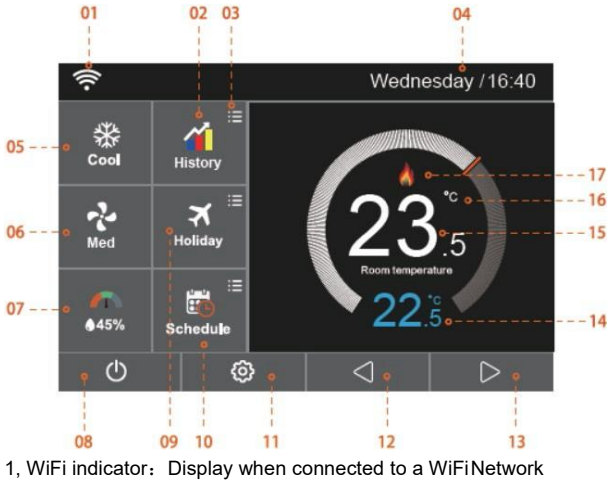
BC107 User Manual

Main Display



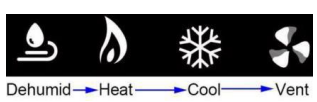
1, WiFi indicator：Display when connected to a WiFi Network
2, Run time history：Run time history data
3, Optional settings：Adjusting the optional settings
4, Day/Time：Displays day of weeks & Time
5, System mode：Dehumidification/Heat/Cool/Ventilation
6, Fan speed: High/Medium/Low/Auto
7, Air humidity: Room air humidity
(1) If humidity value<30%, the pointer will be in the Red area.
(2) If humidity value is 30% ~60%, the pointer will be in the Green area.
(3) If humidity value is >60%, the pointer will be in the Gray area.
8, Power ON/OFF: switch the thermostat ON/OFF
9, Holiday mode: Displays when thermostat is in holiday mode
10, Schedule: Weekday /Weekend, 7 Days and 24Hours programming.
11, Setup button: enter the parameter setting
12/13 Up/Down: set your desired temperature
14, Temperature setpoint: your desired temperature
15, Room Temperature: Displays the current room temperature
16,℃/℉ display: temperature display in ℃/℉
17, Mode display: Display Dehumidification / Heat / Cool / Ventilation

Thank you for buying our product with your great support and trust
This Fan coil thermostats are widely used in all commercial and residential buildings temperature control, accuracy temperature control provides you comfortable environment, and have the effect of saving energy and reducing power consumption.

This universal thermostats work with 2/4-pipe fan coils with AC Fan (3-speed) or EC fan (0~10V), ON/OFF or 0~10V valves, Modbus/ Wifi communication, Dry contact, external sensor. It is a very flexible thermostat match your need

Main Display Operation

Working Mode Selection



The words below: RT=Room Temperature, ST= Set point temperature

☞ Dehumidity Mode

Press system mode button to "Dehumid" to enter the de-humidity mode, the main screen will display symbol.

☞ Heat Mode

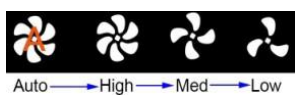
Press system mode button to **"Heat"**
★If ST > RT, the heat mode will be activated with symbol on the screen.
★if the RT≥ST, the will be disappeared and heating output will be cut off

☞ Cool Mode

Press system mode button to **"Cool"** you will hear the click after 5 sec.
★If the ST<RT, the cool mode and cooling output will be activated with symbol on the screen.
★If the RT≤ST, the will be disappeared, and cooling output will be cut off

☞Ve ntilation Mode

Press system mode button to **"Vent"** to enter the ventilation mode
Three Speed & Auto Fan can be selected during all modes above



Schedule

★Press icon to enter the Feature Settings.
★Find and press the "Schedule" option to entry the setting interface.
There are four Options:

Weekday/Weekend, 7Days, 24Hrs, None

★For example, Set the program Mode to 7Days.
※Press the icon to save and press again return to the main screen.
※Press the "Schedule" and Monday to Sunday can be selected to edit.
※Press "Monday" and there are Four Time Period can be selected:

