

CT8775A,C

THE DIGITAL ROUND™ NON-PROGRAMMABLE THERMOSTATS

OWNER'S GUIDE

CT8775A Heat Only Thermostat (20 to 30 Vac) and
CT8775C Heating-Cooling Thermostat (20 to 30 Vac)

Para obtener un documento con las instrucciones en español, por favor visite nuestro sitio de web a: www.honeywell.com/yourhome.
Pour obtenir des notices techniques en français, veuillez consulter notre site web www.honeywell.com/yourhome.



Contents

Step 1. Prepare for Installation	3
Step 2. Remove Old Thermostat	4
Step 3. Special Installations.....	4
Step 4. Label Thermostat Wires	5
Step 5. Separate Wallplate from Thermostat.....	5
Step 6. Mount Decorator Cover Plate and Thermostat Wallplate.....	5
Step 7. Wire Wallplate Terminals.....	8
Step 8. Customize the Thermostat	10
Step 9. Mount the Thermostat	11
Step 10. Set the System and Fan Switches	12
Step 11. Operating the Thermostat.....	13
Step 12. Check Operation of Heating and/or Cooling System	13
If You Have A Problem	15
Wiring Diagrams	16



Enjoy the benefits of The Digital Round™ Thermostat by Honeywell.

- *Simple to use.* Turn the dial to adjust the temperature setting.
- *Large easy-to-read display.* The temperature reading is easily seen from a distance.
- *Backlit display.* On-demand backlighting makes it easy to read the display in a dark room or hallway.
- *No batteries required.* The temperature setting is held permanently in memory in the event of a power failure.

This manual answers many of the questions that can arise as you become familiar and comfortable with your Honeywell thermostat — the state of the art in home comfort controls.

Read these instructions carefully. Failure to follow these instructions can damage the product or cause a hazardous condition.

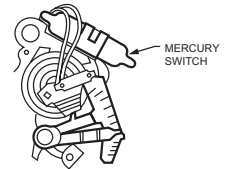


M19582



MERCURY NOTICE

If this thermostat is replacing a control that contains mercury in a sealed tube, do not place your old control in the trash. Contact your local waste management authority for instructions regarding recycling and the proper disposal of an old control containing mercury in a sealed tube.



TYPICAL LOCATION OF A MERCURY SWITCH IN A THERMOSTAT

M10614

STEP 1. PREPARE FOR INSTALLATION

- Check Table 1, the compatibility chart, to make sure the thermostat is compatible with your system. If your system is not compatible, call Honeywell Customer Care, toll-free, 1-800-468-1502.

Table 1. Compatibility Chart.

System Type	Compatibility with CT8775A	Compatibility with CT8775C
Gas or Oil Warm Air	Yes	Yes
Electric Warm Air	No	Yes
Gas or Oil Hot Water	Yes ^a	Yes ^a
Gas or Oil Steam	Yes	Yes
Gas or Oil Gravity	Yes	Yes
Gas Millivolt	No	No
Electric Air Conditioning	No	Yes
Baseboard Electric (120/240 line volt) ^b	No	No
Single Stage Heat Pump	No	Yes
Multistage Heat Pumps/Multistage Equipment	No	No

^aCompatible with 2-wire Honeywell zone valves. Not compatible with Taco zone valves and 2- or 3-wire White-Rodgers zone valves (No. 1311 and 1361).

^b Not compatible with any 120/240 volt system.

Package Contents

- Thermostat
- Wiring labels
- Decorator cover plate
- Owner's Guide
- Screws and wall anchors

Tools for Installation

- Screwdriver
- Needle nose pliers
- Drill
- Drill bits (3/16 in. drywall, 7/32 in. plaster)
- Hammer

STEP 2. REMOVE OLD THERMOSTAT

- ❑ Test your heating and cooling systems to make sure they work properly. If either system does not work, contact your local heating/air-conditioning dealer. To avoid compressor damage, do not operate the cooling system when outdoor temperature is below 50°F (10°C).
- ❑ Turn off power to the system at the furnace or the fuse/circuit breaker panel.
- ❑ Carefully unpack your new thermostat and decorator cover plate. Save package of screws, instructions, and receipt.
- ❑ Remove the cover from the old thermostat. If the cover does not snap off when pulled firmly from the top or bottom, check for a screw or screws that may be used to lock on the cover.
- ❑ Loosen the screw or screws (if present) holding the thermostat to the wallplate and lift the thermostat away. **Do not disconnect wires.**

STEP 3. SPECIAL INSTALLATIONS

Read this section if you are replacing:

- A thermostat that has wires connected to C or C1 terminals.
- A thermostat that is connected to six or more wires.
- A thermostat that is connected to three wires on a warm air heating only system.
- A thermostat that is connected to three wires on a zoned hot water heating system.

