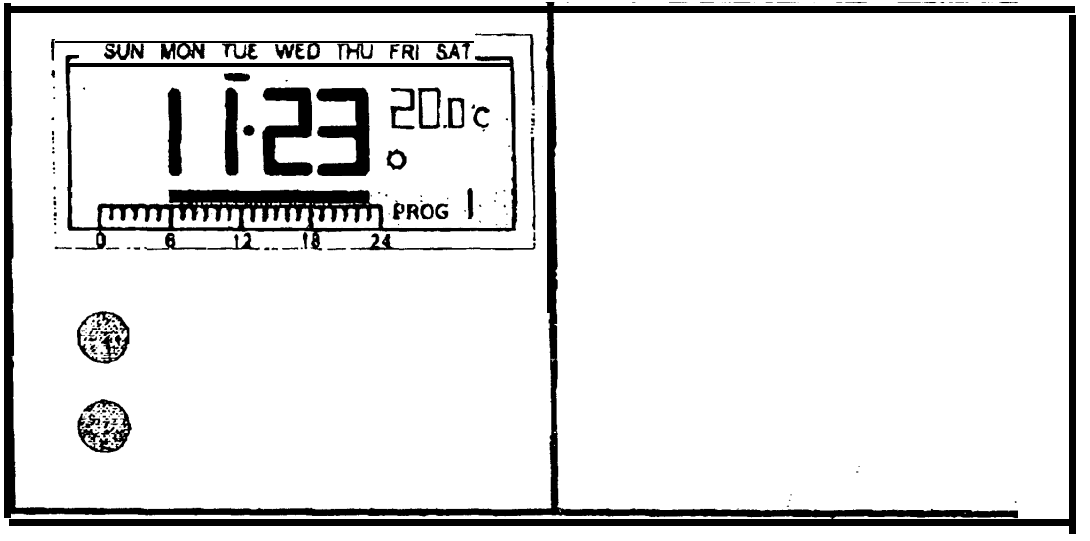
Euro-Thermostat



USER'S MANUAL

Table of Contents

Thank you for purchasing the Euro-thermostat. Your new thermostat will serve your **family** for years and significantly save the energy cost. The large multi-data liquid **crystal display** allows you to operate the feature-rich design with a touch of a button. Before operating the thermostat, we hope you can **read this** manual thoroughly.

Inside the packaging you should find:

1 euro-thermostat

2 #6 x 1" screws

2 wall anchors

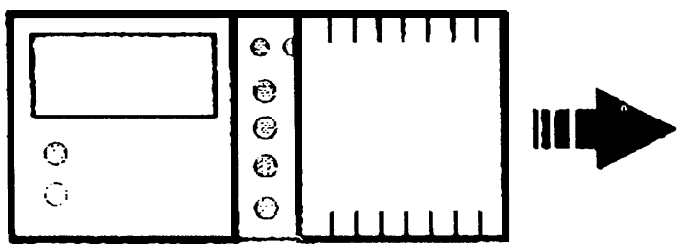
1 drilling **template**

1 user's manual (this booklet)

Familiar with your thermostat

Appearance

There is a sliding door at the right of the thermostat. If you open the door you can see some buttons and dip switches. This door is removable for the replacement of batteries.



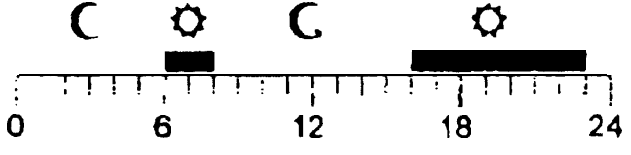
Temperature mode

You can see ☼ and C on both the buttons and **the** LCD. ☼ means comfort temperature **and ☾ means** economy temperature. These two temperatures **are** user changeable. Furthermore, there is **a** fixed defrost temperature (7°C) indicated by ❄ on the LCD. Throughout the operation of the thermostat we will refer them as comfort, economy or defrost temperature instead of numeric values.

