

PROGRAMMABLE THERMOSTAT

MINIB TH-0108

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Introduction

This thermostat is a programmable battery powered Heating or Cooling digital temperature control unit. It can be used for use with most heating or cooling systems. Please take a few moments to read through this manual before you begin to install or operate your thermostat.

Note: This thermostat cannot control multistage heating and air conditioning systems.

Warning: Wiring work can be dangerous! Please consult with a qualified electrician or a contractor.

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Specification

Physical dimensions

L: 125mm W: 90mm H: 34mm

Maximum Relay contact rating

2A @ 24VAC

Battery

2 AA size alkaline 1,5 V battery

Temperature scale

Fahrenheit / Celsius

Temperature differential

0.5-1 °Celsius

1 - 2 °Fahrenheit

Temperature adjustment

1° Celsius/Fahrenheit steps

Sampling resolution

1 minute

Compressor protection delay

3 minutes

Temperature display range

-10 ~ 45 °C

14 ~ 113 °F

Temperature control range

5 ~ 32 °C

40 ~ 90 °F

Programming periods

Monday - Friday: 6 or 4 periods/day

Saturday / Sunday: 4 periods/day

Program mode

5:2d / 7d (Factory default: 5:2D)

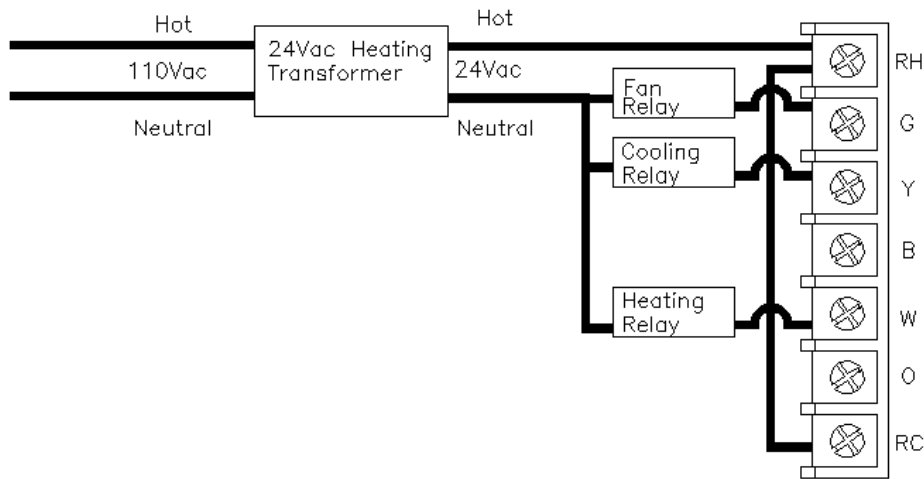
Programming resolution

15-minute steps for 12-hour format model

30-minute steps for 24-hour format model

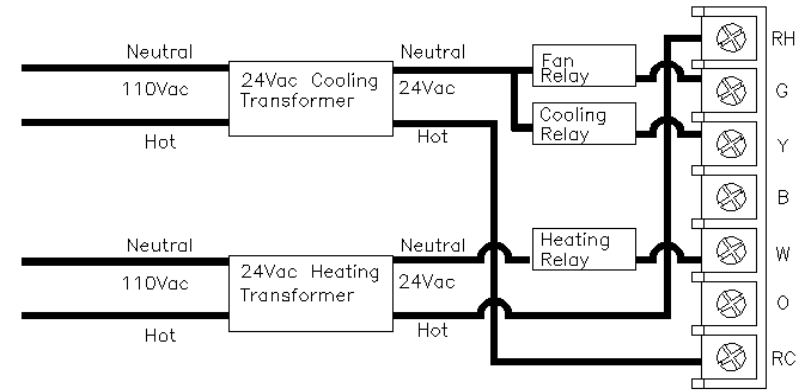
4

3 Typical hook-up for 4-wire heating and cooling system.



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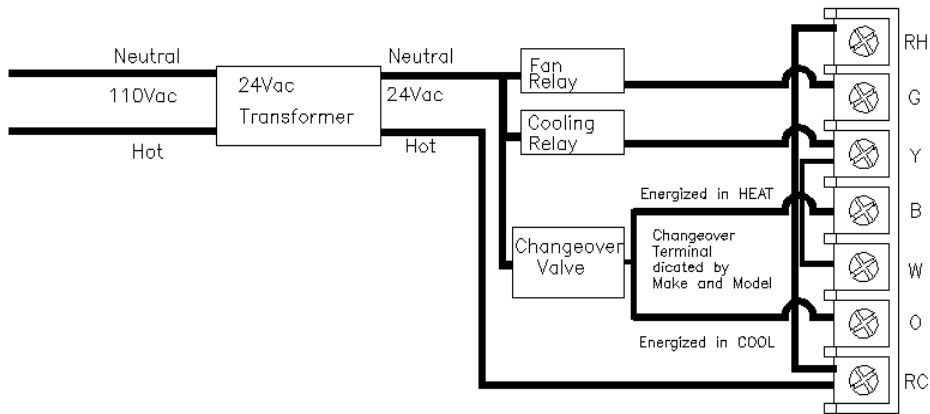
4 Typical hook-up for 4-wire heating and cooling system.



Remove jumper between „RC“ and „RH“, identify cooling and heating transformer before installation.