NOTE: If none of the special installations apply to your particular application, please skip to Step 4.

Replacing a thermostat that has wires connected to C or C1 terminals

If you are replacing a thermostat that has one or two wires connected to C or C1 terminals, do *not* allow them to touch, or you can damage the transformer. Wrap the wires separately using electrical tape. Place the wires where they will not interfere with the operation of the new thermostat. Continue with the installation at Step 4.

Replacing a thermostat that is connected to six or more wires

If you are replacing a thermostat that is connected to six or more wires (excluding wires connected to C or C1 terminals), you may have a multistage heat pump or other multistage system. If you have either one of these systems, return the product to the place of purchase. This thermostat is not compatible with these systems. For information about which thermostats will work with your system, call Honeywell Customer Care, at 1-800-468-1502.

Replacing a thermostat that is connected to three wires on a warm air heating only system

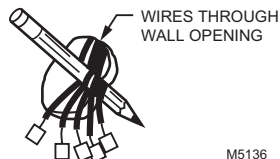
If you are replacing a thermostat that is connected to three wires on a warm air heating only system and could turn the fan on by setting the thermostat fan switch to ON, the CT8775C Thermostat will work with your system. Continue with the installation at Step 4. If you purchased a CT8775A thermostat, return the product to the place of purchase. The CT8775A thermostat is not compatible with this application.

Replacing a thermostat that is connected to three wires on a zoned hot water heating system

If you are replacing a thermostat that is connected to three wires on a zoned hot water heating system, the CT8775A,C thermostats will only work if an isolation relay is installed. For details, call your local heating and/or cooling contractor.

STEP 4. LABEL THERMOSTAT WIRES

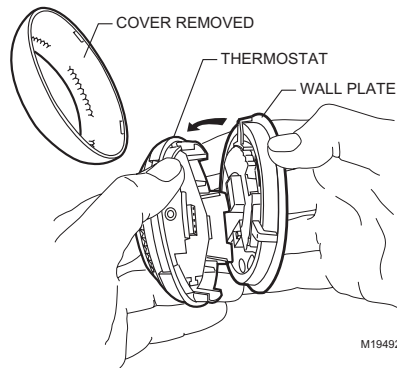
- ❑ Disconnect the wires from the old thermostat. As you disconnect each wire, attach the enclosed labels with the old terminal designation. Wrap the wires around a pencil as shown to keep them from falling back into the wall.



M5136

STEP 5. SEPARATE WALLPLATE FROM THERMOSTAT

- ❑ Remove cover from thermostat. Separate the wallplate from the thermostat by placing your thumb on the top between the wallplate and the thermostat and pulling the thermostat away from the wallplate. See the illustration at the right.



M19492

STEP 6. MOUNT DECORATOR COVER PLATE AND THERMOSTAT WALLPLATE

- ❑ The decorator cover plate and wallplate can be mounted directly on the wall or onto an electrical box.
- ❑ To mount directly to the wall, see Fig. 1.
- ❑ To mount onto an electrical box, see Fig. 2.

