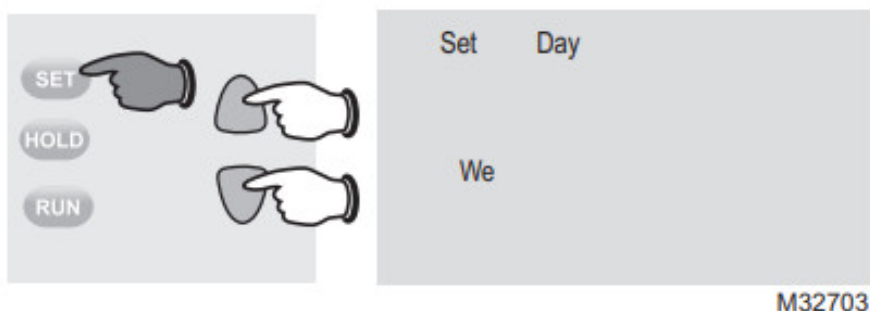
Program Schedule

You can program four time periods each day, with different settings for weekdays and weekends. We recommend the pre-set settings (shown in the table below) since they can reduce your heating/cooling expenses.

	Heat	Cool
Wake (6:00 am)	70°	78°
Leave (8:00 am)	62°	85°
Return (6:00 pm)	70°	78°
Sleep (10:00 pm)	62°	82°

Wake – Set to the time you awaken and the temperature you want during the morning, until you leave for the day.
Leave – Set to the time you leave home and the temperature you want while you are away (usually an energy-saving level).
Return – Set to the time you return home and the temperature you want during the evening, until bedtime.
Sleep – Set to the time you go to bed and the temperature you want overnight (usually an energy-saving level).
NOTE: Leave and Return periods can be canceled on weekends.

To adjust program schedules (RTH2300)

1. Press **SET** until Set Schedule is displayed.

2. Press ▲ or ▼ to set your weekday Waketime (Mo-Fr), then press **SET**.

3. Press ▲ or ▼ to set the temperature for this time period, then press **SET**.

4. Set time and temperature for the next time period (Leave). Repeat steps 2 and 3 for each weekday time period.

5. Press **SET** to set weekend time periods (Sa & Su), then press **RUN** to save & exit.

NOTE: Make sure the thermostat is set to the system you want to program (Heat or Cool).

M32706

To adjust program schedules (RTH221)

1. Press **SET** until Set Schedule is displayed.

2. Press ▲ or ▼ to set your Waketime (Mo-Su), then press **SET**.

3. Press ▲ or ▼ to set the temperature for this time period, then press **SET**.

4. Set time and temperature for the next time period (Leave). Repeat steps 2 and 3 for each time period.
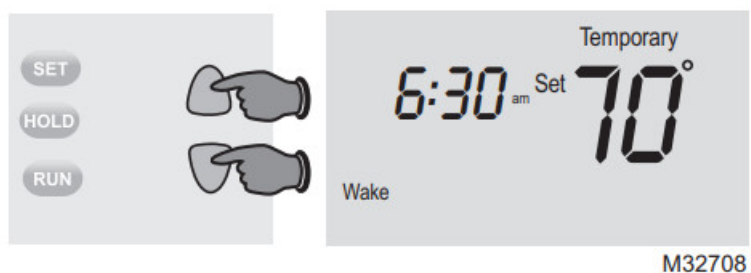
5. Press **RUN** to save & exit.

NOTE: Make sure the thermostat is set to the system you want to program (Heat or Cool).

M32824

Program schedule override (temporary)

Press ▲ or ▼ to immediately adjusts the temperature. This will temporarily override the temperature setting for the current time period.
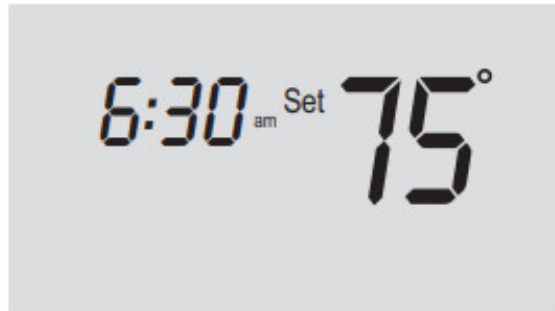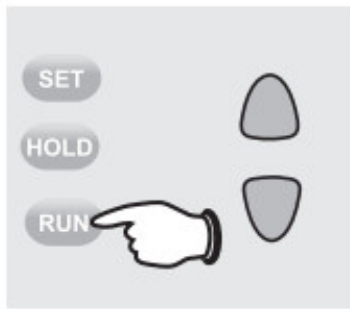"Temporary" will appear on the display and the current program period will flash.

