

HC80

***Intelligent Thermostat
Installation and User Guide***



02000107



HC80 is a 7-day programmable intelligent thermostat designed for electronic floor heating systems, which is touch screen operation with smart appearance.

■ Main Features

- 2.4 "TFT color screen, resolution 320x240pixel
- Full screen touch operation (resistance-type)
- Energy monitoring function
- Frost protection function
- Multi language OSD menu optional
- USB port charging, easy to operate
- Support various types NTC sensors
- Compatible with several frame systems for electrical appliances
- First warming function
- Child lock function
- Support Holiday mode
- Apply (EU) 2015/1188 ECO Design, for products offering a high potential for cost-effective reduction of greenhouse gas emissions

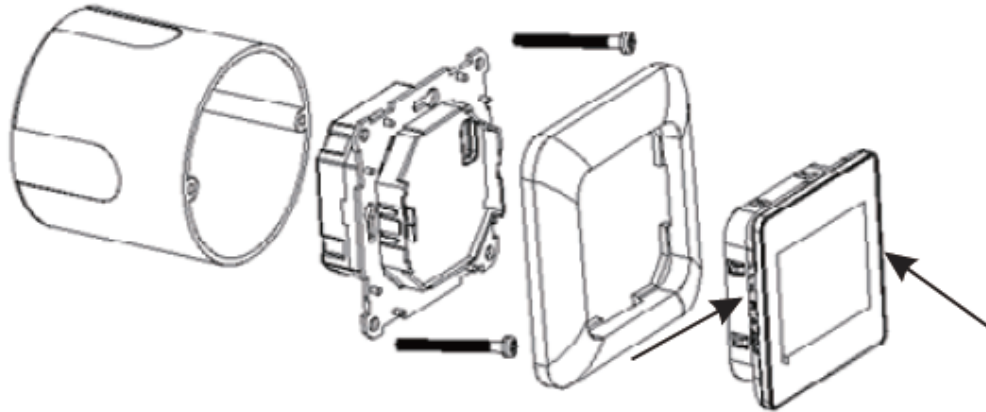
Technical Specification

Supply voltage:100~240VAC
Maximum Load:250VAC 16A
Room temperature limit:5°C ~ 35°C
Floor temperature limit:5°C ~ 45°C
Ambient temperature-operation:0°C ~ 50°C
Ambient temperature-storage:-10°C ~ 60°C
Accuracy: ±0.5°C
Dimensions:83.5(L)x83.5(W)x39.5(H)(mm)
Color:White
IP class:21

Summary of Contents

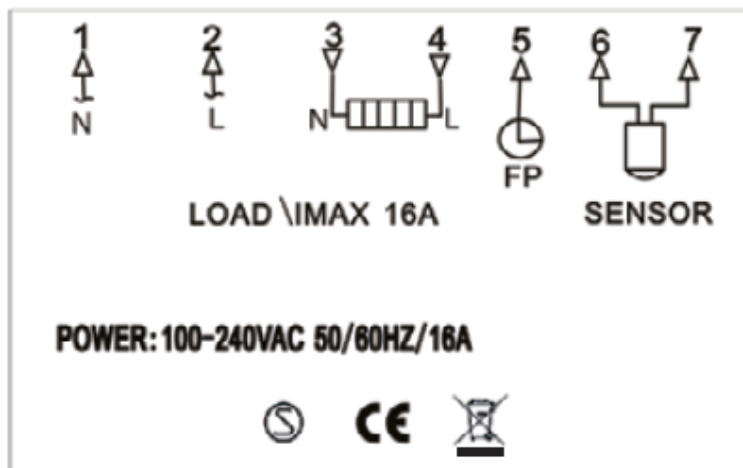
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Installation



1. Remove the front by pulling evenly in both sides of the front. The snap locks holding the front and base together, will then loose their grip and the front is released, repositioning the front onto the base. First check that the mains switch on the left side of the front is positioned correct to the reciever in the base. Then align the snap locks and press the front and base together.
2. Connect wires beneath terminal screws on power base using appropriate wiring schematic. See the following wiring diagram.
3. The floor sensor cable must be installed to terminal block (See the wiring diagram) in Floor sensor control type or Mix sensor control type, otherwise thermostat will shut down heating output and display will indicate floor sensor error
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 will not affect thermostat operation.)
6. Replace front cover on the power base by snapping it in place.

■ WIRING DIAGRAM



Attention:

Terminal 1-2: N: Neutral Wire; L: Live Wire.

Terminal 3-4: Connected with heat load.

Terminal 5: Pilot signal to terminal 5-FP. For functions see fig. below.

