

Enter weekday 5+1+1 heating or 7 days Heating Program

- 1).Hold **SET** for 5 seconds. 1 flashing (indicating you are now planning Monday program) with other 2~7 lighted in the display. If the display shows 1 /2 /3/ 4 /5 flashing, it indicates that the 5-day program will be modified. You selected a 5+1+1 day program mode before. (See configuration menu item 7).
- 2).Press ▲、▼ to change the day you about to make program.
- 3).Press **SET** button again, the selected day for programming will be shown.. Also be displayed are the currently programmed start times (flashing)for the 1st heating period and the currently programmed temperature, icon ☀ indicates 1st program period (Get up) setting.
- 4).Press ▲、▼ until your selected time appears. The time will change in 15 minutes increments.
- 5).Press **SET** button, the programmed temperature will flash, press ▲、▼ until your selected temperature appears.
- 6).Press **SET** button, icon 🏠 indicates 2nd program period (Go out) setting. The currently programmed start time and set point temperature for the 2nd heating program period will be shown. Repeat step 4 and 5 to select start time and heating temperature for the 2nd heating program period.
- 7).Press **SET** button. Repeat steps 4 through 6 to set the 3rd;4th;5th;6th heating program. If you have only 4-period programming per day, you might have configured 4-period per day option. (See configuration menu item 8)
- 8).After you finish the whole day period programming, still press **SET** button, the day next to the just programmed day will flash with other 6 days lightening in the display. If the display shows 6 7 flashing with 1 2 3 4 5 lightening in the display, you might selected the 5+1+1 day program mode before. (See configuration menu item 7).
- 9). Repeat 2)~8) to complete the all days of the week programming.
- 10).When you have completed entering your heating program, pressing **OK** to revert to program operation.

REVERT TO FACTORY DEFAULT PROGRAM SETTING

Press RESET button, this will reset the thermostat to factory default setting.

ERROR CODE

- E1 flashing in the display: Floor sensor short circuit in type F or AF. Thermostat shut down all output
- E2 flashing in the display: Floor sensor not installed or broken in type F or AF. Thermostat shut down all out put
- E3 flashing in the display: Room sensor short circuit. Thermostat shut down all output
- E4 flashing in the display: Room sensor broken. Thermostat shut down all output.
- E5 flashing in the display: wrong selection of external probe.

T38FHL-7 Thermostat for Floor Heating



It is a 7-day programmable thermostat designed for floor warming application or helping to limit floor temperature. This thermostat can conform to European new safety standard for its two pole isolate switch.

SPECIFICATION

- Power source100~240VAC 50/60HZ
- Relay contact:.....250VAC 16A
- Room temperature setting range.....5°C (41°F)~35°C (95°F)
- Floor temperature setting range.....5°C (41°F)~45°C (113°F)
- Ambient temperature-operation.....0°C (32°F)~50°C (122°F)
- Ambient temperature-transport.....-10°C (14°F)~60°C (140°F)
- Accuracy.....±1°F or ±0.5°C
- Dimensions.....86mm X 86mm X16mm
- Color.....White

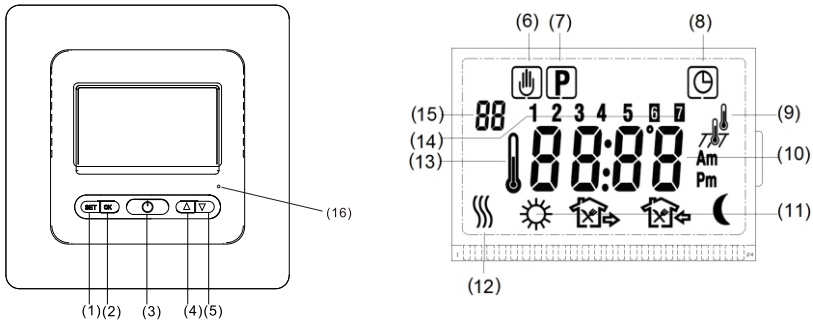
FEATURES

- Large LCD display with clock.
- Two pole isolate power switch that can cut off the Live wire and Neutral wire connection between Power and Load
- Permanent user setting retention during power loss,
- Optional economic operation or comfort operation
- Optional type of control for different heating application including room thermostat; floor thermostat or room thermostat with floor limitation
- Optional programming Period: 7 individual day or Separate 5-day (weekday) and 1-day/1-day (Saturday/Sunday) programming with 6 or 4 separate time/temperature periods per day.
- Display temperature recalibrates

SAFETY INFORMATION

- Always turn off power at the main power source by unscrewing fuse or switching circuit breaker to the off position before installing, removing, cleaning, or servicing this thermostat.
- Read all of the information in this manual before installing this thermostat.
- Only a professional contractor should install this thermostat.
- All wiring must conform to local and national building and electrical codes and ordinances.
- If system is not operating properly, check wiring and replace fuse if necessary.
- Use this thermostat only as described in this manual.