Mount Decorator Cover Plate (Optional) and Wallplate Directly to Wall

- ❑ If using the decorator cover plate, pull the wires through the wiring hole on the decorator cover plate. Position the decorator cover plate against the wall so that the UP indicator in the middle of the decorator cover plate is pointing up.
- ❑ Position the wallplate:
 - ❑ If using the decorator cover plate, pull the wires through the wiring hole on the wallplate and place the wallplate over the decorator cover plate. Turn the wallplate until the wiring holes are aligned and the two screw holes on the left and right side of the wallplate line up with the screw holes on the decorator cover plate. You will be inserting the screws through these holes into the wall.
 - ❑ If attaching the wallplate directly to the wall, pull the wires through the wiring hole on the wallplate and position it so that the UP indicator on the wallplate is pointing up.
- ❑ Use a pencil to mark the center of the screw holes on the left and right sides of the wallplate.
- ❑ Remove the wallplate and decorator cover plate (if used) and drill two $\frac{3}{16}$ in. holes in the wall (if drywall) at the locations you marked. For materials such as plaster, drill $\frac{7}{32}$ in. holes where marked. Gently tap the provided anchors into the drilled holes until they are flush with the wall.
- ❑ Pull the wires through the wiring holes and reposition the decorator cover plate (if used) and wallplate over the screw holes.
- ❑ Attach the decorator cover plate (if used) and wallplate to the wall with two 1-in. screws.

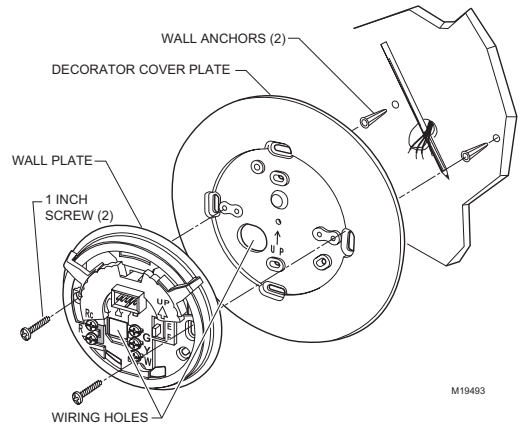
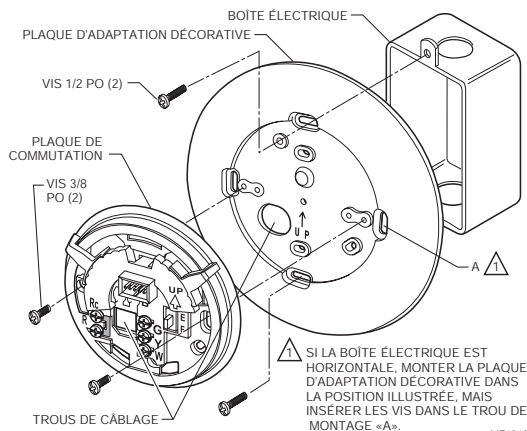


Fig. 1. Mount decorator cover plate (optional) and wallplate directly to wall (heating-cooling wallplate shown).

Mount Decorator Cover Plate (Required) and Wallplate onto Electrical Box

- ❑ Pull the wires through the wiring hole on the decorator cover plate.
- ❑ Place the decorator cover plate against the electrical box so that the UP indicator in the middle of the decorator cover plate is pointing up.
- ❑ Line up the screw slots on the decorator cover plate with the electrical box screw holes, and attach the decorator cover plate to the electrical box with two 1/2 in. screws.
- ❑ Pull the wires through the wiring hole on the wallplate.
- ❑ Place the wallplate over the decorator cover plate. Turn the wallplate until the wiring holes are aligned and the two screw holes on the left and right side of the wallplate line up with the screw holes on the decorator cover plate.
- ❑ Attach the wallplate to the decorator cover plate with the two 3/8 in. screws.



MF19494

Fig. 2. Mount decorator cover plate (required) and wallplate onto electrical box (heating-cooling wallplate shown).

STEP 7. WIRE WALLPLATE TERMINALS

IMPORTANT

All wiring must comply with local codes and ordinances. If unsure about household wiring procedures, call your local heating/air conditioning contractor.

- ❑ Refer to the labels you placed on the wires when you removed the old thermostat (see illustration).
- ❑ Match the letter of your old thermostat wire with the corresponding terminal letter on your new thermostat. Refer to Table 2.

IMPORTANT

Remove the factory-installed jumper connecting terminals R and Rc on the CT8775C Thermostat if wires will be connected to both of these terminals.

- ❑ For wiring diagrams, see pp 16-17.
- ❑ Loosen the terminal screws. Slip each wire beneath its matching terminal. Wraparound and straight connections are both acceptable, (see illustration). Tighten the terminals.
- ❑ Plug the hole in the wall with insulation to help prevent drafts from adversely affecting thermostat operation.