M32708

The new temperature will be maintained only until the next programmed time period begins (see page 11).

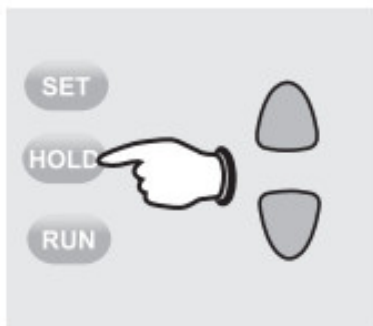To cancel the temporary setting at any time, press **RUN.**
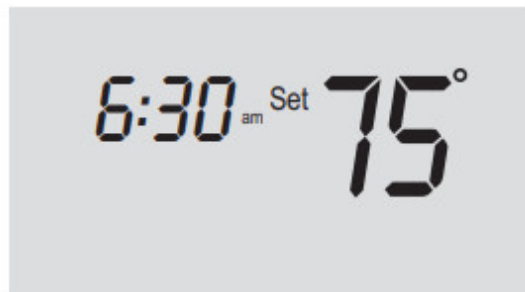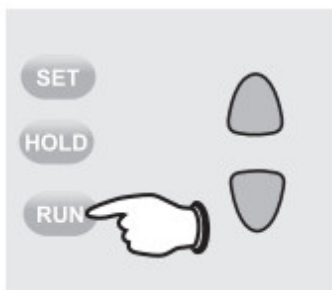**NOTE:** Make sure the thermostat is set to the system you want to control (heat or cool).

M32709

Program schedule override (permanent)

Press **HOLD** to permanently adjust the temperature. This will override the temperature settings for all time periods.

M32710

The "Hold" feature turns off the program schedule and allows you to adjust the thermostat manually, as needed. Whatever temperature you set will be maintained 24 hours a day, until you manually change it, or press **RUN** to cancel "Hold" and resume the program schedule.


M32709

NOTE: Make sure the thermostat is set to the system you want to control (heat or cool).

Built-in compressor protection

This feature helps prevent damage to the compressor in your air conditioning or heat pump system.
Damage can occur if the compressor is restarted too soon after shutdown. This feature forces the compressor to wait 5 minutes before restarting.
During the wait time, the display will flash the message Cool On (or Heat On if you have a heat pump). When the safe wait time has elapsed, the message stops flashing and the compressor turns on.

M32711
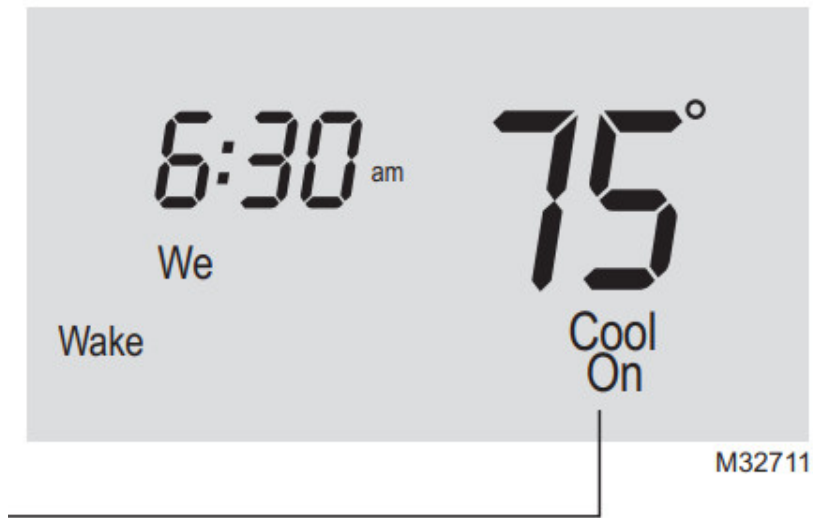
Battery replacement

Install two fresh AAA batteries when Lo Batt flashes on the screen. Lo, att appears for 60 days before the batteries are depleted. Replace batteries once a year, or when you will be away for more than a month.

Most settings are stored in non-volatile (permanent) memory. Only the clock and the day must be set after you replace the batteries.

Pull at the bottom to remove the thermostat from the wallplate.

