

## THR-FCU-2025H User Manual

THR-FCU-2025H are designed to control the room temperature in industrial, commercial and residential environment with stand-alone microprocessor and large LCD display.

It shows the following Items : working status (Cooling ❄️, Heating 🔥, Ventilation 🌀, Auto Ⓐ), valve output status (🔌), room temperature, set temperature, time and etc. With key : On/Off (🔌), Menu (M), Clock (🕒), Fan speed (🌀), Adjustment (▲▼).



### Basic Features

- ☞ Manual/Auto control valves output
- ☞ Manual 3-step fan speed changeover
- ☞ Low temperature protection
- ☞ Clock
- ☞ Detect and display room temp.

### States Display

- ☞ working mode
- ☞ Fan speed
- ☞ Display sensor detect temperature
- ☞ Display setting temperature
- ☞ Clock display
- ☞ Display valve output

### Specifications

- ☞ Temperature sensor: NTC
- ☞ Control Accuracy:  $\pm 1^{\circ}\text{C}$
- ☞ Operation environment:  $0\sim 45^{\circ}\text{C}$
- ☞ Humidity:  $5\sim 95\%$  RH (non-condensing)
- ☞ Button: push button
- ☞ Power Consumption:  $< 2\text{ W}$
- ☞ Protection Class: IP 30
- ☞ Power supply: AC 85~260V, 50/60Hz
- ☞ Wiring: Accepting: Accepting  $2\times 1.5\text{ mm}^2$   
Or  $1\times 2.5\text{ mm}^2$  wires
- ☞ Switch current rating: Resistive: 2 A, Inductive: 1 A
- ☞ Housing: PC + ABS Flame Retardant
- ☞ Frame size:  $112\times 85\times 28.5\text{ mm}$  (L×H×W)
- ☞ Hole pitch: 60 mm /83.5mm(Standard)

### Operation

- ☞ ON/OFF: Press "🔌" for on/off and ECO mode
- ☞ Temperature setting: press "▼" and "▲" to adjust temperature by  $0.5^{\circ}\text{C}$ .
- ☞ Mode selecting: press "M" to select cooling ❄️, heating 🔥, ventilation 🌀 or auto Ⓐ ;Auto mode is available only under 4-pipe system.
- ☞ Fan speed: press "🌀" to set 🌀 (Low), 🌀🌀 (Med), 🌀🌀🌀 (High), A (Auto) ;  
The fan speed change automatically under Auto mode. Auto LOW-speed when the difference between room-temperature and set-point exceed  $1^{\circ}\text{C}$ ; Auto MED-speed when exceed  $2^{\circ}\text{C}$ ; Auto HIGH-speed when exceed  $3^{\circ}\text{C}$ .
- ☞ Clock setting: Press "🕒" into clock program function by hour, minutes and week, Press "▼" and "▲" to adjust.
- ☞ ECO mode: press "🔌" to enter into ECO mode, thermostat will be under ECO heating/cooling setting temperature with low fan speed. Press "🔌" again for exit ECO mode
- ☞ US (7Days 4 Periods)programmable function : One week is divided into 7days with four periods in each

day, each temperature can be set separately to meet the user's different request in different time periods.

Press “⌚” for 3 seconds, to enter 7days 4 periods programmable setting mode, Press “⌚” again to select the clock and temperature of 7days 4 periods programmable, by pressing “▼” and “▲” to adjust the parameters.

Factory defaults as below chart :(7Days 4 Periods programmable function is closed per factory default.)

Time period	6:00-8:00	8:00-16:00	16:00-22:00	22:00-6:00
Heating mode	20°C	16°C	20°C	16°C
Cooling mode	26°C	29°C	26°C	28°C

☞ EU(Time switch machine) programmable function(Factory default):One day is divided into 4 periods, set its working status separately in different time period in order to achieve energy saving.

Press “⌚” to enter timer setting interface , and press “⌚” again to set timer ,factory default as below chart by pressing “▼” and “▲” to adjust the parameters.

Time period	8:00	12:00	13:00	18:00
status	Timer on	Timer off	Timer on	Timer off

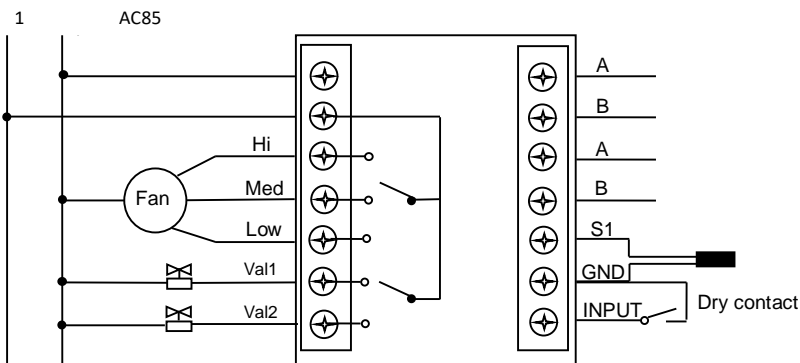
## Parameter Setting

Power on, press “M” 5seconds, “clock” display “01”, temperature display setting point. Press “M” again to check the parameter, press “▼” and “▲” to change the value. The parameter definition as follows:

