

This Fan coil thermostats are widely used in all commercial and residential buildings room temperature control, accuracy control provides you comfortable environment, and have the effect of saving energy and reducing up to **50%** power consumption.

Application:

This universal thermostats work with:
- ☛ 2-pipe fan coil unit
- ☛ EC Motor Fan
- ☛ Timer/Programmable(model No. with T Only)
- ☛ 0-10V valve
- ☛ Modbus communication(model No. with M Only)
- ☛ Dry contact for window or door, Hotel card holder
- ☛ External sensor for air or pipe temperature

Specification

1. Power supply: 220VAC ± 10%, 50/60 Hz
2. Temperature setting range: 5-35°C
3. Temperature accuracy: ± 0.5°C
4. Temperature control Accuracy: ± 1°C
5. Fan type: EC Motor 0-10V fan
6. Valve Control: 0-10V valves
7. Remote Sensor Type: NTC10K,B=3950
8. Communication: Modbus 4800,9600,19200bps baud rate
9. Dry contact: for window, door or hotel card holder
10. Storage temperature: -20C~60C, Operating temperature: 0~50°C
11. Max Humidity: 5~95%
12. Power consumption: <2W
13. Grade of protection: IP30
14. Backlight: white
15. Installation type: Surface mounting, Hole pitch: 60mm
16. Dimension: H86XW86XD30 mm

User Guide:

ON/OFF: Press power button to switch ON and OFF thermostat.

Temperature Setting: Press "▼" to reduce temperature, press "▲" to raise temperature

Mode: Press "M" to change mode between Cool ❄, Heat ♦ and Ventilation 🌀, mode will be confirmed by pressing other button or automatically after 6 seconds

Fan: Control EC Motor fan with 0-10V output, user can set up the voltage output by flowing steps:
Switch off the thermostat and press "M" and "▼" 5 seconds to enter parameter setting menu, press the "M" or "🌀" to change the item, and press "▼" "▲" to change the value.
For example: The value is 40, The output voltage is 4V. (40*10%=4V).
Item 07: Low Speed; (Range from 11~40 Default=40)
Item 08: Med Speed; (Range from 41~70 Default=70)
Item 09: High Speed; (Range from 71~99 Default= 90)
Press power button "⏻" or wait 30S to exit and save all settings
Valve: control 0-10V valve, user can set up the voltage output by flowing steps:
Switch off the thermostat and press "M" and "▼" 5 seconds to enter parameter setting menu, press the "M" or "🌀" to change the item, and press "▼" "▲" to change the value.
Item 01: Heating mode KP, Range from 1~99, Default=10
Item 02: Cooling mode KP, Range from 1~99, Default=10
Item 03: Sampling time, Range from 1~99,(S), Default=20
Item 04: KI, Range from 1~99, Default=1
Item 05: KD, Used
Item 06: Span, Range from 1~99, Default=5
Warning: the value above must set by specialized installation person!!

Backlight: Any key press will activate the backlight. Backlights will timeout 6 seconds after last key press.

Keypad Lockout: (ONLY available when Item 11 set to 1/2/3): Press "▼"and "▲" for 3 seconds to lock the buttons and press "▼"and "▲" for 3 seconds to unlock.

Clock (Only for the model number with T):
Power on thermostat, press "M" for 3 seconds
1, the symbol hour flash, press ▼or ▲ to adjust hour
2, press "M" key, minute flash, press "▼" or "▲" to adjust minute 3, press "M" key, week flash, press "▼" or "▲" to adjust week
4, press "M" key to confirm
Press power button "⏻" or wait 30S to exit and save all settings

Timer on/off (Only for the model number with T):
Repeat the Clock steps 1~4 above
1, Timer on and hour flash, press "▼" or "▲" to adjust hour
2, press "M" key, minute flash, press "▼" or "▲" to adjust minute 3, press "M" key, Timer off and hour flash, press "▼" or "▲" to adjust hour
4, press "M" key, minute flash, press "▼" or "▲" to adjust minute 5, press "M" or wait 6 seconds to confirm
Note: This function only acts once and valid on current day.
Press power button "⏻" or wait 30S to exit and save all settings

Programmable (Only for the model number with T):
Power on thermostat, press "M" and "🌀" for 3 seconds
1, No.1 (event 1) and "MON TUE WED THU FRI" display
2, Press "▼"and "▲" to set start hour
3, Press "M" and use "▼" "▲" to set start minute
4, Press "M" and use "▼" "▲" to set desired temperature
5, Press "M" to enter event 2/3/4 and repeat step 2~4
6, Press "M" to edit "Sat & Sun" and repeat step 1~5
7, Press "M" or wait 6 seconds to confirm all the settings above
Press power button "⏻" or wait 30S to exit and save all settings

Parameter Settings:

Switch off the thermostat and press "M" and "▲" 5 seconds to enter parameter setting menu, press the "M" or "🌀" to change the item, and press ▼ ▲ to change the value, press power button "⏻" or wait 30S to exit and save all settings