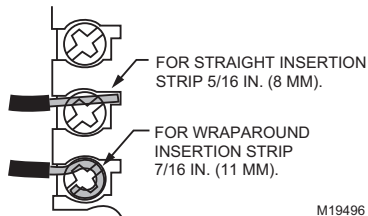
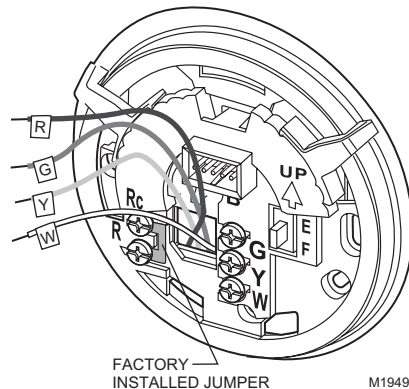


Table 2. Terminal Designations on Old and New Thermostats.

Terminal on Old Thermostat	Connect to Terminals on CT8775A	Connect To Terminals on CT8775C	Description
R Rh (see Note 1) 4 V	R	R (see Note 2)	Power
Rc R (see Note 1)	—	Rc (see Note 2)	Power for cooling
W, W ₁ , H	W	W	Heat
Y, Y ₁ , M	—	Y	Cooling
G, F	—	G	Fan
O	—	O	Changeover in cool. (Single stage heat pump only).
B (see Note 3)	—	B (see Note 3)	Changeover in heat. (Single stage heat pump only).
C (see Note 4) X (see Note 4) B (see Note 3)	Do not connect.	Do not connect.	Transformer common
W ₂ , H ₂	Do not continue installation. Call 1-800-468-1502.	Do not continue installation. Call 1-800-468-1502.	Second stage heat.
Y ₂			Second stage cool.

NOTES:

1. If wires were connected to both Rh and R terminals on the old thermostat, remove jumper between R and Rc on the new thermostat and connect Rh to R and R to Rc.
2. If wires will be connected to both R and Rc on the new thermostat, remove jumper between R and Rc.
3. Do not connect both O and B when wiring to a single stage heat pump. Connect O to O. Tape off B with electrical tape and do not use.
4. Tape off wire with electrical tape and do not use.

STEP 8. CUSTOMIZE THE THERMOSTAT

Set Fuel Switch (CT8775C Only)

- ❑ To adjust the fuel switch, locate the switch labeled E/F on the wallplate (see Fig. 3). The fuel switch is factory set in the F position. This is the correct setting for gas or oil systems. If you have an electric heat system, or a heat pump, set the switch to E. The E setting allows the fan to turn on immediately with the heating system where the G terminal is connected.

DIP Switch

- ❑ To adjust the heat cycle rate or the Fahrenheit/Celsius indication, locate DIP switch 1, 2 and 3 on the back of the thermostat. See Fig. 4.

Set Heat Cycle Rate

- ❑ Use DIP switches 1 and 2 to set the heat cycle rate. See Table 3.

NOTE: The CT8775A,C Thermostats will provide optimal temperature control if DIP switches 1 and 2 are set according to your particular heating system.

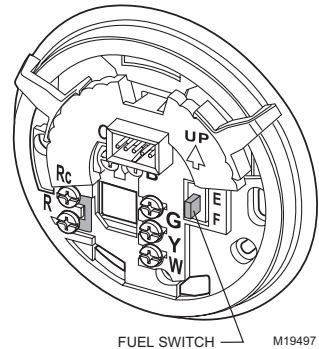


Fig. 3. Fuel switch.

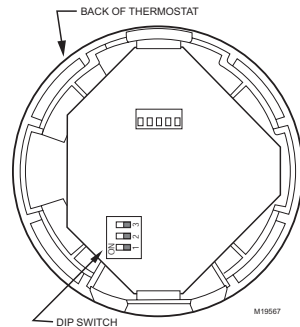


Fig. 4. DIP switch.

Table 3. Heat Cycle Rate.

