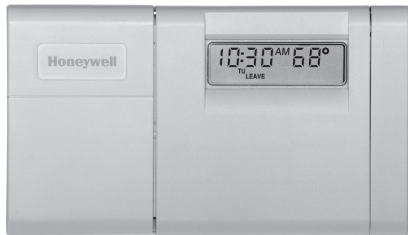


**Honeywell**

# T8131A,B Programmable Thermostat



## OWNER'S GUIDE

Weekday/Weekend (5-day/ 2-day)  
Programmable Heat and/or Cool  
Low Voltage (20 to 30 Vac)  
Thermostat and Mounting Plate



69-1636-1

Welcome to the world of comfort and energy savings with your new Honeywell programmable thermostat.

By following the programming instructions in this manual, your new thermostat will automatically control the temperature in your home, keeping you comfortable while saving energy.

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## Program the Thermostat

When batteries are installed, your thermostat can be programmed in your hand, before it is mounted on the wall.

If you would prefer to program the thermostat after it is mounted on the wall, (see Mount Thermostat section), and return later to this programming section.

Refer to the personal Program Schedule section to program your time and temperature settings for various times of the day.

Four time periods are available during week-days—WAKE, LEAVE, RETURN, and SLEEP. During weekends, only the WAKE and SLEEP

time periods are available. These periods can be seen individually on the display as you press the **Set Schedule** key.

**WAKE** is the time period you want the house at a comfortable temperature when you get up and while you get ready for work or school. When deciding what time to set for your WAKE period, include extra lead time, depending on the outside temperature and your furnace response time, to give the furnace a head start to heat the house before you get up. (This will be a higher temperature during heating season, or a lower temperature during cooling season.)

**LEAVE** is the time period you can set for an energy-saving temperature while you are away

at work or school. (This will be a lower temperature during heating season, or a higher temperature during cooling season.)

**RETURN** is the time period you want the house at a comfortable temperature for activities before bedtime. When deciding what time to set for your RETURN period, include extra lead time, depending on the outside temperature and your furnace response time, to give the furnace a head start to heat the house before you arrive home. (Again, higher for heating or lower for cooling.)

**SLEEP** is the time period you can set for an energy-saving temperature while you are

sleeping. (Again, lower for heating or higher for cooling. For more comfortable sleeping, some homeowners choose not to raise the cool temperature during the night.)

You will set one schedule for weekdays and another for weekends, because your requirements are probably different for each.

Fill in the times and temperatures you desire for weekdays and weekends. If you decide not to program the thermostat, it automatically controls heating at 68°F (20°C), and cooling at 78°F (26°C), 24 hours a day. Also, you do not need to enter a time and temperature program for all periods if your schedule does not require

it. For example, a house that is occupied during weekdays would only require programs for WAKE and SLEEP.

Before programming, remove the clear plastic overlay covering the display.

When pressing the keys, use the ball of your finger or a soft pencil eraser.

**NOTE:** Using sharp fingernails or pencil points can damage the keypad.

If you make an error at any time during programming, press the Run Program key and continue again at the last step.

## Program Schedule

### HEATING PROGRAM SCHEDULE

#### Weekdays

WAKE 

LEAVE

RETURN 

SLEEP

Start Time

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Heating Temperature 

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### Weekends

WAKE 


SLEEP

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

 WAKE and RETURN start times should include extra lead time, based on outside temperature and furnace response time, to give your furnace a head start to heat the house.

 The temperatures cannot be set any higher than 88°F (31°C) or any lower than 45°F (7°C).

## COOLING PROGRAM SCHEDULE

### Weekdays

WAKE <sup>1</sup>

LEAVE

RETURN <sup>1</sup>

SLEEP

### Start Time

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Cooling Temperature <sup>2</sup>

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Weekends

WAKE <sup>1</sup>

SLEEP

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<sup>1</sup> WAKE and RETURN start times should include extra lead time, based on outside temperature and furnace response time, to give your furnace a head start to heat the house.

<sup>2</sup> The temperatures cannot be set any higher than 88°F (31°C) or any lower than 45°F (7°C).

NOTE: If you decide not to program the thermostat, it automatically controls heating at 68°F (20°C), and cooling at 78°F (26°C), 24 hours a day.