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5 Typical hook-up for single stage heat pump.



Add jumper between „Y“ and „W“

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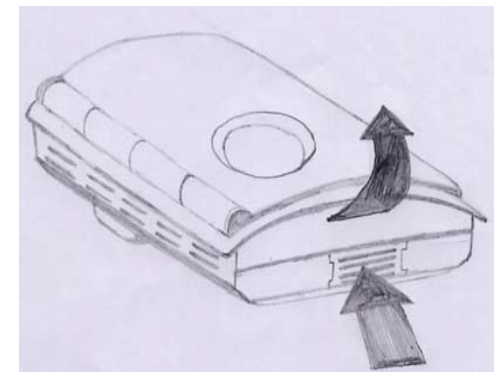
Mounting and installation

Warning

To avoid electrical shock and to prevent damage to the furnace, air conditioner and the thermostat, disconnect the power supply before beginning work. This can be done at the fuse box, at the circuit breaker or at the appliance.

1. Detaching thermostat body and base

While holding the thermostat face up in your left hand palm press in firmly with your right hand thumb on the knob. Keeping release knob pressed in, swing thermostat away from base. (Figure 1)



★ Be careful not to drop the body or to disturb electronic parts.

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2. Jumper setting and battery installation

Jumper 1:

Connect = Fahrenheit
Open = Celsius

Jumper 2:

Connect = 6 periods
Open = 4 periods

Jumper 3:

Place a jumper to connect central pin and pin G to set fan off when heat is on.

(G = Gas)

Connecting central pin and E pin will set fan in auto mode when heat is on.

(E = Electrical)

(Factory default: G)

Install batteries to thermostat body by following the direction printed on PCB.

(Figure 2)

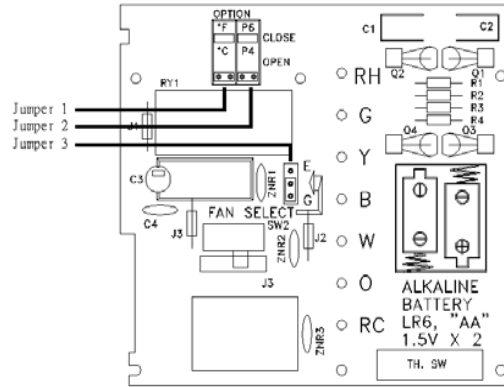


Figure 2

For more information, check page 33.

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3. Mounting preparation

When mounting the thermostat to a soft material, like plasterboard, where the screws will not hold securely, you will need to make new mounting holes. Using the thermostat base as a guide, mark the screw locations on the wall.

