

# TC103 Electro-Mechanical Thermostat Installation and User Manual



TC103 Series thermostats are available for individual room temperature control in office, hotel and residential area. TC103 will control the fan and valve ON/OFF to reach the desired temperature by comparing the room temperature and the setpoint.

TC103 Series thermostats adopt electronic control technology, and the operations are easy and convenient. User can turn the temperature adjusting the knob to the desired temperature. User can also choose the COOL or HEAT working mode through the HEAT-OFF-COOL switch, and the fan speed (Hi, Med or Low) through the HIGH-MED-LOW fan speed switch.

## Features

- Attractive Design.
- Standard installation dimension (86mm x 86mm).
- Easy wiring with a standard plug terminal.
- Easy to install and maintain.
- Easy to read green setpoint marking indicates the energy saving range.
- To ensure energy savings, the temperature setpoint range can be locked into position.
- Nameplate available to identify thermostat location .
- Optional driver enables TC103 to control up to 8 fan coil units.

## Specification

- **Sensor:** NTC
- **Accuracy:**  $\pm 1.5^{\circ}\text{C}$  under  $20^{\circ}\text{C}$
- **Setpoint range:**  $5\sim 30^{\circ}\text{C}$
- **Operating environment:**  $0\sim 45^{\circ}\text{C}$
- **Storage humidity:**  $5\sim 90\% \text{ RH}$
- **Storage temperature:**  $-10\sim 60^{\circ}\text{C}$
- **Power supply:** AC  $230\text{V}\pm 10\%$ , 50/60Hz
- **Switch current rating:**  
Resistive: 2 A, Inductive: 1 A
- **Protection class:** IP20
- **Housing:** PC Flame Retardant
- **Dimension:** 86 x 86 x 27 mm (W x H x D)

### Part No.

TC103 -3 □

A2/B2: Used for 2-pipe FCU system, Control Motorized Valve (A2 Control 2-wire N.C.FCU valve; B2: Control 3-wire FCU valve) and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve with the fan still running.

A2C/B2C: Used for 2-pipe FCU system, Control Motorized Valve (A2C Control 2-wire N.C. FCU valve; B2C: Control 3-wire FCU valve) and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve and the Fan.

A4: Used for 4-pipe FCU system, Control Motorized Cooling and Heating Valve ( 2-wire N.C. FCU valve) and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve with the fan still running.

### Accessory

STD-2/4 Driver enables one TC103 thermostat to control up to 8 fan coil units, please ask for STD driver manual for more details.

STD - □

2: used for 2-pipe Fan coil Unit

4: used for 4-pipe Fan coil Unit

### Operations

There are temperature adjusting knob and graduation marks on the front panel. There are also the fan speed switch HIGH-MED-LOW “”-“”-“”-“” and the HEAT-OFF-COOL switch “”-“”-“” on the front panel. The operation steps are as follows:

- ON/OFF: Push the switch “”-“”-“” to “” to turn on the heat mode, or push the switch “”-“”-“” to “” to turn on the cool mode. push the switch “”-“”-“” to “” to turn off the thermostat.

- Temperature Setting: Turn the knob and make desired temperature value match the green arrow.

- Fan Speed Selection: Push the fan speed switch “”-“”-“” to “” as high fan speed, to “” as medium fan speed and “” as low fan speed.

- Control Motorized Cooling/Heating Valve: under cooling or heating mode control, opens the motorized valve when the room temperature is higher/lower than the setpoint. After the room temperature reaches the setpoint, TC103-3A2/3B2 will close the valve with the fan still running, TC103-3A2C/3B2C will close the valve and the fan.

- Control Motorized Cooling and Heating Valve(TC103-3A4): the cooling valve will be opened when the room temperature is higher than the setpoint under cooling mode. the heating valve will be opened when the room temperature is lower than the setpoint under heating mode. After the room temperature reaches the setpoint, TC103-3A4 will close the valve with the fan still running.