This guide can be used for programming your new thermostat.


**NOTE:** Batteries are required for operation and programming. When inserting batteries, set the system switch to OFF. Remove the battery door (on the thermostat left side) using a coin at the bottom. Follow the instructions on pages 16 and 19.





### Set Current Time/Day

To set the time, press and release  once,  until current time shows; to set day, press




and release  again,  until current day shows; then press  .



### Heating Program

With system switch at HEAT, press and release  once. WAKE, MON-FRI and SET appear on the display.

Use  to program WAKE time and  to program WAKE temperature for Mon-Fri.  
 

Repeat sequence for LEAVE, RETURN, and SLEEP.

Press  until SAT, SUN, WAKE and SET appear on the display. Use  to program 

WAKE time and  to program WAKE temperature for SAT-SUN. Repeat sequence for SLEEP.  




### Cooling Program

With system switch at COOL, follow the same instructions as for the Heating Program.

After programming, adjust fan and system switches, as desired. Press and release  to start the program.




A quick guide for operating or making changes follows:


NOTE: Set system switch to Heat or Cool to perform the following:


**Temporarily Change** temperature *for current period only*—press  ; TEMPORARY 



indicator shows on display; this is cancelled at next scheduled change, or to cancel sooner,




press  .

**Hold** a temperature indefinitely (such as when you are on vacation)—press  ,  ; 


HOLD appears on display; to cancel, press  .

**Check Current Temperature Setting**—press  . (When using TEMPORARILY CHANGE or HOLD, pressing this cancels your change.)

**Check Programs**—press  repeatedly to see each time and temperature; then press  .

**Cancel** a program—press  until program to cancel shows; then press   together.

**Permanently Change** a program—Repeat steps in Heating Program or Cooling Program (page 9 and 10), as applicable.

**Return** to normal program or start program—press  .

## Adjust Fan Operation Switch

- 1 The thermostat fan operation switch, labeled FUEL SWITCH (see illustration on page 14), is factory-set in the F position. This is the correct setting for most systems. If your system is an electric heat system, set the switch to E. The E setting allows the fan to turn on immediately with the heating or cooling in a system where the G terminal is connected.

## Adjust System On-Time, °F/°C

- 1 The thermostat on-time is factory-set for a warm air, gas or oil heating system. If you are installing it on another type of system, adjust the on-time accordingly by

setting DIP switches 1 and 2 on the back of the thermostat. Use the heating system table on the thermostat back as a guide.

Optimize the system on-time according to the type of system to minimize room temperature swings.

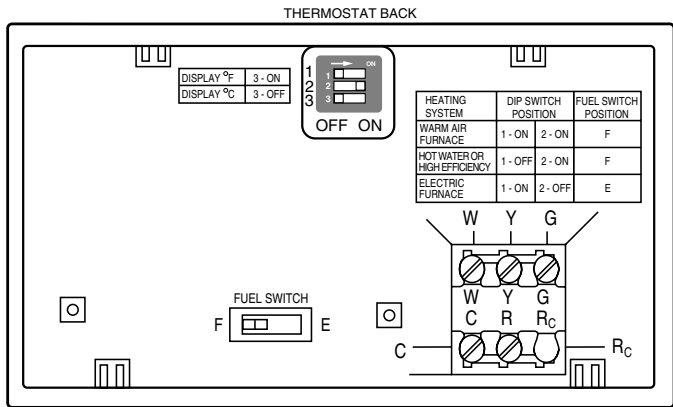
In the unlikely event that you want a longer furnace on-time, readjust DIP switches 1 and 2 as follows:

- Warm Air Furnace—set at the Hot Water setting (1—OFF, 2—ON).
- Electric Furnace—leave at the Warm Air Furnace setting (1—ON, 2—OFF).

**NOTE:** This thermostat does not have a setting for steam/gravity air. Cycles would not be long enough for accurate temperature control.

**IMPORTANT**

*When using a high efficiency furnace such as a 90% or greater AFUE (Average Fuel Utilization Efficiency) unit, adjust DIP switch 1 Off and DIP switch 2 On.*



M20638

## Set Fan and System Switches

### First set the fan switch.

**AUTO:** Normal setting for most homes. A single-speed fan turns on automatically with the air conditioner or furnace. A two-speed fan usually runs on high with the air conditioner and on low with the furnace.



