

## T8775A,C The Digital Round™ Non-Programmable Thermostats

PRODUCT DATA



### APPLICATION

The T8775A and T8775C Thermostats provide single-stage, non-programmable temperature control for 24 Vac systems with manual changeover from heat to cool.

The T8775A controls 2-wire heating-only systems.

The T8775C controls gas, oil or electric heating and cooling systems.

### FEATURES

- Attractive styling complements any decor.
- Simple to use. Turn the dial to adjust the setpoint temperature.
- 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 setpoint temperature is held permanently in memory in the event of a power failure.
- Powered through heating-cooling system controls.
- System and Fan switches on the T8775C model.
- Manual changeover from heat to cool on T8775C model.
- Easy installation and set up saves time and increases installer productivity.
- Easily configurable by the use of DIP switches.
- Fahrenheit or Celsius temperature display for added flexibility.
- Selectable heating cycle rates (1, 3, 6, 9 CPH) for a variety of applications.
- Cooling cycle rate is fixed at 3 CPH. This is the standard compressor setting.
- Minimum off-time for the compressor in the cooling mode. Protects and extends the life of the equipment.
- Decorative cover plate is available to cover marks on the wall or to mount the T8775 Thermostat to an electrical box.

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## 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.

**Models:** T8775A and T8775C TRADELINE® models include a thermostat, wallplate for mounting and wiring, mounting hardware, 4074FAB resistor, installation instructions and an owner's guide.

### Electrical Ratings:

24 Vac nominal: 18 Vac to 30 Vac, 60Hz.  
 Heating: .02 to 1.5 A run; 3.5A inrush.  
 Cooling: .02 to 1.5 A run; 6.0 A inrush.  
 Fan: .02 to 0.5 A run; 2.5A inrush.

### Temperature Ratings:

Setting Range:  
 40°F to 90°F (4.5°C to 32.0°C) in heating.  
 45°F to 99°F (7.0°C to 37.0°C) in cooling.

Ambient Range:  
 40°F to 110°F (4.4°C to 43.3°C).  
 Shipping Temperature Range:  
 -20°F to 120°F (-28.9°C to 48.9°C).

**Humidity Ratings:** 5% to 90% RH, non-condensing.

### Mounting Hardware:

Sheet metal screws: Two 1-in. (25 mm) 4-24, type AB.  
 Drywall anchors: Two conical anchors, 3/16 in. (5 mm) diameter by ¾ in. (19 mm) length.

### 4074 FAB Resistor:

1 Kohm, 3 Watts.  
 Installation Instructions packed with resistor.

**Batteries:** Not required.

**Finish:** Premier White®.

### Accessories:

50000066-001 Decorative Cover Plate. Used to cover wall marks, or to mount T8775 Thermostat to an electrical box.  
 32007680-001 Cover Ring.

**Dimensions:** See Fig. 1.

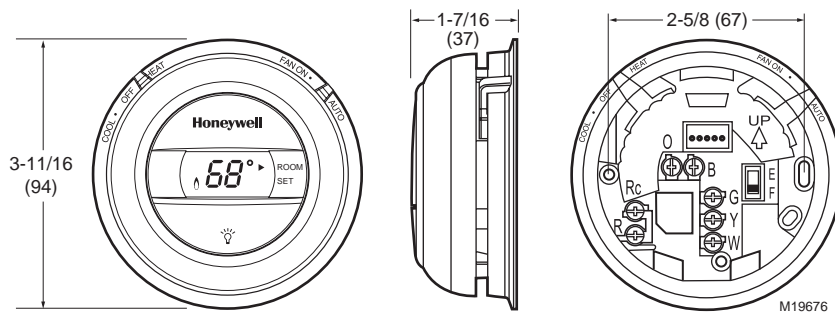


Fig. 1. T8775 Thermostat dimensions in in. (mm).

