

H7990 series Touch Pad fan coil unit thermostats are designed to control the room temperature in air-conditioning fan coil unit system or dust pipe channel system. H7990 series thermostats with microprocessor and big LCD display. It shows the following items: working status (cool, heat or ventilation), fan speed, room temperature, set-point temperature etc. Keys include on/off (⏻), mode (M), fan speed (🌀) and temperature adjustment (▼▲).



☑ BASIC FEATURES

- ☐ Room temperature setting
- ☐ Manual or auto 3-speed changeover
- ☐ Defrost (low temperature protection)
- ☐ Clock, Timer (-T, Option)
- ☐ Clock ,7 days programmable (-T74, Option)
- ☐ Blue back light (-L, Option)
- ☐ Keypad Lock (Option)
- ☐ Auto Restart (Option)

☑ STATUS DISPLAY

- ☐ Working Status: Cooling ❄️, Heating 🔥 or Ventilation 🌀
- ☐ Fan Speeds: low 📊, Mid 📊📊, High 📊📊📊 or Auto **AUTO**
- ☐ FCU valve status 🚰
- ☐ Room temperature display
- ☐ Temperature setting display
- ☐ Clock ,week display

☑ SPECIFICATIONS

- ☐ Sensing element: NTC
- ☐ Control Accuracy: $\pm 1^{\circ}\text{C}$
- ☐ Set-point range: 5°C to 35°C
- ☐ Display range: $0\sim 55^{\circ}\text{C}$
- ☐ Operation environment: $0\sim 45^{\circ}\text{C}$
- ☐ Operating Humidity: $5\sim 90\%\text{RH}$ (non-condensing)
- ☐ Key: Touch screen key+ soft touch key
- ☐ Power Consumption : $< 1\text{W}$
- ☐ Power supply: AC $85\sim 260\text{V}$, 50/60Hz
- ☐ Display Accuracy: $\pm 0.5^{\circ}\text{C}$
- ☐ Wirings: 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
- ☐ Dimensions: $90 \times 90 \times 14.5 \text{ mm}$ (W x H x D)
- ☐ Hole pitch: 60 mm (Standard)
- ☐ Protection Class: IP30

OPERATION

- ☞ On/Off : Press “” to turn on, press “” again to turn off thermostat and its output.
- ☞ Setting temperature: press “” to reduce temperature, press “” to raise temperature (0.5°C changed each press)
- ☞ Mode Selection: Press “M” to change system working in cooling “”, heating “” or ventilation “” mode.
- ☞ Fan speed Selection (not for H7990 Y/YE): Press “” to select  (Hi),  (Med),  (Low), AUTO(Auto).
In mode “AUTO”(Auto)”, the fan-speed changed automatically. Auto LOW-speed When the differential temperature between room-temperature and setting-temperature exceed 1°C, Auto MED-speed When exceed 2°C, Auto HI-speed When exceed 3°C.
- ☞ Control Damper (H7990 Y/YE): The damper will be open when room temperature is higher than set-point in cooling; room temperature is lower than set-point in heating, Otherwise the damper will be closed.
- ☞ Control Motorized Valve under 2-pipe configuration (not for H7990 Y/YE): If the differential temperature between room temperature and set-point exceed 1°C, FCU valve will be open; if room temperature and set-point are equal, H7990 DA/DAE/DA2/DA2E will close the FCU valve with the fan still running, H7990 DB/DBE/DB2/DB2E will close both of valve and Fan.
- ☞ Control FCU Valve under 4-pipe configuration (H7990 FCV2/FCV2E): In cooling, when the room temperature is higher than set-point, the cooling Valve will be opened. Otherwise it will be closed. Heating valve is always closed. In heating, When the room temperature is lower than set-point, the heating valve will be opened. Otherwise it will be closed. Cooling valve is always closed.

CLOCK CALIBRATION (-T, -T74)

- ☞ Press “M” with four seconds till to display “hh:mm” and “hh” flash, press “” or “” to adjust hour, press “M”, “mm” flash, press “” or “” to adjust minute; Press “M”, “week” flash, press “” or “” to adjust Mon to Sun.

