

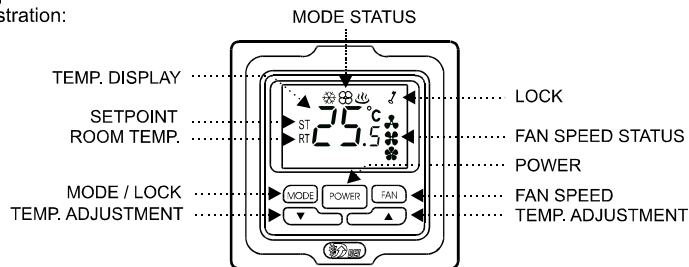
1. CAUTIONS :

- 1.1 Before wiring, please make sure that power is switched off to prevent from getting electric shock.
- 1.2 Please install according to the wiring diagram, in order to avoid incorrect wiring.
- 1.3 Before installation, please avoid installing it at humid environment.
- 1.4 Before supplying power, please always check if the wiring and input power is connected properly.
- 1.5 Any improper wiring or installation is beyond our warranty.

2. SPECIFICATION :

2.1 Outer appearance:

2.1.1 Illustration:



2.1.2 Dimension:

2.1.2.1 Front panel : 87mm (L) × 87mm (W) × 13mm (D) ± 1mm.

2.1.2.2 Power box : 67mm (L) × 47mm (W) × 26mm (D) ± 1mm.

2.2 Ambient condition:

2.2.1 Operation : 0 °C ~ 50 °C , < 90%RH (non-condensing).

2.2.2 Storage : - 10 °C ~ 60 °C , < 90%RH (non-condensing).

2.3 Output / Input

2.3.1 Input power : AC230V ± 10% 50 / 60Hz (single phase)

2.3.2 External control input × 1 (Power status control)

2.3.3 Temperature sensing input × 1 (Control panel)

2.3.4 Button input × 5

2.3.5 JP1 Jumper × 1 (Intermittent air blow)

2.3.6 Output contact

2.3.6.1 Valve contact 2A / 250VAC × 1

2.3.6.2 Fan speed contact 3A / 250VAC × 3

2.3.6.3 Circuit fuse 5A / 250VAC

2.3.7 Display output : LCD backlight

3. OPERATION :

3.1 Operation / Button function :

3.1.1 **POWER** : Press once to switch on or off.

3.1.2 **MODE** :

3.1.2.1 Under power on status, press once to select operation mode: Cooling, heating and fan.

3.1.2.2 Under power off status, keep pressed for more than 3 seconds to lock or unlock the keyboard; under lock status, only "POWER" key is available.

3.1.3 **FAN** :

3.1.3.1 Under power on status, press once to select fan speed: Auto, high, medium and low.

3.1.3.2 Auto speed is not available under fan mode.

3.1.4 **UP and DOWN temp. adjustment** : Under power on status, press once to adjust setpoint in 0.5 °C step; keep pressed to speed up the adjustment.

3.1.4.1 "ST" icon is displayed when setting temperature.

3.1.4.2 Temp. setting is not adjustable under fan mode.

3.1.5 **KEYCARD** (External control) : (Gray wire + purple wire)

3.1.5.1 Under power off status, enable the external control(short circuited), the controller will operate air conditioning according to previous settings.

3.1.5.2 Under power on status, disable the external control(open circuited), the controller will turn off air conditioning automatically.

