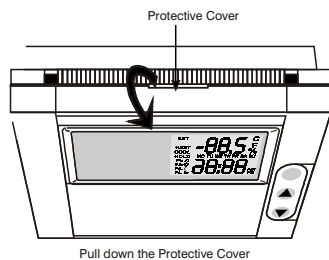




MODEL: THM301M - USER'S MANUAL (ENGLISH)
DATE: Oct 2, 2003

THM301M

- This thermostat requires two AA size batteries (included) to operate. Ensure the batteries are installed.
- Select °C or °F before clock setting and programming. (Refer to page 24).
- The time and day must be set before use. Flip the protective cover to access the function keys and switches.
- **The backlight only comes ON in the dark. Any key press will turn the backlight ON for 8 seconds in the dark.**



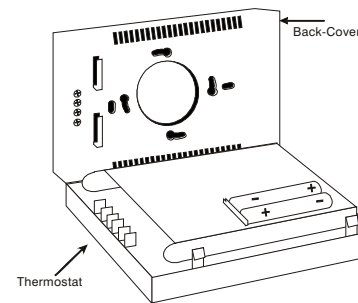
2

Features:

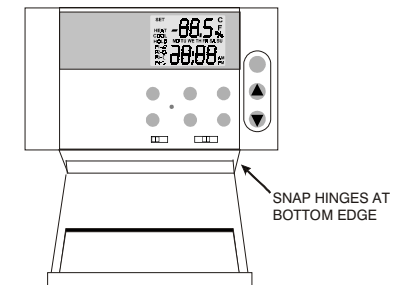
- Large LCD display with backlight
- Real-time clock showing day, hour and minute - in selectable 12 or 24 hour display format
- Separate Weekday/Weekend programs with 4 programs per day
- Separate Heat/Cool programs with built-in protection for the air-conditioner compressor
- Display and set temperature in °C or °F
- Interface with heating or air-conditioning systems for automatic temperature control

1

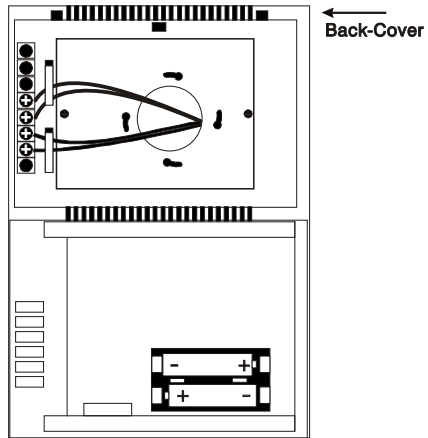
A) ATTACH THERMOSTAT



B) ATTACH COVER

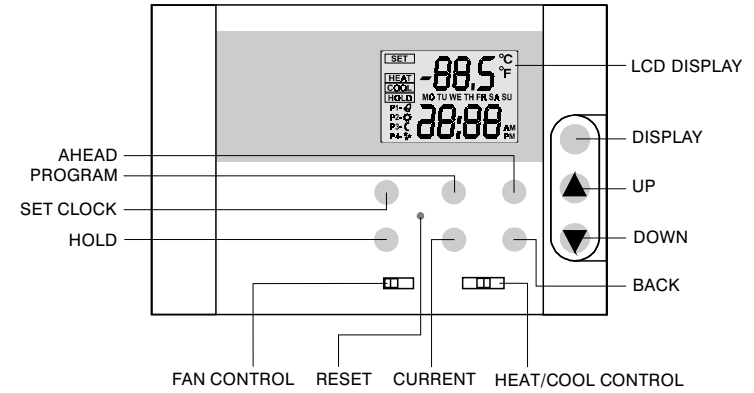


26



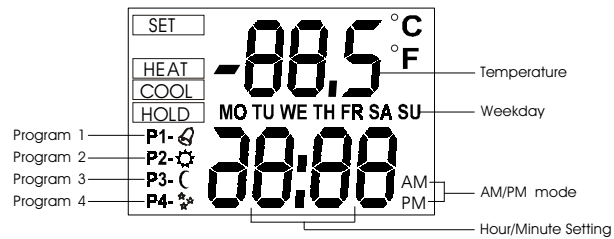
25

Function Key Descriptions



3

LCD Display

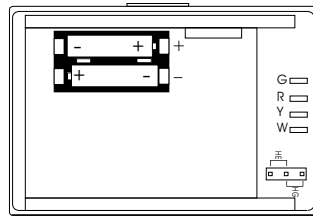


Set Time and Day

- Press SET CLOCK to start time setting. Only time will be shown. (Figure 1)
- Use AHEAD or BACK to set the current time.
- Press SET CLOCK again. Weekday will be shown. (Figure 2)
- Use AHEAD or BACK to set the current day.
- Press SET CLOCK again to exit.