Morning/Day/Evening/Night

Each Time Period has ON/OFF Options
※Press the column of "Hour", use the icon to set desired "Hour"
※Press the column of "Minute", use the icon to set desired Minute.
For Example: 7 (Hour):30 (Minute) means 07:30AM in the morning
※Press the column of "Degrees", use the to set desired temperature.
For Example: The Setting Temperature is 20℃
* Repeat the steps above to set the 4 periods of each day
※Press the icon to exit and save, repeat the steps above to set each day. Or you can also press "Copy To" to select any date to copy the period setting you just set and press icon to exit and save.

Holiday

Thermostat will maintain this temperature for the duration of the holiday and automatically return to the preset program mode after your return.
※Press the "Holiday" and entry in setting interface.
※Press the to to enable the Holiday mode, and press the column of Year/Month/Day, Use the icon to set the Year/Month/Day values of your holiday start date and holiday end date.
※Press the icon to save and exit. "Holiday will start at **/** **:**" will display on the top of main screen

Parameter Settings:

Press the to enter the parameter setting menu

Clock & Date Time

☞Time Zone Selection

Press Up or Down key to select your current Time Zone

☞Clock & Date Time

Select each column to set your current Year, Month, Day, Hour and Minute.

☞Daylight Saving Time

Auto DST ON/OFF Options

★There are three options:
European Union/ US&Canada/ Australia&New Zealand
Select one option and Press the icon to save and exit

Backlight Setting

★Ambient Light Dimming ON: Automatically adjust the backlight brightness.
★Ambient Light Dimming OFF: Manually adjust the backlight brightness.
★Use the to adjust to the desired brightness
★Press the Keys to save and return to main display

Standby Screen

★ Select your desired option to control the Standby Screen Time.
★ Select your desired standby type
★Press the to save and return to main screen.

Screen Lock

Lockout Pin on/off Options

★For example, Set the Lock Pin to 5209
※Press the First Column ,use the keys to adjust to 5
※Press the Second Column , use the keys to adjust to 2
※Press the Third Column ,use the keys to adjust to 0
※Press the Fouth Column ,use the keys to adjust to 9
★Press the Keys to save and return to main screen.

Note: User needs to input the password every time before operation

Feature Settings

Press to find the "Feature Settings" option and enter to edit
☞Temperature Format: can be selected between ℃ and ℉.

☞ Temperature Limit

★Press the icon to enter Feature Settings.
★Press "Temperature Limit" and enter setting interface.
★Press the First Column and use the keys to adjust Minimum Temperature between 5-34℃
★Press the Second Column, use the keys to adjust Maximum Temperature between 6-35℃
★Press the icon twice to save and return to main screen

☞Switch Diff

★Press "Switch Diff" and entry in setting interface.
★There are four Options: 0.5, 1, 2, 3
★Select desired number and Press the icon to save and exit.
if ST=20℃, switch diff value=0.5. Under heating mode: the thermostat gives heating output at 19.5℃ and cut off at 20.0℃. Under cooling mode: the thermostat gives cooling output when RT= 20.5℃ and cut off at 19.5℃.

☞DeadBand Temperature

Deadband temperature only available if the mode is selected to AUTO
The cool mode activate when **RT-ST** ≥Swtich Diff+Deadband Temperature/2
The heat mode activate when **ST-RT** ≥Swtich Diff+Deadband Temperature/2

☞Output Delay: To prevent rapid switching between cool & heat. Output delay can be set from 0-15 minutes. The default is 0 which means no delay.

☞ Defrost

The thermostat automatically enter the defrost mode when the room temperature drops below the defrost temperature.
The range is 7-17℃.The default is 7℃ and is suitable for most applications.