## 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 Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care  
 1885 Douglas Drive North  
 Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

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

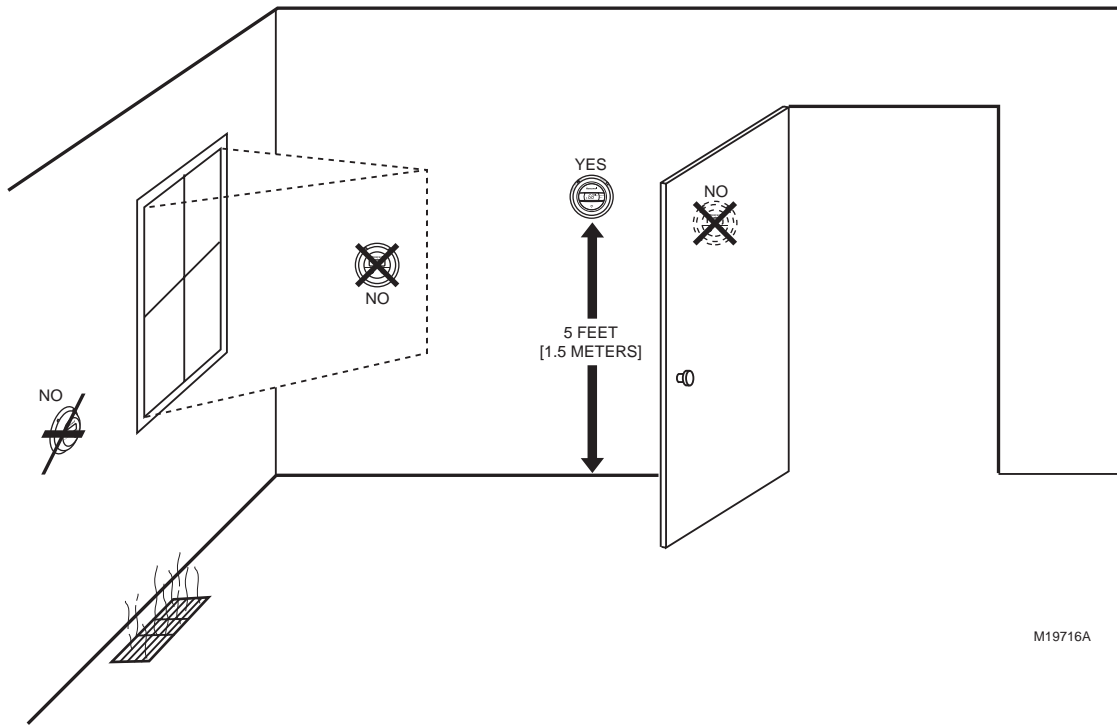


Fig. 2. Typical thermostat location.

### Separate Wallplate from Thermostat

1. Place your thumbs on top of the thermostat and wallplate. Use your thumbs to pull the thermostat away from the wallplate. See Fig. 3.

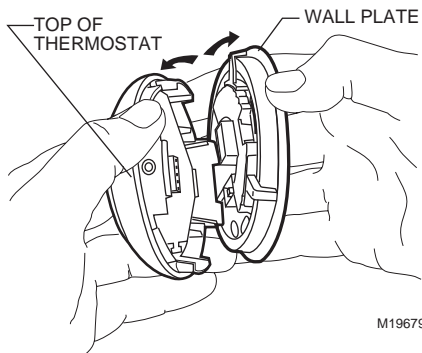


Fig. 3. Separate wallplate from thermostat.

Mount wallplate to wall (See Fig. 4) as follows:

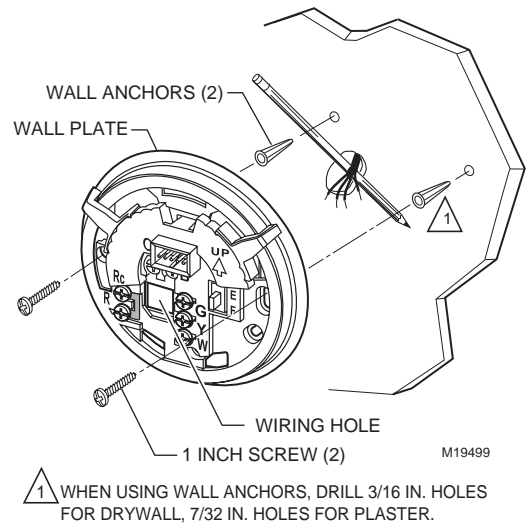


Fig. 4. Mount wallplate to wall.

NOTE: Level wallplate for appearance only. The thermostat functions normally even when not mounted level.

### Mount Wallplate to Wall

1. Pull the thermostat wires through the wiring hole on the wallplate.
2. Use a pencil to mark the center of the screw holes on the left and right sides of the wallplate.
3. Remove the wallplate from the wall and drill two 3/16 in. (5 mm) holes in the wall (if drywall) at the locations you marked. For materials such as plaster, drill 7/32 in. (6 mm) holes where marked.