- LED indicates operation status: In GREEN shows thermostat is under heating or cooling mode.

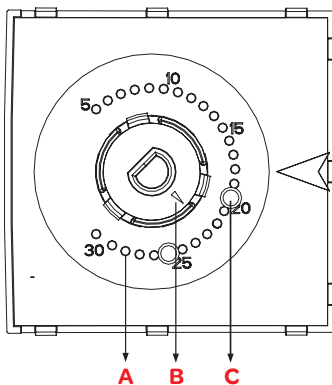
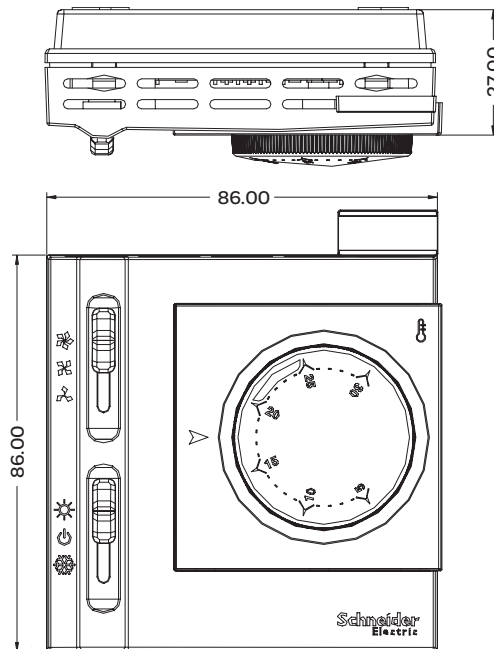
**Installation Warning**

- Install the thermostat about 1.5 meter above the floor
- Make sure to power off and installation must be operated by professional technical person according to the wiring diagram
- Do not install thermostat where radiant heat from the sun or applies
- Do not install thermostat behind door or in corner
- Protect from water or mud to avoid damaging the thermostat.

**Limit Setpoint range**

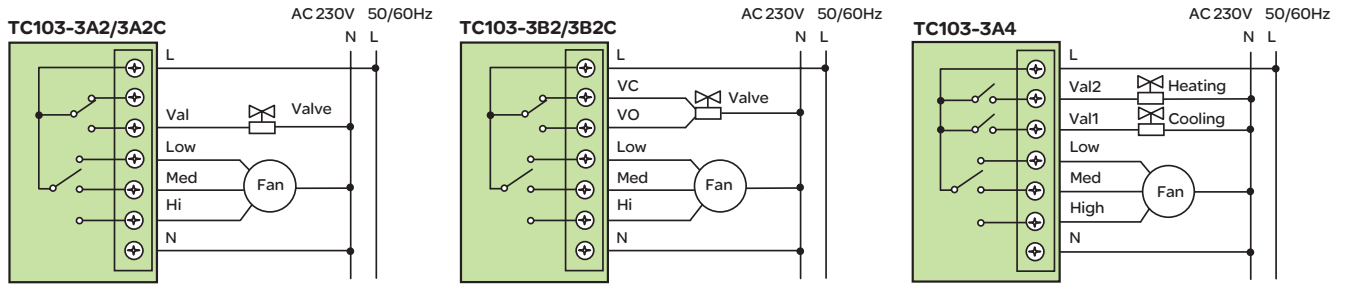
- Open the grey square panel with hand or tool
- Take out the bars which are inserted on 5°C and 30°C position
- Select your desired temperature, for example 20°C ~25°C
- Turn the knob to make the green arrow located between 20°C and 25°C
- Insert the two bars on the position of 20°C and 25°C
- Please check to confirm if the limited setpoint range has been successfully set, if not, please change the bars position and try again
- Install the grey panel back onto the thermostat

**Dimension**



- A Setpoint limited position hole
- B Arrow
- C Temperature setpoint stop bar

Wiring Diagram



Mounting