☞Built in Sensor: room temperature can be calibrated from -5℃ to 5℃

☞Humidity Sensor: room humidity can be calibrated from -25% to 25%

☞Open Window Function

The thermostat turns the heat/cool off for 15minutes if it detects the RT drops/raises more than 3 degrees in less than 1 minute

☞ Fan Setting

Fan type: 3-speed fan/ single speed fan
Fan Work Mode(when RT=ST):
Valve closed, Fan stop
Valve closed, Fan continue

☞Fan type in Heating mode

You can enable or disable fan working under 4-pipe heating Fan coil unit

☞ Temperature Bar Setting: you can select white or color

Hold Temp

The temperature hold function will allow you to manually override the current running program and set a different temperature for a desired period. You can select the temperature and Hold Time

☞Window/Door Dry Contact: if the window/door switch is open, the thermostat will shut off the valve and fan output and show the main screen display only.

System Information

★Press "System Information" to enter interface, and it shows Version Number: x.xx and press the icon to exit

Reset To Factory Settings

Warning: Reset will make you lost All Current Settings and return to the factory default settings.

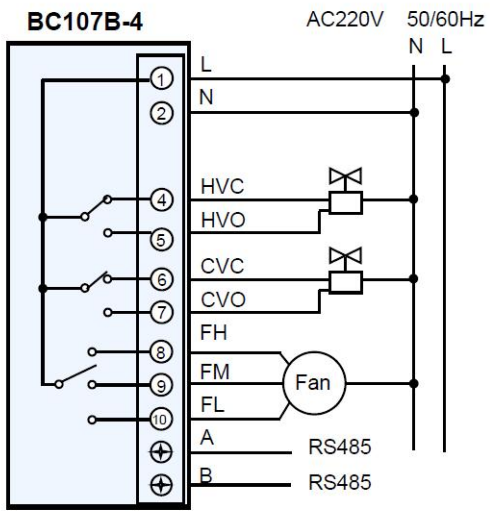
★Press the icon and then press " " to enter setting interface.
★Press "Reset" to factory settings
★Press the to exit

Technical Specification

Power Supply : AC 220V 50/60Hz
Setting temp range:5-35℃
Working temp range: -10-45℃
Temp accuracy:±1℃
Power consumption:1W
Max Switch Current: 5 A
Fan type: Three-speed fan/One-speed fan
Fan Work Mode: Value closed, Fan stop/Valve closed, Fan continue
LCD screen size: 3.5 Inch
The LCD resolution: 480*320
Touch: Capacitive Screen
Hole Pitch: 60mm
Grade of protection: IP 40
Sensor type: NTC10k
Installation type: Europe Flush/Surface Mounting
Dimension: 96mm * 86 mm* 13mm (without back power box 25mm)

Wiring Diagram

3 Speed FAN & ON/OFF VALVE



Thermostat default is 4-pipe

HVC: Heating Valve Close

HVO: Heating Valve Open

CVC: Cooling Valve Close

CVO: Cooling Valve Open

FH: High speed

FM: Middle speed

FL: Low speed

A,B: RS 485

Installation

Install the thermostat at the visual level.
Please read the instructions in order to better understand our products.
Do not install in areas close to the heat source, which will affect its function.
This flush mounting thermostat requires a 35mm power box in the wall.

Step 1

Using a flat-blade screwdriver to loose the screw from the bottom of the thermostat, and take off the front part from the backplate.

Step 2

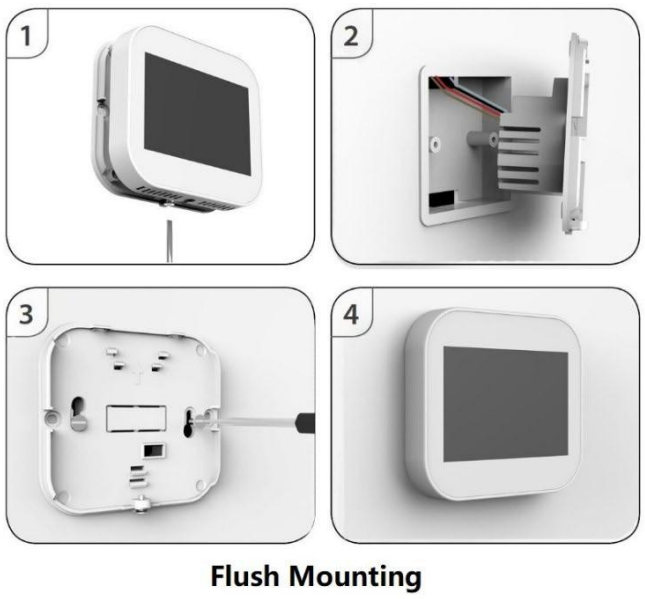
Place the front panel of the thermostat in a safe place.
Follow the wiring diagram above for connecting terminals.

