ONYX
CONTROLS

Room Thermostat

We provide more control;

More Accuracy;

More Convenience for HVAC Application;

ONX908FCT-4B/220V/RC FAN COIL THERMOSTAT

Application: Heat/cool, 3speed fan, 4-pipe fan coil unit

Installation and operation instructions

SPECIFICATION:

Electrical Rating……	220VAC
Terminal Load……	5.0 A per terminal
Set point Temperature Range……..	5℃ to 35℃
Dimensions……	115mm×90mm ×28mm
Color……..	White

FEATURE:

- Large LCD display with backlight
- External input to activate energy saving mode available
- Set points and room temperature display simultaneously
- Maintains the temperature within the range of 0.5℃ to the set point
- Automatic fan with adjustable 3-speed fan.
- Manual change over
- Never lose user setting in the event of power-off, no battery is required
- Display temperature recalibrates

OPERATION

The Thermostat Buttons and Switches

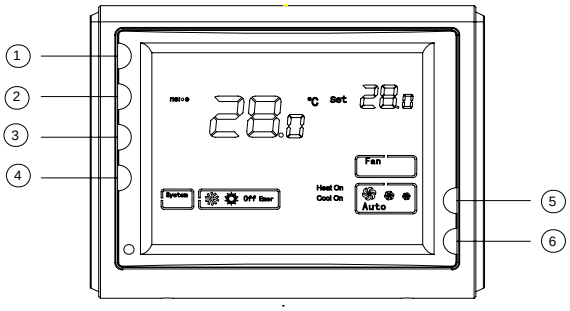


Figure 1

The Display

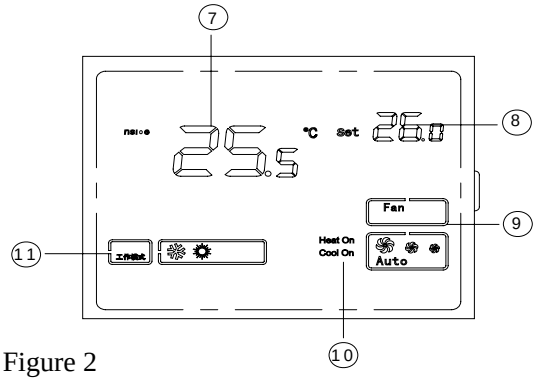


Figure 2

① Power button
② System switch **(HEAT, COOL)**
③ Fan switch **(AUTO, LOW, MED, HIGH)**
④ Useless
⑤ ▲ Raises Temperature setting
⑥ ▼ Lower Temperature setting
⑦ Room temperature
⑧ Setting temperature
⑨ Indicate fan switch position
⑩ **Heat on** shows when the thermostat is calling for heat
Cool on shows when the thermostat is calling for cool.
⑪ Shows system mode

INSTALL THE THERMOSTAT

ATTACH THERMOSTAT BASE TO WALL

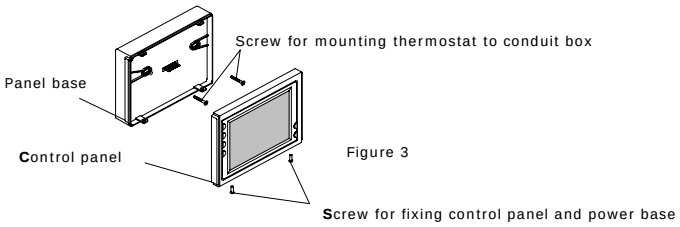
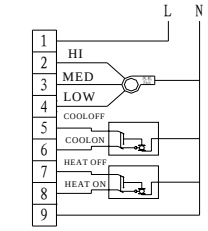