4. Tap the provided wall anchors into the drilled holes until they are flush with the wall.
5. Pull the thermostat wires through the wiring hole on the wallplate and reposition the wallplate over the wall anchors.
6. Attach the wallplate to the wall with the screws provided.
7. After wiring the wallplate, plug the hole to prevent drafts from affecting the thermostat; see Wiring section.

Refer to Fig. 7 through 11 for typical wiring diagrams.

## WIRING

### IMPORTANT

Use 18-gauge wire to wire the T8775A,C Thermostats.

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

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

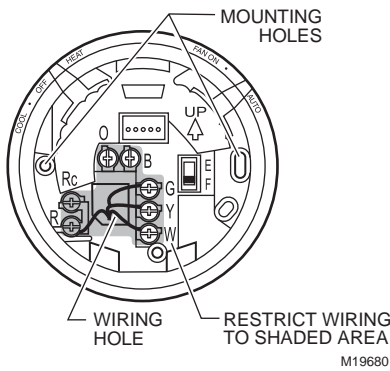


Fig. 5. Restrict T8775 wiring to shaded area.

The shape of the terminals permits insertion of straight or wraparound wiring connections; either method is acceptable. See Fig. 6.

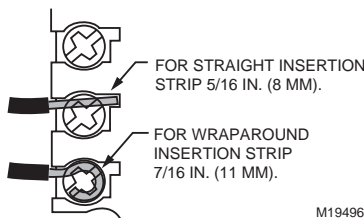


Fig. 6. T8775 wiring connections.

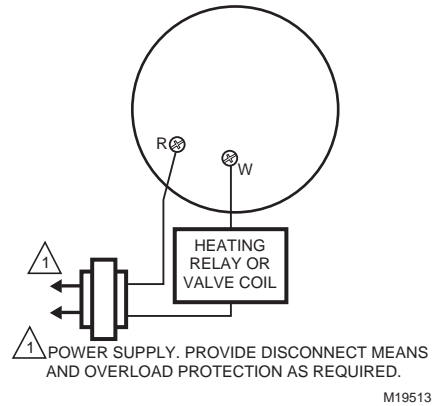


Fig. 7. Typical hookup of T8775A in a heat-only system.

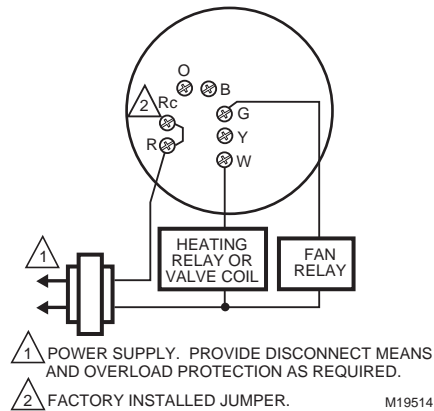


Fig. 8. Typical hookup of T8775C in heat-only system with fan.

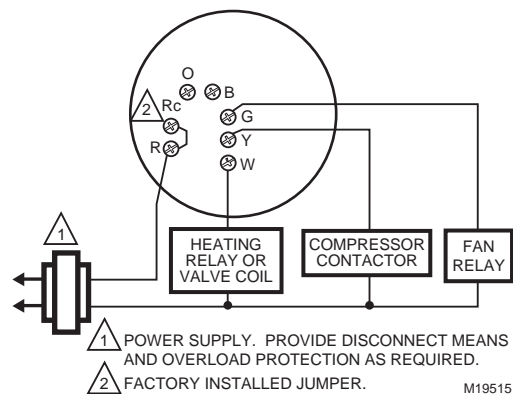


Fig. 9. Typical hookup of T8775C in heat-cool system with single transformer.

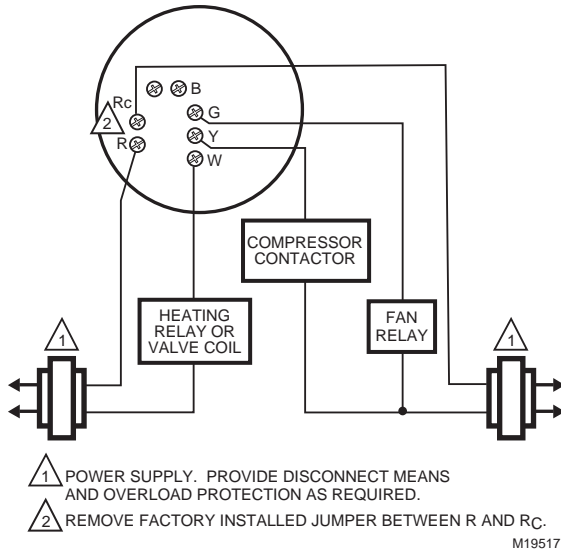


Fig. 10. Typical hookup of T8775C in heat-cool system with two transformers.