☼ ☾ ❄

Program

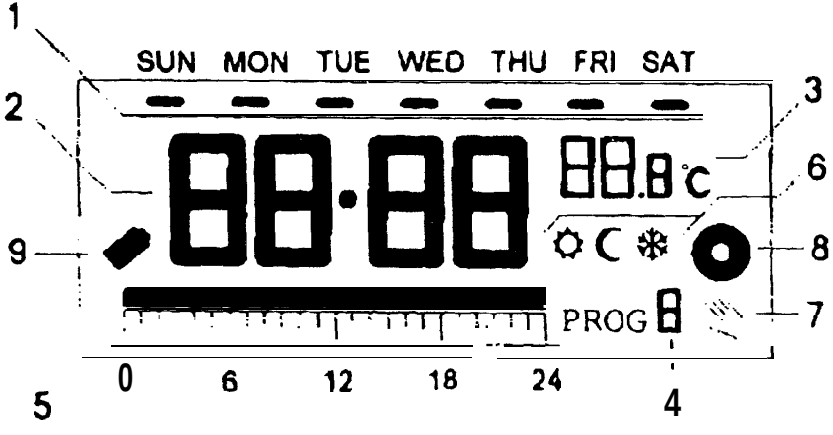
Euro-thermostat is a programmable thermostat. It can automatically **adjust** the room temperature to **a** comfortable level when you are at home, and lower it to **save** energy when you go out or sleep. What you have to do is to program the thermostat so that it knows when to **raise** the temperature. There are altogether nine programs contained in the memory of the thermostat. Six of them are preset in the **factory** and the remaining three are user changeable.



Manual override

In case you want to change the temperature temporarily and do not want to alter the programs you have set, you can simply touch a button to **override** the current program.

LCD



I) Day of the week Indicator
2) **Time**
3) Temperature
4) **Program** Number
5) **Prsgtam Profile Indicator**
6) Temperature Mode Indicator
7) Manual Override Indicator
8) Output-On Indicator
9) Low **Battery** Indicator

Note:

i, The output-on indicator **will** he displayed and rotates if the output is on. **It** will disappear if the output is off.

ii, The low **battery** indicator will be displayed if the voltage **of the batteties** drop to **a certain level,** Please change the batteries as **soon as** possible.

Using your new thermostat

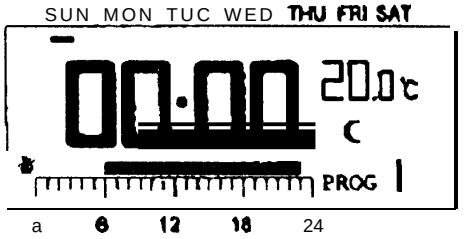
The following procedures show how to operate the thermostat. It is recommended that you follow the instructions **and try to operate** once before connecting it to the heating or cooling system.

1. Start

The thermostat is operated by two LR6 **alkaline batteries. Please remove** the front **cover** and install two new batteries.

When the batteries are installed, **the thermostat** should be operating and you can see the **LCD** active. If the thermostat **does** not work properly, please check **the** batteries for wrong polarities **and** press the reset button **by** a ball-point pen.

The LCD after start of reset.



Note:

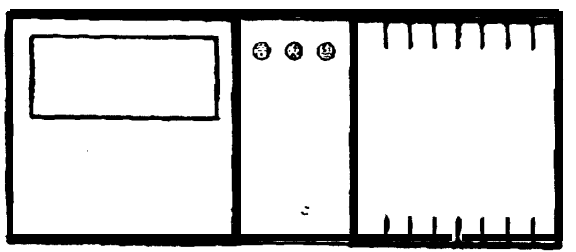
i, Temperalure may not be **20.0°C** as the diagram shown and the Output-On indicator may **active after a** few seconds, **depend** on **different** situations.

ii, Do not use a pencil to push the reset button. The graphite residue of **a** pencil can cause short circuit and **damage** the thermostat.

2, Set day/time

To set day, press **d**. Similarly, press **h to set hour** and **m to** set minute.

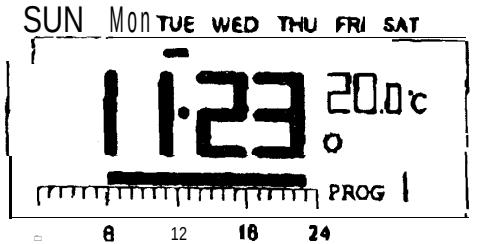
Buttons used:



Example:

When start or after reset, the time is **00:00**, Sunday..

lo set the clock to current time (e.g., 11:23, Tuesday), press **d** 2 times, **h 11** times and **m 23** times.