TIMER FUNCTION SETTING (-T)

- ☞ Timer on/off function: Turn on or Turn off the thermostat according to customers setting
- ☞ Timer on: Press “M”, till to display “ON” and “hh” all flash, press “” or “” to adjust hour. Press “M”, “mm” flash, press “” or “” to adjust minute.
- ☞ Timer off: Press “M”, till to display “OFF” and “hh” which all flash, press “” or “” to adjust hour. Press “M”, “mm” flash, press “” or “” to adjust minute.
- ☞ Canceling timer on: Press “M”, till to display “ON” and “hh” which all flash, press “” or “” to adjust hour to “--:--”. Press “M”, “mm” flash, press “” or “” to adjust minute to “--:--”.
- ☞ Canceling timer off: Press “M”, till to display “OFF” and “hh” which all flash, press “” or “” to adjust hour to “--:--”. Press “M”, “mm” flash, press “” or “” to adjust minute to “--:--”.

7 DAYS PROGRAMMING (-T74)

- ☞ Divide each day of one week (7 days) into four events, set the temperature respectively to satisfy different room temperature requirements in different time.
- ☞ Power On: Press “M” and “” at same time for 3 seconds till displaying “SET”, “1” and “MON”, to set the 7days 4periods programs based on the following table. When “hh” of “hh:mm” is flashing, “” or “” button to set the hours of programming time; Press “M”, “mm” of “hh:mm” is flashing, “” or “” button to set the minutes of programming time;

Press“M”, the programmable temperature is flashing, “▲” or“▼” to set the programmable temperature. Press“M”, repeat the above steps to set up the 2~4 periods of Monday.

Week	Period NO. 1	Period NO. 2	Period NO. 3	Period NO. 4
	Starting Time/ Temperature	Starting Time/ Temperature	Starting Time/ Temperature	Starting Time/ Temperature
Mon	7:00 25℃	8:00 25℃	18:00 25℃	21:00 25℃
Tue	7:00 25℃	8:00 25℃	18:00 25℃	21:00 25℃
Wed	7:00 25℃	8:00 25℃	18:00 25℃	21:00 25℃
Thu	7:00 25℃	8:00 25℃	18:00 25℃	21:00 25℃
Fri	7:00 25℃	8:00 25℃	18:00 25℃	21:00 25℃
Sat	7:00 25℃	8:00 25℃	18:00 25℃	21:00 25℃
Sun	7:00 25℃	8:00 25℃	18:00 25℃	21:00 25℃

Repeat the above steps to set for TUE, WED, THU, FRI, SAT, SUN.

Keypad Lock Function

☞ Keypad Lock: its keypad would be automatically locked in 30 seconds in case that no one uses the thermostat, so as to prohibit other persons from operating the thermostat.

☞ Keypad Unlock: Press“”for 5 seconds to unlock (In case that no one uses the thermostat, its keypad would be automatically locked in 30 seconds) .

Low Temperature Protection Function

☞ Turn off: When the room temperature is lower than 5℃, the thermostat would automatically turn on the fan and valve with “” showing, When the room temperature reaches to 7℃, the thermostat will automatically close the output.

Low Temperature Protection Setting

☞ Turn off: press“M” and hold for 3 seconds, it will display “OF” or “ON”, press “▲” or “▼”button to adjust the parameter. “OF” indicates low temperature protection invalid, “ON” indicates low temperature protection function valid. The default is “OF”.

Temperature Adjustment

In case that the user wants the displayed temperature on the thermostat higher or lower than the real temperature($\pm 5^{\circ}\text{C}$), the following operations could be taken:

☞ Turn off: press “▲” and “▼” at the same time for 3 seconds, it will display “XX °C” (not displaying the working model) , press “▲”or “▼” to adjust the temperature value, it will be automatically confirmed after 6 seconds.