(Figure 3)

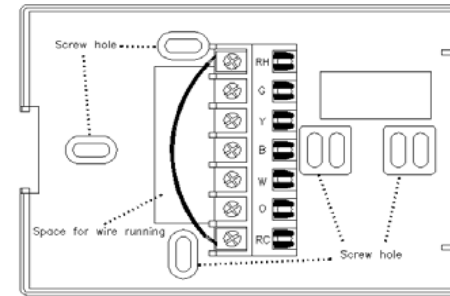


Figure 3

A. Drilling

Drill a 3/16-inch hole at each of the screw locations, and insert a plastic anchor into each hole.

B. Mounting

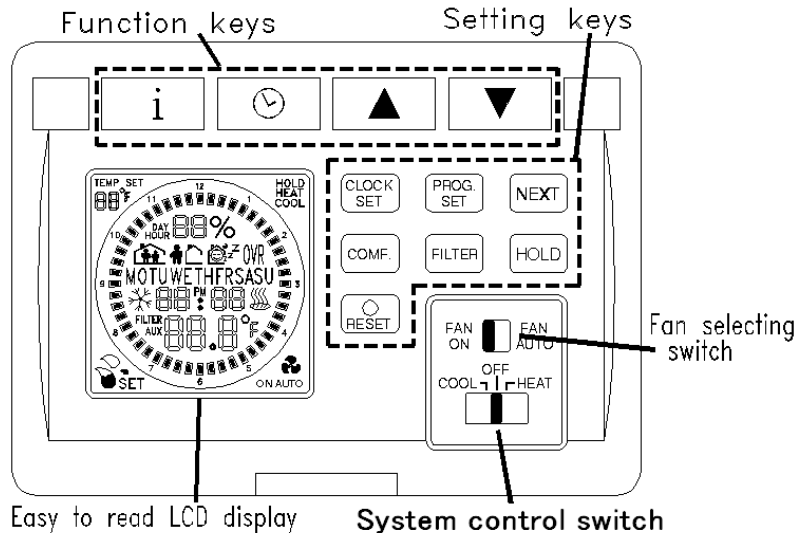
Hold thermostat base against the wall, with the wires coming through the space for wire running (Figure 3). Route the wires above the terminal strip. Position the base for best appearance (hiding any marks from the old thermostat). Attach the base to the wall with the two provided screws.

C. Wiring

Attach wires to terminal crews using the appropriate wiring diagram from the previous pages. If you are unsure as to which diagram to use, please a local qualified heat and air conditioning contractor for assistance.

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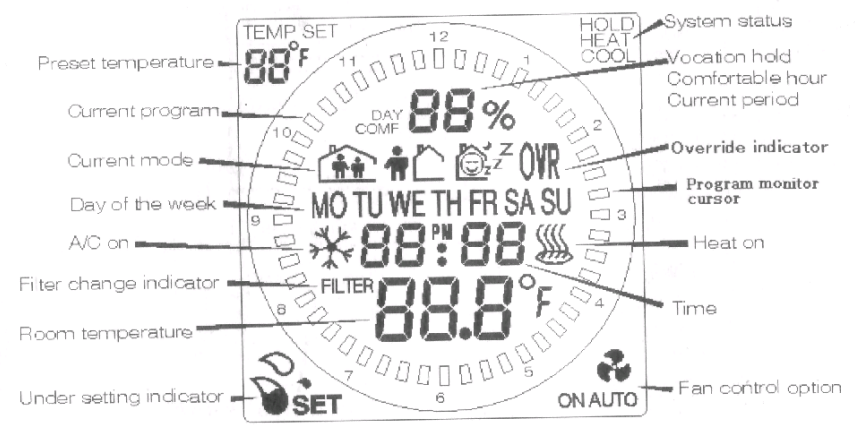
Feature