KEYBOARD AND DISPLAY



- (1) Set button (2) OK button (3) Power button
(4) Raise temperature setting
(5) Lower temperature setting
(6) Shows when thermostat is in temporally override mode
(7) Shows when thermostat is in program operation
(8) Shows when current display is time clock
(9) Shows when thermostat is in room temperature sensor control mode
 Shows when thermostat is configured in floor temperature sensor control mode
 Shows when thermostat is configure in dual sensor control mode
(10) Shows current room temperature or set temperature or time clock in different mode.
(11) Time to get up Time to go out in the morning time to go back for lunch
 Time to go out in the afternoon time to return in the afternoon
 Time to sleep
(12) Shows when there is a call for heating
(13) Shows when displayed temperature is measured temperature
(14) Shows weekdays setting.
(15) Shows configuration menu item
(16) Reset Button.

- Press button **OK** button once. The display will show the correct day of the week and the time. If no keys are pressed within 20 seconds, the thermostat will revert to program operation.
- 2) Permanent hold temperature setting
When thermostat is in program operation, hold **OK** button for 3 second to change to permanent hold temperature setting. Shows simultaneously indicate permanent hold operation. Press **▲**、**▼** to change set temperature. The thermostat will permanent hold the room temperature at the selected setting until you press **OK** button to restart the program operation. Shows when thermostat is in program operation. If no keys are pressed within 5 seconds, the thermostat will revert to room temperature showing.
- 3) Temporary hold temperature
When thermostat is in program operation, press **▲**、**▼** to check current set temperature. Blink digit means set temperature. If the set point is your desired temperature, just push **OK** button to revert to program operation. If the set point is not your desired temperature, press **▲**、**▼** to temporary change the set point. shows in temporary temperature override. The thermostat will override the current programming setting and keep the room temperature at the selected temperature until the next program period begins. If no keys are pressed within 5 seconds ,the thermostat will automatically revert to the program operation.
- 4) Open Window function
If you open a window and the temperature will drops dramatically(3 MINUTES 1.5°C or more), the thermostat will think the host open the window and stop output to the heating , by pressing any button can revert the present program status, then if the thermostat detect the temperature raising 1.5°C or this function open 30 minutes, then it will come back to the programmed status .
- 5) Planning your program
Look at the factory preprogrammed times and temperatures shown in the sample schedule. If this program will suit your needs, press the **OK** button to begin running the factory preset program. If you want to change the preprogrammed time and temperature, follow these steps. Determine the times period and temperature for your program. You can set program for 7 individual day or 5 workday and 1 Saturday and 1 Sunday. (See configuration menu item 7)
Use the table to plan your program time periods and the temperatures you want during each period. Fill in the complete table to have a record of your program.

Samples Heating Schedule Plan for 7 individual day; 6 period per day (Factory default program setting)

	Time	Temp	Time	Temp	Time	Temp	Time	Temp	Time	Temp	Time	Temp
All 7 days	6:00	21°C	8:00	16.5°C	12:00	21°C	14:00	16.5°C	18:00	21°C	22:00	16.5°C

Heating Schedule Plan

	Time	Temp	Time	Temp	Time	Temp	Time	Temp	Time	Temp	Time	Temp
1												
2												
3												
4												
5												
6												
7												