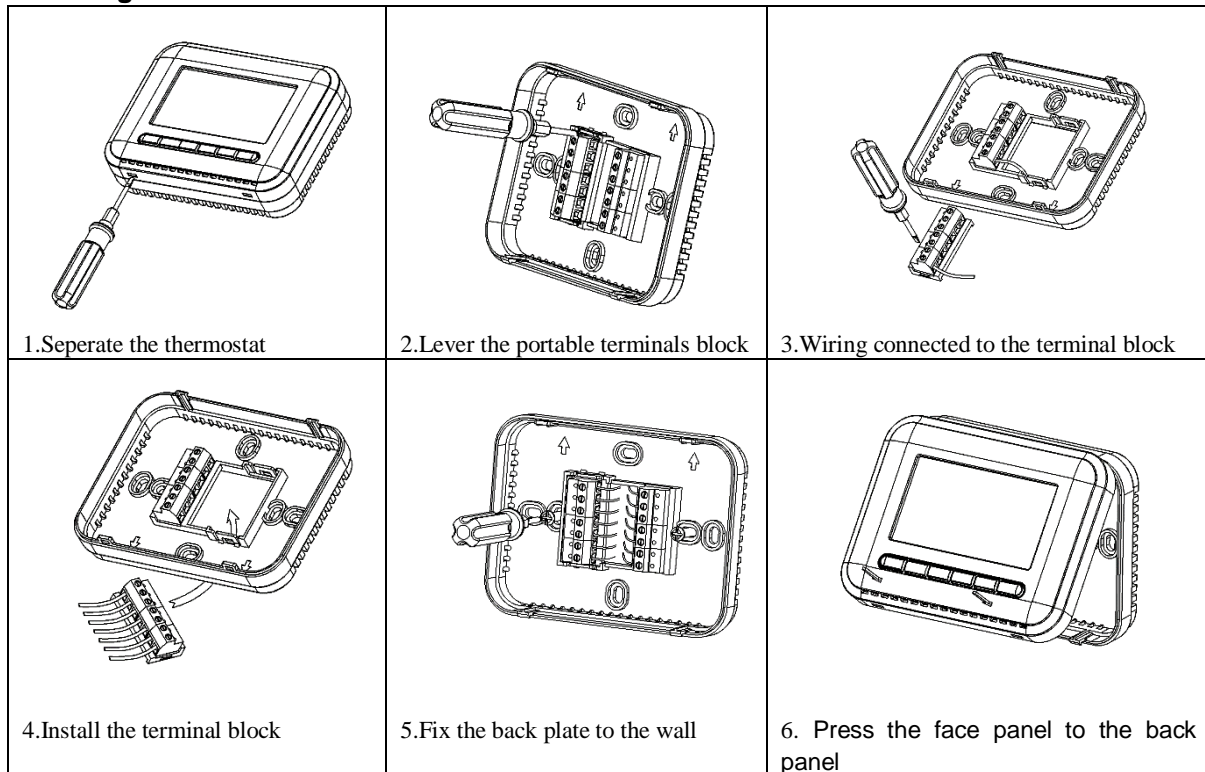
Par	Parameter name	Factory default	Selection
2-pipe/4-pipe select	1 04	1 04	02: 2-pipe; 04: 4-pipe
DA/DB selected	2 db	2 db	dA: DA model ; db: DB model
Memory function	3 02	3 02	00: no memory when power off; 01: power on; 02: memory;
NO/NC valve select	4 03	4 03	00: Val1,Val2 NO valve; 01: Val1 NC valve, Val2 NO valve ; 02: Val1 NO valve, Val2 NC valve; 03: Val1,Val2 NC valve;
Manual/Auto mode select	5 00	5 00	00:manual change; 01:auto mode (key invalid)
Return difference (Deadband)	6 1	6 1	Just under auto mode. Adjustment range 1°C~5°C
Auto mode heat-cool changeover delay	7 120	7 120	00~999 seconds. Only in auto mode
fan running/closed under heating mode	8 00	8 00	00: fan running; 01: fan closed
Min temperature limit(heating)	9 15	9 15	05~20°C
Max temperature limit(heating)	10 30	10 30	15~35°C
Min temperature limit(cooling)	11 16	11 16	10~25°C
Max temperature limit(cooling)	12 32	12 32	20~35°C
Economy mode	13 28	13 28	20~35°C


setpoint (Cooling)			
Economy mode setpoint (Heating)	14 18	14 18	10~25°C
Sensor Reading Calibration	15 0	15 0	-6~6°C
Key lock	16 00	16 00	00: unlock; 01: lock
Fan off delay	17 00	17 00	00~999 seconds,heating mode, the valve will be closed when the temperature reach the setting point, fan keep running.
Unfreezing temperature setting	18 5	18 5	1~15°C,the controller open when temperature lower than the value, heating valve output
Program mode	19 02	19 02	00:None; 01: US mode: 02: EU mode
Low temperature protection	20 00	20 00	00 : closed 01 : using
Thermostat communication address	21 01	21 01	1~250

**Diagram**



**Mounting**



 **Note: Be sure to connect all the wires as per the wiring diagrams and keep it away from water, mud and other material so as to prevent the unit being spoiled!**