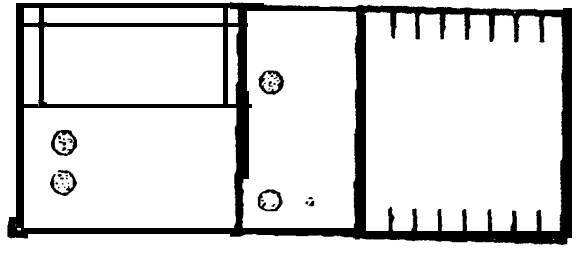
Note:

When you press and **hold** the keys for 2 seconds the day/time will **change rapidly.** Release when the desired setting comes,

3, View/Change temperature

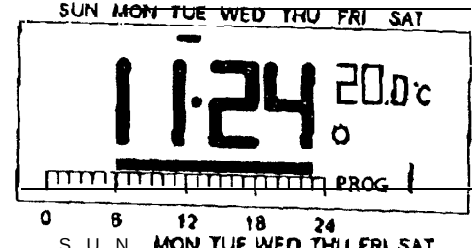
Press Temp, the thermostat enter **View/Change temperature** mode. The LCD will show the setting of the current temperature mode (☼, C or ❄) which will be flashing.
Press ☼ or C to view or change the temperature.
Press OK will directly return to normal operation made.

Buttons used:

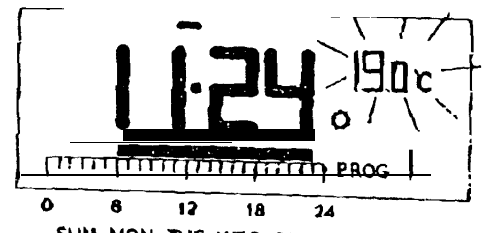


Example:

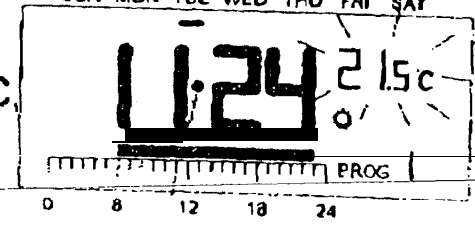
i, In normal mode . . . . . .



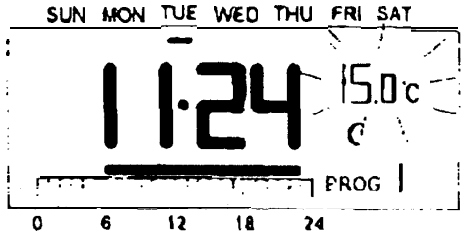
ii, Press Temp. The **setting** of comfort temperature is flashing:



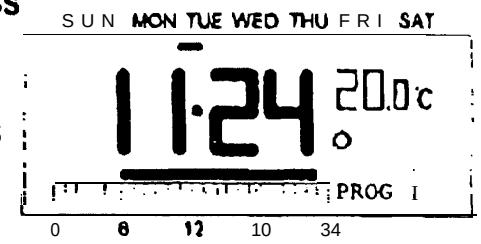
iii, To change, press ☼. For example, to change to 21.5°C, press ☼ 5 times:



iv, To review economy temperature, press C :



v, You can press C key again to set the economy temperature. Or **press** OK to return to **normal** operation mode. For example. when OK is pressed:



The thermostat returns to normal mode.

Note:

i, The temperature setting range is 5 to 30°C.

ii, To lower the setting, enter View/Change temperature mode **and** press ☼ or C until it reaches 30°C and then the setting will return to 5°C. Continue to press until the desired setting comes.

iii, Press and hold the keys, the setting will change rapidly.

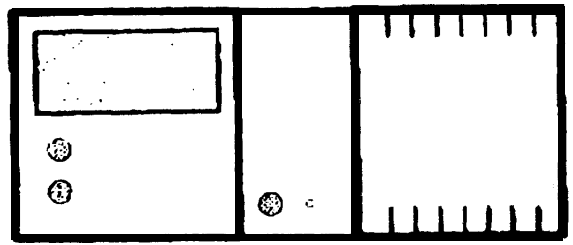
iv, Please note the temperature mode indicator. A ☼ means the comfort temperature is being viewed or changed. A C indicates economy temperature. If ❄ is shown, it is defrost temperature. Defrost temperature is always **at** 7°C and is not **changeable.**

v, It is not **always** necessary to use OK key to return to **normal** operation mode. After 15 seconds of no key pressed it will automatically return to normal mode.