4

24



23

Programs

This thermostat is equipped with separate programming for weekdays and weekends, with four programs each.

Program 1: this is typically for the morning when you may prefer a warmer temperature.

Program 2: this is an energy-savings mode, for the time you are away from home. The setting can be adjusted to minimize energy consumption.

Program 3: this is for the time you return home and want the house at a comfortable temperature, typically warmer settings during winter and cooler settings during summer.

Program 4: this is a sleep mode. You may choose to set temperature for energy savings or comfort as desired.

Note:

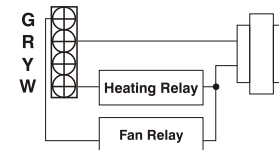
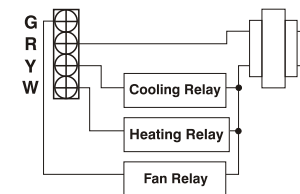
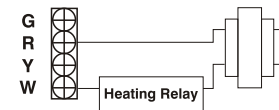
- The 4 programs for weekdays and the 4 programs for weekends are independent. You may set them to the same or different time/temperature combination.
- Heating and Cooling modes also have separate programs.

5

Below Is An Example Of A Programming Schedule :

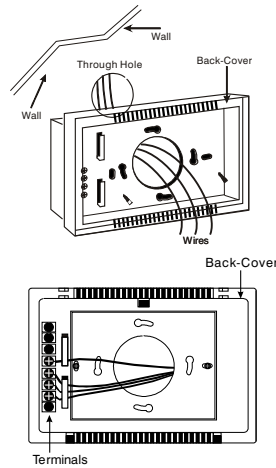
HE AT				COOL			
WEEK DAY		WEEK END		WEEK DAY		WEEK END	
P1	22°C 7:30a.m.	P1	22°C 9:00a.m.	P1	23°C 7:40a.m.	P1	23°C 9:30a.m.
P2	16°C 9:00a.m.	P2	16°C 11:30a.m.	P2	27°C 9:00a.m.	P2	27°C 10:40a.m.
P3	21°C 4:30p.m.	P3	18°C 4:00p.m.	P3	22°C 4:30p.m.	P3	22°C 10:20p.m.
P4	20°C 10:40p.m.	P4	21°C 8:00p.m.	P4	23°C 11:00p.m.	P4	23°C 11:30p.m.

6



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Connecting The Wires To The Terminals



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Heating Program

- Slide the system switch to the HEAT position and press the PROGRAM key once, the P1 and SET symbols will appear on the display. MO to FR symbol is shown indicating Weekday program is being displayed. (Figure 3)
- Use AHEAD or BACK to select the desired start time for weekday program 1.
- Use UP or DOWN (on extreme right) to set the desired temperature.
- Temperature can be set in increments of 0.5°.
- Program time can be set in increments of 10 minutes.
- After setting correct time and temperature for program 1, press PROGRAM again to display weekday program 2. Use same method to set the desired time and temperature for program 2.
- Repeat the procedures for weekday program 3 and 4, and weekend programs 1-4. (Figure 4)
- After complete setting of all 8 programs, press PROGRAM to return to normal display (SET symbol will disappear). Leaving the thermostat without any keys pressed for 16 seconds while setting will also return the display to normal.

Note:

- The PROGRAM key can also be used anytime to review all the set programs.
- To terminate the programming sequence at anytime, press DISPLAY key.

7

Tip: Press and hold the AHEAD/BACK or UP/DOWN key to move the numbers quickly.

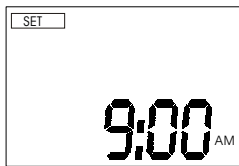


Figure 1

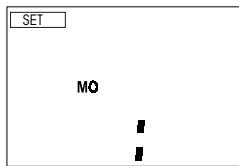


Figure 2

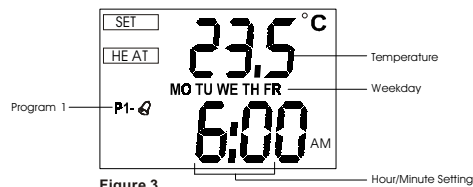


Figure 3

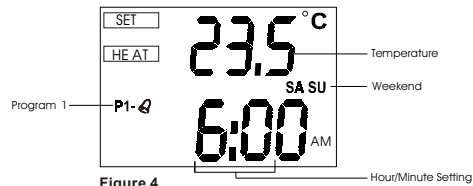
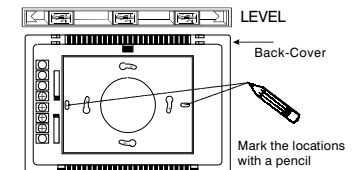
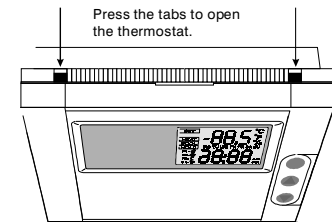