1	System type	0:2-pipe fan coil unit (Default) 1: Reserved 2: Reserved 3: Reserved
2	Auto Mode	0: manual (Default) 1: auto
3	Sensor type	1: internal sensor only (Default) 2: external sensor only 3: internal sensor& external sensor
4	Fan control	0: fan stop after reach temperature setpoint (Default) 1: fan continuous running after reach setpoint
5	Unoccupancy status	0: cut off all outputs 1: setback setpoint(Default)
6	Temperature Display	0 = show room temperature (Default) 1 = show setpoint
7	Display Temp. adjustment	-4C~4C(Default=0)
8	Dead band	1-4C(Default=1)
9	Auto heat pipe temperature	21~40C (Default value 22C) for 2-pipe auto mode with external sensor only
10	Auto Cool pipe temperature	10~20(Default value 18C) for 2-pipe auto mode with external sensor only
11	Keypad Lockout	0 All keys available(default) 1 All buttons locked out 2 System button Locked out 3 All buttons locked out except System
12	Power Up Status	0: System Off(default) 1: System last state before power off 2: System On
13	Energy saving--Dry Contact (KeyCard)	0: If the card is inserted, S1 and COM will be open (NC Dry Contact as Default) 1: If the card is inserted, S1 and COM will be closed (NO Dry Contact)
14	Freeze Protection	0: Disable (Default) 1: Enable
15	Programmable	1: non-programmable 2: Timer on/off (Default) 3: Programmable 4: Timer+Programmable
16	Preheat Temp.	21-50C(Default=38)
17	Minimum setpoint	5-18C (Default value=5C)
18	Cooling Setpoint setback	22-32C(Default=28)
19	Maximum setpoint	20-35C (Default value=35C)
20	Heating Setpoint setback	10-21C(Default=18)
21	N/A	N/A
22	N/A	N/A
23	N/A	N/A

Table Explanation:

1-Selectable System Type: control 2-pipe fan coil unit only

2- Auto Mode: you can set your 2-pipe system running as manual or auto season changeover

3-Sensor Type: 1: Internal sensor only. 2: external sensor only 3: the external sensor attaches to water pipe for measuring the water pipe temperature to change mode between Heat and Cool automatically, this function is **only** available under 2-pipe Fan coil (Option 1=0) and auto system (Option 2=1) at the same time
System works in cooling mode if the water temperature is less than or equal to certain temperature (Default as18℃ see option 10), and work in heating mode if the water temperature is higher than or equal to certain temperature (Default as 22℃,see option 9).

4-Fan Control: when the room temperature reaches setpoint, you can set the fan stop running or continuous blowing

5-Unoccupied Status: when the hotel card is pulled out, the unoccupancy status will be: 0: no output; 1: thermostat will work in energy saving mode with setback setpoint, fan will run at low speed

7- Display Temperature adjustment: calibrate the room temperature by the range from -4C to 4C

8-Dead Band: the cool/heat will be only activated if differential temperature between setpoint and room temperature ≥ the dead band. For example, under cooling mode, the setpoint is 25C with dead band=1C, the cool air will be only available if the room temperature ≥ 26C.

9&10- Auto Heat/Cool Mode pipe temperature: Only available when option 01 =0, option 2=1 and option 03 =3 at the same time. means the system will work as auto changeover under 2-pipe system. The fan will be only activated if the external sensor measure water in the fan coil pipe is hot or cold enough, this is for anti-freezing air blow under heating mode if the pipe water is not hot enough(temperature set range 21~40C), also for energy saving under cooling mode if the pipe water is not cold enough (temperature set range10~20C)

11- Keypad lock: can be preset to 4 types for different people authorization, the symbol 🔒 will show on the screen, after setting the value, press "▼" or "▲" to activate or inactivate this function。

12- Power Up Status: when the electricity power is failure and back again, the thermostat will follow three types: 0: keep system off; 1: keep the system original status before the power failure. 2: switch the system on automatically

13- Energy Saving-Hotel Card function
A dry contact (such as hotel key card) can activate the energy saving mode with icon 🏠 appearing on screen.

14- Freezing protection: when thermostat is in OFF mode while the acquired temperature is below 6C, the thermostat will start heat mode until the temperature rises to 8C

21,22,23 : Not Available for this model, DO NOT CHANGE ANY VALUE!

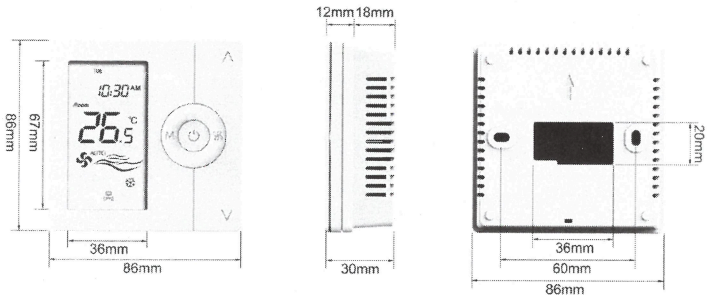
17&19 Temperature Limited: you can set the Minimum cooling and Maximum heating setpoint to save energy

18&20 under Energy saving mode (when option 13 activates), the thermostat will set the setpoint as setback temperature for energy saving.