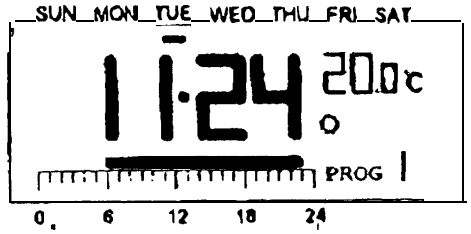
4, Manual Override

Press ☼ to select comfort temperature. Press C to select economy temperature. The current temperature mode wilt be overrode until the next set point of the program comes.
Press OK to clear override.

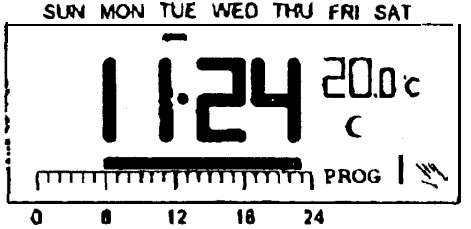
Buttons used:



Example:
i, In normal operation mode,



ii, press ☾ to change the current comfort setting to economy **setting:**



The temperature is now set to economy mode. **This** mode **will** be held until 23:O0. (It is because the program for the day is **PROG.1**. Al 23:OO the temperature will change from comfort to economy, which matches the override setting.)

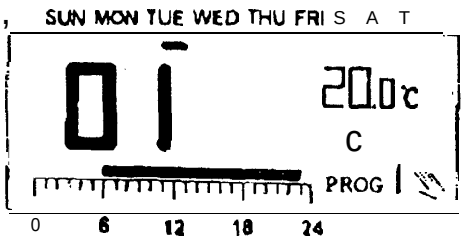
Timer hold

Timer hold is an **alternative** to manual override, Press and hold ☼ (or C) key for 2 seconds, the hold time **will appear. Press the** key **again to set the hold** time. Press OK to return to normal operation mode. **The** maximum **can** be **set** is 24 **hours. In the** hold period **the** temperature **will** not **be affected** by the program.

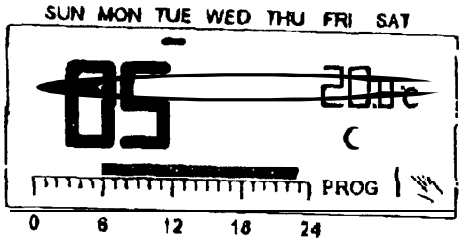
When **timer** hold is active, press the corresponding temperature mode key (e.g., ☼ if comfort **mode** is **being held)** can **review the remaining hold time. The remaining hold time** can also be **changed by using** the **same** key. If another temperature mode key is pressed (e.g., ☾ if comfort mode is being held), the timer hold will be cleared.

Example:

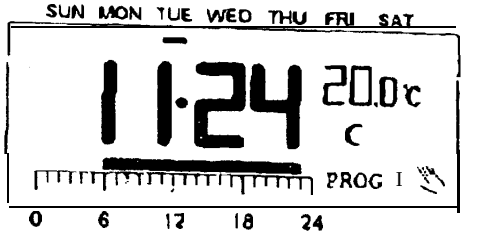
i, To change the current setting from comfort to economy for 5 hours, press and hold C for 2 seconds. the hold time will appear:



ii, The hold time' is 1 hour. Press C 4 times to change the hold time to 5:



iii, Press ***OK or*** just leave no key pressed for 15 seconds, the thermostat will return to normal mode.



Note:

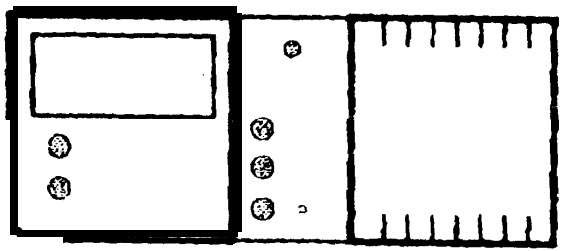
i, A 'hand' appears when the current temperature mode is being overrode.

ii, While setting hold time, press and hold the key can change the setting rapidly.