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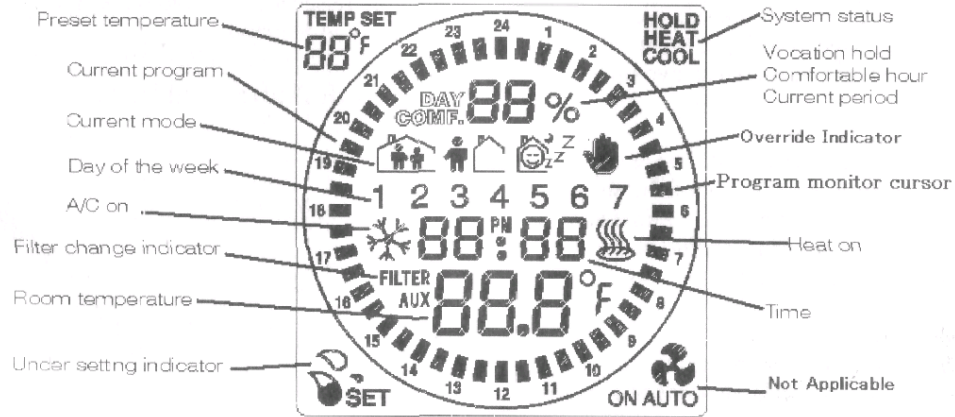
LCD Display:
12-hour format model

*Simply check the flashing cursor,
easily monitor your current program*



LCD Display:
24-hour format model

*Simply check the flashing cursor,
easily monitor your current program*



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Operation mode setting

There are two operation modes can be chosen: 5:2D or 7D.

Mode 5:2D

When 5:2d mode is chosen, weekdays will be recognised as a single event. Saturday and Sunday considered as two independent events.

There are 6/4 periods of time and temperature schedule should be set for each weekdays, each day should be set separately. 4 periods of time and temperature schedule should be set for Saturday and Sunday.

Factory default: 5:2d

There are 6/4 periods of time and temperature schedule should be set for weekday event, 4 periods of time and temperature schedule should be set for Saturday and Sunday.

Mode 7D

When 7d mode is chosen, weekdays, Saturday and Sunday will all be recognised as independent events.

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Mode 5:2d, 6 periods/4periods, factory pre-set schedule of time and temperature

Weekday	Time	Temperature			
		System switch on heat		System switch on cool	
		Fahrenheit scale	Celsius scale	Fahrenheit scale	Celsius scale
P1	6:00 AM	70	21	75	24
P2	8:30 AM	60	16	85	29
P3 (6P ONLY)	12:00 PM	70	21	75	24
P4 (6P ONLY)	2:00 PM	60	16	85	29
P5	4:30 PM	70	21	75	24
P6	10:30 PM	65	18	80	27
Saturday	Time	Temperature			
P1	7:00 AM	70	21	75	24
P2	8:30 AM	70	21	80	27
P3	4:30 PM	70	21	75	24
P4	10:30 PM	65	18	80	27
Sunday	Time	Temperature			
P1	7:00 AM	70	21	75	24
P2	8:30 AM	70	21	80	27
P3	4:30 PM	70	21	75	24
P4	10:30 PM	65	18	80	27

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Mode 7d, 6 periods/4 periods, factory pre-set schedule of time and temperature

Mon. Tue. Wed. Thu. Fri.	Time	Temperature			
		System switch on heat		System switch on cool	
		Fahrenheit scale	Celsius scale	Fahrenheit scale	Celsius scale
P1	6:00 AM	70	21	75	24
P2	8:30 AM	60	16	85	29
P3 (6P ONLY)	12:00 PM	70	21	75	24
P4 (6P ONLY)	2:00 PM	60	16	85	29
P5	4:30 PM	70	21	75	24
P6	10:30 PM	65	18	80	27
Saturday	Time	Temperature			
P1	7:00 AM	70	21	75	24
P2	8:30 AM	70	21	80	27
P3	4:30 PM	70	21	75	24
P4	10:30 PM	65	18	80	27
Sunday	Time	Temperature			
P1	7:00 AM	70	21	75	24
P2	8:30 AM	70	21	80	27
P3	4:30 PM	70	21	75	24
P4	10:30 PM	65	18	80	27

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Mode setting



When batteries are installed, the LCD screen will display all symbols for about 8 seconds, afterwards, LCD screen will display „5:2d“ (factory default). It will appear for another 5 seconds, pressing the **NEXT** button can change the setting to 5:2d or 7d. When it is set, press the  button or wait for about 10 seconds, then your option will be recorded.