**Exception:** If Fan Operation Switch on the back of the thermostat is set to the E position (see page 21), the fan operates with furnace only.

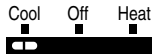
**ON:** The fan runs continuously. Use for improved air circulation during special occasions or for



more efficient electronic air cleaning. (In a heat-only system, the fan runs continuously only when the fan relay is connected to the thermostat.)

### Then set the system switch.

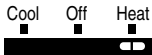
**COOL:** The thermostat controls your air conditioning system.



**OFF:** Both the heating and air conditioning systems are off.



**HEAT:** The thermostat controls your heating system.

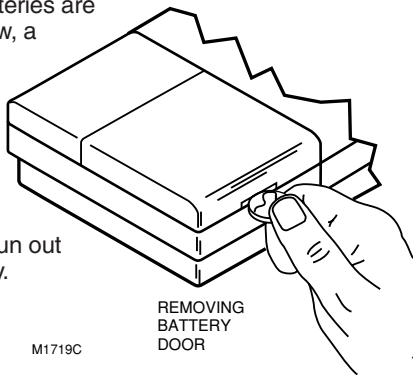


# Install Batteries

## IMPORTANT

*Batteries must be installed for programming and operating the thermostat and heating/cooling system.*

As the batteries are running low, a *bAt Lo* indicator flashes for one to two months before the batteries run out completely.



Replace the batteries as soon as possible after the indicator starts flashing.

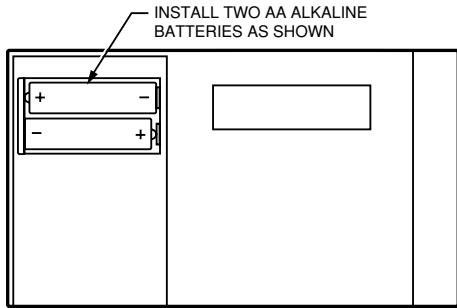
After the batteries are completely dead, the *bAt Lo* indicator disappears, leaving the display completely blank and the heating and/or cooling system not operating.

- Use two AA alkaline batteries; nonalkaline batteries do not last as long.
- Make sure the thermostat is set to the OFF position.
- Use a coin to remove the battery door.



To remove batteries, press down on the left ends of batteries. If you insert the new batteries within 20 to 30 seconds of removing the old ones, you do not need to reprogram the thermostat. However, if the display is blank, the batteries are dead or incorrectly installed and you need to reprogram.

- Install the fresh batteries, as shown, making sure positive and negative terminals are oriented correctly.
- Replace the battery door.



M1713

# Troubleshooting Guide

**IF...**

**Display will not come on.**

**Temperature display will not go lower than 45°F (7°C) or higher than 88°F (31°C) during programming.**

**Temperature change occurs at the wrong times.**

**Heating will not come on.**

**THEN...**

- Check that the green light emitting diode (LED) located to the left of the LCD is lit, indicating the thermostat is powered properly.
- You have reached the temperature setting limit. The setting range is 45°F to 88°F (7°C to 31°C).
- Check the program times for the period in question. Be sure that AM and PM indications are correct. Make sure the current day and time are correct. Reprogram if necessary.
- Check that the green LED is lit.
- Check that the switch on the thermostat is set to HEAT.

### **Heating will not come on (Cont).**

- Check the system fuse or circuit breaker and replace or reset, if necessary.
- Check for correct wiring and good connections.
- If temperature setting is higher than current temperature and displays HEAT, contact Honeywell Customer Relations at 1-800-468-1502.

### **Cooling will not come on.**

- Check that the green LED is lit.
- Check that the switch on the thermostat is set to COOL.
- Check the system fuse or circuit breaker and replace or reset, if necessary.
- Check for correct wiring and good connections.
- The thermostat has a built-in time delay on cooling. Allow five to ten minutes after changing the setting before the air conditioner starts.