Step 3

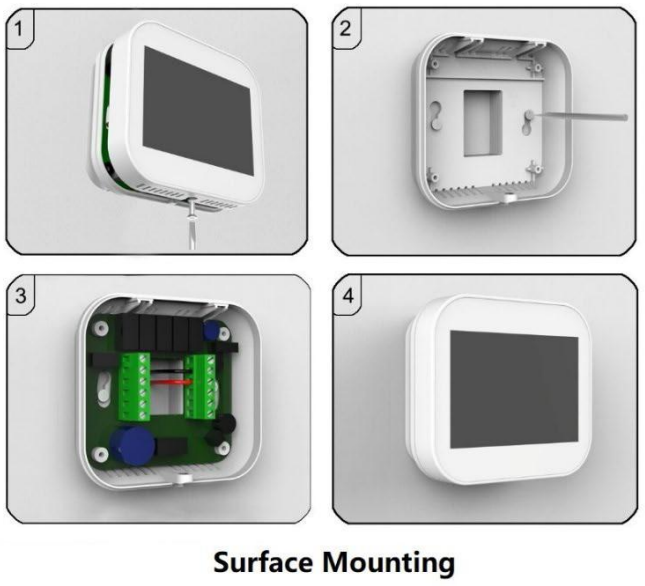
Screw the thermostat backplate into the mounting box in the wall.

Step 4

Put thermostat front panel on the backplane, and fasten the screws.



Flush Mounting



Surface Mounting

BACnet Setting:

01 Press Setting ⚙ icon

02 Select Network Settings

03 Select Bacnet MSTP

BACnet Protocal:

BACnet Data Format

Analogue inputs						
Object name	**Object ID - A.C**	**Object ID -Heating**	**Description**	**Values**	**Default**	Device Type
Actual_Room_temperature	ANALOG_INPUT:0	ANALOG_INPUT:0	Room temperature	23.8		Public
Floor_temp		ANALOG_INPUT:1	Floor temperature	22.9		Heating
Air_temp		ANALOG_INPUT:2	Remote air temperature	26.4		Heating
Humidity	ANALOG_INPUT:1	ANALOG_INPUT:3	Room relative humidity	33%		Public
CO2 value	ANALOG_INPUT:2		CO2 value	599 ppm		A.C

Analogue Values						
Object name	**Object ID**	**Object ID -Heating**	**Description**	**Values**	**Default**	Device Type
SetTemp	ANALOG_VALUE:0	ANALOG_VALUE:0	Set Temp	7°C -35°C		Public
AwaySetTemperature		ANALOG_VALUE:1	Away set temperature	7°C -35°C	7	Heating
HoldEndtTime		ANALOG_VALUE:2	Hold temperature end time	Time Stamp: 1689480919 = 2023-07-16 12:15:19	0	Heating
HoldSetTemp		ANALOG_VALUE:3	Hold temperature	5°C - 35°C	26	Heating
HolidayStarttTime	ANALOG_VALUE:1	ANALOG_VALUE:4	Holiday Start Time	Time Stamp: 1689480919 = 2023-07-16 12:15:19	current date time stamp	Public
HolidayEndtTime	ANALOG_VALUE:2	ANALOG_VALUE:5	Holiday End Time	Time Stamp: 1689480919 = 2023-07-16 12:15:19	current date time stamp	Public
MaxSetTempLimit	ANALOG_VALUE:3	ANALOG_VALUE:6	max set temperature limit	5°C - 50°C	5	Public
MinSetTempLimit	ANALOG_VALUE:4	ANALOG_VALUE:7	min set temperature limit	5°C - 50°C	35	Public