Figure 4



However, mode can be reset at any time by pressing both the **NEXT** and  button together for about 3-5 seconds.

Be careful, once the mode has been changed, the previous schedule that you have set will be deleted and it will not be able to recover.

Refer to figure 4 and 5.

Figure 5



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Clock setting



1. To begin setting the clock press the **CLOCK SET** button (it may require a second press if you just installed the batteries). The day of the week will start flashing. Use the  and  buttons to select the current day.

Figure 6





2. Press the **NEXT** button to set hour, the display will flash the hour digits. Use the  and  buttons to select current hour.

Figure 7





3. Press the **NEXT** button to set minute, the display will flash the minute digits. Use the  and  buttons to select current minute.

Figure 8




4. Press the **NEXT** button will continue cycling through the options. When set is completed, press the  button to save current time and return to normal operation. The display will stop flashing.

Figure 9



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Program setting

Warning

The date and time must have been set as described in the earlier section.

Caution

Within this thermostat are two separate sets of memories, one for heating control, and one for cooling control. This switch must be set to heat to access the heating memory, or to cool to access the cooling memory. The system control switch must be set prior to reviewing or changing any programs and modes.

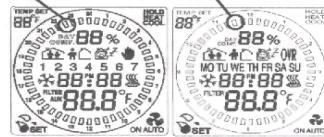
Figure 10
System control switch





NOTE

Each segment cursor on the LCD screen stands for 15 minutes (12-hour format LCD) or 30 minutes (24-hour format LCD).

24H format LCD 1 cursor = 30 minutes | 12H format LCD 1 cursor = 15 minutes



1. To change a program memory, press the **CLOCK SET** button. The display should change to the first period „P1“ with the “TEMP SET” symbol flashing. Use the  and  buttons to adjust the temperature, (Figure 11 and 12) or if the set temperature did not require changing, press the **NEXT** button to move to the start time for the first period „P1“ while the time digits start flashing.

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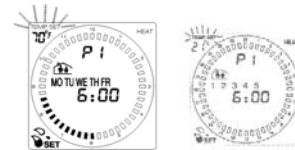


Figure 11 – Mode 5:2d

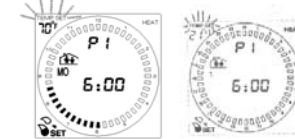


Figure 12 – Mode 7d

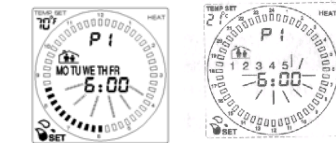


Figure 13
Mode – 5:2d

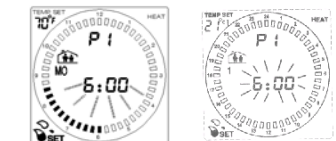


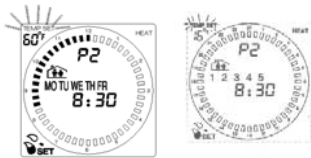


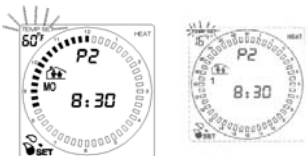
Figure 14
Mode – 7d

2. Use the  button to set the time forward. Use the  button to set time back. Each press will make a 15-minute difference. If the start time did not require changing, press the **NEXT** button to move to the temperature set for the second period (P2).

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Obr. 15
P2 Mode – 5:2d



Obr. 16
P2 Mode – 7d

3. Continue cycling through each period to set temperature and time schedule. When a program schedule (6 periods or 4 periods) is done, press the **PROG SET** button to move to the next day program schedule. Once all the adjustments are finished, press the **OK** button to save your program setting and then return to normal operation.

Program review

To review and not change a program memory, just press the **i** button. The display should change to the first period (P1) and show the start time and the temperature set for P1. Press the **i** button will display the next period and move to the next day program, press the **OK** button return to normal operation.