Figure 4

8

Mounting The Thermostat Back-Cover

- The back-cover should be mounted horizontally with the terminals on the left side.
- Thread the existing wiring through the big center hole from the back and set the back-cover horizontally on the wall.
- Select two appropriate mounting holes and mark the locations with a pencil. If necessary, use a level to make sure the thermostat is leveled.
- Remove the back-cover from the wall and drill two 3/16 inch holes in the marked screw positions. Insert the wall-anchors into the holes completely. If necessary, use a hammer to tap-in lightly.
- Mount the back-cover with the two screws to the wall. Make sure the metal terminals are on the left side.



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Replacing Old Thermostat

Note: Do not operate the cooling system when outside temperature is below 10°C (50°F) to avoid damaging the compressor.

- Test the system to make sure that your heating and cooling are working properly before installation. If either does not work, contact your local heating/air-conditioning dealer to fix the problem before installation.
- TURN OFF POWER to system at the furnace, or at the fuse/circuit breaker panel.
- Carefully unpack your new thermostat and mounting plate; save package of screws, instructions and receipt.
- Remove cover from old thermostat. If it does not snap off when pulled firmly from the bottom, check for a screw used to secure the cover.
- Loosen screws holding thermostat to the wall and lift away the thermostat.
- Disconnect wires from old thermostat or sub-base. As you disconnect each wire, use masking tape to label it with the old terminal designation. If there are only two wires, they don't need to be labeled. If there is an extra wire that is not connected to your old thermostat, then you won't need to connect it to the new thermostat.
- Take care not to let the wires fall back into the wall or let the ends of the wires touch one another.
- The wires are usually designated 'R', 'G', 'Y', 'W', 'Rc', 'C'.

19

- To cancel Hold function, press HOLD again. The current scheduled program number (P1 ~ P4) will appear on the screen and the HOLD symbol will disappear. The thermostat will return to the programmed temperature.

Check Current Programs

Press either UP or DOWN once to check the current programmed temperature setting without changing it. You may also use the CURRENT key for this function.

Room Temperature

- Press DISPLAY anytime to check the current temperature.

Fan Control Switch

- If your heating/cooling system is equipped with a fan, it will be turned on automatically when heating or cooling is activated.
- To turn on the fan manually, set the Fan ON/AUTO switch to the ON position, the fan will run

10

Cooling Programs

Slide the system switch to the COOL position and repeat the programming as you would for the Heating Programs.

Temporary Override

To change the temperature temporarily, press UP or DOWN to set the desired temperature. The thermostat will return to the regular program at the next scheduled program time.

Note: The thermostat has an automatic delay function to protect the heating and cooling systems from undesired on/off sequences. Sometimes there will be a delay of several minutes before the thermostat will activate the system.

Hold

- This feature is to hold the thermostat at a constant temperature and disable the set programs.
- Press HOLD once and use UP or DOWN button to set the desired hold temperature. HOLD symbol will appear to indicate that the Hold function is active.

9

Choosing Location For New Thermostat

Thermostat should be mounted:

- Approximately 5 ft (1.5m) from floor.
- Near or in a frequently used room, preferably on an inside partitioning wall.
- On a section of wall without pipes or duct-work

Thermostat should NOT be mounted:

- Near a window, on an outside wall, or next to a door leading outside.
- Exposed to direct light or heat from a lamp, sun, fireplace, or other temperature-radiating objects which may cause false readings.
- Near or in direct airflow from supply registers and return-air grilles.
- Near concealed pipes and chimneys
- In areas with poor air circulation, such as behind a door or in an alcove.

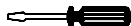
After choosing a location for the new thermostat, you may arrange to have a heating contractor install the control wiring for you.

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Installation

The following tools may be required for installation:

Cross (Phillips) screwdriver



Masking Tape

(To wrap the exposed wires temporarily and labeling the disconnected wires)



Wire Stripper/Cutter

(If necessary, to strip the wires)



See below to select a suitable place for the new thermostat installation. And refer to "Replacing Old Thermostat" section to replace old thermostat.

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12/24 Hour Display Format

Press both AHEAD and BACK keys together at the same time to change the time display from 12 hour format to 24 hour format (e.g. 8:00pm / 20:00) and vice versa.