Heating System	Cycles Per Hour	DIP Switch 1	DIP Switch 2
Steam, Gravity	1	On	On
High Efficiency Warm Air (90%+ efficiency), Hot Water, Heat Pump	3	Off	On
Gas or Oil Warm Air (factory setting)	6	Off	Off
Electric Warm Air	9	On	Off
In Floor Radiant Heat	Check with manufacturer for recommended cycle rate.		

NOTE: The cooling cycle rate does not require adjustment and therefore cannot be changed.

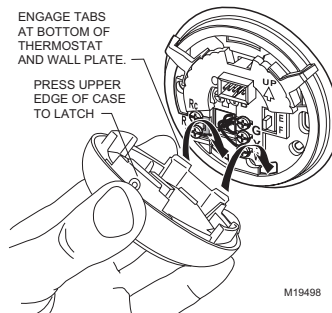
Fahrenheit/Celsius Indication

- Use DIP switch 3 to set the desired temperature indication. See Table 4.

Table 4. Temperature Indication.

Fahrenheit/Celsius Display	DIP Switch 3
Fahrenheit (factory setting)	Off
Celsius	On

STEP 9. MOUNT THE THERMOSTAT



STEP 10. SET THE SYSTEM AND FAN SWITCHES (CT8775C ONLY)

System Switch (see Fig. 5)

- Heat: The thermostat controls your heating system.
- Off: Both the heating and cooling systems are off.
- Cool: The thermostat controls your cooling system.

Fan Switch (see Fig. 5)

- Fan Auto: Normal setting for most homes. The fan only runs with the heating and cooling system.
- Fan On: The fan runs continuously. Use for improved air circulation.

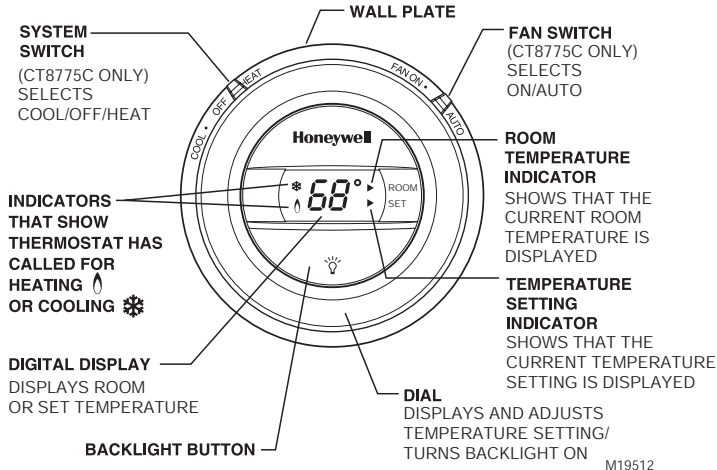


Fig. 5. CT8775 Thermostat (features and operation).

STEP 11. OPERATING THE THERMOSTAT

NOTE: Batteries are not required because the temperature setting is held permanently in memory.

Backlit Display

- ❑ The backlight can be turned on by turning the dial, or pushing the backlight button (see Fig. 5).

Display Temperature Setting

- ❑ Turn the dial one click to display the temperature setting (see Fig. 6). A ► indicator points to Set when the temperature setting is displayed.



Fig. 6. Temperature Setting Display.

- ❑ If a change to the temperature setting is not made within five seconds, the mode will switch to the room temperature display (see Fig. 7). A ► indicator points to Room when the room temperature is displayed.



Fig. 7. Room Temperature Display.

Adjust Temperature Setting

- ❑ Turn the dial clockwise to raise the temperature setting. Turn the dial counterclockwise to lower the temperature setting.

STEP 12. CHECK OPERATION OF HEATING AND/OR COOLING SYSTEM

Heating System

- ❑ Slide the system switch to Heat and the Fan switch to Auto (CT8775C only).
- ❑ Turn the dial clockwise to raise the temperature setting several degrees above the room temperature.
- ❑ A flame 🔥 will appear in the display to indicate the thermostat has called for heating. The heating system should turn on.
- ❑ Turn the dial counterclockwise to lower the temperature setting below the room temperature.
- ❑ The flame 🔥 will disappear from the display to indicate the thermostat has ended the call for heating. The heating system should turn off.

Cooling System (CT8775C Only)



CAUTION

Equipment Damage Hazard.