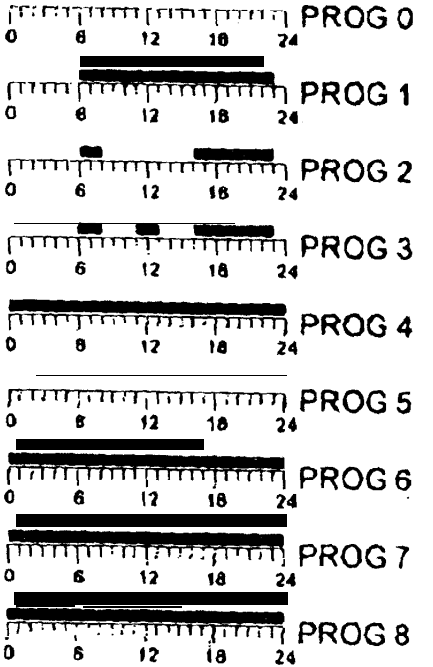
5, View/Change Programs

Press **Prog**, the **program** of the current **day** is **ready to be changed.**
Press Prog again can advance to the next day and the program of that day will be shown.
Press **Prog#** to change the program.
Program 6, 7 and 8 are user-define programs. You can use ☼ or ☾ **to** change the distribution of comfort or economy temperature and **h** to review the setting. Press **OK** can return to **normal** operation mode.

Buttons used:



There are altogether nine programs available, as the diagram shown:



Program **0** is a special **program. It will** set the whole day to defrost temperature (7°C). (If cooling mode **is selected, it will** turn off **the system. See Part 8, Control a cooling** system.)

Program **1**, 2 and 3 **are** some typical schedule of a day. You can **select** them if you found them

suitable.

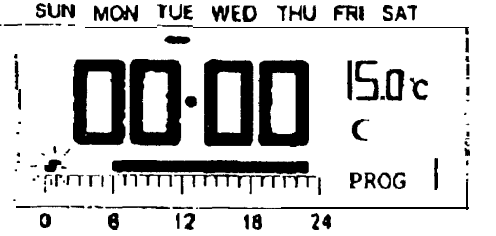
Program 4 set the whole day to comfort temperature while program 5 set it to economy.

Program 6, 7 and 8 are user-define programs. They can be modified to suit your need.

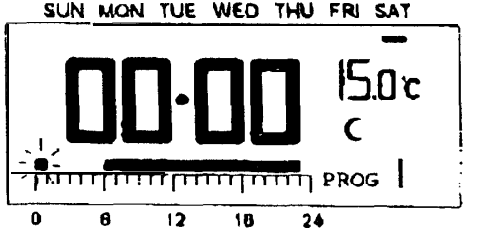
Example:

i, Assume you want to assign program 6 to Saturday and want to set the whole day to economy temperature except 13:00 to 18:00. Press **Prog**. The thermostat enters program mode and the program of the current' day (e-g., Tuesday) is ready to be programmed.

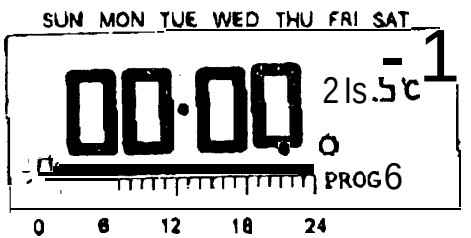
The display shows the program' for Tuesday is program 1, the temperature for 00:00 is economy temperature and is 15°C. (The flashing cursor is the time to be edited.)



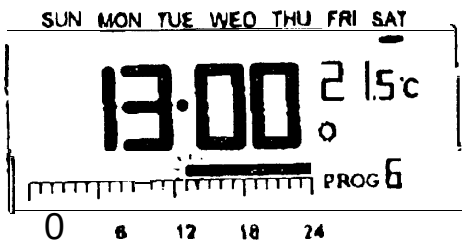
ii, Press **Prog** 4 times. The day indicator will point to Saturday:



iii, Press **Prog# 5** times to change the program from program 1 to program 6:

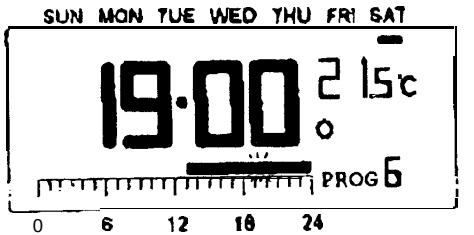


iv, Now you can set the time shown to economy temperature by pressing C , or press ☼ to set it to comfort temperature. Or you can use **h** key to pass through the time without changing the setting.