Alarm

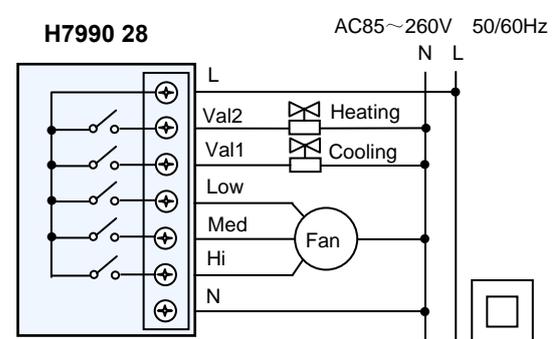
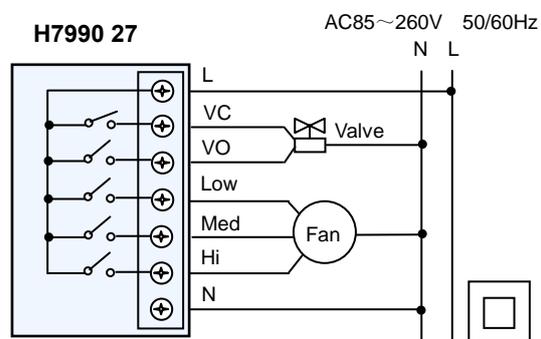
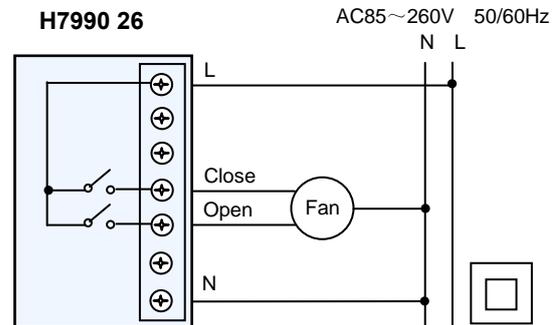
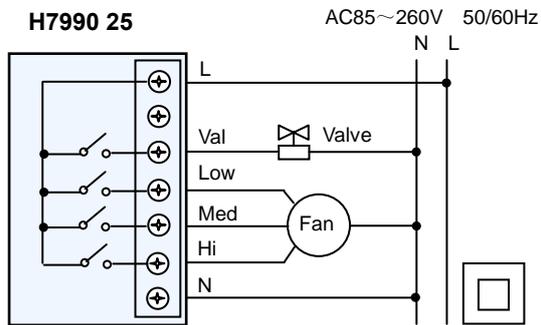
☞ if the sensor has failure, the thermostat will close the fan and valve, displaying “E1” or “E2”.

E1: Sensor in short circuit alarm

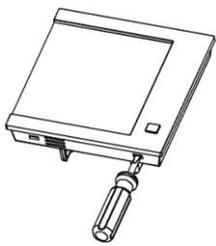
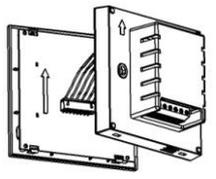
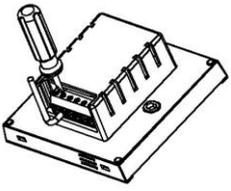
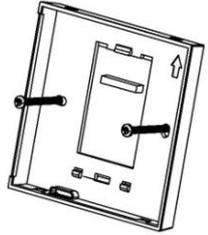
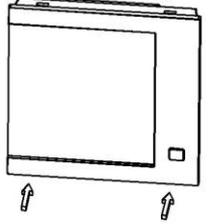
E2: Sensor in open circuit alarm

It displays “HI” when the temperature is higher than 55℃, displaying “LO” when the temperature is lower than 0℃

Wiring Diagrams



MOUNTING

 <p>1. Open the main control panel: put the screwdriver (3.5mm) into the block 4mm along the bevel. Prize up, open the clips.</p>	 <p>2. Take off the wires.</p>	 <p>3. As per wiring diagram, connect it with terminals, fixed by the screwdriver.</p>	 <p>4. Put the connected thermostat onto the back panel in the wall, then fix it with the two screws in the packing box.</p>	 <p>5. Put the cover with 30 degree angle, then fix the up two clips; 6. Push the places of the two down clips, fix the cover, and finish the installation.</p>
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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!