Can cause permanent damage to compressor or other equipment.

Do not operate cooling when outside temperature is below 50°F (10°C).

Allow compressor to remain off for five minutes before restarting.

See equipment manufacturer instructions.

- Slide the system switch to Cool and the Fan switch to Auto.
- Turn the dial counterclockwise to lower the temperature setting several degrees below the room temperature.

NOTE: If a call for cooling is made before the compressor has been off for five minutes, or if a power interruption occurs while the compressor is running, the thermostat will go into a five-minute delay to protect the compressor. The snowflake ❄️ will flash during this delay.

- After five minutes, the thermostat will display a solid snowflake ❄️ to indicate the thermostat has called for cooling. The cooling system should turn on.
- Turn the dial clockwise to raise the temperature setting above the room temperature.
- The snowflake ❄️ will disappear from the display to indicate the thermostat has ended the call for cooling. The cooling system should turn off.

Fan (CT8775C Only)

- Slide the system switch to Off and the fan switch to On. The fan should run continuously.
- Slide the Fan switch to Auto. The fan should turn off.

IF YOU HAVE A PROBLEM

Table 5. Solution Guide.

If...	Then...
Display does not appear.	<ul style="list-style-type: none"> • Make sure the thermostat is wired correctly. Refer to Table 2 or the wiring diagrams. • Make sure the thermostat is mounted and latched on the wallplate. • Make sure the circuit breaker is not tripped, and reset it if necessary. • Make sure the power switch at the equipment is in the On position and set it to On if it is in the Off position.
Temperature settings will not change (example: cannot set the heating higher or the cooling lower).	<ul style="list-style-type: none"> • Make sure the temperature settings are: 40 to 90°F (4 to 32°C) for heating. 45 to 99°F (7 to 37°C) for cooling.
Heating does not come on.	<ul style="list-style-type: none"> • Set the system switch to Heat (CT8775C only). • Make sure the temperature setting is above the room temperature. • Make sure the circuit breaker is not tripped, and reset it if necessary. • Make sure the power switch at the equipment is in the On position, and set it to On if it is in the Off position. • Wait five minutes for the system to respond.
Cooling does not come on.	<ul style="list-style-type: none"> • Set the system switch to Cool (CT8775C only). • Make sure the temperature setting is below the room temperature. • Make sure the circuit breaker is not tripped, and reset it if necessary. • Make sure the power switch at the equipment is in the On position, and set it to On if it is in the Off position. • Wait five minutes for the system to respond.
System on indicator (🔥 = heat, ❄️ = cool) is lit, but no warm or cool air is coming from the registers.	<p>Wait five minutes after seeing the flame or snowflake and check the registers again. If there is no warm or cool air coming from the registers, refer to Heating does not come on or Cooling does not come on. If all of this has been checked, contact your local heating and cooling contractor.</p>

Customer Assistance

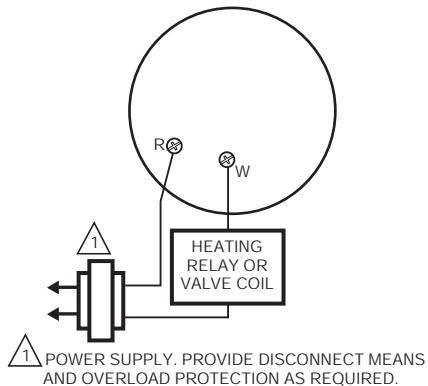
Please read and follow the provided instructions for this thermostat. For additional information, go to www.honeywell.com/yourhome or call Honeywell Customer Care, toll free, at 1-800-468-1502.

Before calling, please have the following information available:

- Thermostat model number. (Located on back of thermostat).
- Thermostat date code. (Located below model number).
- Type of heating/cooling system (example: Gas, oil, or electric; warm air, hot water, heat pump, steam or gravity).
- Location and number of wires connected to the thermostat.