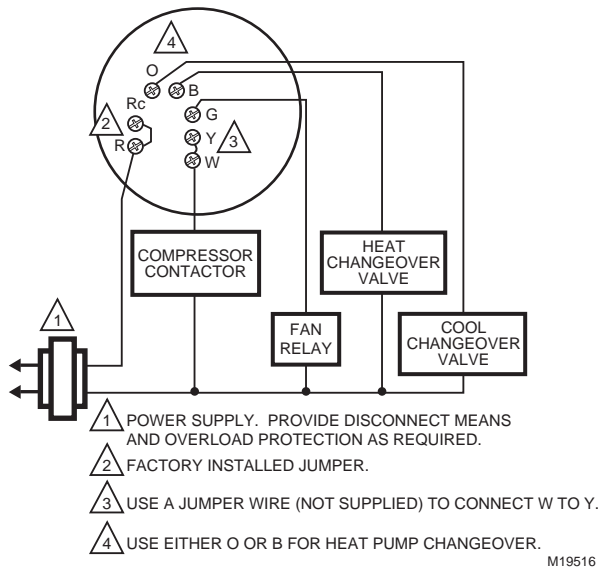


Fig. 11. Typical hookup of T8775C in single-stage heat pump system.

## CUSTOMIZE THERMOSTAT

### Setting Fuel Switch (T8775C only)

The fuel switch is preset at the factory in the F position. See Fig. 12. This is the correct setting for gas or oil systems. If the T8775C is being installed on an electric heat system, or a heat pump, set the switch to the E position. The E position allows the fan to turn on immediately with the heating equipment in a system where the G terminal is connected.

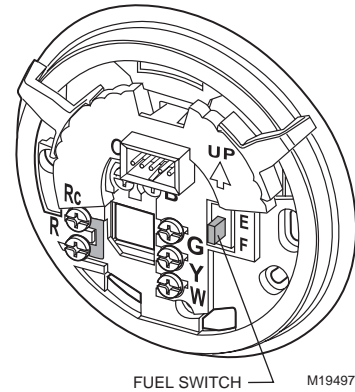


Fig. 12. Fuel switch.

### DIP Switch

To adjust the heat cycle rate or the Fahrenheit/Celsius temperature display, locate DIP switch 1, 2 and 3 on the back of the thermostat. See Fig. 13.

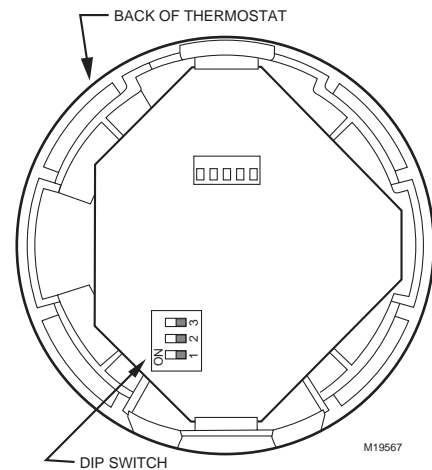


Fig. 13. DIP switch.

### Set Heat Cycle Rate

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

Table 1. 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.		

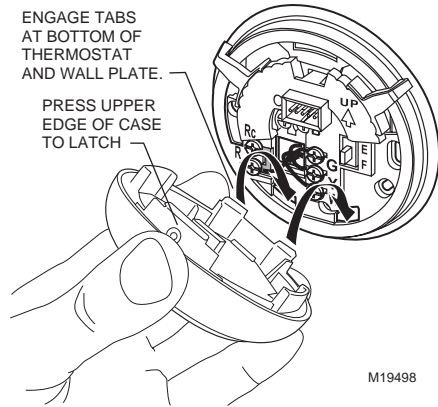
## Fahrenheit/Celsius Indication

Use DIP switch 3 to set the desired temperature indication. See Table 2.

