Heating Room Thermostat

User Guide

Model：BHT-1000

Welcome

Thank you for your purchase.
Your new thermostat will provide uniform and comfortable temperature control throughout every room in your property. We bring together technology, craftsmanship and the highest quality materials to provide you with a safe, reliable product combined with sleek, contemporary design. Please read this installation/programming manual for comprehensive instructions on installing and operating your thermostat. Please ensure a suitably qualified person installs your thermostat and complies with all local regulations.

Contents

Thermostat	1pc
Screws	1pc
Installation/programming manual	1pc
Wall plate	1pc
2.5m External (Floor) Sensor	1pc

Warranty

Your thermostat carries an 18 month warranty from date of purchase. Service outwith the warranty period may incur a charge.

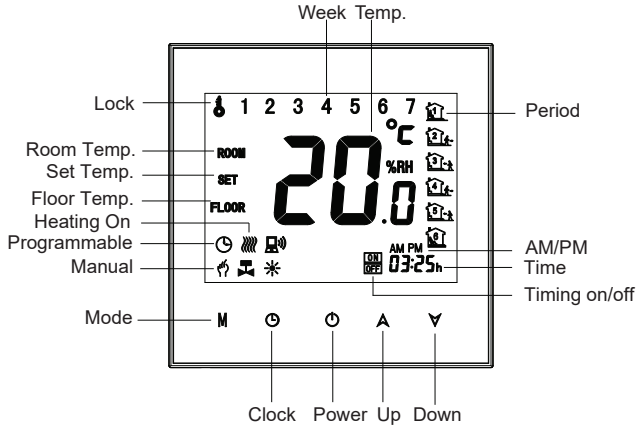
Your thermostat

The BHT1000 range has been developed to control electric underfloor or water heating systems. These units are designed for use in commercial, industrial, civil and domestic properties.

Features

Simple installation
Acrylic face plate
Large, backlit display
Sleek, contemporary design
Elegant chrome frame
Feather touch control panel
5+2 six period per day programming
Simple, one-touch temperature control over-ride
Pre-set temperatures maintained within +/- 1°C
Internal and external sensors allow control of both air and/or floor temperatures
Suitable for installation in a standard single pattress box or European 60mm round box
RS485/MODBUS communication optional

Home screen quick reference



Technical Data

Sensor：NTC
Accuracy：±1℃
Set Temp. Range：5-35℃
Room Temp. Range：5-99℃
Power Consumption：< 1.5W
Timing Error：<1％
Power Supply：95 ~ 240VAC，50 ~60Hz
Current Load：3A（water heating），
16A（electric heating)
Shell material：PC+ABS (flame retardant)
Dimension：86x86x13.3mm
Ambient Temp.：0-45℃，5-95％RH
（Non-condensing）
Storage Temp.：-5-55℃
Installation Hole distance: 60mm

Operation/programming

1. Power on/off

Press ⏻ to turn on/off.

2. Adjusting/setting the temperature

Press ∧ ∨ to set the desired temperature.

3. Adjusting/Setting the clock

Touch the icon 🕒 to set minute, hour and weekday (1 = Monday, 2 = Tuesday etc.) by using the ∧ ∨ arrows. Press 🕒 once more to confirm and exit.

4.Locking your thermostat

Press and hold the ∧ and ∨ arrows for 5 seconds to lock/unlock your thermostat.

5.Adjusting/setting the program schedules

Your thermostat provides six scheduled heating periods each day – three Comfort periods - 1, 3 & 5 (the temperature required when room is occupied) and three Economy periods – 2, 4 & 6 (the temperature required when room is unoccupied). You can set both the time **and** temperature for each of these six daily periods. Adjusting/setting the schedules can only be carried out when in program mode;
Touch M (mode) to change between manual mode and programme mode. In programmable mode,

will show in the bottom left of the screen.
Touch and hold the icon until the weekday schedule settings appear (1 2 3 4 5 will show along the top of the screen).
Use the ∧ and ∨ arrows to adjust the time for the 1st (Comfort) period
Press the icon and use the ∧ and ∨ arrows to set the temperature for the 1st period.
Repeat this process for periods 2 – 6.
Press the icon once more to enter the weekend schedule settings (6 & 7 will show along the top of the screen).
Repeat the above process to set the weekend schedule. Press once more to confirm and exit.

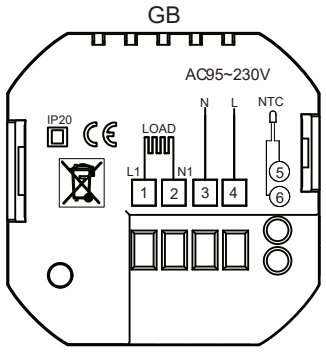
Default settings for program schedule

Time display	WEEKDAY (MON. – FRI.)		WEEKEND (SAT. – SUN.)	
	TIME	TEMP.	TIME	TEMP.
Period 1 (Comfort)	06.00 waken	20°C	06.00 waken	20°C
Period 2 (Economy)	08.00 leave	15°C	08.00 leave	20°C
Period 3 (Comfort)	11.30 home	15°C	11.30 home	20°C
Period 4 (Economy)	13.30 leave	15°C	13.30 leave	20°C
Period 5 (Comfort)	17.00 home	22°C	17.00 home	20°C
Period 6 (Economy)	22.00 bed	15°C	22.00 bed	15°C

Default settings above assume a 5+2 (day) weekly program. The 6+1 (day) weekly program may be chosen by adjusting option 7 in the System Functions menu.

