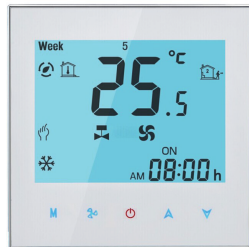


Touch Screen Room Thermostat

User Guide

Model: BAC-1000 Modbus



Welcome

Your new thermostat will provide year of reliable service. Using this digital thermostat will provide more uniform comfort in your home through the seasons. Thank you for buying the product! Please read this manual for complete instructions on installing and operating your thermostat. If you require further assistance, please feel free to contact us.

In the box you will find

Thermostat	1pc	Screws	2pc
User Guide	1pc	Wall plate	1pc

Service

We offer the warranty of 24 months from the sales day. If it is not the problem of quality or beyond the warranty time, we will charge for the after-sale service.

Technical Data of your thermostat

Sensor: NTC	Accuracy: $\pm 1^{\circ}\text{C}$
Temp. Range: 5 -35°C	Power Consumption: <1.5W
Timing error: <1%	Power Supply: 110~240V, 50 ~60Hz
Current Load: 1A (Inductive) , 2A (Resistance)	
Shell Material: PC (Fireproof)	
Dimension: 86x86x13.3mm	
Installation box: 86*86mm or European 60mm	
Ambient Temp.: 0 ~ 45°C, 5 ~ 95%RH(Non condensing)	
Storage Temp: -5~ 55°C	

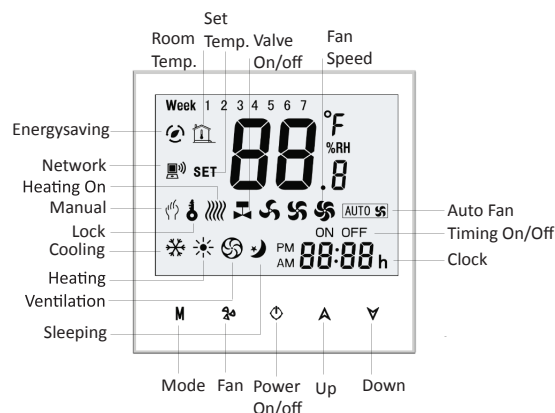
About your thermostat

BAC-1000 Modern Touch Screen Room Thermostats are designed to control the fans and valves in air conditioner applications via comparison of the room temperature and setting temperature as reaching the aim of comfort and saving energy BAC-1000 are microprocessor based thermostat with LCD display.

Features of your thermostat

Modern design similar as a cell phone.
Beautiful Frame CHROME creates elegant life.
Acrylic lenses to avoid the finger scratch.
Touch Button makes simple operation.
Large screen display with backlight is easy to read—even in the dark.
Precise comfort control keeps temperature within 1°C of the level you set.
Easy installation.
86mm hidden box and european 60mm round box is selectable.

Home screen quick reference



Model definition of your thermostat

A1: Two pipe; Control Fan Coil Unit and Two wired Motorized valve.(when room temperature reaches the setpoint, both will turn off)
A2: Two pipe; Control Fan Coil Unit and Two wired Motorized valve.(when room temperature reaches the setpoint, valve will turn off but fan will turn to low speed)
B: Two pipe; Control on/off Motorized Damper
C: Two Pipe; Control Fan Coil Unit and Three wired Motorized valve
M: Two pipe; Control 0-10V Motorized Valve
E: Four pipe; Control Fan Coil Unit and Two wired Heat and Cool Motorized valve.
T: Clock
L: Backlight
P: Weekly Programmable
N: RS485/MODBUS RTU communication
K: Keycard
E: External sensor
For example: BAC-1000MLN

Operation

1. Setting the temperature

Press **▲ ▼** to set temperature.

will display in the left corner of screen.

2. Setting Lock (optional function)

Press and hold **▲ ▼** for 3 sec. to lock the screen.
The icon will display on the screen.

Press and hold **▲ ▼** again for 3 sec. to unlock the screen.

3. Setting the fan

Press to select the fan speed AUTO, HIGH, MED, LOW.

4. Setting the system mode

Press **M** to change the system mode HEATING, COOLING and VENTILATION. In the mode of VENTILATION, the valve is off but the fan runs.

5.Setting the Clock

Press and hold M to set Clock;Press M to set the minutes of the time,press **A** **▼** to adjust the relative values.Same setting for hour and week of the time. After that, all will be confirmed automatically.

6. Setting functions and options

During power off, press and hold **M** **2s** at the same time for 5 sec. to system functions. Then press M to change the different items.

Press **A** or **▼** to set the relative values.

All the settings will confirm automatically when power is on.

No	Function	Setting & Options	Default
1	Temp. Calibration	-9°C to 9°C	-2
2	Fan Control	00: When room temp. reaches the setpoint, the fan will turn off. 01: When room temp. reaches the setpoint, the fan will keep the same speed.	00
3	Lock	00: All the buttons are locked except POWER 01 : All the buttons are locked	01
4	Heat/Cool	00: Cool only 01: Heat/Cool 02 : Heat only	01
5	Min. Set Temp.	5-15°C	5
6	Max. Set Temp.	15-35°C	35
7	Time Display	00:12 hours 01:24 hours	01
8	Display mode	00: display both set temp. and room temp. 01: display set temp. only	00
9	Two / Four Pipe System	00:Four Pipe System 1:Two Pipe System	0
A	P value	1-10	2
B	I value	1S-60S	40
C		INVALID	
D	IP Address	0X00-0XFF	01

Definition of P Value

The proportional band is the amount of change required by the ambient temperature for the output to go from 0 to 100%. It can be adjust from 1~10. Factory default is 2.