Terminal 6-7: Connected with floor sensor.

pilot wire order	Signals
maintain temperature at setpoint(comfort)	No Signals
maintain temperature at setpoint minus 3.5°C(3.5K setback)	230V Mains signal
maintain temperature 7 (frost protection) *)	
Turn heating Off(Off) *)	
maintain temperature at setpoint minus 1°C(1K setback) *)	
maintain temperature at setpoint minus 2°C(2K setback) *)	

*) NOTE ! : These functions to automatically reduce temperature will work only if your local supplier of electricity offer this service via themains connection.

Safety introduction

■ Please observe the following guidelines:

- Do not cover the thermostat, This will impair the ability of the thermostat to sense and adjust the room temperature correctly.
- Do not spill any kind of liquids into the thermostat. Do not open, disassemble, or tamper with the thermostat in any way.
- If the thermostat is installed in a place frequented by little children, please use the child lock.
- The installation of the thermostat must be done by an authorized and qualified installer.

■ The switch button introduction:

When the thermostat is installed and powered, you need to push up the switch button to activate the screen, and then start the following settings.



■ First time settings:

When open your thermostat at the first time, you will see the version number logo on the screen, and then it will require you into the following settings:

Language setting → Date setting → Time setting →
Hour → Set sensor mode → Load setting




■ The default screen after you setting is as following:

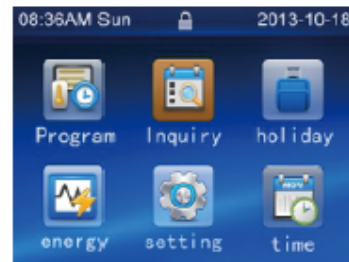
It shows important information such as time, date, Current room or floor temperature, current programming time as well as the target set temperature.

Operation Mode



The factory default mode is program operation mode, You can also select other operation modes according to the Following settings.

Holiday Mode:

Press **Menu** access the menu page, select  into the holiday mode. Press the  or  to set the holiday start date and end date, also the holiday temperature, press **Apply** to save your setting.




Manual Mode:

In the home screen, you can also touch any place to override the current schedule, press  or  to set the temperature you want, and then:

Press **Hold** - for permanent Hold mode.

Press **OK** – to temporarily override temperature in the current running time period. Override will reset itself as the next time period becomes active.

Frost Mode:

Press the button at the right side of the Thermostat, don't release until the screen shows  symbol, this mode maintain a minimum temperature for frost protection. (5°C open, 8°C closed).

Return to normal mode by pressing the button at the right side of the Thermostat, don't release until the screen changes back to the home screen.



General operation:

Back

Various menus and submenus contain a Back option.
Use Back to return to the previous step.

Apply Various menus and submenus contain an Apply option.
Use Apply to confirm your setting.



If you do not press any button on the thermostat for 1 minute,
then it will go back to home screen.

Whenever you are setting the thermostat, you can press
the button on the middle of it to back to home screen.

Menu Option



Program setting :

Select the days (Monday-Sunday) you wish to make changes, press **Apply** into the temperature and time setting, then adjust the start time or temperature of different time period by pressing  or  , press again **Apply** to save your setting.

■ The program setting interface is as following:






There are 6 time periods in one day (24h).

- 1: Morning
- 2: Leave early
- 3: Home daytime
- 4: Leave daytime
- 5: Home late
- 6: Night



You can make the same setting of 7 days (Monday to Sunday), when you finished the one day's setting, The zone will be gray, it means that you cannot set again.

The factory default program period and temperature chart are as following:

												
	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

View and edit program:

Select the day you want to view, e.g.: Monday-Sunday, press **Apply** then you can see the summary diagram of the set time period and temperature. Press **Edit** reset the program time and temperature if you are not satisfied with the current schedule.



Energy monitor:



■ View energy use

Select the time period you want to view, and press **Apply** to view the diagram. The diagram shows the energy use summary of the selected period. Press **OK** back to the time period option.



■ View energy cost

Select the time period you want to view, and press **Apply** to view the diagram. The diagram shows the energy cost summary of the selected period. Press **OK** back to the time period option.

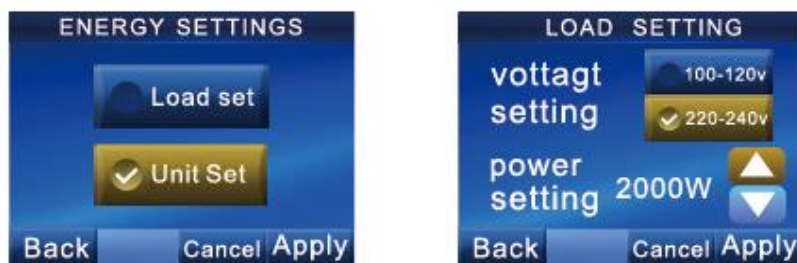
The energy cost estimate will only be accurate for the time period AFTER you set the heating costs.



■ Energy parameter settings

In this interface, you can set the Load and Tariff. Select the work voltage, and then press **▲** or **▼** to set the load. Press **Apply** to confirm your setting.