Changing Batteries

When all digits on the LCD display flashes, it indicates that the batteries are running low and have to be replaced. However, it is recommended for the batteries to be replaced every year even if display is not flashing yet. To replace batteries:

- Set the thermostat system switch to the OFF position and have the new batteries on-hand.
- Open the thermostat by pressing on the 2 tabs on the top.
- Remove the old batteries and install new ones quickly.
- Close the thermostat to its original position.

If new batteries are inserted within 20 seconds of removing the old ones, the existing time and programs will not be cleared. Otherwise, the display will show 9:00a.m. and the thermostat will have to be re-programmed.

12

Hand Power Drill with a 3/16 inch bit

(If necessary, to drill holes on the wall)

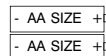


Level

(If necessary, to level the thermostat)



Two AA size batteries (included)



continuously to improve air ventilation. To return to automatic control, set the switch to the AUTO position.

Heat/Cool Control Switch

- If this switch is on the OFF position, both the heating and cooling systems are turned off, and all programs and settings will be disabled.
- Slide the switch to HEAT or COOL to control the heating or air-conditioning system.
- The symbols HEAT or COOL on the display will be flashing when heating or cooling is activated.

Pre-Comfort Recovery

This thermostat is equipped with a 'Pre-Comfort Recovery' system that will activate the heating or cooling in advance of the actual set program time so that the room will be at the desired temperature at the start of the comfort program time.

It is normal for the system to be activated earlier (up to ½ hour for heating and one hour for cooling) than the actual set program time.

11

Compatibility

Generally, equipment with low voltage control is compatible with the THM301M thermostat. For details on compatibility of your particular equipment, please call our technical assistance line.

System Type	Compatible with THM301M
Gas - Standing Pilot	Yes
Gas - Electronic Ignition	Yes
Gas - Fire Boiler	Some models
Gas - Millivolt System	Yes
Oil - Fire Boilers	Some models
Oil - Fire Furnace	Yes
Electric Furnace	Yes
Electric Air Conditioner	Yes
Baseboard Electric Heater (120/240V)	No
Heat Pump/Multi- Stage equipment	No

*** Not compatible with any 120/240 volt circuit**

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THM301M Installation Manual

Introduction

This thermostat can replace common residential thermostats and it is designed for use with most electric, oil or gas heating and air-conditioning systems that use low voltage control. Please see compatibility chart for more details.

- 4 weekday programs and 4 weekend programs
- Display temperature with 0.5° resolution
- Only two AA size batteries required (included)
- Built-in protection timing for the air-condition compressor

If you have any questions concerning the installation or programming of the thermostat, please call 1-888-468-6876 for our technical assistance.

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TROUBLESHOOTING GUIDE

IF....	THEN....
<i>Display will not come on</i>	Check if batteries are installed correctly. Check if batteries are fresh and of correct type. Press the RESET key.
<i>Entire display flashes</i>	Batteries are low. Replace with new batteries.
<i>Air-conditioning will not come on (symbol COOL not flashing)</i>	System switch is on the HEAT or OFF position. Current temperature is lower than set temperature. Press CURRENT to check current program. Air-conditioning has been turned off within 5 minutes, and automatic delay has been activated to protect the compressor.
<i>Air-conditioning will not come on (symbol COOL flashing)</i>	Check if the air-conditioning main switch is turned on; it may have been turned off.
<i>Heating will not come on (HEAT symbol not flashing)</i>	System switch is on the COOL or OFF position. Current temperature is higher than set temperature. Press CURRENT to check current program.
<i>Heating will not come on (HEAT symbol flashing)</i>	Check if the furnace switch and/or pilot flame is turned on; it may have been turned off. Allow some time for the heater to heat up and the fan to activate. Most heaters will heat up the system for a short while before warm air can be ventilated by the fan. HE/HG jumper inside the thermostat is not set correctly. Check installation manual.
<i>The current temperature is different from the scheduled temperature</i>	It is common for the setting and the displayed temperature to differ occasionally. The thermostat will be activated if this difference persists. There is a temporary override by the user. The system is on HOLD . Press HOLD once to resume normal setting.

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Reset

If the thermostat shows an abnormal display or if you want to clear all existing programs, use a pointed object to press the 'R' key. Time and programs will need to be set again after a Reset.

Specification

Model: THM301M

Number of Programs: Weekly 5/2 day programs with 4 programs per day

Temperature measurement range: 1°C - 37.5°C (34°F - 99.5°F)

Program setting range: 5°C - 35°C (41°F - 95°F)

Storage temperature range: -20°C to 50°C (-4°F - 122°F)

Battery: 2 x AA size batteries

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