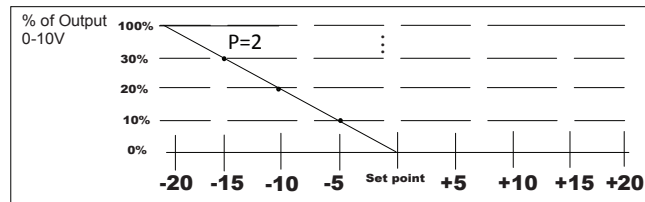
The P value is bigger, the change of valve output will be bigger; The P value is smaller, the change of valve output will be smaller.

For example, when P=2, the temperature difference between ambient temperature and setpoint is 5 °C , the valve will open about 10%; when P=4, the temperature difference between

ambient temperature and setpoint is 5 °C , the valve will open 20%.

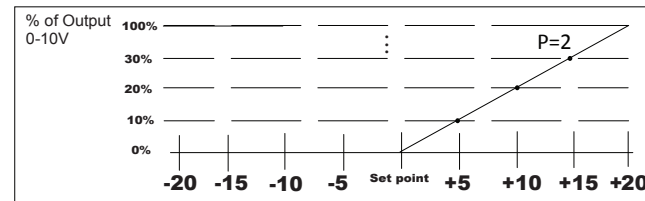
Heat mode (P-band: 2)

When the ambient temperature is below the set point the output is somewhere between 0~100%.



Cool mode(P-band: 2)

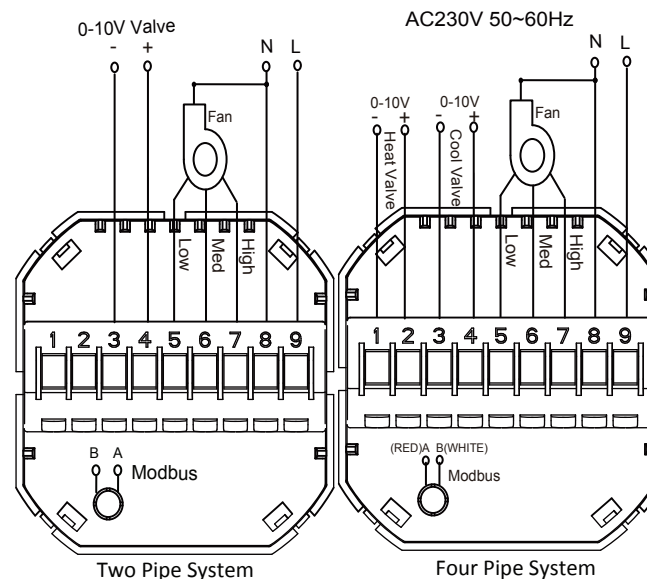
When the ambient temperature is above the set point the output is somewhere between 0~100%.



Definition of I Value

This feature allows you to set the integral action time for the integral to run from 0 to 100%. The value required depends on the reaction time of the control loop. If the time is chosen too short, the control loop will become instable and oscillate. If the time is chosen too long, the control loop will become sluggish. It can be adjust from 1S-60S. Factory Default is 40S.

Wiring your thermostat



Installing your thermostat

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

Step 1. Keep power off. See Fig 1.

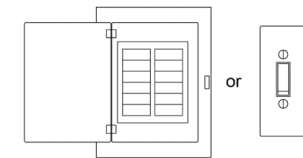


Fig 1

Step 2. Remove the mounting Plate. See Fig 2.

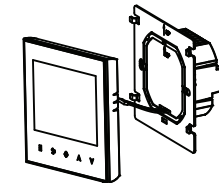


Fig 2

Step 3. Connect power supply, load and external (floor) sensor into the appropriate terminals if there is external sensor. (see "Wiring your thermostat" for details and Fig 3).

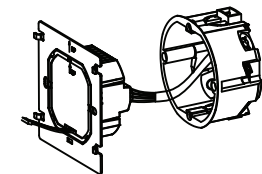


Fig 3

Step 4. Fix the mounting plate into the wall with screws in the box. See Fig 4

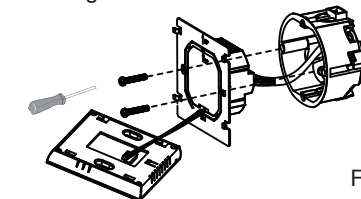


Fig 4

Step 5. Fasten body of thermostat and the mounting plate through the groove. See Fig 5.

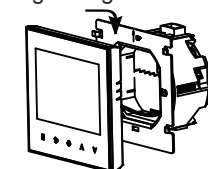


Fig 5

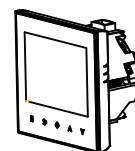


Fig 6

Step 6. Installation complete. See Fig 6.

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.