Analogue Output						
Object name	**Object ID**	**Object ID -Heating**	**Description**	**Values**	**Default**	Device Type
AO_Fan_command	ANALOG_OUTPUT_VALUE:0		0-10V Fan OutPut	2.6 (DC voltage)	0	A.C
AO_Valve_command	ANALOG_OUTPUT_VALUE:1		0-10V Valve OutPut	3.9 (DC voltage)	0	A.C

Binary Output						
Object name	**Object ID**		**Description**	**Values**	**Default**	Device Type
Heatingrelaystatus	BINARY_OUTPUT:0	BINARY_OUTPUT:0	Heating relay status	0=off; 1=on	0	Public
Coolingrelaystatus	BINARY_OUTPUT:1		Cooling relay status	0=off; 1=on	0	A.C
Fanhighspeedrelaystatus	BINARY_OUTPUT:2		Fan high speed relay status	0=off; 1=on	0	A.C
FanMedspeedrelaystatus	BINARY_OUTPUT:3		Fan Med speed relay status	0=off; 1=on	0	A.C
FanLowspeedrelaystatus	BINARY_OUTPUT:4		Fan Low speed relay status	0=off; 1=on	0	A.C

Binary Values						
Object name	**Object ID**		**Description**	**Values**	**Default**	Device Type
Mode	BINARY_VALUE:0	BINARY_VALUE:0	Power On/Off	0=off; 1=on	1	Public
Away_command		BINARY_VALUE:1	Away mode	0=off; 1=on	0	Heating
HeatingStatus	BINARY_VALUE:1	BINARY_VALUE:2	Heating Status	0=off; 1=on	0	Public
CoolingStatus	BINARY_VALUE:2		Cooling Status	0=off; 1=on	0	A.C
FlagiSTouchPadLock	BINARY_VALUE:3	BINARY_VALUE:3	touch screen lock	0=off; 1=on	0	Public
FlagiSHolidaying	BINARY_VALUE:4	BINARY_VALUE:4	if holiday is activted	0=off; 1=on	0	Public
FlagiSHolding_command		BINARY_VALUE:5	if hold is activted	0=off; 1=on	0	Heating

Multistate inputs						
Object name	**Object ID**		**Description**	**Values**	**Default**	Device Type
System_FanSpeed_RunStatus	OBJECT_MULTI_STATE_INPUT:0		fan speed	0 : Off; 1 : High; 2 : Med; 3 : Low	0	A.C

Multistate values						
Object name	**Object ID**	**Object ID -Heating**	**Description**	**Values**	**Default**	Device Type
DeviceType	MULTI_STATE_VALUE:0	MULTI_STATE_VALUE:0	Device Type：	30: MC6_E 11: MC6_TIMER 20: MC6_HW 4: MC6_2FCU 5: MC6_4FCU	30	Public
SystemMode_Commend	MULTI_STATE_VALUE:1		Unit_SystemMode_Commend	0:heat; 1:cool; 2:ventilate; 3:dehumidity; 4:auto	0	A.C
System_Fan_Mode_Commend	MULTI_STATE_VALUE:2		Unit_Fan_Mode_Commend	0 = Auto; 1 = High; 2 = Med; 3 = Low	0	A.C
SysError	MULTI_STATE_VALUE:3	MULTI_STATE_VALUE:1	System Error code	01: buildin sensor error; 02: Floor sensor error; 03: remote air sensor error 08: humidity sensor error;00: None		Public
TempFormat	MULTI_STATE_VALUE:4	MULTI_STATE_VALUE:2	Temperature Format	0 : Celsius degree; 1: Fahrenheit degree	0	Public
ProgramMode	MULTI_STATE_VALUE:5	MULTI_STATE_VALUE:3	schedule type	0: weekday ,weekend 1: 7 days 2: 24 hours 3: none schedule	3	Public