Temperature swing

1. To change the temperature swing, press and hold these **OK** **DOWN** two buttons together for about 3 second. The display should change and have the current setting appeared. Now release the buttons. (Figure 17)

2. Press the **NEXT** button to select the differential of swing limit, 1°F or 2°F. (Figure 18)

3. When the setting is done, press the **OK** button to return to normal operation.

Figure 17



Figure 18



Manual operation mode

By simply pressing the **HOLD** button, the thermostat will place into a manual operation mode, then the LCD display will flash the temperature digits. (Figure 19))

2. Use the **DOWN** and **UP** buttons to set your desired temperature; when it is done, release buttons and wait for 10 seconds, then the setting will be maintained. (Figure 20)

3. Press the **HOLD** button again to quit the „Hold mode“ and return to normal operation mode.

Figure 19



Figure 20



Figure 21



Vacation hold

1. Pressing the **HOLD** button, the thermostat will place into a manual operation mode, then the LCD display will flash the temperature digits. (Figure 19)

2. Use the **DOWN** and **UP** button to set your desired temperature. (Figure 20)

3. Press the **NEXT** button to set vacation days, use the **DOWN** and **UP** button to adjust the numbers of day. (Figure 21)

4. Press the **NEXT** button to cycle through vacation days setting to temperature setting; when it is done, wait for 10 seconds, and then the setting will be maintained.

Warning

The thermostat will ignore the pre-set program and keep operating in „Hold“ mode unless the „Hold“ mode is relived.

Note: figure 17-21 is only an example to show you how to set these functions, if your thermostat is set in Celsius scale, the °F symbols should be replaced by °C symbols.

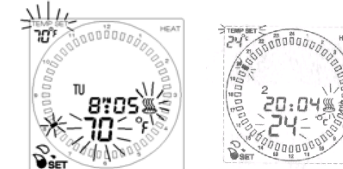
5. Press the **HOLD** button again to quit the „Hold mode“ and return to normal operation mode. (Figure 22)

Figure 22



3. Press the **OK** button to return normal operation.

Figure 23



Temporary override

1. To active the override function, press the **DOWN** and **UP** button to set desired temperature. When it is done, wait for about 5 seconds, then the thermostat will maintain the temperature until the next period. (Figure 23)



2. The flashing current time cursor indicates the amount of time that the override will be in affect. (Figure 24)

Figure 24



Compressor protection

This thermostat is designed to provide a consequent control of A/C units or Heat pumps. Therefore, a compressor protection delay function is built-in into this thermostat. Once the A/C compressor unit or Heat pump is off, the thermostat should not reactivate the A/C compressor unit or Heat pump again within 3 minutes. It is to obviate the compressor damage due to frequently on/off operation.

1. Press and hold both the  and the  button for about 5 seconds, then LCD screen will display SHC (Stand Heat and Cool) (Figure 33). Press the **NEXT** button to set protection mode at SHC or HP (Heat Pump) (Figure 34). When setting is done, leave buttons and wait for 10 seconds, the thermostat will save your change automatically.

2. SHC (Standard Heat and Cool):
Enable the Compressor Protection Delay function only when the thermostat system switch is set at Cool.

3. HP (Heat Pump):
Enable the Compressor Protection Delay function when the thermostat system switch is set at Cool or HEAT.

Figure 33



Figure 34



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Selecting fan and heat/cool

System switch setting

1. Set the system switch to heat for heating system.
2. Set the system switch to cool for air conditioning.
3. Set the system switch at off to deactivate any heat or air conditioning unit, beside, program setting, hold and comfort/override function will be disable.

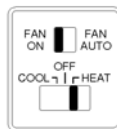
Fan switch setting

1. Check the jumper setting. (Refer to page 13).

2. When Fan switch is at ON, System switch is at either Heat or Cool, the thermostat will always active the fan.

3. Jumper is at G
System switch is at Heat or Cool
Fan switch is at AUTO
The thermostat will active the fan when Cool (A/C) is on.

4. Jumper is at E
System switch is at Heat or Cool
Fan switch is at AUTO
The thermostat will active the fan when Cool (A/C) or Heat is on.



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Q & A

Q1. Why I cannot set/change my program schedule?