M32705
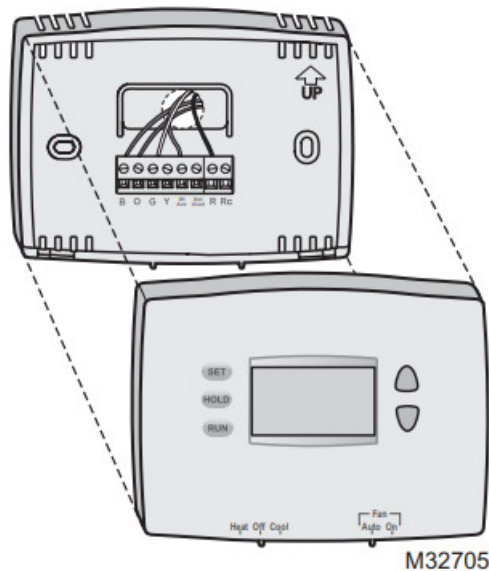
⚠ Set the System switch to Off before removing the batteries. Otherwise, the heating/cooling system could remain activated even when batteries are removed.

Turn the thermostat over, insert fresh AAA alkaline batteries, then reinstall the thermostat.

M32707
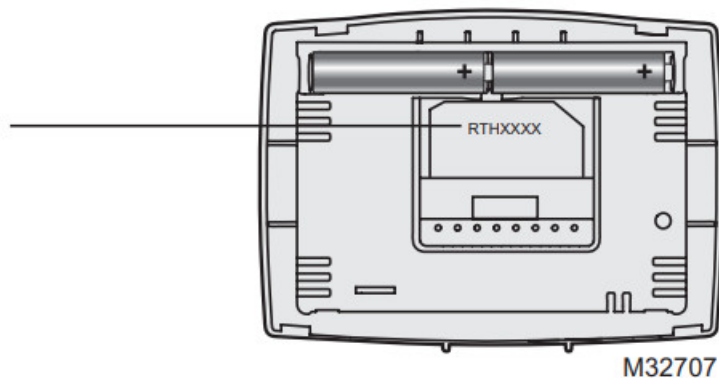
Troubleshooting

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

Display is blank	•Check the circuit breaker and reset if necessary. •Make sure the power switch at the heating & cooling system is on. •Make sure the furnace door is closed securely. •Make sure fresh AM alkaline batteries are correctly installed.
The heating or cooling system does not respond	•Set system switch to Heat. Make sure the temperature is set higher than the Inside t emperature. •Set system switch to Cool. Make sure the temperature is set lower than the Inside te mperature. •Wait 5 minutes for the system to respond.
Temperature	Make sure heating and cooling temperatures are set to acceptable ranges: •Heat: 40° to 90°F (4.5° to 32°C).
settings do not change	•Cool: 50° to 99°F (10° to 37°C).
"Cool On" or "Heat On" is flashing	•Compressor protection feature is engaged. Wait 5 minutes for the system to restart s afely, without damage to the compressor.
"Heat On" is not display ed	•Set the System switch to Heat and set the temperature level above the current room temperature.
"Cool On" is not display ed	•Set the System switch to Cool, and set the temperature level below the current room temperature.

For assistance with this product, please visit resideo.com or call Resideo Customer Care toll-free at 1-800-468-1502.

1-year limited warranty

Resideo warrants this product, excluding battery, to be free from defects in workmanship or materials, under normal use and service, for a period of one (1) year from the date of first purchase by the original purchaser. If at any time during the warranty period the product is determined to be defective due to workmanship or materials, Resideo shall repair or replace it (at Resideo's option). If the product is defective,
(i) return it, with a bill of sale or other dated proof of purchase, to the place from which you purchased it; or
(ii) call Resideo Customer Care at 1-800-468-1502. Customer Care will make the
determination whether the product should be returned to the following address: Resideo Return Goods, 1985 Douglas Dr. N., Golden Valley, MN 55422, or whether a replacement product can be sent to you.
This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Resideo that the defect was caused by damage that occurred while the product was in the possession of a consumer.
Resideo's sole responsibility shall be to repair or replace the product within the terms stated above. RESIDEO SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT.
Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation may not apply to you.
THIS WARRANTY IS THE ONLY EXPRESS WARRANTY RESIDE MAKES ON THIS PRODUCT. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IS HEREBY LIMITED TO THE ONE-YEAR DURATION OF THIS WARRANTY.
Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.
This warranty gives you specific legal rights, and you may have other rights which vary from state to state. If you have any questions concerning this warranty, please write Resideo Customer Care, 1985 Douglas Dr, Golden Valley, MN 55422 or call 1-800-468-1502.

Resideo Technologies Inc.

1985 Douglas Drive North, Golden Valley, MN 55422

1-800-468-1502

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www.resideo.com

Documents / Resources

	Honeywell RTH2300B1012 Programmable Thermostat [pdf] Owner's Manual RTH2300B1012, Programmable Thermostat

References

- **Smart Home Products and Systems | Resideo**
- **Honeywell Home | Smart Home Comfort and Security**
- **Switch the 'Stat – Stewardship Program Focused on Recovering and Recycling Thermostat**
- **Thermostat Recycling Corporation (TRC)**

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