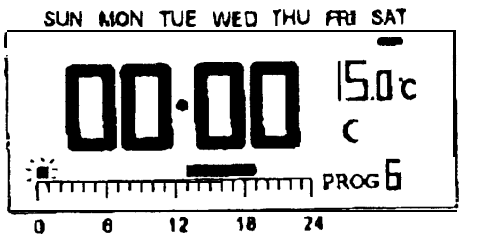


Since we want to set 13:00 to 18:00 to comfort temperature and the remains to economy temperature, press C 13 times. 00:00 to 12:00 will be programmed to economy temperature:

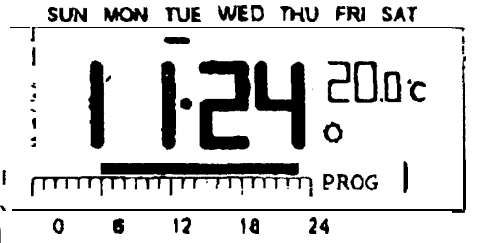
v, Press h ot ☼ 6 times to move the flashing point to 19:00:



vi, Finally, **press** C 5 times to set the remains of the day to economy temperature:



vii, Press OK or leaving no key pressed for 15 seconds, the thermostat will return to normal operation mode:



Note:

i, Program 0, 1, 2, 3, 4, 5 are preset programs. ✿ and C cannot be used to edit them. But h key is still active.

ii, The nine programs are common to all seven days. This includes the three user-define programs. This means that if you change one of the user-define program of a day, the same program of the other days will also be changed.

iii, Press and hold the keys can change the setting rapidly.

6, Reset button

There is a small hole at the right of the OK key. This is the reset button. Press it can reset the thermostat into initial status:

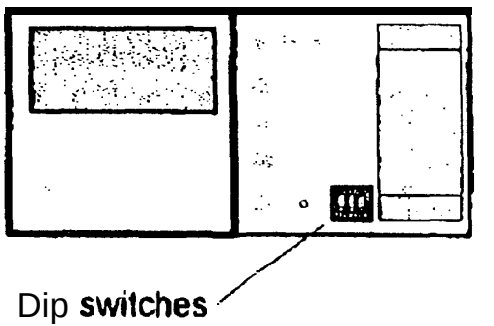
Initial Status:

Time	00:00:00
Day	Sunday
Temperature , , , , , ,	Comfort: 19°C, Economy: 15°C
Programs.	All seven days set to PROG 1
User-define programs	Set to comfort
Manual override	All cleared
Output	Off

Note:
Do not use a pencil to push the reset button because the graphite residue can cause short circuit and damage the thermostat

7. Dip switches

If you remove the front cover, you **can** find three small **switches** (dip switches). These three **switches are** used **to** control the **span,** output-on delay and **heat/cool system** (This thermostat is **capable** of controlling **a cooling system**. For **details please refer** to **Part 8**: **Control** a cooling system,)



7.4, SPAN

Span is the temperature difference between the turn on temperature and turn off temperature. 1°C or 2°C **of span can** be selected and the effect is **summarized in** the following table:

Span		Heating System	Cooling System
1°C	On when.....	Tr<=Ts-0.5	Tr>=Ts+0.5
	Off when.....	Tr>=Ts+0.5	Tr<=Ts-0.5
2°C	On when.....	Tr<=Ts-1.0	Tr>=Ts+1.0
	Off when.....	Tr>=Ts+1.0	Tr<=Ts-1.0

Ts: Set temperature Tr: Room temperature

For example, if you set the temperature to **20°C and** span = 1, the **heater** will operate when the room temperature drop6 to **19.5°C** and turns off when **the** temperature rises to **20.5°C**.

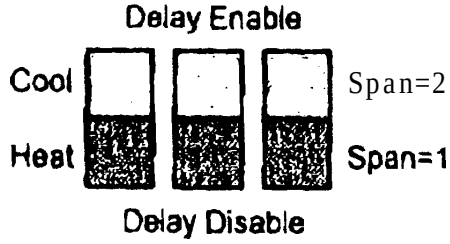
7.2, Output-on 5 minutes delay

With this switch **set** to **enable**, the external system will switch on only if it **has** been off for more than 5 minutes. **If** cooling system is selected, this **function** will be activated **automatically.**

7.3, Heat/Cool system select

To select whether **a** heating or **a coding** system **to** be **controlled**. Note that normally for a heating system the comfort temperature is higher than the

economy temperature, while it is reverse for a cooling system.



8, Control a cooling system

By setting the dip switch, the thermostat can be used to control a cooling system. The operation is similar to that of heating system. However, there are some differences between them, as the following list:

1, In general the comfort temperature of a cooling system is lower than-the economy temperature.

2, The switching is reversed; The thermostat switches on the system when the room temperature is higher than the set temperature.