**Table 2. Temperature Indication.**

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

## Mount Thermostat to Wallplate (see Fig. 14)



**Fig. 14. Mount thermostat to wallplate.**

## SET SYSTEM AND FAN SWITCHES (T8775C ONLY)

### SYSTEM Switch: (See Fig.15)

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

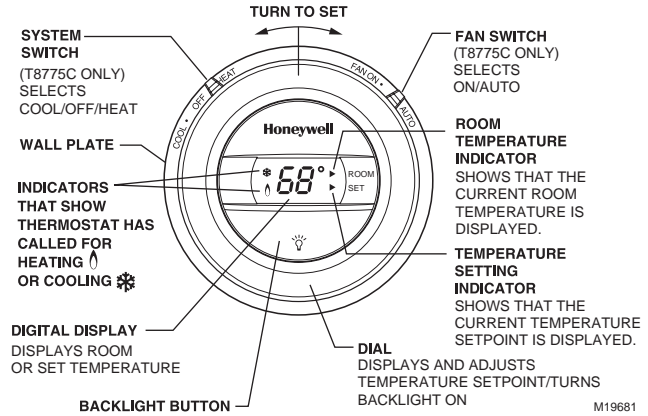
### FAN Switch: (See Fig.15)

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

## FEATURES AND OPERATION

Features and operation of The Digital Round™ Thermostat (see Fig. 15 and 16):

- *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.



**Fig. 15. T8775 Thermostat (features and operation).**



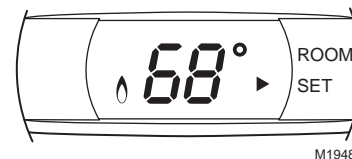
**Fig. 16. T8775 Thermostat.**

## Backlit Display

Push the backlight button to turn on the backlight (See Fig. 15).

## Display Temperature Setpoint

1. Turn the dial one click to display the temperature setpoint. An ► indicator points to Set when the temperature setpoint is displayed (see Fig.17).



**Fig. 17. Temperature setpoint display.**

2. If a change to the temperature setpoint is not made within five seconds, the display will switch to the current room temperature. An ► indicator points to Room when the room temperature is displayed (see Fig. 18).

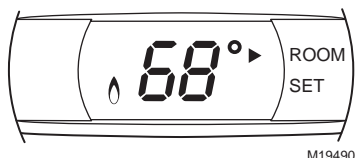


Fig. 18. Room temperature display.

## Adjust Temperature Setpoint

Turn the dial clockwise to raise the temperature setpoint. Turn the dial counterclockwise to lower the temperature setpoint (see Fig. 16).

## Power Stealing

The T8775 thermostat steals power from R and W or Rc and Y depending on the system switch position. See Table 3.

Table 3. T8775 Power Stealing.

Power Stealing Circuit		
System Switch	T8775A	T8775C
Heat	R and W	R and W
Off	—	R and W
Cool	—	Rc and Y

The T8775 Thermostat only operates when mounted on the wallplate with 24 Vac applied. Batteries are not required for operation because the temperature setpoint is permanently retained in memory.

## Sequence of Operations

See Table 4 for Sequence of Operations.

Table 4. Sequence of Operations.

Fan Switch Settings	System Switch Settings	Call for Action	Energize Terminals	Display Icons
Auto	Off	None	None	None
Auto	Heat	Heating	W <sup>a</sup>	Flame
Auto	Cool	Cooling	Y,G	Snowflake
On	Off	Fan	G	None
On	Heat	Heating	W,G	Flame
On	Cool	Cooling	Y,G	Snowflake

<sup>a</sup> If fuel switch is set to E, both W and G are energized in a call for heat.

## CHECKOUT

### Cooling (T8775C only)



## CAUTION

**Low Temperature Hazard.**  
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). Refer to manufacturer's recommendations.

### Minimum Off-Timer

The minimum off-timer in the T8775C Thermostat assures that the cooling compressor does not turn on for at least five minutes after it turns off. The snowflake will flash in the display if there is a call for cooling during the 5-minute off-time.

The following activates the 5-minute minimum-off timer:

- Initial startup
- Power interruption
- Compressor turns off:
  - Setpoint is raised above the room temperature
  - System switch is changed from the cool mode
  - Thermostat ends the call for cooling

NOTE: The 5-minute minimum-off timer does not apply to heating.

1. Slide the system switch to COOL and the fan switch to AUTO.
2. Lower the temperature setpoint several degrees below the room temperature.
3. A snowflake will appear in the display and the cooling should turn on.
4. Raise the temperature setpoint several degrees above the room temperature.
5. The snowflake will disappear from the display and the cooling should turn off.