- 4) Select maximum set point
For function A or AF, This feature provides a maximum setpoint temperature for room setting.
The default setting is 35°C (95°F), It can be changed between 18°C (64°F) to 35°C (95°F)
For function F, this feature provides a maximum set point temperature for floor. The default setting is 35°C (95°F). It can be changed between 18°C (64°F) to 45°C (113°F).
- 5) Select minimum floor temperature limitation
Press ▲、▼ to select you desire minimum floor temperature limitation. It can be changed between 5°C(41°F)-20°C(68°F) , factory default setting is 10°C
- 6) Select maximum floor temperature limitation
Press ▲、▼ to select you desire maximum floor temperature limitation. It can be changed between 25°C(77°F)-50°C(122°F) , factory default setting is 50°C
- 7) Programming day in one week option
There are 2 options for how to program the day in one week.
7: You can program in 7 individual days
3: You can program in 5 weekday and 1Saturday and 1Sunday.
- 8) 4 or 6 period per day program option
There are 2 option for how to program the period in one day
P4: You can program 4 period per day
P6: You can program 6 period per day
- 9) Select °C or °F for display.(Celsius and Fahrenheit)
- 10) Select displayed clock format
Set the switch to 24-hour. Display will show 24-hour clock time
Set the switch to 12-hour. Display will show 12-hour clock time
- 11) Select output maximum load.
According to the actually output heating load, to select the corresponding load current.
The factory default setting is HH. The options are HH, H, L
-HH load current are 12-16 (A).
-H load current is 8-11 (A).
-L load current is 0-7 (A).
- 12) Set floor sensor type
The thermostat is compatibel with these floor sensor,NTC10K and NTC100K,The factory default is NTC100K.
- 13) Press **OK** or no button is pressed within 20 seconds ,auto saved to exit the menu. Then came back the program operation.

Holding and pressing down arrow, it can back to factroy default ,show DF with CONF flashing

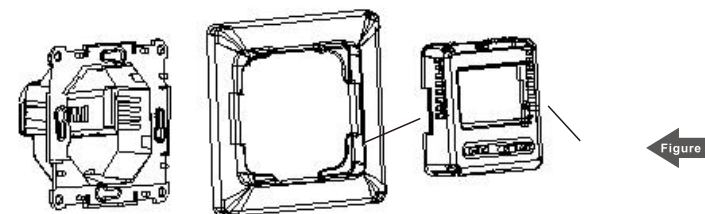
MANUAL OPERATION

When the thermostat program operation.Press SET button to enter time programmable mode.

- 1) Set current day and time
 - a) Press SET button. The display will show the minutes flashing.
 - b) Press and hold either ▲、▼ until you reach the correct minutes.
 - c) Press SET button once again. The display will only show hour flashing.
 - d) Press and hold either ▲、▼ until you reach the correct hour.
 - e) Press SET button once again. The display will show the day of the week flashing.
- Press ▲、▼ until you reach the correct day of the week
- Press **SET** again,then came back current setting.

INSTALLATION

ATTACH THERMOSTAT BASE TO WALL



1.Remove the front cover by gently pressing the release tabs on both sides of the thermostat. (Last two grooves from the bottom inside the hole , pls note picture marked / , \). Then remove the frame.

2.Connect wires beneath terminal screws on power base using appropriate wiring schematic. See figure 4

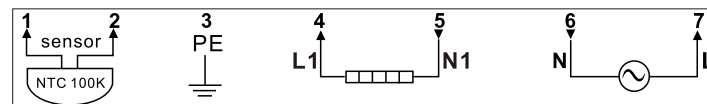
3.The floor sensor cable must be installed to terminal block. (See figure 4) in Floor sensor control type or Mix sensor control type, otherwise thermostat will shut down heating output and display will shows E2 indicate floor sensor problem.

4.Push power base into wall box.

5.Using two mounting screws mount the power base to the wall. Place a level against bottom of base, adjust until level, and then tighten screws. (Leveling is for appearance only and won't affect thermostat operation.)

6.Replace front cover on the power base by snapping it in place.

WIRING DIAGRAM



Attention:
N: Neutral Wire; L: Live Wire.
Item 4-5: Connected with heat load.
Item 6-7: Connected with power.

OPERATION

CONFIGURATION MENU

The configuration menu allows you to set the certainly thermostat operating characteristics to your system or personal requirements. When the thermostat is running program, hold button ▲&▼ together for 5 seconds to enter the configuration menu. The display will show the first item in the configuration menu. Press **SET** button to shift to the next menu item. Use ▲ or ▼ to select. To exit the menu, press **OK** button. If no button is pressed within 20 seconds, the thermostat will exit the configuration menu.