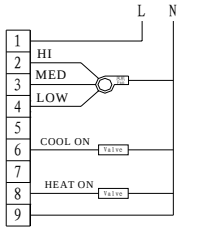
Figure 3

1.. Remove 2 screws from the bottom of thermostat. Gently pull the control panel straight off the base. Forcing or prying on the thermostat will cause damage to the unit.
2. Connect wires beneath terminal screws on power supply module using appropriate wiring schematic. See figure 4
3. Push power base into 86mmX86mm
4. Using two mounting screws mount the power base to the wall. Place a level against bottom of base, adjust until level, and then tighten screws. (Leveling is for appearance only and will not affect thermostat operation.)
5. Replace control panel on the power base and fix power base and control panel by removed two screws in item 1

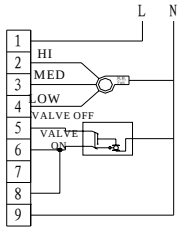
WIRING DIAGRAM



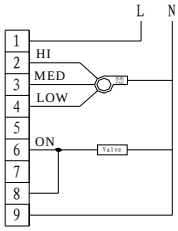
HEAT/COOL 4 PIPE , 3 WIRE SPDT VALVE, FAN COIL SYSTEM,



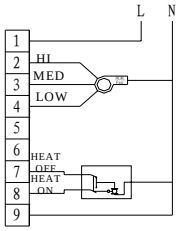
HEAT/COOL, 4 PIPE, 2 WIRE SPST VALVE FAN COIL UNIT SYSTEM



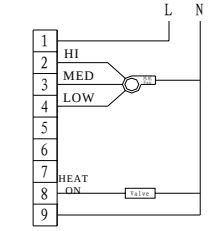
HEAT OR COOL, 2 PIPE, 3 WIRE SPDT VALVE FAN COIL UNIT SYSTEM



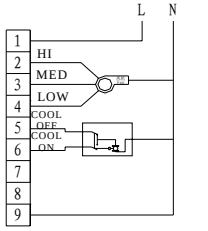
HEAT OR COOL, 2 PIPE, 2 WIRE SPST VALVE FAN COIL UNIT SYSTEM



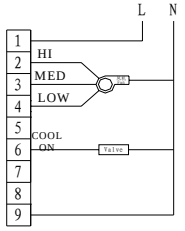
HEAT ONLY ,2 PIPE,3 WIRE SPDT VALVE FAN COIL UNIT SYSTEM



HEAT ONLY, 2 PIPE, 2 WIRE SPST VALVE FAN COIL UNIT SYSTEM

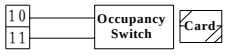


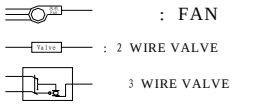
COOL ONLY, 2 PIPE, 3 WIRE SPDT VALVE FAN COIL UNIT SYSTEM



COOL ONLY, 2 PIPE, 2 WIRE SPSTVALVE FAN COIL UNIT SYSTEM

NOTE





POWER: 220VAC ±10%

Figure 4

CHECK THERMOSTAT OPERATION

Switch on the thermostat

Fan operation

1. Push fan button, display will show and Auto separately means fan rotate in HI MED LOW or AUTO speed.
2. If you select AUTO speed, fan operation will change speed according to the difference between the room temperature and set temperature. If room temperature is 3℃ higher than setting temperature in cooling or3℃ lower than setting temperature in Heating. Fan will run in HI speed. If room temperature is 2℃- 3℃ higher than setting temperature in cooling or 2℃-3℃ lower than setting temperature in Heating. Fan will run in Medium speed. If room temperature is 0℃-2℃ higher than setting temperature in cooling or 0℃-2℃ lower than setting temperature in Heating. Fan will run in Low speed.

Heat system operation

1. Press system switch to heat mode ( )
2. Press "▲" to adjust the thermostat setting above the room temperature. The heating system should start to operate.
3. Press "▼" to adjust the thermostat setting below the room temperature. The heating system should stop operating.