Set the Low tariff time and unit price. According your local living habit to set the low tariff start time and end time by pressing **▲** or **▼**, press **NEXT** into the unit price setting.



Set the unit price of electric at the standard tariff and low tariff, according to you local actual electricity price. Press **Apply** to confirm your setting.



■ Temperature unit settings

Select the "°C" or "°F" according to your preference.



■ Video Setting

Theme

- Change the content and style of home screen and standby screen, there are "Blue" and "Black" two colors.

Display brightness

- Set the brightness of the LCD screen in normal operation between 1 (dimmetst) and 3 (brightest).

Standby brightness

- Set the brightness of the LCD screen in standby mode between 0 (dimmetst) and 3 (brightest). If you choose "0", Note: when set it to "0" the LCD screen will turn OFF, you need to turn on the screen by pressing the unlock button on the side of the thermostat.

Child Lock

- The child lock is used for locking the screen display in order to prevent undesirable changes of the thermostat settings. Press the button at the right side of the thermostat shortly, to lock or unlock the Child Lock.



■ Language setting

Select the operation language you prefer. There are multi-language optional (English, French, German, Dutch, Russian, Polski, Norsk, Svenska, Danish, Suomi, Romania).

Sensor settings

Select the control object if your thermostat use floor temperature sensor for thermal regulation.

■ Set room temperature

The thermostat will use the temperature reading from the room sensor (inside thermostat housing) to decide whether heating is required to achieve the target set temperature.

■ Set floor temperature

The thermostat will use the temperature reading from the floor sensor to decide whether heating is required to achieve the target set temperature.

■ Set room temperature with floor limit

Thermostat will use the temperature reading from the room sensor to decide whether heating is required to achieve the target set temperature, however if the floor temperature goes above the set limit then heating will be suspended until floor temperature falls below limit.



■ Install setting

Heat setting

- Set floor type

Select the different floor type according to your room. This setting will affect the upper and lower limits of programmable set temperatures as well as the overheat limit.

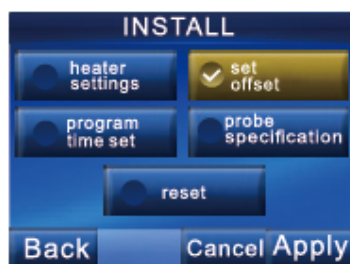
If you set a user defined limit then you are advised to check the safe temperature limits with the flooring manufacturer.

- Adaptive

When the auto settings "ON", the thermostat will adapt to your environment, so temperatures will be reached at the times given in the program. The thermostat will need a few days to adapt.

- PI control

When the ratio control "ON", it can make the system heat target temperature more accurate.



Note!

Always follow the instructions supplied by the manufacturer of the installed underfloor Heating system. Most manufactures require the heat is never turned on, before the material encapsulating the heating elements is fully cured.

Set offset

If you feel the room temperature is not very comfortable When program operation, you can set the offset temperature, the maximum limit of the offset temperature is 8°C.

Program period set

There are 2 options for how to program the period in one day

P4: You can program 4 periods per day

P6: You can program 6 periods per day

The factory default is P6.

Set floor sensor type

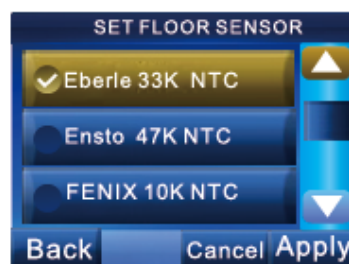
The thermostat is compatible various kinds of floor sensor

Except SASWELL 100K and SASWELL 10K, for example:

DEVI 15K, OJ12K, Eberle 33K, Ensto 47K, FENIX 10K, TYCO 10K,

TeploLux 6K8, Warmup 12K, aube 10K.

The default setting is SASWELL 100K.



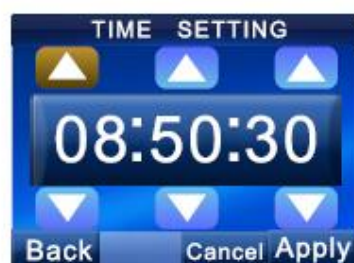
Revert to factory default

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



■ Time Settings

- Set time and date by pressing the ▲ or ▼ .
- Set time format preference (12Hr clock or 24Hr clock) and date format preference (YYY/MM/DD or DD/MM/YYYY).
- Select the Daylight Saving Time or Normal day format.



■ Error Message

Error Code

1. Floor sensor short circuit in type F or AF. Thermostat shut all output.
2. Floor sensor has not installed or broken in type F or AF.
Thermostat shut down all the output.
3. Room sensor short circuit. Thermostat shut down all the output.
4. Room sensor has broken. Thermostat shut down all the output.

■ SAFETY ■ COMFORT ■ ENERGY SAVING