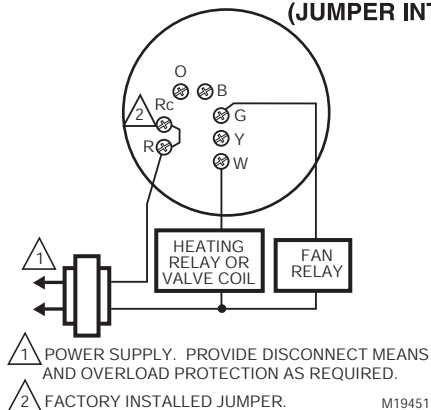
Wiring Diagrams

2-WIRE HEAT ONLY - CT8775A



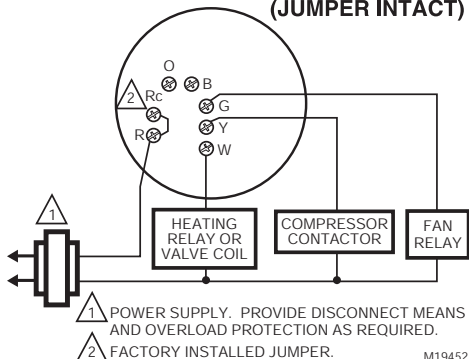
M19450

3-WIRE HEAT ONLY WITH FAN - CT8775C (JUMPER INTACT)



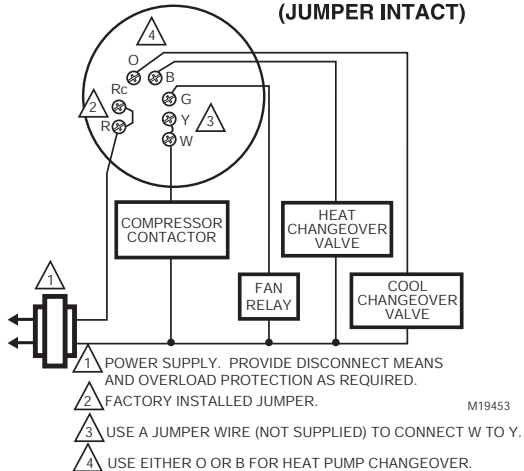
M19451

4-WIRE HEAT/COOL - CT8775C (JUMPER INTACT)

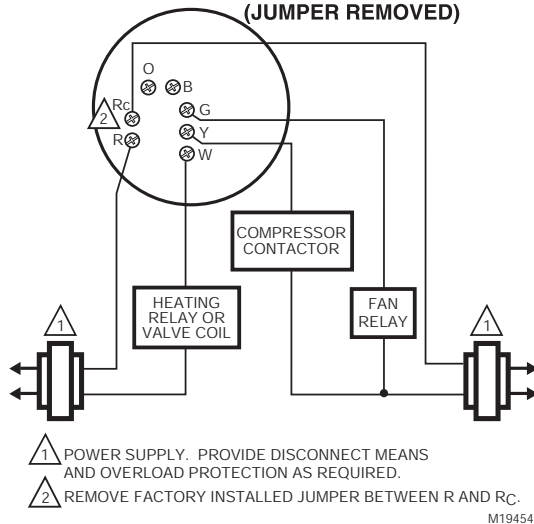


M19452

4-WIRE SINGLE STAGE HEAT PUMP-CT8775C (JUMPER INTACT)



5-WIRE HEAT/COOL -CT8775C (JUMPER REMOVED)



Notice:

This thermostat is a Class B digital apparatus that complies with Canadian Radio Interference Regulations, CRC c. 1374.

Limited One-Year Warranty

Honeywell warrants this product 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 Honeywells 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 retailer 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 USA
Dock 4 — MN10-3860
1885 Douglas Drive North
Golden Valley, MN 55422-3992

Honeywell Canada:
Honeywell Limited/Honeywell Limitée
35 Dynamic Drive
Scarborough, Ontario M1V 4Z9

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.

Honeywells 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 Care, 1885 Douglas Dr. N., Golden Valley, MN 55422-3992. In Canada, write Retail Products ON30 Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

Honeywell

Automation and Control Solutions

Honeywell International Inc.
1985 Douglas Drive North
Golden Valley, MN 55422

Honeywell Limited-Honeywell Limitée
35 Dynamic Drive
Scarborough, Ontario
M1V 4Z9

69-1676—1 J.S. Rev. 6-04



Printed in U.S.A. on recycled
paper containing at least 10%
post-consumer paper fibers.

www.honeywell.com/yourhome