A1. Check if the system switch is set at **OFF**. The system switch must be set at either **HEAT or COOL** to access program setting. Beside, check if the Clock setting is correct.

Q2. I cannot set the end time of period?

A2. Each period starts when the previous period is finished. It means you do not have to set the end time of any period; just the start time of next period is the end time of current period.

Q3. What is Temperature Swing?

A3. Temperature swing is the term given to the amount the thermostat will allow the temperature to vary from the set temperature. This feature allows you to decide how closely the thermostat will control the temperature in the room. The less time the unit runs, the less expenses you spend on utilities.

Q4. I just tuned temperature setting, but the thermostat did not active my A/C (or Heat pump)?

A4. That is due to the compressor protection feature. Wait for a while (about 3 minutes), the unit will work. (Page 33)

Q5. What is the different between Manual operation/Hold, Vacation hold, Temporary override and Comfort override?

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Low battery indicator

As the batteries within the thermostat begin to weaken, the LCD display begins to dim. The thermostat will continue to function properly, however, it is time to have the batteries replaced.


When this symbol „Lo“ appears (Figure 32), the thermostat needs to have the batteries replaced. (Refer to page 12 and 13.)

The time, date and all modifications you have made to temperature swing, filter reminder are saved by the batteries, from the time you remove the batteries from the thermostat, you will have approx. 25 seconds to install fresh ones without data lose. However, The program you have set will securely saved in and EEPROM, even if no batteries are installed.

Figure 32



Reset

If the unit does not work properly after having batteries changed or the unit begins to perform erratically, press the  button with a small blunt object to reset the unit; you will need to reinput some of the settings i.e. temperature swing, day, time.

While resetting the unit, the program you have saved previously will not be erased. An EEPROM will save your program setting securely even no batteries are installed.

However, if resetting system does not help, please contact your local dealer at your earliest convince for help.

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Your program schedule:

Day	Time	Temperature	
		Heat	Cool
P1			
P2			
P3			
P4			
P5			
P6			

Day	Time	Temperature	
		Heat	Cool
P1			
P2			
P3			
P4			
P5			
P6			

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Day	Time	Temperature	
		Heat	Cool
P1			
P2			
P3			
P4			
P5			
P6			

Day	Time	Temperature	
		Heat	Cool
P1			
P2			
P3			
P4			
P5			
P6			

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A5. Basically, all these features allow you to change temperature setting without changing our program schedule. The only different in each feature is: „How long will it last?“

Manual operation/Hold:

This mode will be in affect until the Manual operation/Hold mode is relieved. It means, if the mode is not relived, the unit will keep running this setting forever.

Vacation Hold:

This mode will be in affect within the period that you have set; the period limit is up to 99 days.

Temporary Override

This mode will be in affect g until the next period begins, then the Temporary Override mode is relived automatically.

Comfort override:

This mode will be in affect within the period that you have set; the period limit is up to 11 hours (12-hour format model) or 23 hours (24-hour format model).

NOTE

If you should encounter any difficulties in the use of this thermostat, please contact the company who selected this thermostat for you. This would most likely be the contractor who installed your heating and cooling systems. Beside, you maybe able to get help from any local heating and cooling contractors if you purchased this thermostat yourself.

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Memo

Your contractor's details:

Company name:

FAX:

Contact:

ADDRESS:

Telephone No.:

Mobile:

EMAIL:

Website:

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Other customise settings:

Compressor protection:

SHC HP

Temperature Swing:

°C °F

Filter Reminder:

Hours

Operation Mode:

5:2 7d

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Day	Time	Temperature	
		Heat	Cool
P1			
P2			
P3			
P4			
P5			
P6			

Day	Time	Temperature	
		Heat	Cool
P1			
P2			
P3			
P4			
P5			
P6			

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Day	Time	Temperature	
		Heat	Cool
Saturday			
P1			
P2			
P3			
P4			
Sunday	Time	Temperature	
P1			
P2			
P3			
P4			

Day	Time	Temperature	
		Heat	Cool
Saturday			
P1			
P2			
P3			
P4			
Sunday	Time	Temperature	
P1			
P2			
P3			
P4			

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