The configuration menu chart summarizes the configuration options. An explanation of each option as follows:

Item	Press buttons	Displayed (factory default)	Press ▲ or ▼ to select	Descriptions
1	▲&▼ 5 seconds	CL (0)	-4 --- +4	Select temperature display adjustment higher or lower
2	SET	bL (2)	1, 2, 3	Select display backlight mode 1. light off; 2. light on; 3. Keep lighting.
3	SET	AF (RF)	RF, R, F	Type of heating.
4	SET	AH 35°C (95°F)	18°C (64°F) ~35°C (95°F) 18°C (64°F) ~45°C (113°F)	Type R or RF: Select maximum room setting temperature Type F: Select maximum floor setting temperature
5	SET	FL 10°C (50°F)	5°C (41°F) ~20°C (68°F)	Type F: Select minimum floor temperature limitation
6	SET	FH 50°C (122°F)	25°C (77°F) ~50°C (122°F)	Type F: Select maximum floor temperature limitation
7	SET	PS (3)	3/7	Programming day in one week option 3: 5(week)+1(Sat.)+1(Sun.) programming. 7: 7 each day program separately.
8	SET	CS (P4)	P4/P6	Programming period in one day option
9	SET	CF (°C)	°C / °F	Celsius or Fahrenheit display
10	SET	CO (24H)	24H / 12H	Select hour mode
11	SET	LD (H)	HH (16A~12A) 、H(11A~8A) 、L(≤7A)	Select output maximum load.
12	SET	SE (100)	10/100	External probe: 100- NTC100K, 10- NTC10K.
13	Press OK or no button is pressed within 20 seconds, auto saved to exit the menu. Then go back to the program operation.			

1) Select temperature recalibrates adjustment 4 LO to 4 HI –

You can adjust the room temperature display up to 4 higher or lower. Your thermostat is accurately calibrated at the factory but you have the option to change the display temperature to match your previous thermostat. The current or adjusted room temperature will be displayed on the right side of the display.

2) Select display backlight mode

The display backlight improves display contrast in low lighting conditions.
Select 1 the display will keep the light off;
Select 2 the light will be on when any button of the thermostat is touched.;
Select 3 the display will keep the light on continuously. Factory default is 2.

Select 2 the light will be on when any button of the thermostat is touched.;

Select 3 the display will keep the light on continuously. Factory default is 2.

3) Select Type of heating

When installing the thermostat you need to choose the type of heating and thus which sensors should be used. See Figure 5-7. You have three options:

● Type R: Room Thermostat

Application: A floor sensor is not present, and cannot be installed.

The unit will be controlled via room sensor in the thermostat and the thermostat will determine to activate/deactivate heating system by comparing set temperature with room temperature. Press ▲ to adjust thermostat setting above room temperature 1°C. The heating should begin to operate immediately.

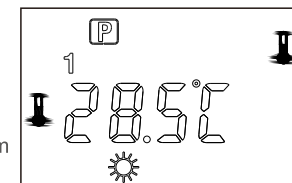


Figure 5

● Type F: Floor Thermostat

Application: Constant temperature on the floor in bathrooms and other rooms where a comfortable warm surface is required. The unit will be controlled via external floor sensor. It will determine to activate/deactivate heating system by comparing the target temperature with actual floor temperature. Press ▲ to adjust thermostat setting above floor temperature 1°C. The heating should begin to operate immediately. If the floor sensor is not installed in Type F, the thermostat will shut down heating output. Display will show E2.

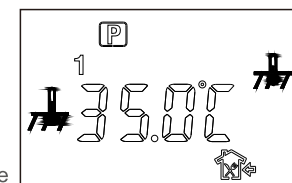


Figure 6

● Type RF: Room thermostat with floor limitation

Application: To control room temperature in living rooms etc. The thermostat will activate or deactivate the heating system by comparing the set temperature with the actual room temperature and comparing the preset floor temperature limit with the actual floor temperature.

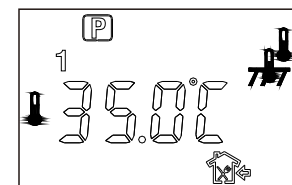


Figure 7

The factory default maximum floor limit is 50°C. You can change it in configuration menu item 6. Assuming that the floor temperature is below the maximum floor temperature limit, the heating should begin to operate if the set temperature is 1°C higher than the actual room temperature. If the floor temperature is above the upper floor limit, the heating should stop working. E3 will be displayed, indicating that the floor temperature is above the upper limit. If the floor sensor is not installed in Type AF, the thermostat will shut down all heating output. The display will show E2.

Note: In this mode, This feature is only available in Type AF.

Hold ▲ button for 5 seconds, the thermostat will display floor temperature. Shows when display temperature is floor temperature. Pressing **OK** button to revert to program operation with room temperature shown in the display. shows when displayed temperature is room temperature. If press **OK** or no key is pressed after inquiry about floor temperature for 20 seconds, the display will be changed from showing floor temperature to show room temperature.