Wiring your thermostat

Wiring your thermostat



Please note:
Do not over-tighten the terminals in your thermostat as damage may occur

8. System function settings

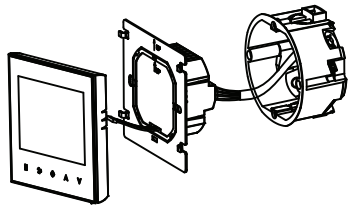
With power off, press and hold both M and for 5 seconds to enter the System Functions. Press M to scroll through the available functions, and use the ∧ and ∨ arrows to change the available options.
Your thermostat will automatically exit the System Functions settings after approximately 15 - 20 seconds of inactivity. All settings are automatically confirmed when power is switched on.

Code	Function	Setting & options	Default
1	Air temperature calibration	Range is -9°C to +9°C for internal sensor	0
2	Switching differential	Range is 1°C to 5°C The number of degrees above/below set temperature before switching on/off When default is set to 1°C the thermostat will switch **on** 0.5°C below the set temperature and will switch **off** 0.5°C above the set temperature.	1
3	Sensor selection	"**IN**" = control temperature using the internal sensor "**OU**" = control temperature using the external (floor) sensor "**AL**" = control temperature using internal sensor to **control** temperature, and external sensor to **limit** the floor temperature	IN
4	Minimum temperature protection setting	Range is 5°C - 10°C. When temperature drops below the specified temperature, the system will automatically switch on until the specified minimum temperature is achieved.	5
5	Maximum floor temperature protection setting	Range is 10°C - 70°C. When chosen floor temperature is reached, the system will automatically switch off. This facility is used to protect delicate floor coverings.	26
6	Button locking	0: = All buttons will lock except the Power button 1: = All buttons will lock	0
7 (1)	Weekend settings (optional)	0: = Two day weekend (12345 + 67) 1: = One day weekend (123456 & 7) This function is available for programmable thermostats only	0
7 (2)	Communications protocol (optional)	0: Thermostat cannot be controlled by computer (communications protocol) 1: Thermostat can be controlled by computer (communications protocol) This function is available for RS485/MODBUS thermostats only	0
8	12/24 hour clock	12h: = 12 Hour clock 24h: = 24 hour clock	24 h
9	Backlight "on" time	Can be set between 3 – 99 seconds	10
10	Intelligent recovery	00: = System adheres to scheduled times. 01: = System starts 30 mins early to achieve pre-set temperature by the start of program period	00
11	Return to factory defaults	Press ∧ to change rst0 to rst9. Press ∧ again to confirm you wish to reset to factory settings	
12	485 communication IP high address (optional)	00--FF	00
13	485 communication IP low address (optional)	01--FF	01

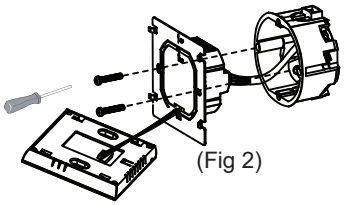
Please note:
1."Err" on your thermostat indicates a fault with the external (floor) sensor. Your thermostat will be inoperative until the error is rectified.
2. When sensor selection is "AL" (option 3 above) the room temperature will be displayed on your thermostat by default. The floor temperature can be displayed temporarily by pressing the ∧ button for three seconds. Your thermostat will revert to display the room temperature after several seconds.

Installing your thermostat

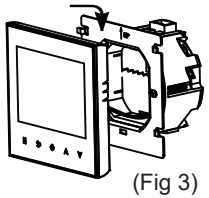
Your thermostat is suitable for installation within a standard 86mm pattress box or European 60mm round pattress box.

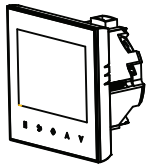

(Fig 1)

1. Connect power supply, load and external (floor) sensor into the appropriate terminals
(see "Wiring your thermostat" for details).


(Fig 2)

2. Secure thermostat wall plate to pattress box using the supplies screws


(Fig 3)


(Fig 4)

4. Installation complete.

3. Connect body of thermostat to the wall plate

RISK OF ELECTRICAL SHOCK. Disconnect/isolate power supply prior to making electrical connections. Contact with high voltage components can cause electrical shock, severe injury or death.

BECA ENERGY CONTROLS CO.,LTD
Email: nicole@becavalve.com
www.becavalve.com