### Heating

1. Slide the system switch to HEAT and the fan switch to AUTO (T8775C only).
2. Raise the temperature setpoint several degrees above the room temperature.
3. A flame will appear in the display and the heat should turn on.
4. Lower the temperature setpoint below the room temperature.
5. The flame will disappear from the display and the heat should turn off.

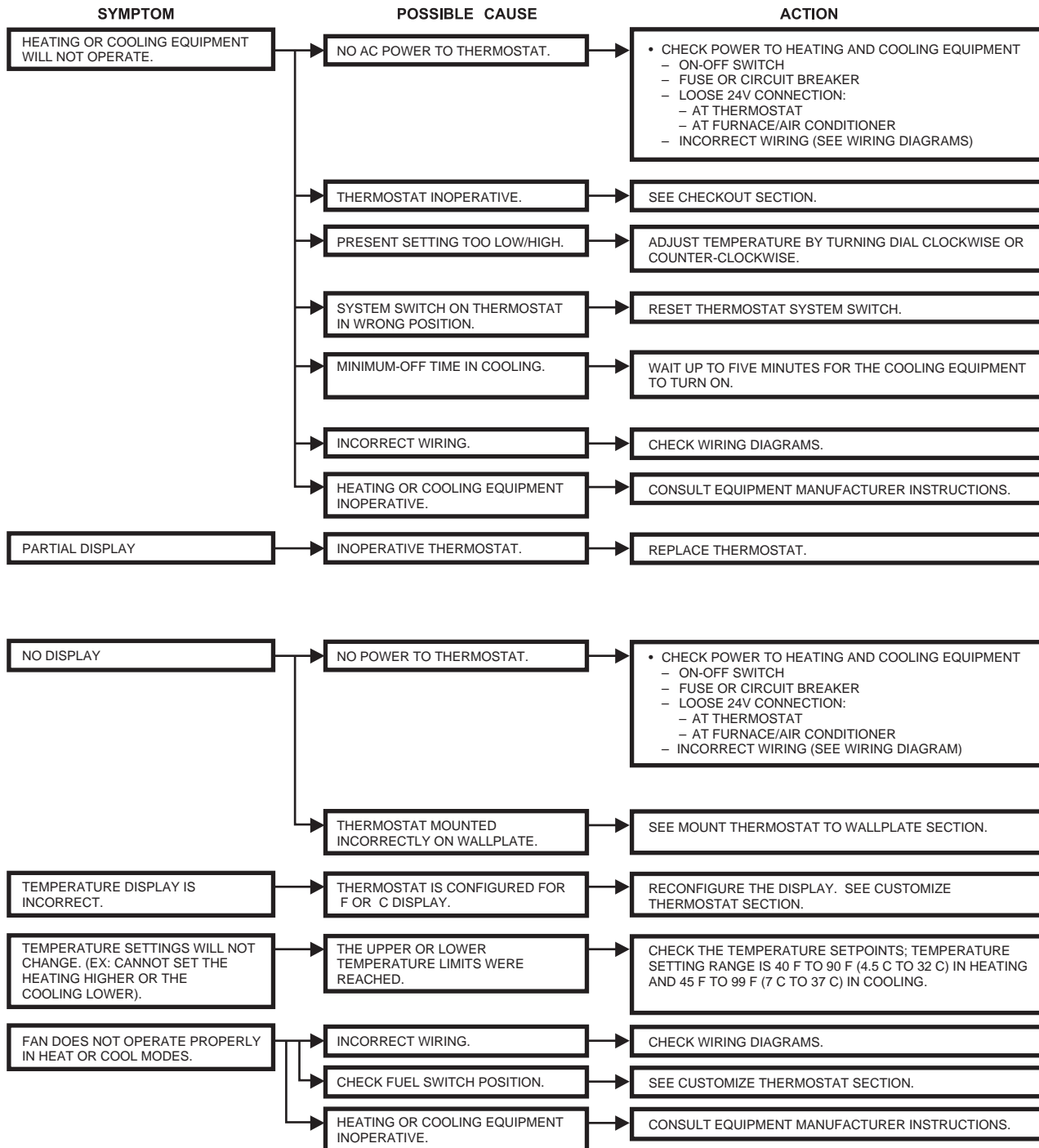
### Fan

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 fan should turn off.

NOTE: Make sure that all equipment responds properly to the thermostat.



# TROUBLESHOOTING GUIDE



M19684



## Automation and Control Solutions

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Golden Valley, MN 55422

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