3, There is no more defrost temperature: The snow (❄) and 7°C will not be displayed. If you select program 0 the thermostat will switch off the cooling system.

4, The 5 minutes minimum cycle time is enabled automatically, regardless of the setting of the dip switch.

Installation instructions

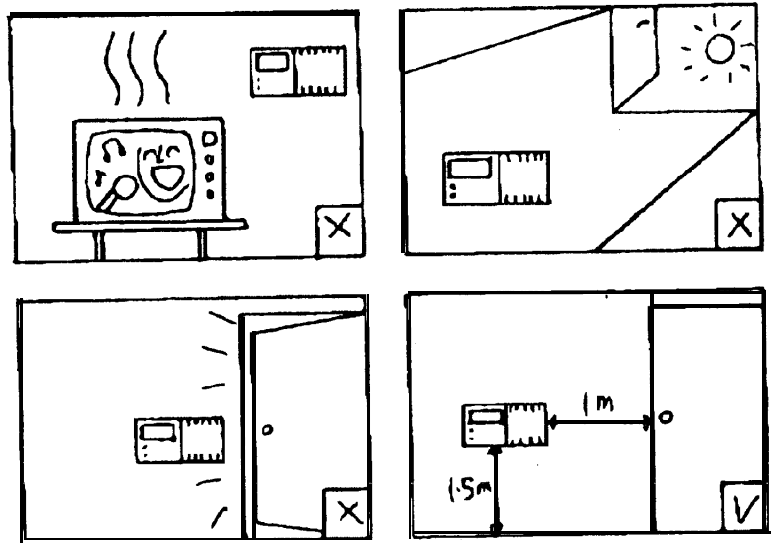
Caution: Switch off the electric source before installing the thermostat. We recommend that the installation should be performed by a trained personnel.

Select a suitable location for the thermostat

The location of the thermostat can greatly affect its performance. If it is located at where circulate air cannot reach, or exposed to direct sun light, it will not adjust the room temperature properly.

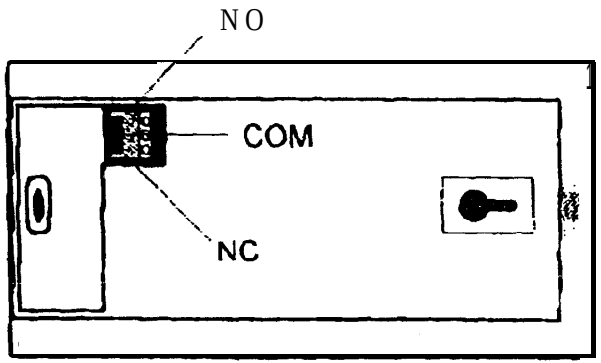
To ensure proper operation, the thermostat should be installed at an inside wall with freely circulating air Find a place where your family usually occupied.

Avoid close to some heat generating appliance (e.g. TV, heater, refrigerator) or exposed to direct sun light, Do not install near a door where the thermostat will suffer from vibration.



Wiring

Wiring terminals are at the back of the thermostat. You can find three terminals which labeled COM, NO and NC. It is a typical single-pole, double throw (SPOT) contact. In most case COM and NO are used.



Mounting the thermostat

Use the template provided, drill two ϕ6mm holes on the wall. Insert the wall anchors and tighten the left screw with 3mm clearance. Fix the thermostat by putting it over the screwhead and slide it rightward (note the keyhole like opening at the back of the thermostat). Tighten the remain screw to lock it in place.

Note:

If the wall is made of wood, there is no need to use the wall anchors. Drill two ϕ2.7mm holes instead of ϕ6mm.

Specification:

1, **Temperature** measurement **range;**	0---34.5°C (0.5°C step)
2, Temperature control range:	5---30°C (0.5°C step)
3, Temperature accuracy:	+/- 1°C
4, Clock accuracy:	+/- 70 seconds / month
5, Program:	6 preset, 3 user-define
6, Switching span:	1°C or 2°C
7, Control mode:	Heating or Cooling system
8, Minimum air-con. cycle time:	5 minutes
9, Switching:	230VAC 50Hz 5A resistive
10, Battery:	2 x LR6 alkaline battery
11, Dimensions:	154 x 80 x 30 (mm) (W x H x D)
12, Operating temperature:	0 --- 45°C
13, Storage temperature:	-20 --- 60°C
14, Operating humidity:	5 --- 90% non-condensing