**Cooling will not come on (Cont).**

- If temperature setting is lower than current temperature, and displays COOL, move system switch from COOL to OFF for ten minutes. After ten minutes, return switch to COOL position. If the air conditioner comes on, compressor could have reached its high limit temperature protection and shut down. If the air conditioner does not come on after ten minutes and displays COOL, contact Honeywell Customer Relations at 1-800-468-1502.

**The house is too warm or too cool.**

- Press **Present Setting** key to check the current temperature setting.
- If desired, change the temperature setting. See page 11.

**SYSTEM ON indicator is lit, but no heat is coming from the registers.**

- Allow time for the furnace to heat up and the fan to come on before checking for heat at the register. (Check to make sure system on-time is set correctly according to pages 13 and 14.)

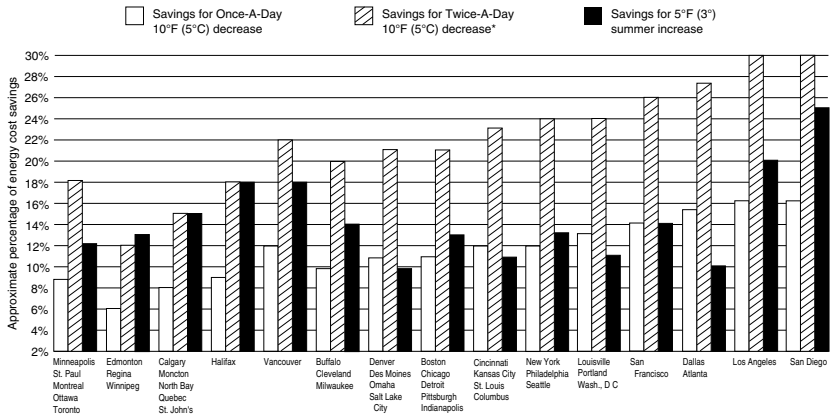
**The furnace or air conditioner on-time is too short or too long.**

**The thermostat's current setting does not match the display temperature.**

***bAt Lo* remains on display after fresh batteries are installed.**

- Contact your heating or air conditioner contractor. If further assistance is needed, call Honeywell Customer Relations at 1-800-468-1502.
- Check that the wiring hole in the wall behind the wallplate was plugged with insulation to prevent drafts that could adversely affect thermostat operation.
- Be aware that it is normal for the current setting and display temperature to differ occasionally.
- Remove batteries. Wait one hour. Install fresh alkaline batteries.

## TYPICAL ENERGY SAVINGS FOR REPRESENTATIVE CITIES IN THE U.S. AND CANADA



\*Based on 10°F (5°C) decrease—(5°F (3°C) decrease gives approximately 55 percent of these savings). M2416A

# Limited One-Year Warranty

Honeywell warrants this product, excluding battery, to be free from defects in the workmanship or materials, under normal use and service, for a period of one (1) year from the date of purchase by the consumer. If, at any time during the warranty period, the product is defective or malfunctions, Honeywell shall repair or replace it (at Honeywell's option) within a reasonable period of time.

If the product is defective,

- (i) return it, with a bill of sale or other dated proof of purchase, to the dealer or contractor from which you purchased it, or
- (ii) package it carefully, along with proof of purchase (including date of purchase) and a short description of the malfunction, and mail it, postage prepaid, to the following address:

Honeywell Return Goods  
Dock 4, MN10-3866  
Golden Valley, MN 55422

This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Honeywell that the defect or malfunction was caused by damage which occurred while the product was in the possession of a consumer.

Honeywell's sole responsibility shall be to repair or replace the product within the terms stated above. HONEYWELL 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 HONEYWELL 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 Honeywell Customer Relations, 1985 Douglas Drive North, MN10-1461, Golden Valley, MN 55422 or call 1-800-468-1502. In Canada, write Retail Products ON30, Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

**NOTICE:** This equipment is a Class B digital apparatus, which complies with Canadian Radio Interference Regulations, CRC c.1374.

## **Customer Assistance**

For all questions concerning this thermostat, please read and follow the instructions. If additional assistance is needed, call Honeywell Customer Relations toll-free at 1-800-468-1502.

Before you call, please have the following information available—thermostat model number and date code, type of heating/cooling system (for example, hot water, warm air, oil, or gas), and number of wires connected to the thermostat.

# **Honeywell**

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### **Automation and Control Products**

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