3.2 Function description :

3.2.1 Temp. display range : 0.0 °C ~ 50.0 °C , accuracy ± 2 °C , in 0.5 °C step.

3.2.2 Setpoint range :

3.2.2.1 Cooling:Maxi. is 35.0 °C , min. is the min. setpoint set by user, in 0.5 °C as a step.

3.2.2.2 Heating:Min. is 0.0 °C , maxi. is the maxi. setpoint set by user, in 0.5 °C as a step.

3.2.3 Default : Cooling mode, auto fan speed, setpoint at 25 °C.

3.2.4 Cooling mode :

3.2.4.1 Three way valve:

3.2.4.1.1 When room temp. \geq setpoint + 0.5, three way valve is on.

3.2.4.1.2 When room temp. \leq setpoint - 0.5, three way valve is off.

3.2.4.1.3 Fan speed adjustable: Auto, high, medium and low.

3.2.4.2 Auto fan speed :

3.2.4.2.1 When (Room temp. - setpoint) \geq 3.0, operate at high speed.

3.2.4.2.2 When $2.5 \geq$ (Room temp. - setpoint) \geq 2.0, remain the existing fan speed.

3.2.4.2.3 When (Room temp. - setpoint) = 1.5, operate at medium speed.

3.2.4.2.4 When $1.0 \geq$ (Room temp. - setpoint) \geq 0.5, remain the existing fan speed.

3.2.4.2.5 When (Room temp. - setpoint) \leq 0, operate at low speed.

3.2.4.3 Disable intermittent air blow (JP1 = short), fan keeps operating.

3.2.4.4 Enable intermittent air blow (JP1 = open)

3.2.4.4.1 When $-1.5 \leq$ (Room temp. - Setpoint) ≤ -1 , fan operates in cycle of 1 - min on / 1 - min off at low speed.

3.2.4.4.2 When $-2.5 \leq$ (Room temp. - Setpoint) ≤ -2 , fan operates in cycle of 1 - min on / 2 - min off at low speed.

3.2.4.4.3 When (Room temp. - Setpoint) ≤ -3 , fan stops operating.

3.2.5 Heating mode :

3.2.5.1 Three way valve:

3.2.5.1.1 When setpoint \geq room temp. + 0.5, three way valve is on.

3.2.5.1.2 When setpoint \leq room temp. - 0.5, three way valve is off.

3.2.5.1.3 Fan speed adjustable: Auto, high, medium and low.

3.2.5.2 Auto fan speed :

3.2.5.2.1 When (Setpoint - room temp.) \geq 3.0, operate at high speed.

3.2.5.2.2 When $2.5 \geq$ (Setpoint - room temp.) \geq 2.0, remain the existing fan speed.

3.2.5.2.3 When (Setpoint - room temp.) = 1.5, operate at medium speed.

3.2.5.2.4 When $1.0 \geq$ (Setpoint - room temp.) \geq 0.5, remain the existing fan speed.

3.2.5.2.5 When (Setpoint - room temp.) \leq 0, operate at low speed.

3.2.5.3 Disable intermittent air blow (JP1 = short), fan keeps operating.

3.2.5.4 Enable intermittent air blow (JP1 = open)

3.2.5.4.1 When $-1.5 \leq$ (Setpoint - room temp.) ≤ -1 , fan operates in cycle of 1 - min on / 1 - min off at low speed.

3.2.5.4.2 When $-2.5 \leq$ (Setpoint - room temp.) ≤ -2 , fan operates in cycle of 1 - min on / 2 - min off at low speed.

3.2.5.4.3 When (Setpoint - room temp.) ≤ -3 , fan stops operating.

3.2.6 Adjusting temperature calibration:

3.2.6.1 In power off status, press fan speed key and hold it for 3 seconds to enter temperature calibration adjusting, then "RT" icon is blinking, on/off for 0.5 second.

3.2.6.2 Press \blacktriangle or \blacktriangledown to adjust values, range is from - 8.0 °C ~ + 8.0 °C , without any keys pressed, controller will save the values and back to normal mode.

3.2.7 To limit lowest setpoint setting in cooling mode:(To prevent too low setpoint setting - saves energy)

In power off status, press and hold \blacktriangledown key for 3 seconds to allow users to set the lowest setpoint in cooling mode, setpoint range from 0.0 °C ~ 35.0 °C , press no key within 10 seconds, it will save the valve.

3.2.8 To limit highest setpoint setting in heating mode:(To prevent too high setpoint setting - saves energy)

In power off status, press and hold \blacktriangle key for 3 seconds to allow users to set the highest setpoint in heating mode, setpoint range from 0.0 °C ~ 35.0 °C , press no key within 10 seconds, it will save the valve.

3.2.9 Power failure memory:

If there is a power failure, when power is applied again, the controller will run as previous setting values, including fan speed, setpoint, mode, and power status.

4. ERROR ELIMINATION : (When following situation occurred, controller will be switched off automatically).

4.1 When showing "E1", it indicates the sensor is in failure. (Send it back to manufacturer for inspection)

4.2 When showing "FA" (Fire alarm), it indicates room temp. is over 55 °C.