Modbus Setting(Only for the model number with M):

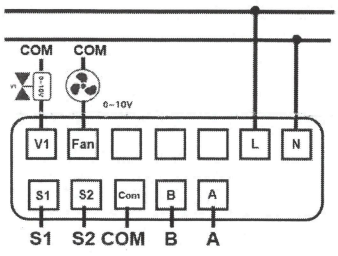
Turn off the thermostat, press and hold the "M" key for five seconds to entry the Modbus parameter. Press "M" three times to entry each item below:
Item 01 "Address: From 01~32. Press "M" 3 times to entry item 02
Item 02 "baud rate", 01:4800, 02: 9600, 03:19200. Press "M" 3 times to entry item 03
Item 03 "Parity", 00: No Parity, 01: Odd Parity, 02: Even Parity
Press power button "⏻" or wait 30S to exit and save all settings

Dimension:



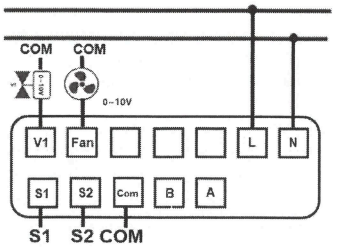
Wiring Diagram

Model number with: **2:** 2pipe; **A:** 0-10V valve; **E:** EC Motor; **D:** Dry contact & External Sensor; **T:** Timer/Programmable; **M:** Modbus



L
N

CX3-S2AED(T)
V1,COM: Cooling/Heating 0~10V valve
Fan, COM: 0~10V EC motor fan
S1,COM: Dry contact
S2,COM: Remote sensor



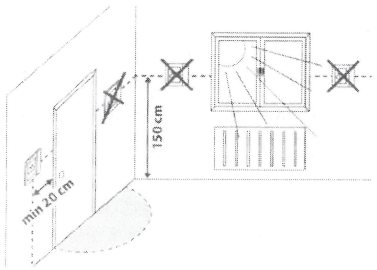
L
N

CX3-S2AEDM (T)
V1,COM: Cooling/Heating 0~10V valve
Fan, COM: 0~10V EC motor fan
S1,COM: Dry contact
S2,COM: Remote sensor
A/B: Modbus

Terminal Definition: 1: N; 2:L; 6:Fan; 7: V1; 8: A; 9:B; 10:COM; 11:S2; 12:S1

Mounting and Installation

Mount the room thermostat on the conduit box. Do not mount on a wall in niches or bookshelves, behind curtains, above or near heat sources. Mount about 1.5 m above the floor

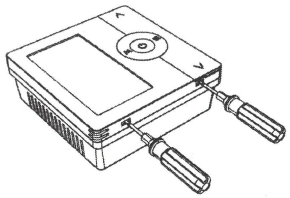


Devices must be mounted on clean, dry indoor place without direct airflow from a heating / cooling device, and not be exposed to dripping or splashing

Before removing the front cover, disconnect the power supply. Wiring, protection and earthing must be installed in compliance with local regulations.

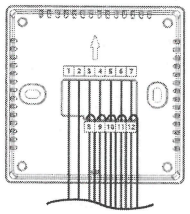
Installation

1

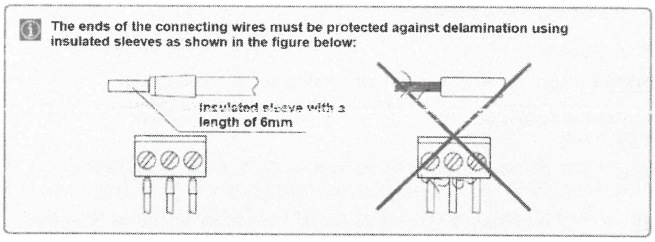


Remove the front cover by prying hooks with flat screwdriver at the bottom of the front panel

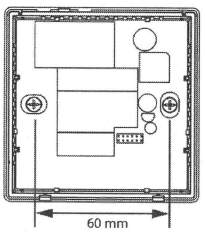
2



For the convenience of installation, the first step is to wire the volt-free wires, low-voltage wires then high-voltage wires. Check the wires are property connected.

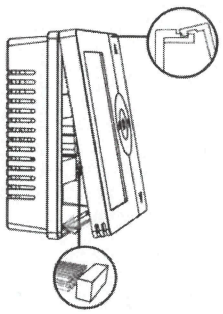


3



Surface mounting in a 60mm wall box. Make sure the back cover is in the appropriate position (according to the arrow on it)

4



Fit the front part of the casing to the top edge and make sure the pins are properly positioned. Push the front of the casing until you hear positive click.

Disposal



The device is considered electronic equipment for disposal in terms of the applicable local Directive and may not be disposed of as domestic garbage.

--Device disposal through channels provided for this purpose.
--Comply with all local & currently applicable laws & regulations