Cooling system operation

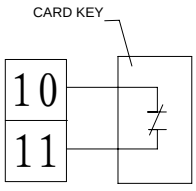
1. Press system switch to cool mode ( )
2. Press "▼" to adjust thermostat setting below room temperature. The cooling system should start to operate.
3. Press "▲" to adjust temperature setting above room temperature. The cooling system should stop operating

Energy Saving Mode

Energy Saving mode is activated by a special input from a card key, occupancy switch or window contact switch. If the signal via input terminals 10 and 11 is calling for energy saving mode. Then the thermostat will control to user/installer defined setback setpoints for increased energy savings. The display will show symbol to indicate when this mode is active. The energy setpoint can be change in configuration item No.7 and No. 8. Factory default setting for heating is 18℃, for cooling is 25℃.

For example, if the user setpoint is 21℃ and the energy Savings Mode setpoint for cooling (unoccupied cooling setpoint) has been set to 28℃, then the thermostat will control to 28℃ when the input signal activated the Energy Saving mode. .

The energy saving mode input can be configured within the configuration menu 9 to be activated either a short circuit (default) or open circuit signals.



CONFIGURATION

The configuration menu allows you to set certain thermostat operating characteristics to your system or personal requirements. Switch off the thermostat and hold the sleep operation Button ④ for over 3 second till power on again means you have entered the first configuration menu item. There are 6 menu items. Press button ④ to change to the next item. To exit the menu and return to the normal operation, switch off the thermostat and switch it on again. If no keys are pressed within 20 seconds the thermostat will be switched off.

Step	Press buttons	Displayed（factory default）	Press▲、▼to select	Descriptions
1	④ 3 seconds	01 (0)	-3 --- +3	Adjust temperature coefficient
2	④	02 （35℃）	20℃—35℃	Select maximum setting temperature for heating
3	④	03 （5℃）	5℃—20℃	Select minimum setting temperature for cooling
4	④	04 (rE)	rd, rE	Memorize option before power loss
5	④	05 （ 1 ）	1、2、3	Display backlight option
6	④	06（On）	OFF/On	Fan stop option
7	④	07（18℃）	10-18℃	Energy setpoint for heating
8	④	08（25℃）	25-30℃	Energy setpoint for cooling
9	④	09（SC）	SC/OC/00	Activate energy saving mode option

1) Select temperature recalibrates Adjustment 3 LO to 3 HI -

You can adjust the room temperature display up to 3 higher or lower. Your thermostat was accurately calibrated at the factory but you have the option to change the display temperature to match your previous thermostat.

2) Select maximum temperature for heating.

This feature provides a maximum setpoint temperature for heat. The default setting is 35℃, It can be changed between 30℃to 35℃

3) Select minimum temperature for cooling

This feature provides a minimum setpoint temperature for cooling. The default setting is 5℃, It can be changed between 5℃ to 20℃

4) Memorize option before power loss

Using ▲ & ▼ button to select between “rE” and “rd”. “rE” means the thermostat will Memorize its ON or OFF status before power loss. After power supply comes to normal again, the thermostat will remain ON or OFF according to what it is before power loss. “rd” means no matter the thermostat is switched on or off before power loss, after the power supply comes to normal again the thermostat will keep power off

5) Display backlight option

Select 1 the light will be on when any button of the thermostat is touched. Select 2 the display will keep the light on continuously. Select 3 the display will keep the light off continuously Factory default is 1

6) Fan stop option

Using ▲ & ▼ button to select between “On” and “OFF”. If you select “On”, the thermostat will turn on the fan at a speed provided by the Fan Switch and will not stop the fan when there is no call for heat or cool. If you select “OFF”, the thermostat will stop the fan when there is no call for heat or cool.

7) Select energy saving setpoint for heating

This feature provides energy saving setpoint temperature for heating. The default setting is 16℃, It can be changed between 10℃to 18℃

8) Select energy saving setpoint for cooling

This feature allows you to set energy saving setpoint temperature for cooling. The default setting is 25℃, It can be changed between 25℃to 30℃

9) Activate energy saving mode option

This feature allows you to select the way to activate the energy saving mode.

Select OC to activate the energy mode by open circuit

Select SC to activate the energy mode by close circuit

Select 00 to cancel the energy mode